SECTION BRВ **BRAKE SYSTEM**

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 Technicians using a medical electric device such as pacemaker must never perform operation on th vehicle, as magnetic field can affect the device function by approaching to such parts. 	ne D
NORMAL CHARGE PRECAUTION	
 WARNING: If a technician uses a medical electric device such as an implantable cardiac pacemaker or a implantable cardioverter defibrillator, the possible effects on the devices must be checked with th device manufacturer before starting the charge operation. 	ne
 As radiated electromagnetic wave generated by PDM (Power Delivery Module) at normal charg operation may affect medical electric devices, a technician using a medical electric device such a implantable cardiac pacemaker or an implantable cardioverter defibrillator must not approach moto room [PDM (Power Delivery Module)] at the hood-opened condition during normal charge operation 	as Dr.
PRECAUTION AT TELEMATICS SYSTEM OPERATION	G
 WARNING: If a technician uses implantable cardiac pacemaker or implantable cardioverter defibrillator (ICD avoid the device implanted part from approaching within approximately 220 mm (8.66 in) from interior/exterior antenna. 	
 The electromagnetic wave of TCU might affect the function of the implantable cardiac pacemaker of the implantable cardioverter defibrillator (ICD), when using the service, etc. If a technician uses other medical electric devices than implantable cardiac pacemaker or implantable 	l It-
able cardioverter defibrillator (ICD), the electromagnetic wave of TCU might affect the function of th device. The possible effects on the devices must be checked with the device manufacturer befor TCU use.	
PRECAUTION AT INTELLIGENT KEY SYSTEM OPERATION	1Z
• If a technician uses implantable cardiac pacemaker or implantable cardioverter defibrillator (ICD	
avoid the device implanted part from approaching within approximately 220 mm (8.66 in) from interior/exterior antenna.The electromagnetic wave of Intelligent Key might affect the function of the implantable cardia	L
pacemaker or the implantable cardioverter defibrillator (ICD), at door operation, at each reques switch operation, or at engine starting.	st
 If a technician uses other medical electric devices than implantable cardiac pacemaker or implan able cardioverter defibrillator (ICD), the electromagnetic wave of Intelligent Key might affect th function of the device. The possible effects on the devices must be checked with the device many 	ne
facturer before Intelligent Key use. Point to Be Checked Before Starting Maintenance Work	Ν
C	
The high voltage system may starts automatically. It is required to check that the timer air conditione and timer charge (during EVSE connection) are not set before starting maintenance work. NOTE:	er O
If the timer air conditioner or timer charge (during EVSE connection) is set, the high voltage system star automatically even when the power switch is in OFF state.	ts _P
Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"	
PRE-TENSIONER INFOID:000000011004	629

The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER", used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. This system includes seat belt switch inputs and dual stage front air bag modules. The SRS

PRECAUTIONS

< PRECAUTION >

system uses the seat belt switches to determine the front air bag deployment, and may only deploy one front air bag, depending on the severity of a collision and whether the front occupants are belted or unbelted. Information necessary to service the system safely is included in the "SRS AIR BAG" and "SEAT BELT" of this Service Manual.

WARNING:

Always observe the following items for preventing accidental activation.

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision that would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.
- Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see "SRS AIR BAG".
- Never use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.

PRECAUTIONS WHEN USING POWER TOOLS (AIR OR ELECTRIC) AND HAMMERS

WARNING:

Always observe the following items for preventing accidental activation.

- When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the ignition ON or engine running, never use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.
- When using air or electric power tools or hammers, always switch the ignition OFF, disconnect the battery, and wait at least 3 minutes before performing any service.

Precaution for Removing 12V Battery

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1. Check that EVSE is not connected.

NOTE:

If EVSE is connected, the air conditioning system may be automatically activated by the timer A/C function.

- 2. Turn the power switch OFF \rightarrow ON \rightarrow OFF. Get out of the vehicle. Close all doors (including back door).
- 3. Check that the charge status indicator lamp does not blink and wait for 5 minutes or more.
 - NOTE:

If the battery is removed within 5 minutes after the power switch is turned OFF, plural DTCs may be detected.

- 4. Remove 12V battery within 1 hour after turning the power switch OFF \rightarrow ON \rightarrow OFF.
 - NOTE:
 - The 12V battery automatic charge control may start automatically even when the power switch is in OFF state.
 - Once the power switch is turned ON \rightarrow OFF, the 12V battery automatic charge control does not start for approximately 1 hour.

CAUTION:

- After all doors (including back door) are closed, if a door (including back door) is opened before battery terminals are disconnected, start over from Step 1.
- After turning the power switch OFF, if "Remote A/C" is activated by user operation, stop the air conditioner and start over from Step 1.

Precaution for Procedure without Cowl Top Cover

When performing the procedure after removing cowl top cover, cover the lower end of windshield with urethane, etc to prevent damage to windshield.

Precaution for Brake System

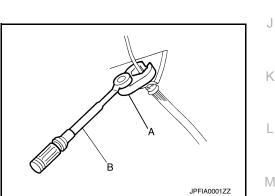
WARNING:

Since dust covering the front and rear brakes has an affect on human body, the dust must be removed with a dust collector. Never splatter the dust with an air blow gun.

- Brake fluid use refer to MA-17, "FOR USA AND CANADA : Fluids and Lubricants" (United States and Canada) or MA-18, "FOR MEXICO : Fluids and Lubricants" (Mexico).
- Never reuse drained brake fluid.
- Never spill or splash brake fluid on painted surfaces. Brake fluid may seriously damage paint. Wipe it off
 immediately and wash with water if it gets on a painted surface. For brake component parts, never wash
 them with water.
- Always confirm the specified tightening torque when installing the brake pipes.
- After pressing the brake pedal more deeply or harder than normal driving, such as air bleeding, check each item of brake pedal. Adjust brake pedal if it is outside the standard value.
- Always clean with new brake fluid when cleaning the brake caliper and other components.
- Never use mineral oils such as gasoline or light oil to clean. They may damage rubber parts and cause improper operation.
- Always loosen the brake tube flare nut with a flare nut wrench.
- Tighten the brake tube flare nut to the specified torque with a crowfoot (A) and torque wrench (B).
- Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. Disconnect the ABS actuator and electric unit (control unit) harness connector or the 12V battery negative terminal before performing the work. Refer to <u>BR-6, "Precaution for Removing 12V Battery"</u>.
 CAUTION:

Never operate the vehicle while waiting.

- Check that no brake fluid leakage is present after replacing the parts.
- Burnish the brake contact surfaces after refinishing or replacing rotors, after replacing pads, or if a soft pedal occurs at very low mileage.
- Front brake pad: Refer to BR-496, "BRAKE PAD : Inspection and Adjustment".
- Front disc rotor: Refer to <u>BR-496</u>, "DISC ROTOR : Inspection and Adjustment".
- Rear brake pad: Refer to BR-498. "BRAKE PAD : Inspection and Adjustment".
- Rear disc rotor: Refer to <u>BR-498</u>, "DISC ROTOR : Inspection and Adjustment".
- When the brake pedal is operated, an operating sound may be heard from the electrically-driven intelligent brake unit. This occurs when the electrically-driven intelligent brake unit is operating sound and is not a malfunction.
- When the brake pedal is depressed when the EV system is not started, the brake pedal will feel heavy and the stroke will be shorter. When the unfamiliar feeling disappears and the brake warning lamp is OFF after the brake pedal was depressed, then this is not a malfunction. When the brake warning lamp is ON, use CONSULT and perform the "BRAKE" self diagnosis.
- When there is a malfunction in the power system of the electrically-driven intelligent brake unit (no voltage is generated), voltage is temporarily supplied to the electrically-driven intelligent brake unit from the brake



e pipes. Ing, such as air bleeding, check each other components. hay damage rubber parts and cause

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PRECAUTIONS

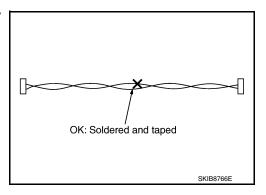
< PRECAUTION >

power supply backup unit. At the same time, the brake warning lamp (red) and brake system warning lamp (yellow) turn ON, and the warning buzzer sounds.

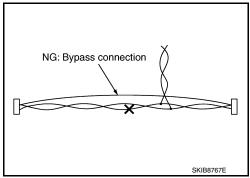
- When a malfunction occurs in the electrically-driven intelligent brake unit, the VDC function performs control (boost operation).
- When a malfunction occurs in the PDM (Power Delivery Module) and 12V battery, the braking force is determined by the force pressing on the brake pedal (no boost operation). At the same time, the brake warning lamp (red) and the brake system warning lamp (yellow) turns ON.
- When a malfunction occurs in the electrically-driven intelligent brake and in the VDC function, the braking force is determined by the force pressing on the brake pedal (no boost operation). At the same time, the brake warning lamp (red) and brake system warning lamp (yellow) turn ON.
- When a malfunction occurs in the electrically-driven intelligent brake, VDC function, and power system, then cooperative regenerative brake control is not performed.
- When a malfunction occurs in the brake power supply backup unit, the brake system warning lamp (yellow) turns ON.

Precaution for Harness Repair

• Solder the repair part, and wrap it with tape. [Twisted wire fray must be 110 mm (4.33 in) or less.]



• Never bypass the repair point with wire. (If it is bypassed, the turnout point cannot be separated and the twisted wire characteristics are lost.)



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PREPARATION

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PREPARATION PREPARATION

Special Service Tool

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The actual shape of the tools may differ from those illustrated here.

Tool number (TechMate No.) Tool name		Description	
 (J-46532) Brake height tool	Q	Measuring brake pedal height	
	E Company		
	LFIA0227E		D
38-PFM92 —)		Refinishing rotors	— В
ProCut™ PFM Series Lathe			
ommercial Service Tools	ALFIA0092ZZ	INFOID:0000000106	534154
	ALFIA0092ZZ	INFOID:0000000106	534154
ool name	ALFIA0092ZZ		534154
rool name	ALFIA0092ZZ	Description	
ōol name		Description	
ool name Power tool		Description	
rool name Power tool		Description Loosening nuts, screws and bolts	
Tool name Power tool Brake caliper wrench		Description Loosening nuts, screws and bolts	534154

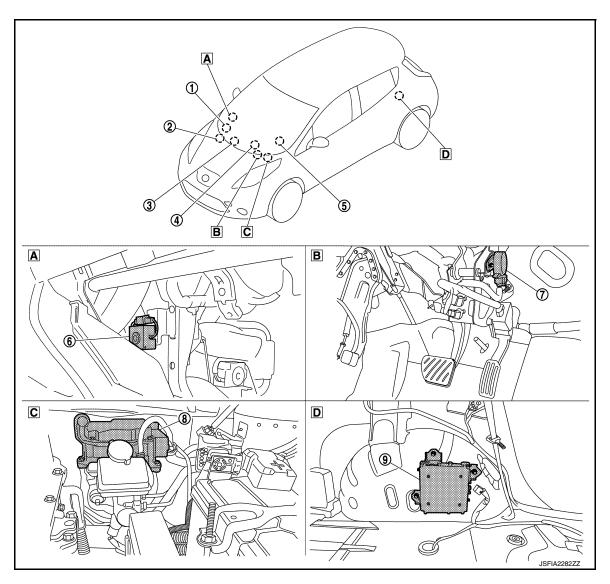
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< SYSTEM DESCRIPTION >

SYSTEM DESCRIPTION COMPONENT PARTS

Component Parts Location

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A View with the glove box assembly re- B Brake pedal moved

C Inside motor room (left)

D Inside luggage side lower finisher LH

COMPONENT PARTS

< SYSTEM DESCRIPTION >

No.	Component parts	Function
1	VCM	 Mainly transmits the following signals to electrically-driven intelligent brake unit via CAN communication. VCM control signal Current regenerative torque signal VCM status signal Shift position signal Mainly receives the following signal from electrically-driven intelligent brake unit via CAN communication. Target braking force signal Refer to <u>EVC-15</u>. "Component Parts Location" for detailed installation location.
		 Mainly transmits the following signals to electrically-driven intelligent brake unit via CAN communication. ABS actuator and electric unit (control unit) control signal Vehicle speed signal (ABS) Decel G signal Front LH wheel speed signal Rear LH wheel speed signal Front RH wheel speed signal Rear RH wheel speed signal Yaw rate signal
2	ABS actuator and electric unit (control unit)	 Side G signal VDC malfunction signal VDC OFF switch signal Master cylinder fluid pressure signal Mainly receives the following signals from electrically-driven intelligent brake unit via CAN communication. Electrically-driven intelligent brake control signal Brake assist request signal Brake power supply backup operation signal Brake power supply backup operation request signal Brake warning lamp request signal Brake system warning lamp request signal Refer to <u>BRC-10</u>, "Component Parts Location" for detailed installation location.
3	ВСМ	 Mainly transmits the following signals to electrically-driven intelligent brake unit via CAN communication. Sleep wake up signal Power switch ON signal Door switch signal Refer to <u>BCS-5, "BODY CONTROL SYSTEM : Component Parts Location"</u> for detailed installation location.
4	Combination meter (brake warning lamp, brake system warning lamp)	 Mainly receives the following signals from ABS actuator electric unit (control unit) via electrically-driven intelligent brake unit via CAN communication. Brake warning lamp signal Brake system warning lamp signal Refer to <u>MWI-6, "METER SYSTEM : Component Parts Location"</u> for detailed installation location.
5	Steering angle sensor	 Mainly transmits the following signal to electrically-driven intelligent brake unit via CAN communication. Steering angle sensor signal Refer to <u>BRC-10, "Component Parts Location"</u> for detailed installation location.
6	Warning buzzer	BR-13. "Warning Buzzer"
7	Stroke sensor	BR-13. "Stroke Sensor"
8	Electrically-driven intelligent brake unit	BR-12, "Electrically-driven Intelligent Brake Unit"
9	Brake power supply backup unit	BR-13, "Brake Power Supply Backup Unit"

< SYSTEM DESCRIPTION >

Electrically-driven Intelligent Brake Unit

Integrates the control module, master cylinder, and brake booster, and it controls the fluid pressure that is sent to the ABS actuator and electric unit (control unit).

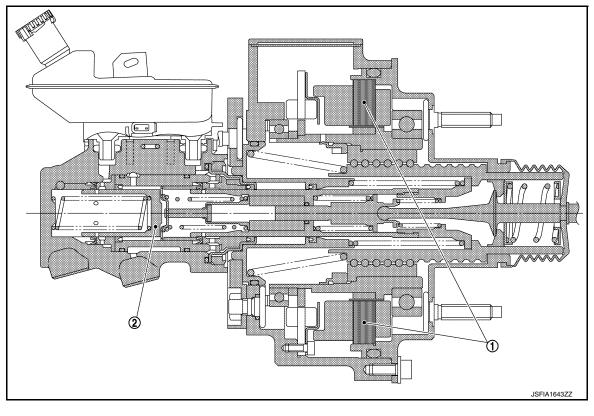
CONTROL MODULE

- Controls the fluid pressure that is applied to the brake calipers, based on the signals from each sensor and unit.
- · Performs cooperative regenerative brake control.
- When a malfunction is detected, the system enters fail-safe mode.

MASTER CYLINDER

- · Generates brake fluid pressure according to the amount of piston movement.
- The fluid pressure generated by the master cylinder is sent to the ABS actuator and electric unit (control unit).

BRAKE BOOSTER



① Motor

(2) Piston

- Contains a motor and generates boost force according to the amount that the brake pedal is depressed and the amount of cooperative regenerative brake control.
- Uses the boost force to generate fluid pressure in the master cylinder.

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COMPONENT PARTS

< SYSTEM DESCRIPTION >

Stroke Sensor

Detects the amount that the brake pedal is depressed and sends it to the electrically-driven intelligent brake unit.

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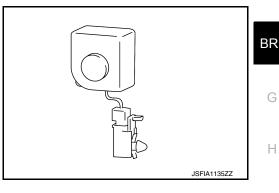
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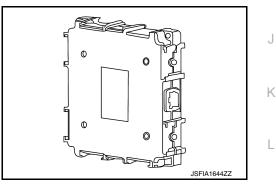
Warning Buzzer

The warning buzzer operates based on the signal from the electrically-driven intelligent brake unit to notify the driver of the change in power supply circuits.



Brake Power Supply Backup Unit

When there is a malfunction in the power system of the electricallydriven intelligent brake unit (no voltage is generated), this unit temporarily supplies voltage to the electrically-driven intelligent brake unit.



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< SYSTEM DESCRIPTION >

SYSTEM

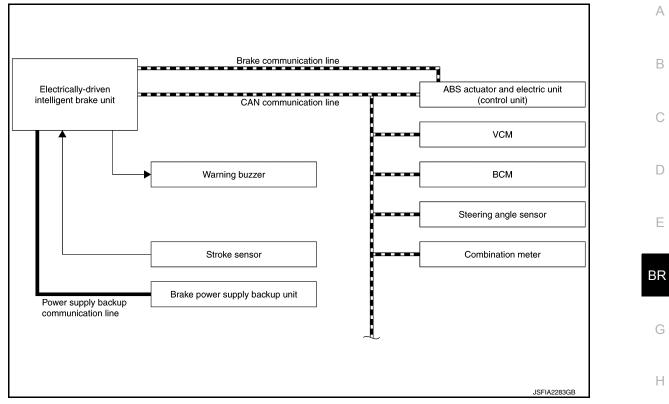
System Description

• An electrically-driven intelligent brake is a booster system that generates assist force by using an internal motor to operate a piston inside the master cylinder.

- Control module is integrated with electrically-driven intelligent brake unit.
- When the brake pedal is depressed during driving, cooperative control of the braking force from the friction brake (regular brake) and the regenerative brake from the traction motor is used.
- The system performs cooperative control of the regenerative brake and friction brake (same brake as in conventional vehicles) and enables highly efficient energy recovery.
- The fluid pressure which is applied to each brake caliper is controlled according to the amount of traction motor regeneration.
- The amount of brake pedal operation is detected by the stroke sensor, and sent to the control module of the electrically-driven intelligent brake unit.
- Based on the commands from the control module of the electrically-driven intelligent brake unit, the motor inside the electrically-driven intelligent brake unit operates and presses the master cylinder piston.
- Pressing the master cylinder piston, and brake fluid is sent to the ABS actuator and electric unit (control unit).
- CONSULT can be used to diagnose the system diagnosis.
- When there is a malfunction in the power system of the electrically-driven intelligent brake unit (no voltage is generated), voltage is temporarily supplied to the electrically-driven intelligent brake unit from the brake power supply backup unit. At the same time, the brake warning lamp (red) and brake system warning lamp (yellow) turn ON, and the warning buzzer sounds.
- When a malfunction occurs in the electrically-driven intelligent brake unit, the VDC function performs control (boost operation). At the same time, the brake warning lamp (red) and brake system warning lamp (yellow) turn ON.
- When a malfunction occurs in the PDM (Power Delivery Module) and 12V battery, the braking force is determined by the force pressing on the brake pedal (no boost operation). At the same time, the brake warning lamp (red) and the brake system warning lamp (yellow) turn ON.
- When a malfunction occurs in the brake power supply backup unit, the brake system warning lamp (yellow) turn ON.
- When a malfunction occurs in the electrically-driven intelligent brake and in the VDC function, the braking force is determined by the force pressing on the brake pedal (no boost operation). At the same time, the brake warning lamp (red) and brake system warning lamp (yellow) turn ON.
- When a malfunction occurs in the electrically-driven intelligent brake, the VDC function, and the power system, then cooperative regenerative brake control is not performed.
- A fail-safe function is available and is activated when a system malfunction occurs. Refer to <u>BR-16, "Fail-Safe"</u>.

SYSTEM DIAGRAM

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INPUT SIGNAL AND OUTPUT SIGNAL

Major signal transmission between each unit via communication lines is shown in the following table.

Component	Signal description	
ABS actuator and electric unit (control unit)	Mainly transmits the following signals to electrically-driven intelligent brake unit via CAN communication and brake communication (CAN communication). • ABS actuator and electric unit (control unit) control signal • Vehicle speed signal (ABS) • Decel G signal • Front LH wheel speed signal • Rear LH wheel speed signal • Rear RH wheel speed signal • Yaw rate signal • Side G signal • VDC malfunction signal • VDC OFF switch signal • Master cylinder fluid pressure signal Mainly receives the following signals from electrically-driven intelligent brake unit via CAN communication and brake communication (CAN communication). • Electrically-driven intelligent brake control signal • Brake power supply backup operation signal • Brake warning lamp request signal • Brake system warning lamp request signal	F L N N
VCM	 Mainly transmits the following signals to electrically-driven intelligent brake unit via CAN communication. VCM control signal Current regenerative torque signal VCM status signal Shift position signal Mainly receives the following signal from electrically-driven intelligent brake unit via CAN communication. Target braking force signal 	F

< SYSTEM DESCRIPTION >

Component	Signal description
BCM	 Mainly transmits the following signals to electrically-driven intelligent brake unit via CAN communication. Sleep wake up signal Power switch ON signal Door switch signal
Steering angle sensor	Mainly transmits the following signal to electrically-driven intelligent brake unit via CAN communication.Steering angle sensor signal
Combination meter	 Mainly receives the following signals from ABS actuator electric unit (control unit) via electrically-driven intelligent brake unit via CAN communication. Brake warning lamp signal Brake system warning lamp signal

CONDITION FOR OPERATION OF THE WARNING LAMP AND THE WARNING BUZZER Turns ON when power switch turns ON and turns OFF when the system is normal, for bulb check.

Condition (status)	Brake warning lamp (red)	Brake system warn- ing lamp (yellow)	Warning buzzer
Power switch OFF	OFF	OFF	OFF
For several seconds after the power switch is ON	ON	ON	OFF
Several seconds after power switch ON (when the system is in normal operation)	OFF	OFF	OFF
When the power supply of the electrically-driven intelligent brake is changed to the brake power supply backup unit	ON	ON	ON
Brake power supply backup unit is malfunctioning	OFF	ON	OFF
Electrically-driven intelligent brake is malfunctioning	ON	ON	OFF
When brake fluid is less than the specified level (brake fluid level switch ON)	ON	OFF	OFF

Fail-Safe

INFOID:000000010634161

- When there is a malfunction in the power system of the electrically-driven intelligent brake unit (no voltage is generated), voltage is temporarily supplied to the electrically-driven intelligent brake unit from the brake power supply backup unit. At the same time, the brake warning lamp (red) and brake system warning lamp (yellow) turn ON and the buzzer sounds.
- When a malfunction occurs in the electrically-driven intelligent brake unit, the VDC function performs control (boost operation).
- When a malfunction occurs in the PDM (Power Delivery Module) and 12V battery, the braking force is determined by the force pressing on the brake pedal (no boost operation). At the same time, brake warning lamp (red) and the brake system warning lamp (yellow) turn ON.
- When a malfunction occurs in the brake power supply backup unit, the brake system warning lamp (yellow) turn ON.
- When a malfunction occurs in the electrically-driven intelligent brake and in the VDC function, the braking force is determined by the force pressing on the brake pedal (no boost operation). At the same time, the brake warning lamp (red) and brake system warning lamp (yellow) turn ON.
- When a malfunction occurs in the electrically-driven intelligent brake, VDC function, and power system, cooperative regenerative brake control is not performed.

DTC	Vehicle condition
C1A60	The following functions are suspended.
C1A61	Boost operation by the electrically-driven intelligent brake Cooperative regenerative brake control
C1A62	Power supply from the brake power supply backup unit
C1A63	The following function is suspended.Power supply from the brake power supply backup unit

< SYSTEM DESCRIPTION >

DTC	Vehicle condition
C1A65	 The following functions are suspended. Boost operation by the electrically-driven intelligent brake Cooperative regenerative brake control Power supply from the brake power supply backup unit
C1A67	Normal control
C1A69	 The following functions are suspended. Boost operation by the electrically-driven intelligent brake Cooperative regenerative brake control Power supply from the brake power supply backup unit
C1A6B	
C1A6C	 The following function is suspended. Backup power supply from the brake power supply backup unit
C1A6D	
C1A6E	The following function is suspended. Cooperative regenerative brake control hill start assist function
C1A6F	The following function is suspended. hill start assist function
C1A70	The following function is suspended.
C1A74	Cooperative regenerative brake control hill start assist function
C1A80	
C1A81	
C1A82	
C1A83	
C1A84	
C1A85	The following functions are suspended.
C1A86	 Boost operation by the electrically-driven intelligent brake Cooperative regenerative brake control
C1A87	Power supply from the brake power supply backup unit
C1A88	
C1A89	
C1A8A	
C1A8B	
C1A90	
C1A91	The following function is suspended.Cooperative regenerative brake controlhill start assist function
C1A98	
C1A99	 The following function is suspended. Power supply from the brake power supply backup unit
C1A9A	
C1AA0	The following functions are supported
C1AA1	 The following functions are suspended. Boost operation by the electrically-driven intelligent brake
C1AA2	Cooperative regenerative brake control
C1AA3	 Power supply from the brake power supply backup unit
C1AA9	The following function is suspended.
C1AB8	Cooperative regenerative brake control hill start assist function
C1AB9	The following functions are suspended.
C1ABA	Boost operation by the electrically-driven intelligent brake Cooperative regenerative brake control
	The following functions are suspended. • Boost operation by the electrically-driven intelligent brake

< SYSTEM DESCRIPTION >

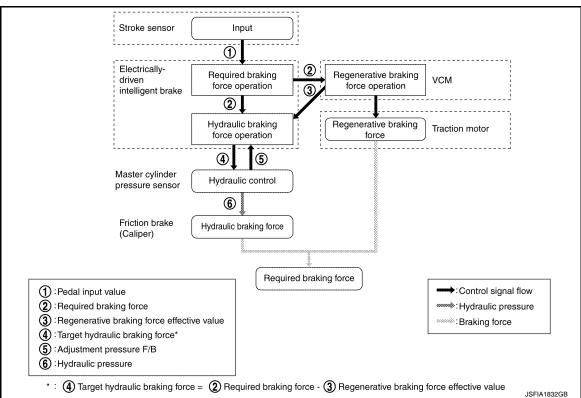
DTC	Vehicle condition		
C1AC0	The following function is suspended. Cooperative regenerative brake control 		
C1AC1	The following functions are suspended.Boost operation by the electrically-driven intelligent brake		
C1AC8	Normal control		
C1AD0			
U1000	The following function is suspended.		
U1010	Cooperative regenerative brake control		
U1510	hill start assist function		
U1511	The following functions are suspended.Power supply from the brake power supply backup unit		

COOPERATIVE REGENERATIVE BRAKE FUNCTION

COOPERATIVE REGENERATIVE BRAKE FUNCTION : System Description

INFOID:000000010634162

COOPERATIVE REGENERATIVE BRAKE CONTROL



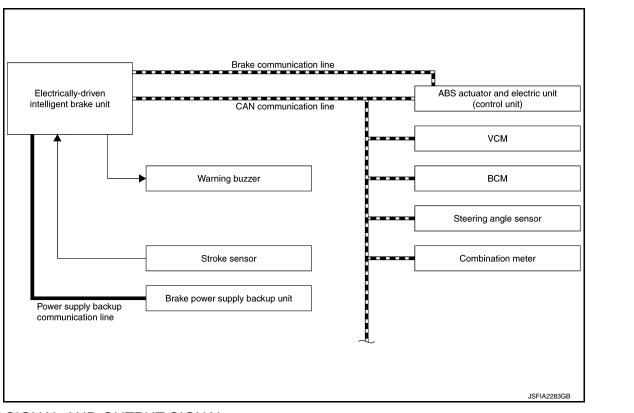
- A regenerative brake drives the traction motor to act as an alternator, and converts the kinetic energy produced by rotation of the tires into electrical energy. The converted electrical energy charges the Li-ion battery.
- When the brakes are operated (during driving), the electrically-driven intelligent brake unit calculates the required braking force based on the input value from the stroke sensor (indicating the amount of brake pedal operation), and it sends the result to the VCM. At the same time, it calculates the hydraulic braking force needed to produce the required braking force.
- The VCM calculates the regenerative braking force needed to produce the required braking force, and sends the result to the electrically-driven intelligent brake unit. At the same time, the traction motor inverter uses the traction motor to perform regenerative braking.
- The electrically-driven intelligent brake unit calculates the hydraulic braking force again based on the regenerative braking force result from the VCM and the calculated result for hydraulic braking force.

< SYSTEM DESCRIPTION >

 Based on the calculated result for hydraulic braking force, the electrically-driven intelligent brake unit uses the motor inside the electrically-driven intelligent brake unit to move the master cylinder piston, adjusting the fluid pressure inside the master cylinder to the master fluid pressure. It also performs adjustment so that the fluid pressure that is actually applied matches the target fluid pressure.
 NOTE:

The fluid pressure applied to the master cylinder is detected by master cylinder pressure sensor and transmits the electrically-driven intelligent brake unit from ABS actuator and electric unit (control unit) via brake communication (CAN communication).

- The fluid pressure generated by the master cylinder is sent to each brake caliper via the ABS actuator and electric unit (control unit).
- When the cooperative regenerative brake is operating, the motor inside the electrically-driven intelligent brake unit moves the master cylinder piston according to the amount of regeneration.
- Moving the master cylinder piston increases the fluid pressure applied to the ABS actuator and electric unit (control unit). (The brake pedal stroke does not change.)
- When brake control is stopped (immediately before vehicle stop or while vehicle is stopped), cooperative regenerative brake control is not performed.



SYSTEM DIAGRAM

INPUT SIGNAL AND OUTPUT SIGNAL

Major signal transmission between each unit via communication lines is shown in the following table.

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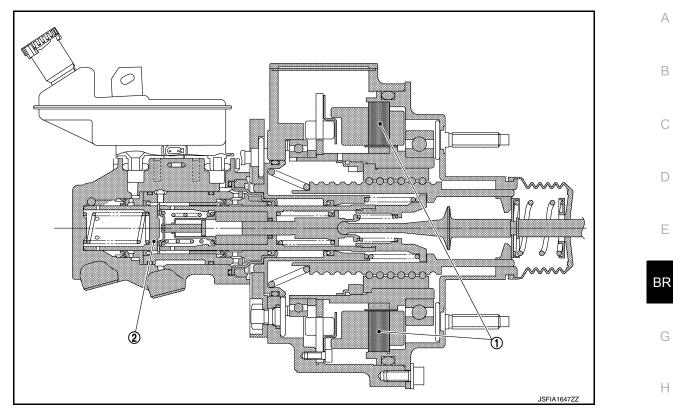
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< SYSTEM DESCRIPTION >

Component	Signal description
ABS actuator and electric unit (control unit)	 Mainly transmits the following signals to electrically-driven intelligent brake unit via CAN communication and brake communication (CAN communication). ABS actuator and electric unit (control unit) control signal Vehicle speed signal (ABS) Decel G signal Front LH wheel speed signal Rear LH wheel speed signal Rear RH wheel speed signal Side G signal VDC malfunction signal VDC OFF switch signal Master cylinder fluid pressure signal Mainly receives the following signals from electrically-driven intelligent brake unit via CAN communication and brake communication (CAN communication). Electrically-driven intelligent brake control signal Brake power supply backup operation signal Brake warning lamp request signal Brake system warning lamp request signal
VCM	 Mainly transmits the following signals to electrically-driven intelligent brake unit via CAN communication. VCM control signal Current regenerative torque signal VCM status signal Shift position signal Mainly receives the following signal from electrically-driven intelligent brake unit via CAN communication. Target braking force signal
BCM	 Mainly transmits the following signals to electrically-driven intelligent brake unit via CAN communication. Sleep wake up signal Power switch ON signal Door switch signal
Steering angle sensor	Mainly transmits the following signal to electrically-driven intelligent brake unit via CAN communication.Steering angle sensor signal
Combination meter	 Mainly receives the following signals from ABS actuator electric unit (control unit) via electrically-driven intelligent brake unit via CAN communication. Brake warning lamp signal Brake system warning lamp signal

OPERATION

During Normal Braking

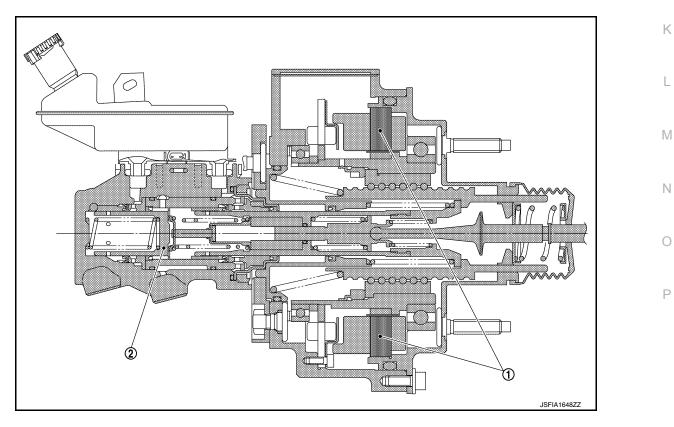


① Motor

2 Piston

The stroke sensor detects the brake pedal stroke, and the motor inside the electrically-driven intelligent brake unit presses the master cylinder piston, generating boost operation (brake pedal assist force) and increasing the fluid pressure.

When Cooperative Regenerative Brake Control Is Operating



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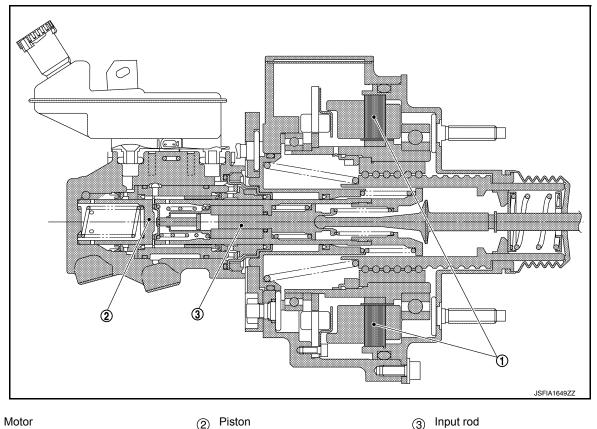
< SYSTEM DESCRIPTION >

(1) Motor

(2) Piston

When the amount of regenerative braking increases, the motor inside the electrically-driven intelligent brake unit returns the master cylinder piston, lowering the fluid pressure. While the vehicle is stopped, because the amount of regenerative braking decreases, the motor inside the electrically-driven intelligent brake unit presses the master cylinder piston, increasing the fluid pressure.

When Control Is Stopped



Input rod

The input rod crosses the cooperative regenerative brake control gap and contacts the master cylinder piston, generating fluid pressure. There is no boost force (assist force), and the braking force is determined by the force pressing on the brake pedal.

hill start assist FUNCTION

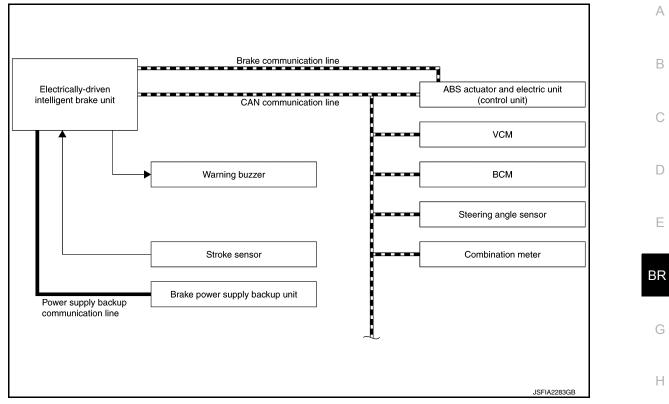
① Motor

hill start assist FUNCTION : System Description

INFOID:0000000010634163

- This function maintains brake fluid pressure so that the vehicle does not move backwards even if brake pedal is released to depress accelerator pedal to start the vehicle while it is stopped on an uphill slope by depressing brake pedal.
- This function operates when the vehicle is in stop status on a uphill slope of slope ratio 10% or more and selector lever is in the position other than P or N.
- hill start assist function is only for the start aid. It maintains the brake fluid pressure for approx. 2 seconds after releasing the brake pedal, and then decreases the pressure gradually. If the vehicle can start by the accelerator operation, the brake is released automatically and a smooth start can be performed.
- Fail-safe function is adopted. When a malfunction occurs in hill start assist function, the control is suspended for hill start assist function. The vehicle status becomes the same as models without hill start assist function. Refer to BR-16, "Fail-Safe".

SYSTEM DIAGRAM



INPUT SIGNAL AND OUTPUT SIGNAL

Major signal transmission between each unit via communication lines is shown in the following table.

Component	Signal description	
ABS actuator and electric unit (control unit)	Mainly transmits the following signals to electrically-driven intelligent brake unit via CAN communication and brake communication (CAN communication). • ABS actuator and electric unit (control unit) control signal • Vehicle speed signal (ABS) • Decel G signal • Front LH wheel speed signal • Rear LH wheel speed signal • Rear RH wheel speed signal • Yaw rate signal • Side G signal • VDC malfunction signal • VDC OFF switch signal • Master cylinder fluid pressure signal Mainly receives the following signals from electrically-driven intelligent brake unit via CAN communication and brake communication (CAN communication). • Electrically-driven intelligent brake control signal • Brake power supply backup operation signal • Brake warning lamp request signal • Brake system warning lamp request signal	k L N N
VCM	 Mainly transmits the following signals to electrically-driven intelligent brake unit via CAN communication. VCM control signal Current regenerative torque signal VCM status signal Shift position signal Mainly receives the following signal from electrically-driven intelligent brake unit via CAN communication. Target braking force signal 	F

< SYSTEM DESCRIPTION >

Component	Signal description
BCM	 Mainly transmits the following signals to electrically-driven intelligent brake unit via CAN communication. Sleep wake up signal Power switch ON signal Door switch signal
Steering angle sensor	 Mainly transmits the following signal to electrically-driven intelligent brake unit via CAN communication. Steering angle sensor signal
Combination meter	 Mainly receives the following signals from ABS actuator electric unit (control unit) via electrically-driven intelligent brake unit via CAN communication. Brake warning lamp signal Brake system warning lamp signal

WARNING/INDICATOR/CHIME LIST

WARNING/INDICATOR/CHIME LIST : Warning Lamp/Indicator Lamp

FOR U.S.A.

Name	Design	Layout/Function
Brake system warning lamp	BRAKE	For layout: Refer to MWI-8, "METER SYSTEM : System Description".
(yellow)		For function: Refer to <u>BR-24</u> , "WARNING/INDICATOR/CHIME LIST : Brake System Warning Lamp (Yellow)".
Brake warning lamp	BRAKE	For layout: Refer to MWI-8, "METER SYSTEM : System Description".
(red)		For function: Refer to BR-26, "WARNING/INDICATOR/CHIME LIST : Brake Warning Lamp (Red)".

FOR CANADA

Name	Design	Layout/Function
Brake system warning lamp (yellow)		For layout: Refer to MWI-8, "METER SYSTEM : System Description".
		For function: Refer to <u>BR-24</u> , "WARNING/INDICATOR/CHIME LIST : Brake System Warning Lamp (Yellow)".
Brake warning lamp		For layout: Refer to MWI-8, "METER SYSTEM : System Description".
(red)		For function: Refer to <u>BR-26</u> , "WARNING/INDICATOR/CHIME LIST : Brake Warning Lamp (Red)".

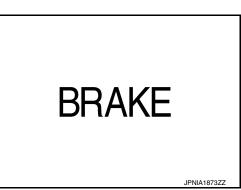
WARNING/INDICATOR/CHIME LIST : Brake System Warning Lamp (Yellow)

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INFOID:000000010634164

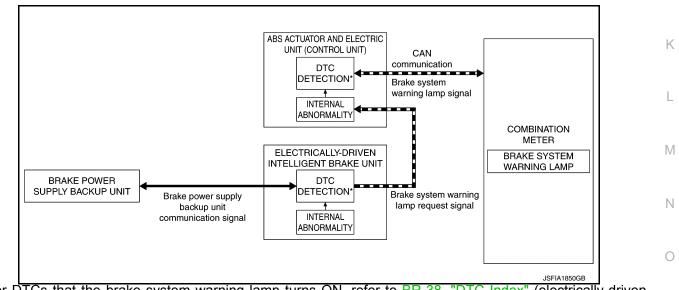
DESIGN/PURPOSE

- The brake system warning lamp warns the driver of a malfunction in the electrically-driven intelligent brake unit or the brake power supply backup unit.
- For U.S.A.



- Except U.S.A.

	С
JPNIA1872ZZ	D
 The brake system warning lamp warns the driver of malfunction in hill start assist function. NOTE: 	
The brake system warning lamp may turn ON simultaneously with the brake warning lamp. For details, refer to <u>BR-14, "System Description"</u> .	Е
BULB CHECK Several seconds after power switch is turned ON	BR
SYNCHRONIZATION WITH WARNING BUZZER	
For warning buzzer, refer to <u>BR-13, "Warning Buzzer"</u>	G
SYNCHRONIZATION WITH MASTER WARNING LAMP	
Not applicable	Н
OPERATION AT COMBINATION METER CAN COMMUNICATION CUT-OFF OR UNUSUAL SIG- NAL	
For actions on CAN communications blackout in the combination meter, refer to <u>MWI-15, "METER SYSTEM :</u> <u>Fail-Safe"</u> .	I
SYSTEM DIAGRAM	
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*: For DTCs that the brake system warning lamp turns ON, refer to <u>BR-38, "DTC Index"</u> (electrically-driven intelligent brake unit) or <u>BRC-56, "DTC Index"</u> [ABS actuator and electric unit (control unit)].

SIGNAL PATH

- The electrically-driven intelligent brake unit transmits a brake system warning lamp request signal to the ABS actuator and electric unit (control unit) via CAN communication when detecting a malfunction in the electrically-driven intelligent brake unit.
- The ABS actuator and electric unit (control unit) receiving a brake system warning lamp request signal, and transmits a brake system warning lamp signal to the combination meter via CAN communication.

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< SYSTEM DESCRIPTION >

- The combination meter turns ON the brake system warning lamp when receiving a brake system warning lamp signal.
- For the relationship between warning lamp and DTC, refer to <u>BR-38. "DTC Index"</u>.

LIGHTING CONDITION

When any of the condition listed below is satisfied while the power switch ON:

- A malfunction is detected in the electrically-driven intelligent brake unit or the brake power supply backup unit.
- A malfunction is detected in the hill start assist function.
- For the relationship between warning lamp and DTC, refer to BR-38, "DTC Index".

SHUTOFF CONDITION

- When the condition listed below is satisfied while the power switch ON:
- Erase DTC
- Power switch OFF

TIMING CHART

Power switch	ON	
Brake system warning lamp signal	OFF	
Brake system warning lamp	ON	
	OFF	
	→ + +- 200 msec or less	
		JSFIA1851GB

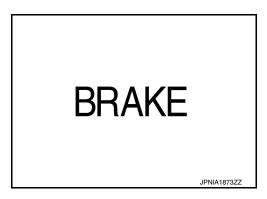
WARNING/INDICATOR/CHIME LIST : Brake Warning Lamp (Red)

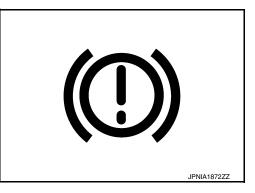
INFOID:000000010634166

DESIGN/PURPOSE

• The brake warning lamp warns the driver of brake fluid shortages.

- For U.S.A.





- Except U.S.A.

< SYSTEM DESCRIPTION >

• The brake warning lamp warns the driver that the parking brake is engaged.

• The brake warning lamp warns the driver of a malfunction in the ABS actuator and electric unit (control unit).

• The brake warning lamp warns the driver of a malfunction in the electrically-driven intelligent brake unit.

The brake warning lamp may turn ON simultaneously with the ABS warning lamp, VDC warning lamp. For details, refer to <u>BRC-16, "System Description"</u> (ABS warning lamp, VDC warning lamp) and <u>BR-14, "System Description"</u> (brake system warning lamp).

BULB CHECK

Several seconds after power switch is turned ON

SYNCHRONIZATION WITH WARNING CHIME

YES

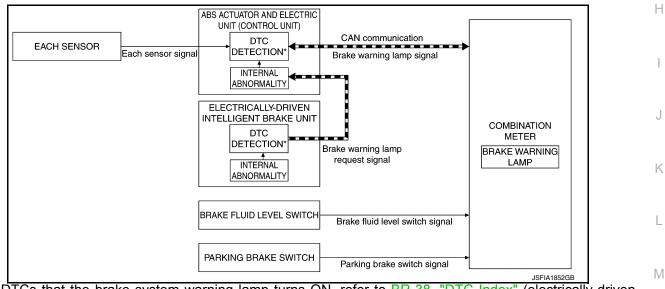
For warning chime, refer to <u>WCS-11, "PARKING BRAKE RELEASE WARNING CHIME : Parking Brake</u> <u>Release Warning Chime"</u>

MASTER WARNING LAMP WITH WARNING CHIME Not applicable

OPERATION AT COMBINATION METER CAN COMMUNICATION CUT-OFF OR UNUSUAL SIG-NAL

For actions on CAN communications blackout in the combination meter, refer to <u>MWI-15. "METER SYSTEM :</u> <u>Fail-Safe"</u>.

SYSTEM DIAGRAM



*: For DTCs that the brake system warning lamp turns ON, refer to <u>BR-38, "DTC Index"</u> (electrically-driven intelligent brake unit) or <u>BRC-56, "DTC Index"</u> [ABS actuator and electric unit (control unit)].

SIGNAL PATH

When Brake Fluid Is Insufficient

The combination meter turns ON/OFF the brake warning lamp, according to the ON/OFF state of the brake fluid level switch.

When Operating The Parking Brake

The combination meter turns ON/OFF the brake warning lamp, according to the ON/OFF state of the parking prake switch.

When The EBD Function Is In Abnormal State

- The ABS actuator and electric unit (control unit) transmits a brake warning lamp signal to the combination meter via CAN communication when detecting a malfunction in the EBD function.
- The combination meter turns ON the brake warning lamp when receiving a brake warning lamp signal.
- For the relationship between warning lamp and DTC, refer to <u>BRC-56, "DTC Index"</u>.

When The Electrically-driven Intelligent Brake Unit Is In Abnormal State

BR-27

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< SYSTEM DESCRIPTION >

- The electrically-driven intelligent brake unit transmits a brake warning lamp request signal to the ABS actuator and electric unit (control unit) via CAN communication when detecting a malfunction in the electricallydriven intelligent brake unit.
- The ABS actuator and electric unit (control unit) receiving a brake warning lamp request signal, and transmits a brake system warning lamp signal to the combination meter via CAN communication.
- The combination meter turns ON the brake system warning lamp when receiving a brake system warning lamp signal.
- For the relationship between warning lamp and DTC, refer to BR-38, "DTC Index".

LIGHTING CONDITION

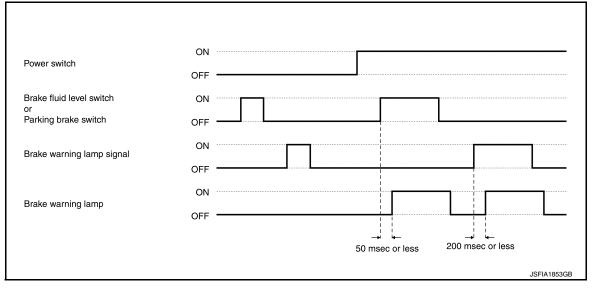
When any of the condition listed below is satisfied while the power switch ON:

- Brake fluid level switch ON.
- · Parking switch ON.
- A malfunction is detected in the EBD function of the ABS actuator and electric unit (control unit).
- A malfunction is detected in the electrically-driven intelligent brake unit.
- For the relationship between warning lamp and DTC, refer to <u>BR-38, "DTC Index"</u> (electrically-driven intelligent brake unit) or <u>BRC-56, "DTC Index"</u> [ABS actuator and electric unit (control unit)].

SHUTOFF CONDITION

- When the condition listed below is satisfied while the power switch ON:
- Brake fluid level switch is OFF.
- Parking brake switch is OFF.
- Erase DTC
- Power switch OFF

TIMING CHART



< SYSTEM DESCRIPTION >

DIAGNOSIS SYSTEM (ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT)

CONSULT Function

INFOID:000000010634167

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APPLICATION ITEM

CONSULT can display each diagnostic item using the diagnostic test modes as follows.

Mode	Function description	
ECU identification	Parts number of electrically-driven intelligent brake unit can be read.	
Self Diagnostic Results	Self-diagnostic results and freeze frame data can be read and erased quickly.*	D
DATA MONITOR	Input/Output data in the electrically-driven intelligent brake unit can be read.	
Work Support	Components can be quickly and accurately adjusted.	E

*: The following diagnosis information is erased by erasing.

CAUTION:

After erasing self-diagnosis results, turn the power switch OFF to exit CONSULT, and disconnect CON-SULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. Never operate the vehicle while waiting.

• DTC

• Freeze frame data (FFD)

ECU IDENTIFICATION

Electrically-driven intelligent brake unit part number can be read.

SELF DIAGNOSTIC RESULT Refer to <u>BR-38, "DTC Index"</u>.

When "CRNT" is displayed on self-diagnosis result

• The system is presently malfunctioning.

When "PAST" is displayed on self-diagnosis result

• System malfunction in the past is detected, but the system is presently normal.

Freeze frame data (FFD)

When DTC is detected, a vehicle state shown below is recorded and displayed on CONSULT.

Item name	Display item
IGN counter (0 – 39)	 The number of times that power switch is ON after the DTC is detected is displayed. When "0" is displayed: It indicates that the system is presently malfunctioning. When except "0" is displayed: It indicates that system malfunction in the past is detected, but the system is presently normal. NOTE: Each time when power switch is turned OFF to ON, numerical number increases in 1 → 2 → 338 → 39. When the operation number of times exceeds 39, the number do not increase and "39" is displayed until self-diagnosis is erased.
PEDAL STROKE VALUE	Displays the brake pedal stroke at the time the malfunction is detected.
MASTER CYL PRESSURE	Displays the brake fluid pressure generated in the master cylinder at the time the malfunction is detected.
CONTROL MODULE TEMP	Displays the temperature of the control module that is integrated with the electrically-driven intelli- gent brake unit at the time the malfunction is detected.
MOTOR POWER SUPPLY	Displays the power voltage of the motor inside the electrically-driven intelligent brake unit at the time the malfunction is detected.
CONTROL MODULE POWER	Displays the power voltage of the control module that is integrated with the electrically-driven intel- ligent brake unit at the time the malfunction is detected.
Q axis current	Displays the current at the motor inside the electrically-driven intelligent brake unit at the time the malfunction is detected.
VEHICLE SPEED	Displays the vehicle speed at the time the malfunction is detected.

< SYSTEM DESCRIPTION >

Item name		Display item	
DECEL G SENSOR	Displays the decel G at the time t	he malfunction is detected.	
ACTUAL GEAR POSITION	Displays the shift position at the ti	me the malfunction is detected.	
MILEAGE	Displays the mileage at the time	the malfunction is detected.	
SYSTEM OPERATING TIME (msec)	Time between the start of the elect played by "msec".	trically-driven intelligent brake unit and DTC detection is dis-	
SYSTEM OPERATING TIME (min)	Time between the start of the ele played by "min".	ctrically-driven intelligent brake unit and DTC detection is dis-	
BACKUP UNIT OUT VOLT	Displays the power voltage of the detected.	brake power supply backup unit at the time the malfunction is	
	IGN ON	Displayed if the power switch is ON when DTC is detected.	
	IGN OFF	Displayed if the power switch is in a state other than ON when DTC is detected.	
	STOP LAMP SW ON	Displayed if the brake pedal is depressed when DTC is detected.	
	STOP LAMP SW OFF	Displayed if the brake pedal is not depressed when DTC is detected.	
	DOOR OPEN	Displayed if the driver's door is open when DTC is detected.	
	DOOR CLOSE	Displayed if the driver's door is close when DTC is detected.	
WAKEUP SIGNAL STATUS	SLEEP	Displayed if the electrically-driven intelligent brake unit is not active when DTC is detected.	
	WAKE UP	Displayed if the electrically-driven intelligent brake unit is ac- tive when DTC is detected.	
	READY ON	Displayed if the vehicle is in READY state when DTC is detected.	
	READY OFF	Displayed if the vehicle is in a state other than READY state when DTC is detected.	
	CAN COMM ON	Displayed if CAN communication is performed when DTC is detected.	
	CAN COMM OFF	Displayed if CAN communication is not performed when DTC is detected.	
IGNITION SIGNAL	Displays the status of ignition swit	tch at the time a DTC is detected.	
STATUS STOP LAMP SW	Displays the status of brake peda	l operation at the time a DTC is detected.	
DOOR SWITCH	Displays the status of all doors (including back the door) at the time a DTC is detected.*		
COMMAND WAKE UP SLEEP	Displays the status of the start-up permit of the electrically driven intelligent brake unit at the time a DTC is detected.		
STATUS READY	Displays the status of READY wh	ere a DTC is detected.	
CONDITION CAN DIAG PERMIS	Displays the status of the CAN co	mmunication diagnosis permit at the time a DTC is detected.	

*: When one or more doors including the back door are open: "DOOR OPEN" is displayed. When all doors including the back door are closed: "DOOR CLOSE" is displayed.

DATA MONITOR

NOTE:

The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

Item (Unit)	Note:
MASTER CYL PRESSURE (V)	Master cylinder pressure sensor voltage is displayed.
MASTER CYL PRES (VDC) (MPa)	Displays the fluid pressure of master cylinder part.

< SYSTEM DESCRIPTION >

Item (Unit)	Note:
MOTOR TEMPERATURE (°F)	Displays the temperature of the motor inside the electrically-driven intelligent brake unit.
CONTROL MODULE TEMP (°F)	Displays the temperature of the control module that is integrated with the electrically-driven intelligent brake unit.
MST CYL PRES POWER VOLT (V)	Master cylinder pressure sensor power supply is displayed
STROKE SEN 1 POWERT VOLT (V)	Stroke sensor 1* output power supply is displayed
MOTOR POWER SUPPLY (V)	Displays the power supply voltage of the motor inside the electrically-driven intelligent brake unit.
CONTROL MODULE POWER (V)	Displays the power supply voltage of the control module that is integrated with the electri- cally-driven intelligent brake unit.
STROKE SEN 1 LEARN VALUE (deg)	Displays the stroke sensor 1 [*] learning value.
STROKE SEN 2 LEARN VALUE (deg)	Displays the stroke sensor 2 [*] learning value.
STROKE SEN 1 OUTPUT VOLT (V)	Displays the stroke sensor 1 [*] output voltage.
ALL SENSOR LEARNING (INCOMP/COMP)	Displays the learning values of stroke sensor 1 [*] , stroke sensor 2 [*] , and master cylinder pressure.
STEERING ANGLE SENSOR (deg)	Displays the steering angle.
DECEL G SENSOR (G)	Displays the decel G.
SIDE G SENSOR (G)	Displays the side G.
YAW RATE SENSOR SIGNAL (deg/s)	Displays the yaw rate.
WHEEL SENSOR FRONT RH (rpm)	Displays the front RH wheel speed.
WHEEL SENSOR FRONT LH (rpm)	Displays the front LH wheel speed.
WHEEL SENSOR REAR RH (rpm)	Displays the rear RH wheel speed.
WHEEL SENSOR REAR LH (rpm)	Displays the rear LH wheel speed.
VEHICLE SPEED (km/h)	Displays the vehicle speed.
ACTUAL GEAR POSITION [D/R/(N/P)]	Displays the shift position.
BRAKE SWITCH (On/Off)	Displays the operating status of stop lamp switch.
COMMAND WAKE UP SLEEP (SLEEP/WAKEUP)	Displays the wake up status.
DOOR SWITCH (CLOSE/OPEN)	Displays the status of door.
IGNITION SIGNAL (On/Off)	Displays the status of power switch.
VCM STATUS (On/Off)	Displays the VCM status.

< SYSTEM DESCRIPTION >

Item (Unit)	Note:
BACKUP UINT DIAG RESULT (NORMAL/ERR1/ERR2/ERR3/ERR4/ ERR5/ERR6/ERR7/ERR8/ERR9/ERR10/ ERR11/ERR12/ERR13/ERR14/ERR15)	Displays the diagnosis results for the brake power supply backup unit.
BACKUP UNIT MODE (On/Off)	Displays the operating status of the brake power supply backup unit.
BACKUP UNIT CHG STATUS (CHG1/CHG2/FULL)	Displays the charge status of the brake power supply backup unit.
DRV TRQ CTRL VAL (Nm)	Displays a correction value for minutely increasing/decreasing the drive torque.
DRV TRQ CTRL MODE (NOMAL/ERR1/ERR2/ERR3)	Displays a correction state of minutely increasing/decreasing the drive torque.
DRV TRQ CTRL STP FLAG (PERMIS/CANCEL)	Displays the permission/cancellation to a correction for minutely increasing/decreasing the drive torque.

*: The stroke sensor is composed of two circuits: stroke sensor 1 and stroke sensor 2.

WORK SUPPORT

Item	Description
STROKE SENSOR 0 POINT LEARNING	Perform stroke sensor learning.

< ECU DIAGNOSIS INFORMATION >

ECU DIAGNOSIS INFORMATION ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT

Reference Value

CONSULT DATA MONITOR STANDARD VALUE

NOTE:

The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

Monitor item	Condition	Reference values in normal operation
MASTER CYL PRESSURE	Gradually depress the brake pedal	Increases between 0.5 – 4.5 V according to the depth of brake pedal depression.
MASTER CYL PRES (VDC)	Gradually depress the brake pedal	Increases between 0 – 25.6 MPa according to the depth of brake pedal depression.
MOTOR TEMPERATURE	Always	239°F (115 °C) or less
CONTROL MODULE TEMP	Always	302°F (150 °C) or less
MST CYL PRES POWER VOLT	Always	4.75 – 5.25 V
STROKE SEN 1 POWER VOLT	Always	4.75 – 5.25 V
MOTOR POWER SUPPLY	Always	9 – 16 V
CONTROL MODULE POWER	Always	9 – 16 V
STROKE SEN 1 LEARN VALUE ^{*1}	Always	43.32 – 64.76 deg
STROKE SEN 2 LEARN VALUE ^{*1}	Always	(-2.37) - 20.74 deg
STROKE SEN 1 OUTPUT VOLT*1	Gradually depress the brake pedal	Increases between 0.51 – 4.59 V according to the depth of brake pedal depression.
	Learning not completed	INCOMP
ALL SENSOR LEARNING ^{*2}	Learning completed	СОМР
	When driving straight	0±3.5°
STEERING ANGLE SENSOR	When steering wheel is steered to LH by 90°	Approx. –90°
	When steering wheel is steered to RH by 90°	Approx. +90°
	Vehicle stopped	Approx. 0 G
DECEL G SENSOR	During acceleration	Positive value
	During deceleration	Negative value
	Vehicle stopped	Approx. 0 G
SIDE G SENSOR	Right turn	Negative value
	Left turn	Positive value
	Vehicle stopped	Approx. 0 deg/s
YAW RATE SENSOR SIGNAL	Right turn	Negative value
	Left turn	Positive value
	Vehicle stopped	0 rpm
WHEEL SENSOR FRONT RH	Driving ^{*3}	Increases according to vehicle speed.
	Vehicle stopped	0 rpm
WHEEL SENSOR FRONT LH	Driving ^{*3}	Increases according to vehicle speed.
	Vehicle stopped	0 rpm
WHEEL SENSOR REAR RH	Driving ^{*3}	Increases according to vehicle speed.

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< ECU DIAGNOSIS INFORMATION >

Monitor item	Condition	Reference values in normal operation
	Vehicle stopped	0 rpm
WHEEL SENSOR REAR LH	Driving ^{*3}	Increases according to vehicle speed.
	Vehicle stopped	0.00 km/h (0.00 MPH)
VEHICLE SPEED	Driving ^{*3}	Almost same reading as speedometer (within $\pm 10\%$)
	D position	1 – 8
ACTUAL GEAR POSITION	R position	R
	N or P position	N/P
BRAKE SWITCH	Brake pedal is depressed.	On
BRARE SWITCH	Brake pedal is not depressed.	Off
COMMAND WAKE UP SLEEP	When command is not input from BCM.	SLEEP
	When command is input from BCM.	WAKEUP
DOOR SWITCH	After the all door is closed, 20 sec- onds later from room lamp OFF	CLOSE
	Any door is open	OPEN
IGNITION SIGNAL	Power switch ON	On
IGNITION SIGNAL	Power switch other than ON	Off
VCM STATUS	Active	On
VOM STATUS	In active	Off
	Normal	NORMAL
	Overvoltage	ERR1
	Communications malfunction	ERR2
	Charging circuit malfunction	ERR3
	Discharge circuit open	ERR4
	Discharge circuit shorted	ERR5
	Cell malfunction	ERR6
	Backup power circuit malfunction	ERR7
BACKUP UNIT DIAG RESULT	Start signal malfunction	ERR8
BACKOL ONTI DIAG NEGOLI	The control part is in abnormal condi- tion	ERR9
	Monitor circuit malfunction	ERR10
	Insulation malfunction	ERR11
	Output circuit malfunction (other than discharge circuit)	ERR12
	Temperature detection circuit mal- function	ERR13
	Deteriorated	ERR14
	Outside the reference voltage	ERR15
	Backup power supply mode is active	On
BACKUP UNIT MODE	Backup power supply mode is not ac- tivated	Off
	80% or less (backup power supply not possible)	CHRG1
BACKUP UNIT CHG STATUS	80 – 99%(backup power supply possible)	CHRG2
	100% (backup power supply possible)	FULL

< ECU DIAGNOSIS INFORMATION >

Monitor item	Condition	Reference values in normal operation	^
DRV TRQ CTRL VAL	Driving	Changes according to correction value of drive torque.	A
	Driving	NOMAL	В
	When drive torque control malfunction	ERR1	D
DRV TRQ CTRL MODE	 Any condition listed below: Vehicle stopped. Malfunction in ABS actuator and electric unit (control unit), VCM or electrically-driven intelligent brake unit. Activation of VDC function, TCS function, ABS function or EBD function. 	ERR2	C
	Drive torque control is deactivated.	ERR3	E
	Drive torque correction permission.	PERMIS	
DRV TRQ CTRL STP FLAG	Drive torque correction cancellation.	CANCEL	BR

*1: The stroke sensor contains two circuits: stroke sensor 1 and stroke sensor 2.

*2: Learning for stroke sensor 1, stroke sensor 2, and master cylinder fluid pressure.

*3: Check tire pressure under normal conditions.

Fail-Safe

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- When there is a malfunction in the power system of the electrically-driven intelligent brake unit (no voltage is generated), voltage is temporarily supplied to the electrically-driven intelligent brake unit from the brake power supply backup unit. At the same time, the brake warning lamp (red) and brake system warning lamp (yellow) turn ON and the buzzer sounds.
- When a malfunction occurs in the electrically-driven intelligent brake unit, the VDC function performs control (boost operation).
- When a malfunction occurs in the PDM (Power Delivery Module) and 12V battery, the braking force is determined by the force pressing on the brake pedal (no boost operation). At the same time, brake warning lamp (red) and the brake system warning lamp (yellow) turn ON.
- When a malfunction occurs in the brake power supply backup unit, the brake system warning lamp (yellow) turn ON.
- When a malfunction occurs in the electrically-driven intelligent brake and in the VDC function, the braking force is determined by the force pressing on the brake pedal (no boost operation). At the same time, the brake warning lamp (red) and brake system warning lamp (yellow) turn ON.
- When a malfunction occurs in the electrically-driven intelligent brake, VDC function, and power system, cooperative regenerative brake control is not performed.

DTC	Vehicle condition	
C1A60	The following functions are suspended.	
C1A61	 Boost operation by the electrically-driven intelligent brake Cooperative regenerative brake control 	
C1A62	Power supply from the brake power supply backup unit	
C1A63	The following function is suspended.Power supply from the brake power supply backup unit	
C1A65	 The following functions are suspended. Boost operation by the electrically-driven intelligent brake Cooperative regenerative brake control Power supply from the brake power supply backup unit 	
C1A67	Normal control	
C1A69	 The following functions are suspended. Boost operation by the electrically-driven intelligent brake Cooperative regenerative brake control Power supply from the brake power supply backup unit 	

< ECU DIAGNOSIS INFORMATION >

DTC	Vehicle condition
C1A6B	
C1A6C	 The following function is suspended. Backup power supply from the brake power supply backup unit
C1A6D	
C1A6E	The following function is suspended.Cooperative regenerative brake controlhill start assist function
C1A6F	The following function is suspended. hill start assist function
C1A70	The following function is suspended.
C1A74	Cooperative regenerative brake control hill start assist function
C1A80	The following functions are suspended. Boost operation by the electrically-driven intelligent brake Cooperative regenerative brake control Power supply from the brake power supply backup unit
C1A81	
C1A82	
C1A83	
C1A84	
C1A85	
C1A86	
C1A87	
C1A88	
C1A89	
C1A8A	
C1A8B	
C1A90	
C1A91	The following function is suspended. Cooperative regenerative brake control hill start assist function
C1A98	
C1A99	The following function is suspended.
C1A9A	Power supply from the brake power supply backup unit
C1AA0	 The following functions are suspended. Boost operation by the electrically-driven intelligent brake Cooperative regenerative brake control Power supply from the brake power supply backup unit
C1AA1	
C1AA1	
C1AA3	
C1AA9	The following function is suspended. Cooperative regenerative brake control hill start assist function
C1AB8	
C1AB9	The following functions are suspended.
C1ABA	 Boost operation by the electrically-driven intelligent brake Cooperative regenerative brake control Power supply from the brake power supply backup unit
C1AC0	The following function is suspended. Cooperative regenerative brake control
C1AC1	The following functions are suspended.Boost operation by the electrically-driven intelligent brake
C1AC8	Normal control
C1AD0	

ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT

< ECU DIAGNOSIS INFORMATION >

DTC	Vehicle condition	
U1000	The following function is suspended.	A
U1010	Cooperative regenerative brake control	
U1510	hill start assist function	В
U1511	The following functions are suspended.Power supply from the brake power supply backup unit	

DTC Inspection Priority Chart

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When multiple DTCs are displayed simultaneously, check them one by one according to the following priority list.

Priority	Detected item (DTC)	
1	 U1000 CAN COMM CIRCUIT U1010 CONTROL UNIT (CAN) U1510 BRAKE CONTROL COMMUNICATION U1511 POWER SUPPLY BACKUP UNIT COMM 	E BR
2	 C1A60 CONTROL MODULE C1A6B POWER SUPPLY BACKUP UNIT C1A80 CONTROL MODULE-2 C1A81 CONTROL MODULE-3 C1A82 CONTROL MODULE-4 C1A83 CONTROL MODULE-5 C1A84 CONTROL MODULE-6 C1A85 CONTROL MODULE-7 C1A86 CONTROL MODULE-8 C1A87 CONTROL MODULE-9 C1A88 CONTROL MODULE-10 C1A88 CONTROL MODULE-11 	G
	 C1A89 CONTROL MODULE-11 C1A8A CONTROL MODULE-12 C1A8B CONTROL MODULE-13 C1AC8 POWER SUPPLY BACKUP UNIT-2 	J
3	C1A6E EV/HEV SYSTEM C1A6F TCM/VCM SYSTEM C1A70 BRAKE CONTROL SYSTEM C1A74 ST ANG SEN CIRCUIT	K
4	 C1A61 MOTOR POWER SUPPLY C1A62 CONTROL MODULE POWER SUPPLY C1A63 BACKUP POWER SUPPLY C1A6C POWER SUPPLY BACKUP UNIT VOLT C1A90 POWER SUPPLY MODE C1A91 IGNITION POWER SUPPLY C1A98 BACKUP POWER SUPPLY-2 C1A99 BACKUP POWER SUPPLY-3 C1A9A BACKUP POWER SUPPLY-4 C1AD0 POWER SUP BACKUP UNIT VOLT-2 	M
	 C1A65 STROKE SENSOR SET C1A67 STOP LAMP SWITCH C1A69 MOTOR C1A6D POWER SUPPLY BACKUP UNIT OUTPUT C1AA0 STROKE SENSOR-2 C1AA1 STROKE SENSOR-3 	N 0
5	 C1AA2 STROKE SENSOR-4 C1AA3 STROKE SENSOR-5 C1AA9 PRESSURE SENSOR C1AB8 MOTOR-2 C1AB9 MOTOR-3 C1ABA MOTOR-4 C1AC0 CONTROL MODULE TEMP-2 C1AC1 CONTROL MODULE TEMP-3 	Ρ

ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT

< ECU DIAGNOSIS INFORMATION >

DTC Index

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DTC	Display item	Brake warning lamp	Brake system warning lamp	Refer to
C1A60	CONTROL MODULE	ON	ON	BR-56, "DTC Logic"
C1A61	MOTOR POWER SUPPLY	ON	ON	BR-64, "DTC Logic"
C1A62	CONTROL MODULE POWER SUPPLY	ON	ON	BR-72, "DTC Logic"
C1A63	BACKUP POWER SUPPLY	OFF	ON	BR-81, "DTC Logic"
C1A65	STROKE SENSOR SET	ON	ON	BR-90, "DTC Logic"
C1A67	STOP LAMP SWITCH	OFF	ON	BR-102, "DTC Logic"
C1A69	MOTOR	ON	ON	BR-114, "DTC Logic"
C1A6B	POWER SUPPLY BACKUP UNIT	OFF	ON	BR-123, "DTC Logic"
C1A6C	POWER SUPPLY BACKUP UNIT VOLT	OFF	ON	BR-133, "DTC Logic"
C1A6D	POWER SUPPLY BACKUP UNIT OUTPUT	OFF	OFF	BR-142, "DTC Logic"
C1A6E	EV/HEV SYSTEM	OFF	ON	BR-150, "DTC Logic"
C1A6F	TCM/VCM SYSTEM	OFF	ON	BR-159, "DTC Logic"
C1A70	BRAKE CONTROL SYSTEM	OFF	ON	BR-168, "DTC Logic"
C1A74	ST ANG SEN CIRCUIT	OFF	ON	BR-177, "DTC Logic"
C1A80	CONTROL MODULE-2	ON	ON	BR-185, "DTC Logic"
C1A81	CONTROL MODULE-3	ON	ON	BR-193, "DTC Logic"
C1A82	CONTROL MODULE-4	ON	ON	BR-201, "DTC Logic"
C1A83	CONTROL MODULE-5	ON	ON	BR-209, "DTC Logic"
C1A84	CONTROL MODULE-6	ON	ON	BR-217, "DTC Logic"
C1A85	CONTROL MODULE-7	ON	ON	BR-225, "DTC Logic"
C1A86	CONTROL MODULE-8	ON	ON	BR-233, "DTC Logic"
C1A87	CONTROL MODULE-9	ON	ON	BR-241, "DTC Logic"
C1A88	CONTROL MODULE-10	ON	ON	BR-249, "DTC Logic"
C1A89	CONTROL MODULE-11	ON	ON	BR-257, "DTC Logic"
C1A8A	CONTROL MODULE-12	ON	ON	BR-265, "DTC Logic"
C1A8B	CONTROL MODULE-13	OFF	ON	BR-273, "DTC Logic"
C1A90	POWER SUPPLY MODE	OFF	OFF	BR-281, "DTC Logic"
C1A91	IGNITION POWER SUPPLY	OFF	ON	BR-290, "DTC Logic"
C1A98	BACKUP POWER SUPPLY-2	OFF	ON	BR-299, "DTC Logic"
C1A99	BACKUP POWER SUPPLY-3	OFF	ON	BR-308, "DTC Logic"
C1A9A	BACKUP POWER SUPPLY-4	OFF	ON	BR-317, "DTC Logic"
C1AA0	STROKE SENSOR-2	ON	ON	BR-326, "DTC Logic"
C1AA1	STROKE SENSOR-3	ON	ON	BR-338, "DTC Logic"
C1AA2	STROKE SENSOR-4	ON	ON	BR-350, "DTC Logic"
C1AA3	STROKE SENSOR-5	ON	ON	BR-362, "DTC Logic"
C1AA9	PRESSURE SENSOR	OFF	ON	BR-374, "DTC Logic"
C1AB8	MOTOR-2	OFF	ON	BR-384, "DTC Logic"
C1AB9	MOTOR-3	ON	ON	BR-393, "DTC Logic"
C1ABA	MOTOR-4	ON	ON	BR-402, "DTC Logic"
C1AC0	CONTROL MODULE TEMP-2	OFF	ON	BR-411, "DTC Logic"
C1AC1	CONTROL MODULE TEMP-3	ON	ON	BR-420, "DTC Logic"

ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT

< ECU DIAGNOSIS INFORMATION >

DTC	Display item	Brake warning lamp	Brake system warning lamp	Refer to	А
C1AC8	POWER SUPPLY BACKUP UNIT-2	OFF	OFF	BR-429, "DTC Logic"	
C1AD0	POWER SUP BACKUP UNIT VOLT-2	OFF	OFF	BR-439, "DTC Logic"	R
U1000	CAN COMM CIRCUIT	OFF	ON	BR-448, "DTC Logic"	D
U1010	CONTROL UNIT (CAN)	OFF	ON	BR-450, "DTC Logic"	
U1510	BRAKE CONTROL COMMUNICATION	OFF	ON	BR-452, "DTC Logic"	С
U1511	POWER SUPPLY BACKUP UNIT COMM	OFF	ON	BR-460, "DTC Logic"	

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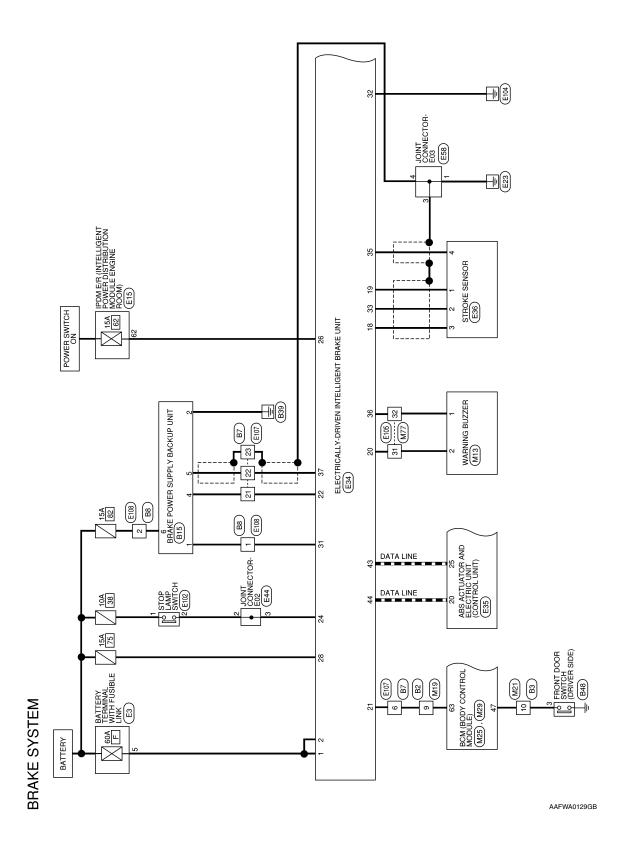
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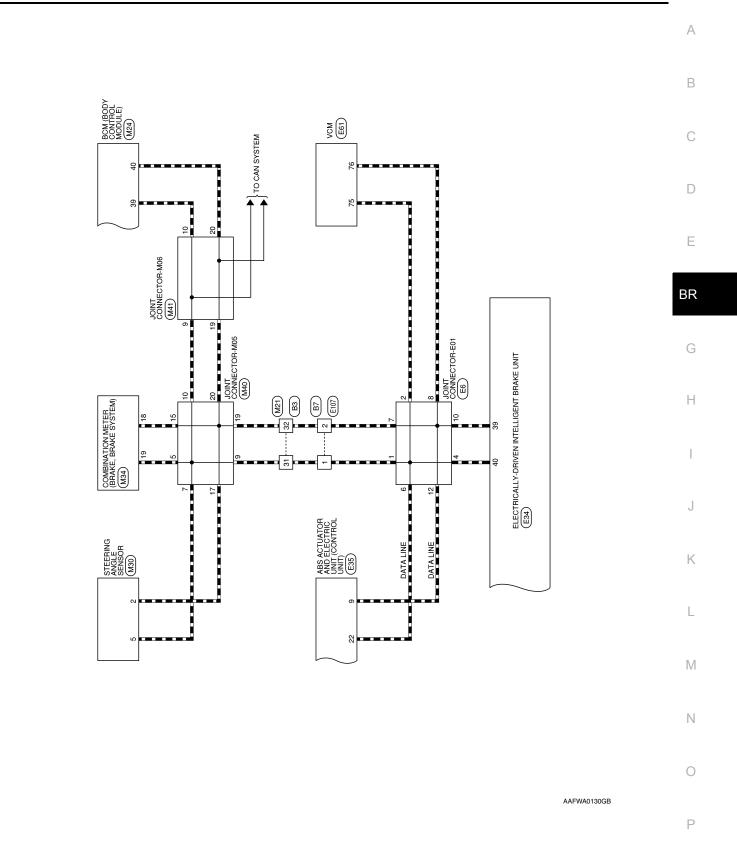
BRAKE SYSTEM

Wiring Diagram

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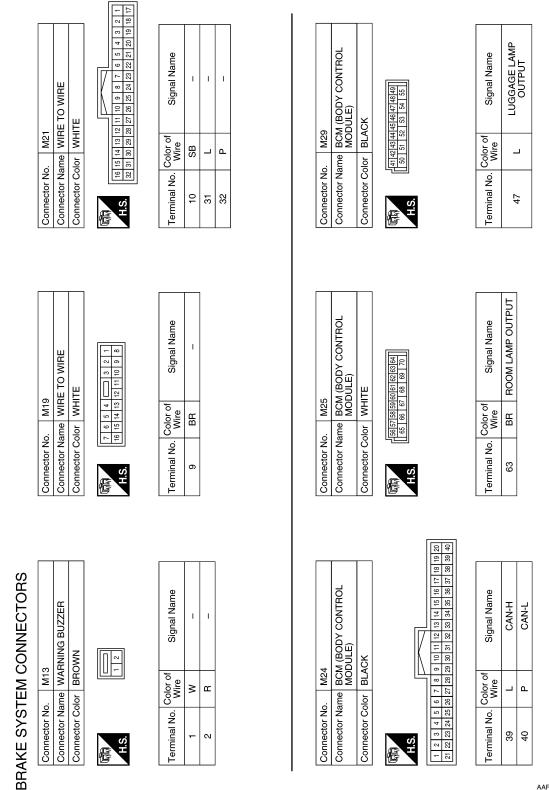


Revision: June 2014

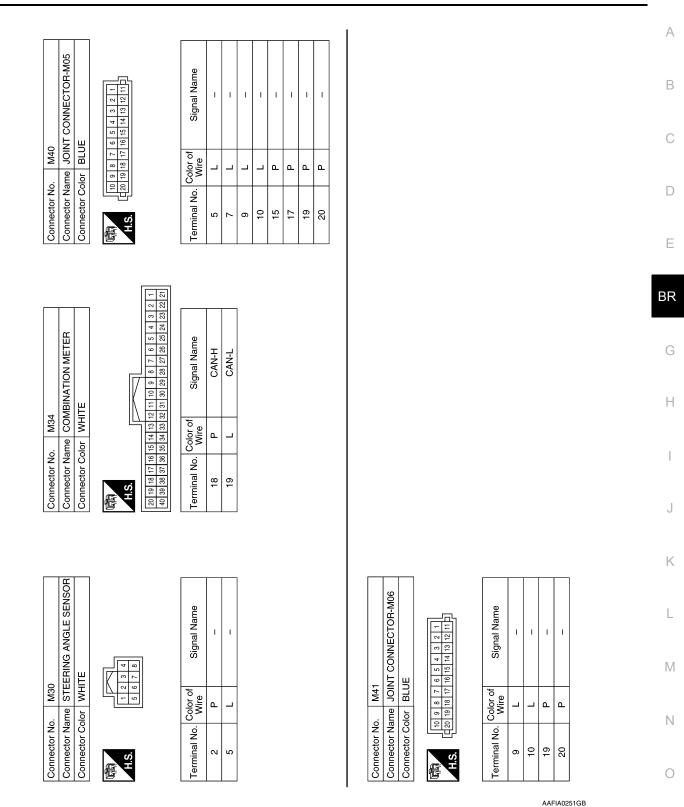




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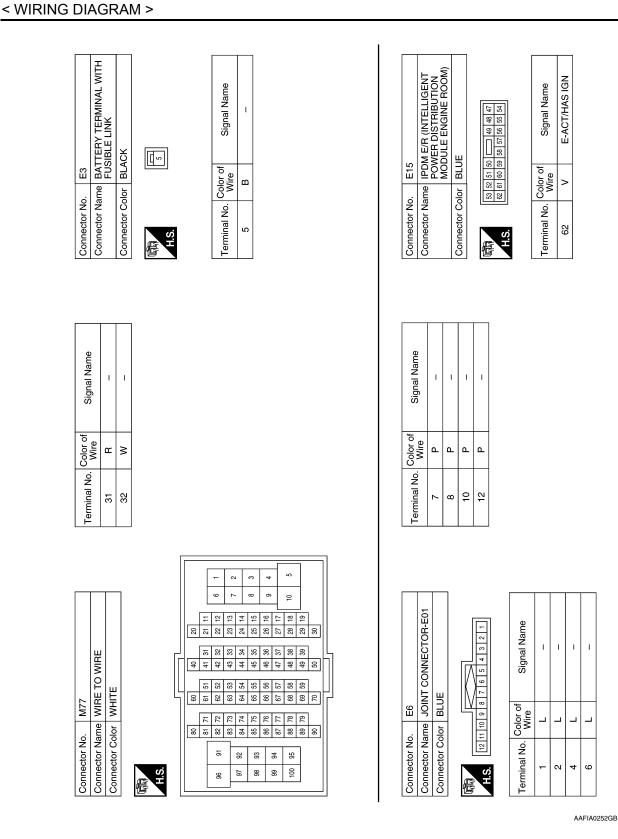


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Revision: June 2014

Connector No. E35	Connector Name ELECTRIC UNIT	_		Ē				1 2 1516 1718 191011112313141516817188 3 4 119202112212324452662728823300163 1		Terminal No. Color of Signal Name	MICe	- CAN-L	.	25 W CAN-L																	
Signal Name	DOOR SWITCH SIGNAL	DLK WAKE-UP	1	STOP LAMP SW	I	IGN SWITCH SIGNAL	I	ECU CONTROL SYSTEM POWER	1	I	DLC BACKUP POWER	GND	STROKE SENSOR1 SIGNAL	1		SIGNAL	BUZZER SIGNAL	DLC COMMUNICATION	1	CAN-L	CAN-H	1	1	CAN-L	CAN-H	1	1				
Color of		0	1	SB	I	>	ı	-	ı	ı	N	в	5	1		в	3	3	1	٩.			1	8		1	1				
Terminal No.	21	22	23	24	25	26	27	28	29	30	31	32	33	34		35	36	37	38	8	40	4	42	43	44	45	46	2			
E34	Connector Name ELECTRICALLY-DRIVEN	Connector Color BLACK			H.S.		42 43 44 45 46	$1 \qquad 2 \qquad \frac{17}{3} \qquad \frac{16}{4} \qquad \frac{20}{5} \qquad \frac{21}{6} \qquad \frac{22}{7} \qquad \frac{23}{8} \qquad \frac{26}{7} \qquad \frac{28}{8} \qquad \frac{27}{72} \qquad \frac{28}{28} \qquad \frac{27}{72} \qquad \frac{29}{28} \qquad \frac{20}{11} \qquad \frac{20}{11} \qquad \frac{21}{12} \qquad \frac{11}{12} \qquad \frac{11}{11} \qquad \frac{11}{12} \qquad \frac{11}{11} \qquad \frac{11}{16} \qquad \frac{10}{16} \qquad \frac{11}{16} \qquad 11$		Terminal No. Color of Signal Name	wire			4	5	۱ ۱	7		- - -	10		12	13	14			17	18 W/L STROKE SENSOR L	19 L/O STROKE SENSOR GND	20 R BUZZER POWER	

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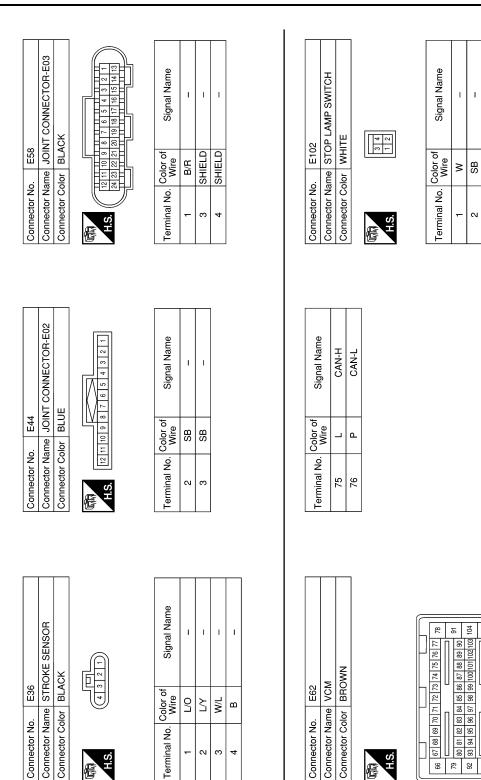
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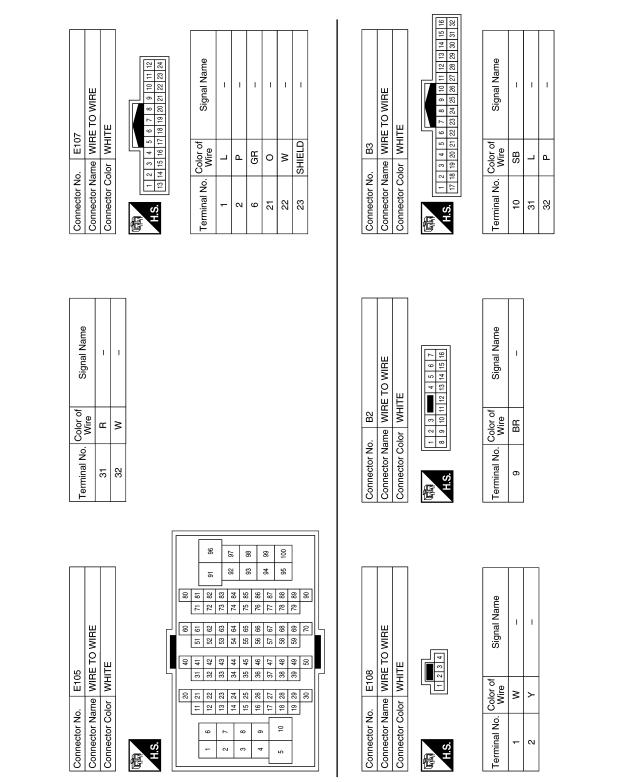
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BRAKE SYSTEM

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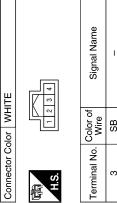
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Signal Name	I	I	I	I	I	I
Color of Wire	_	Р	BR	Y	Μ	SHIELD
Terminal No. Color of Wire	Ţ	2	9	21	22	23

	Connector No. B48	Connector Name FRONT DOOR SWITCH (DRIVER SIDE)	Connector Color WHITE	
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Color of Wire SB Terminal No. ო

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< WIRING DIAGRAM >

Connector Name BRAKE POWER SUPPLY BACKUP UNIT

Connector No. B15

WHITE

Connector Color

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Signal Name T Т Т Т 1

Color of Wire œ ш

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< BASIC INSPECTION >

BASIC INSPECTION DIAGNOSIS AND REPAIR WORK FLOW

Work Flow

DETAILS OF TROUBLE DIAGNOSIS FLOWCHART

1.COLLECT THE INFORMATION FROM THE CUSTOMER

It is also important to clarify customer concerns before starting the inspection. First of all, perform an interview utilizing BR-50, "Diagnostic Work Sheet" and reproduce the symptom as well as fully understand it. Depending on the situations, drive the vehicle with the customer and check the symptom. CAUTION:

Customers are not professional. Never guess easily like "maybe the customer means that...," or "maybe the customer mentions this symptom".

>> GO TO 2.

2.CHECK SYMPTOM

Reproduce the symptom that is indicated by the customer, based on the information from the customer obtained by the interview. Also check that the symptom is not caused by fail-safe mode. Refer to BR-16, "Fail-Safe".

CAUTION:

When the symptom is caused by normal operation, fully inspect each portion and obtain the understanding of customer that the symptom is not caused by a malfunction.

>> GO TO 3.

3.PERFORM SELF-DIAGNOSIS (1)

With CONSULT Perform self-diagnosis. Is DTC detected? YES >> Record or print self-diagnosis results and freeze frame data (FFD). GO TO 4. >> GO TO 7. NO Κ **4.**PERFORM SELF-DIAGNOSIS (2) (P)With CONSULT

Turn the power switch OFF to ON without depressing the brake pedal. 1. CAUTION:

Never set the vehicle to READY.

- Repeat step 1 two or more times.
- **CAUTION:**

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Ν 4. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. **CAUTION:** Ο

Never operate the vehicle while waiting.

- 5. Turn the power switch ON without depressing the brake pedal. CAUTION: Never set the vehicle to READY.
- Start CONSULT and erase self-diagnosis result of "BRAKE".
- Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. 7.
- 8. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

9. Turn the power switch ON without depressing the brake pedal. CAUTION:

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DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION >

Never set the vehicle to READY.

- 10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 11. Release brake pedal.
- 12. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC detected?

YES >> Record or print self-diagnosis results. GO TO 5.

NO >> GO TO 7.

5.RECHECK SYMPTOM

() With CONSULT

- 1. Erase self-diagnosis results from the memory.
- 2. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

4. Perform DTC reproduction procedures for the system that is malfunctioning. **NOTE:**

When multiple DTCs are detected, refer to <u>BR-37</u>, "<u>DTC Inspection Priority Chart</u>" and then determine the order for performing the diagnosis.

Is DTC detected?

- YES >> GO TO 6.
- NO >> Check harness and connectors based on the information obtained by the interview. Refer to <u>GI-53. "Intermittent Incident"</u>.

6.REPAIR OR REPLACE ERROR-DETECTED PART

- 1. Repair or replace the part that is malfunctioning. Reconnect part or connector after repairing or replacing. Erase DTC from the memory when DTC is detected.
- 2. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

>> GO TO 7.

7. IDENTIFY ERROR-DETECTED SYSTEM BY SYMPTOM DIAGNOSIS

Estimate which system is malfunctioning according to the possible symptoms based on symptom diagnosis and perform check.

Can the malfunctioning part be identified?

- YES >> GO TO 8.
- NO >> Check harness and connectors based on the information obtained by the interview. Refer to <u>GI-</u> <u>53. "Intermittent Incident"</u>.

8.FINAL CHECK

(I) With CONSULT

- 1. Check the reference value for "BRAKE". Refer to <u>BR-33, "Reference Value"</u>.
- 2. Perform the operation check. Check that the symptom is not reproduced under the same conditions as when the symptom is reproduced before.

Is the symptom reproduced?

YES >> GO TO 3.

NO >> INSPECTION END

Diagnostic Work Sheet

Description

INFOID:000000010634174

DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION >

- In general, customers have their own criteria for a symptom. Therefore, it is important to understand the symptom and status well enough by interviewing the customer about the symptom carefully. To systemize all the information for the diagnosis, prepare the interview sheet referring to the interview points.
- In some cases, multiple conditions that appear simultaneously may cause a DTC to be detected.

INTERVIEW SHEET SAMPLE

			Interview sheet									
Customer name	MR/MS	Registration number			Initial year registration				С			
name		Vehicle type			VIN							
Storage date		Traction mo- tor			Mileage	km	(Mile)	D			
		Does not op	Does not operate () function									
		Warning lar	mp for () turn:	s ON.	E			
Symptom		□ Noise			Vibration							
		□ Other ()	BR			
First occurren	ce	□ Recently	□ Other ()				
Frequency of	occurrence	□ Always	Under a certai	n condition	s of □ Sor	netimes (time(s))/day)	G			
		□ Irrelevant										
Climate con-	Weather	□ Fine □	□ Cloud □ Ra		Snow □ Oth	ners ()	Н			
ditions	Temperature	□ Hot □V	Varm D Cool	□ Cold	Tempera	ature [Approx.	°C (°F)]				
	Relative humidity	□ High	□ Moderate		Low							
Road conditio	ns	□ Urban area □ Mountainou	a		□ Highwa □ Rough							
Operating con	dition, etc.	 During drivi During decord During corr 			on □ At co	onstant speed o	driving		J			
Other conditio	ns								I			

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ADDITIONAL SERVICE WHEN REPLACING ELECTRICALLY-DRIVEN INTELLI-GENT BRAKE UNIT

< BASIC INSPECTION >

ADDITIONAL SERVICE WHEN REPLACING ELECTRICALLY-DRIVEN IN-TELLIGENT BRAKE UNIT

Description

INFOID:000000010634175

When the electrically-driven intelligent brake unit was replaced, perform stroke sensor 0 point learning. <u>BR-53.</u> <u>"Work Procedure"</u>.

STROKE SENSOR 0 POINT LEARNING

< BASIC INSPECTION >

STROKE SENSOR 0 POINT LEARNING

Description

CAUTION: Always perform stroke sensor 0 point learning before driving after any of the following operations is performed.

	×: Necessary, -: Not necessary	C
Procedure	Stroke sensor 0 point learning	U
Removing/installing electrically-driven intelligent brake unit	×	
Replacing electrically-driven intelligent brake unit	×	D
Removing/installing stroke sensor	×	
Replacing stroke sensor	×	_
Removing/installing brake pedal	×	E
Replacing brake pedal	×	
Adjusting brake pedal each height	×	BR

Work Procedure

INFOID:000000010634177

INFOID:000000010634176

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CAUTION:

	0
Make sure to use CONSULT when performing stroke sensor 0 point learning. (It cannot be performed	
by any means other than CONSULT.)	
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I.VEHICLE CONDITION	H
 Stop the vehicle. Turn the power switch OFF to exit CONSULT. 	I
>> GO TO 2.	
2.CHECK 12V BATTERY	J
Check the 12V battery. Refer to PG-76, "Work Flow".	
Is the inspection result normal?	
YES >> GO TO 3.	K
NO >> Charge or replace the 12V battery. Refer to <u>PG-76, "How to Handle 12V Battery"</u> or <u>PG-82,</u> <u>"Removal and Installation"</u> . GO TO 3.	
3. CHECKING INSTALLATION CONDITIONS OF BRAKE COMPONENTS	L
Check the installation conditions of brake components.	
Is the inspection result normal?	M
YES >> GO TO 4.	
NO >> Repair or replace error-detected parts and GO TO 4.	
4.CHECK BRAKE PEDAL	Ν
Check each brake pedal height. Refer to <u>BR-490, "Inspection and Adjustment"</u> .	
Is the inspection result normal?	
YES >> GO TO 5.	0
NO >> Adjust each brake pedal height. Refer to <u>BR-490, "Inspection and Adjustment"</u> . GO TO 5.	
5.PERFORM SELF-DIAGNOSIS	Р

(B)With CONSULT

1. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

2. Repeat step 1 two or more times.

CAUTION: Be sure to wait for 5 seconds or more after turning the power switch OFF.

STROKE SENSOR 0 POINT LEARNING

< BASIC INSPECTION >

- 3. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 4. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION: Never operate the vehicle while waiting.

5. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 6. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 7. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

9. Turn the power switch ON without depressing the brake pedal. **CAUTION:**

Never set the vehicle to READY.

- 10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 11. Release brake pedal.
- 12. Start CONSULT and perform "BRAKE" self-diagnosis.

Is a malfunction detected?

- YES >> Check the DTC. Refer to <u>BR-38. "DTC Index"</u>. GO TO 6.
- NO >> GO TO 6.

6. PERFORM PEDAL STROKE SENSOR 0 POINT LEARNING

() With CONSULT

- Turn the power switch OFF to exit CONSULT and wait for 10 seconds or more.
- 2. Turn the power switch ON without depressing the brake pedal.

CAUTION: Never set the vehicle to READY.

 Start CONSULT and select "BRAKE", "WORK SUPPORT" and "STROKE SENSOR 0 POINT LEARNING" according to this order.

CAUTION:

Never depress brake pedal.

4. Touch "START".

Is either "COMPLETED" or "The operation is incomplete. Try again after confirming the operation condition." displayed?

"COMPLETED">>Touch the "END". GO TO 7.

"The operation is incomplete. Try again after confirming the operation condition.">>GO TO 2.

7. CHECK DATA MONITOR

(I) With CONSULT

Select "BRAKE", "DATA MONITOR" and "STROKE SEN 1 OUTPUT VOLT" according to this order. Check that this signal is within the specified value.

STROKE SEN 1 OUTPUT VOLT : 0.84 - 2.38 V

Is the inspection result normal?

YES >> GO TO 8. NO >> GO TO 1.

8. ERASE SELF-DIAGNOSIS MEMORY

With CONSULT

Turn the power switch OFF to exit CONSULT and wait for 10 seconds or more.

Be sure to perform the operation above.

- Turn the power switch ON without depressing the brake pedal. CAUTION: Never set the vehicle to READY.
- 3. Start CONSULT and erase self-diagnosis result of "BRAKE".

STROKE SENSOR 0 POINT LEARNING

< BASIC INSPECTION >

- 4. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION: Never operate the vehicle while waiting.

Are the memories erased?

- YES >> INSPECTION END
- NO >> Check the items indicated by the self-diagnosis.

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< DTC/CIRCUIT DIAGNOSIS >

DTC/CIRCUIT DIAGNOSIS C1A60 CONTROL MODULE

DTC Logic

INFOID:000000010634178

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1A60	CONTROL MODULE	A malfunction is detected in the control module of electrically-driven intelligent brake unit (mismatch in comparison with internal power supply voltage).	Electrically-driven intelligent brake unit

DTC REPRODUCTION PROCEDURE

1.PRECONDITIONING

If "DTC CONFIRMATION PROCEDURE" has been previously conducted, always turn power switch OFF and wait at least 10 seconds before conducting the next test.

>> GO TO 2.

2. CHECK DTC DETECTION

With CONSULT

1. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

 Repeat step 1 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 3. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 4. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

5. Turn the power switch ON without depressing the brake pedal. **CAUTION:**

Never set the vehicle to READY.

- 6. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 7. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

9. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 11. Release brake pedal.
- 12. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A60" detected?

YES >> Proceed to <u>BR-56. "Diagnosis Procedure"</u>.

NO >> INSPECTION END

Diagnosis Procedure

1.CHECK 12V BATTERY

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

BR-56

INFOID:000000010634179

C1A60 CONTROL MODULE

< D	TC/CIRCUIT DIAGNOSIS >	
	CAUTION:	
	Never operate the vehicle while waiting.	А
3.	Check the 12V battery terminal connections. Refer to <u>BR-6, "Precaution for Removing 12V Battery"</u> and	
Δ	PG-76, "Work Flow". Check the 12V battery. Refer to PG-76, "Work Flow".	
	he inspection result normal?	В
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N (
-	PERFORM SELF-DIAGNOSIS (1)	С
۷.	PERFORM SELF-DIAGNOSIS (1)	
\sim	With CONSULT	D
1.	Connect 12V battery cable to negative terminal.	D
2.	Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:	
	Never set the vehicle to READY.	Е
3.	Repeat step 2 two or more times.	
	CAUTION:	
٨	Be sure to wait for 5 seconds or more after turning the power switch OFF. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.	BR
4. 5.	Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for	
0.	3 minutes or more with all doors closed.	
	CAUTION:	G
•	Never operate the vehicle while waiting.	
6.	Turn the power switch ON without depressing the brake pedal. CAUTION:	
	Never set the vehicle to READY.	Н
7.	Start CONSULT and erase self-diagnosis result of "BRAKE".	
8.	Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.	
9.	Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for	
	3 minutes or more with all doors closed. CAUTION:	
	Never operate the vehicle while waiting.	
10.	Turn the power switch ON without depressing the brake pedal.	J
	CAUTION:	
11	Never set the vehicle to READY.	K
	Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more. Release brake pedal.	N
	Start CONSULT and perform "BRAKE" self-diagnosis.	
	DTC "C1A60" detected?	
	ES >> GO TO 3.	
N		
3.	CHECK CONNECTOR TERMINALS	M
1.	Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.	
2.	Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for	
	3 minutes or more with all doors closed.	Ν
	CAUTION:	
2	Never operate the vehicle while waiting.	
3.	Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6, "Precaution for Removing 12V Battery"</u> .	0
4.	Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin	
-	terminals and connections.	
<u>ls t</u>	he inspection result normal?	Ρ
YE	ES >> GO TO 5.	
N	O >> Repair or replace error-detected parts and GO TO 4.	
4.	PERFORM SELF-DIAGNOSIS (2)	

With CONSULT

^{1.} Connect the electrically-driven intelligent brake unit harness connector.

< DTC/CIRCUIT DIAGNOSIS >

- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

4. Repeat step 3 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 5. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

7. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 8. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 9. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 10. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

11. Turn the power switch ON without depressing the brake pedal.

CAUTION: Never set the vehicle to READY.

- 12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 13. Release brake pedal.
- 14. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A60" detected?

YES >> GO TO 5.

NO >> INSPECTION END

5.CHECK POWER SWITCH ON POWER SUPPLY

- 1. Connect 12V battery cable to negative terminal.
- 2. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- 4. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6. "Precaution for Removing 12V Bat-</u> tery".
- 5. Disconnect the electrically-driven intelligent brake unit harness connector.
- 6. Connect 12V battery cable to negative terminal.
- 7. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit			Voltage
Connector Terminal			(Approx.)
E34	26	Ground	0 V

8. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

9. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit Connector Terminal			Voltage
			(Approx.)
E34	26	Ground	10 – 16 V

Is the inspection result normal?

YES >> GO TO 8.

C1A60 CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

NO >> GO TO 6.

O.CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.

Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION:

Never operate the vehicle while waiting.

- Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery".
- 4. Check the 15A fuse (#62).
- 5. Disconnect IPDM E/R harness connector.
- Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

E	ven intelligent brake unit IPDM E/R Continuity		IPDM E/R		Electrically-driven in
	Continuity	Terminal	Connector	Terminal	Connector
	Existed	62	E15	26	E34
BR	Check the continuity between electrically-driven intelligent brake unit barness connector and ground				

7. Check the continuity between electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven in	telligent brake unit	— Continuity		
Connector	Terminal			
E34	26	Ground	Not existed	

Is the inspection result normal?

- YES >> Perform trouble diagnosis for power ON power supply. Refer to PG-29, "Wiring Diagram-On Power Supply-".
- NO >> Repair or replace error-detected parts and GO TO 7.

7. PERFORM SELF-DIAGNOSIS (3)

(P)With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect IPDM E/R harness connector.
- Connect 12V battery cable to negative terminal.
- 4. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:
 - Never set the vehicle to READY.
- Repeat step 4 two or more times. **CAUTION:**

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 6. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 7. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for М 3 minutes or more with all doors closed.

CAUTION: Never operate the vehicle while waiting.

8. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- Start CONSULT and erase self-diagnosis result of "BRAKE".
- Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 11. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

12. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 13. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 14. Release brake pedal.
- 15. Start CONSULT and perform "BRAKE" self-diagnosis.

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< DTC/CIRCUIT DIAGNOSIS >

Is DTC "C1A60" detected?

YES >> GO TO 8.

NO >> INSPECTION END

8. CHECK 12V BATTERY POWER SUPPLY

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery".
- 4. Disconnect the electrically-driven intelligent brake unit harness connector.
- 5. Connect 12V battery cable to negative terminal.
- 6. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

Electrically-drive	Electrically-driven intelligent brake unit		
Connector Terminal		(Approx.)	
	1 – 32		
E34	2 – 32	10 – 16 V	
	28 – 32		

7. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

8. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

Electrically-drive	Voltage (Approx.)	
Connector Terminal		
	1 – 32	
E34	2 – 32	10 – 16 V
	28 – 32	

Is the inspection result normal?

YES >> GO TO 11.

NO >> GO TO 9.

9.CHECK 12V BATTERY POWER SUPPLY CIRCUIT

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery".
- 4. Check the 60A fusible link (#F).
- 5. Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).
- 6. Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).
- 7. Check the 15A fuse (#75).
- 8. Check the continuity and for short circuit between harness connector terminal 28 of electrically-driven intelligent brake unit and 15A fuse (#75).

Is the inspection result normal?

- YES >> Perform trouble diagnosis for 12V battery power supply. Refer to <u>PG-18</u>, "Wiring Diagram Battery Power Supply —".
- NO >> Repair or replace error-detected parts and GO TO 10.

C1A60 CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

10.PERFORM SELF-DIAGNOSIS (4)

With CONSULT

- Connect the electrically-driven intelligent brake unit harness connector.
 Connect 12V batteny cable to pogative terminal.
- Connect 12V battery cable to negative terminal.
 Turn the power switch OFF to ON without depressing the brake pedal.
 - CAUTION:

Never set the vehicle to READY.

- 4. Repeat step 3 two or more times.
 - CAUTION: Be sure to wait for 5 seconds or more after turning the power switch OFF.
- 5. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:
 - Never operate the vehicle while waiting.
- Never operate the vehicle while waiting.
 7. Turn the power switch ON without depressing the brake pedal.
 CAUTION: Never set the vehicle to READY.
- Start CONSULT and erase self-diagnosis result of "BRAKE".
- Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

11. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 13. Release brake pedal.
- 14. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A60" detected?

YES >> GO TO 11.

NO >> INSPECTION END

- 11.CHECK GROUND CIRCUIT
- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6. "Precaution for Removing 12V Bat-</u> <u>tery"</u>.
- 4. Disconnect the electrically-driven intelligent brake unit harness connector.
- 5. Check the continuity between electrically-driven intelligent brake unit and ground.

Electrically-driver	n intelligent brake unit	- Continuity	
Connector	Terminal		Continuity
E34	32	Ground	Existed

Is the inspection result normal?

YES >> GO TO 13.

NO >> Repair or replace error-detected parts and GO TO 12.

12.PERFORM SELF-DIAGNOSIS (5)

With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:



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< DTC/CIRCUIT DIAGNOSIS >

Never set the vehicle to READY.

4. Repeat step 3 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 5. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

7. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 8. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 9. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 10. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

11. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 13. Release brake pedal.
- 14. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A60" detected?

YES >> GO TO 13.

NO >> INSPECTION END

13.CHECK DATA MONITOR

() With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

4. Repeat step 3 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 5. Start CONSULT and select "BRAKE" and "DATA MONITOR" according this order.
- Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER". Refer to <u>BR-33, "Reference</u> <u>Value"</u>.

Is the inspection result normal?

YES >> GO TO 14.

NO >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-510</u>, "Removal and installation".

14.PERFORM SELF-DIAGNOSIS (6)

(I) With CONSULT

1. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

2. Repeat step 1 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 3. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 4. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

5. Turn the power switch ON without depressing the brake pedal. **CAUTION:**

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C1A60 CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

Never set the vehicle to READY.

6. Start CONSULT and erase self-diagnosis result of "BRAKE". А Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. 7. 8. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. В **CAUTION:** Never operate the vehicle while waiting. 9. Turn the power switch ON without depressing the brake pedal. **CAUTION:** Never set the vehicle to READY. 10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more. 11. Release brake pedal. D 12. Start CONSULT and perform "BRAKE" self-diagnosis. Is DTC "C1A60" detected? YES >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-510</u>, "Removal and installation". E NO >> INSPECTION END

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BR-63

< DTC/CIRCUIT DIAGNOSIS >

C1A61 MOTOR

DTC Logic

INFOID:000000010634180

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1A61	MOTOR POWER SUPPLY	$\begin{array}{l} \mbox{Power voltage of motor inside electrically-driven intelligent brake unit is as shown below.}\\ \bullet \mbox{ Motor power voltage: 9 V} \geq \mbox{ Motor power voltage}\\ \bullet \mbox{ Motor power voltage: 16 V} \geq \mbox{ Motor power voltage} \end{array}$	 Connector or harness Electrically-driven intelligent brake unit

DTC REPRODUCTION PROCEDURE

1.PRECONDITIONING

If "DTC CONFIRMATION PROCEDURE" has been previously conducted, always turn power switch OFF and wait at least 10 seconds before conducting the next test.

>> GO TO 2.

2. CHECK DTC DETECTION

()With CONSULT

1. Turn the power switch OFF to ON without depressing the brake pedal. **CAUTION:**

Never set the vehicle to READY.

 Repeat step 1 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 3. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

5. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 6. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 7. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 8. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.
9. Turn the power switch ON without depressing the brake pedal.
CAUTION:

Never set the vehicle to READY.

- 10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 11. Release brake pedal.
- 12. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A61" detected?

YES >> Proceed to <u>BR-64</u>, "Diagnosis Procedure".

NO >> INSPECTION END

Diagnosis Procedure

1.CHECK 12V BATTERY

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

INFOID:000000010634181

< D	TC/CIRCUIT DIAGNOSIS >	
3.	Never operate the vehicle while waiting. Check the 12V battery terminal connections. Refer to <u>BR-6</u> , "Precaution for Removing 12V Battery" and	A
4.	PG-76, "Work Flow". Check the 12V battery. Refer to PG-76, "Work Flow".	
<u>ls t</u>	ne inspection result normal?	В
YE	ES >> GO TO 2.	
N		
2.	PERFORM SELF-DIAGNOSIS (1)	С
(P)V	Vith CONSULT	
1.		
2.	Turn the power switch OFF to ON without depressing the brake pedal.	D
	CAUTION:	
3.	Never set the vehicle to READY. Repeat step 2 two or more times.	_
5.	CAUTION:	E
	Be sure to wait for 5 seconds or more after turning the power switch OFF.	
4.	Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.	
5.	blose an doors (including back door), check that the room lamp is of 1, get out of the vehicle, and wait for	BR
	3 minutes or more with all doors closed.	
	CAUTION: Never operate the vehicle while waiting.	_
6.	Turn the power switch ON without depressing the brake pedal.	G
0.	CAUTION:	
	Never set the vehicle to READY.	
7.	Start CONSULT and erase self-diagnosis result of "BRAKE".	Н
	Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.	
9.	Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.	
	CAUTION:	I
	Never operate the vehicle while waiting.	
10.	Turn the power switch ON without depressing the brake pedal.	
	CAUTION:	J
	Never set the vehicle to READY.	
	Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.	V
	Release brake pedal. Start CONSULT and perform "BRAKE" self-diagnosis.	Κ
	DTC "C1A61" detected?	
		1
N	ES >> GO TO 3. D >> INSPECTION END	
-		
5.0	CHECK CONNECTOR TERMINALS	M
1.	Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.	1 0 1
2.	Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for	
	3 minutes or more with all doors closed.	Ν
	Never operate the vehicle while waiting.	1.4
3.	Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6. "Precaution for Removing 12V Bat-</u> tery".	
4.	Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin	0
••	terminals and connections.	
ls tl	ne inspection result normal?	_
	ES >> GO TO 5.	Ρ
N		
4.	PERFORM SELF-DIAGNOSIS (2)	

(B) With CONSULT

- Connect the electrically-driven intelligent brake unit harness connector. Connect 12V battery cable to negative terminal. 1.
- 2.

< DTC/CIRCUIT DIAGNOSIS >

3. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 4. Repeat step 3 two or more times. CAUTION:
 - Be sure to wait for 5 seconds or more after turning the power switch OFF.
- 5. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

7. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 8. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 9. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 10. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

Never operate the vehicle while waiting.

11. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 13. Release brake pedal.
- 14. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A61" detected?

YES >> GO TO 5.

NO >> INSPECTION END

5.CHECK POWER SWITCH ON POWER SUPPLY

- 1. Connect 12V battery cable to negative terminal.
- 2. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 3. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

- 4. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery".
- 5. Disconnect the electrically-driven intelligent brake unit harness connector.
- 6. Connect 12V battery cable to negative terminal.
- 7. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit Connector Terminal			Voltage (Approx.)	
E34	26	Ground	0 V	

8. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

9. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven in	telligent brake unit		Voltage
Connector	Terminal		(Approx.)
E34	26	Ground	10 – 16 V

Is the inspection result normal?

YES >> GO TO 8. NO >> GO TO 6.

< DTC/CIRCUIT DIAGNOSIS >

6.CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6. "Precaution for Removing 12V Bat-</u> tery".
- 4. Check the 15A fuse (#62).
- 5. Disconnect IPDM E/R harness connector.
- 6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

Electrically-driven ir	Electrically-driven intelligent brake unit		/I E/R	Continuity
Connector	Terminal	Connector	Terminal	Continuity
E34	26	E15	62	Existed

7. Check the continuity between electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit			Continuity
Connector	Terminal	_	Continuity
E34	26	Ground	Not existed

Is the inspection result normal?

- YES >> Perform trouble diagnosis for power ON power supply. Refer to <u>PG-29</u>, "Wiring Diagram—On ^H <u>Power Supply—</u>".
- NO >> Repair or replace error-detected parts and GO TO 7.

7. PERFORM SELF-DIAGNOSIS (3)

With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect IPDM E/R harness connector.
- 3. Connect 12V battery cable to negative terminal.
- 4. Turn the power switch OFF to ON without depressing the brake pedal.

CAUTION: Never set the vehicle to READY.

Repeat step 4 two or more times.
 CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 6. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

CAUTION:

Never operate the vehicle while waiting.8. Turn the power switch ON without depressing the brake pedal.

CAUTION: Never set the vehicle to READY.

- Start CONSULT and erase self-diagnosis result of "BRAKE".
- 10. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

12. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 13. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 14. Release brake pedal.
- 15. Start CONSULT and perform "BRAKE" self-diagnosis.

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< DTC/CIRCUIT DIAGNOSIS >

Is DTC "C1A61" detected?

YES >> GO TO 8.

NO >> INSPECTION END

8. CHECK 12V BATTERY POWER SUPPLY

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery".
- 4. Disconnect the electrically-driven intelligent brake unit harness connector.
- 5. Connect 12V battery cable to negative terminal.
- 6. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

Electrically-driven intelligent brake unit		Voltage	
Connector	Terminal	(Approx.)	
	1 – 32		
E34	2 – 32	10 – 16 V	
	28 – 32		

7. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

8. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals

Electrically-driven intelligent brake unit		Voltage	
Connector	Terminal	(Approx.)	
	1 – 32		
E34	2 – 32	10 – 16 V	
	28 - 32		

Is the inspection result normal?

YES >> GO TO 11.

NO >> GO TO 9.

9.CHECK 12V BATTERY POWER SUPPLY CIRCUIT

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6. "Precaution for Removing 12V Bat-</u> <u>tery"</u>.
- 4. Check the 60A fusible link (#F).
- 5. Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).
- 6. Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).
- 7. Check the 15A fuse (#75).
- 8. Check the continuity and for short circuit between harness connector terminal 28 of electrically-driven intelligent brake unit and 15A fuse (#75).

Is the inspection result normal?

- YES >> Perform trouble diagnosis for 12V battery power supply. Refer to <u>PG-18</u>, "Wiring Diagram Battery Power Supply —".
- NO >> Repair or replace error-detected parts and GO TO 10.

< DTC/CIRCUIT DIAGNOSIS >

10.PERFORM SELF-DIAGNOSIS (4)

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector. Connect 12V battery cable to negative terminal. В Turn the power switch OFF to ON without depressing the brake pedal. **CAUTION:** Never set the vehicle to READY. 4. Repeat step 3 two or more times. **CAUTION:** Be sure to wait for 5 seconds or more after turning the power switch OFF. 5. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. D 6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION: Ε Never operate the vehicle while waiting. Turn the power switch ON without depressing the brake pedal. **CAUTION:** Never set the vehicle to READY. BR Start CONSULT and erase self-diagnosis result of "BRAKE". 9. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. 10. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION: Never operate the vehicle while waiting. 11. Turn the power switch ON without depressing the brake pedal. Н **CAUTION:** Never set the vehicle to READY. 12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more. 13. Release brake pedal. 14. Start CONSULT and perform "BRAKE" self-diagnosis. Is DTC "C1A61" detected? YES >> GO TO 11. NO >> INSPECTION END 11.CHECK GROUND CIRCUIT Κ Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. 1. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. L **CAUTION:** Never operate the vehicle while waiting. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Bat-M tery". Disconnect the electrically-driven intelligent brake unit harness connector. Check the continuity between electrically-driven intelligent brake unit and ground. Ν

Electrically-drive	trically-driven intelligent brake unit		Continuity
 Connector	Terminal		Continuity
E34	32	Ground	Existed

Is the inspection result normal?

YES >> GO TO 13.

NO >> Repair or replace error-detected parts and GO TO 12.

12. PERFORM SELF-DIAGNOSIS (5)

(P)With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:



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< DTC/CIRCUIT DIAGNOSIS >

Never set the vehicle to READY.

4. Repeat step 3 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 5. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

7. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 8. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 9. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 10. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

11. Turn the power switch ON without depressing the brake pedal.

Never set the vehicle to READY.

- 12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 13. Release brake pedal.
- 14. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A61" detected?

YES >> GO TO 13.

NO >> INSPECTION END

13.CHECK DATA MONITOR

() With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

4. Repeat step 3 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 5. Start CONSULT and select "BRAKE" and "DATA MONITOR" according this order.
- Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER". Refer to <u>BR-33, "Reference</u> <u>Value"</u>.

Is the inspection result normal?

YES >> GO TO 14.

NO >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-510</u>, "Removal and installation".

14.PERFORM SELF-DIAGNOSIS (6)

(I) With CONSULT

1. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

2. Repeat step 1 two or more times. CAUTION: Bo sure to wait for 5 seconds or

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 3. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 4. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

5. Turn the power switch ON without depressing the brake pedal. **CAUTION:**

< DTC/CIRCUIT DIAGNOSIS >

Never set the vehicle to READY.

- 6. Start CONSULT and erase self-diagnosis result of "BRAKE". А Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. 7. 8. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. В **CAUTION:** Never operate the vehicle while waiting. 9. Turn the power switch ON without depressing the brake pedal. **CAUTION:** Never set the vehicle to READY. 10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more. 11. Release brake pedal. D 12. Start CONSULT and perform "BRAKE" self-diagnosis. Is DTC "C1A61" detected?
- YES >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-510</u>, "Removal and installation". E
- NO >> INSPECTION END

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< DTC/CIRCUIT DIAGNOSIS >

C1A62 CONTROL MODULE

DTC Logic

INFOID:000000010634182

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1A62	CONTROL MODULE POWER SUPPLY	 Power voltage of control module that is integrated with electrically-driven intelligent brake unit is as shown below. Control module power voltage: 9 V ≥ Control module power voltage Control module power voltage: 16 V ≤ Control module power voltage After turning the power switch OFF, 12V battery terminals are disconnected with any door open (including back door). After turning the power switch OFF, 12V battery terminals are disconnected without waiting for 3 minutes or more after closing all doors (including back door). 	 Harness or connector Electrically-driven intelligent brake unit

DTC REPRODUCTION PROCEDURE

1.PRECONDITIONING

If "DTC CONFIRMATION PROCEDURE" has been previously conducted, always turn power switch OFF and wait at least 10 seconds before conducting the next test.

>> GO TO 2.

2. CHECK DTC DETECTION

() With CONSULT

1. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

2. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A62" detected?

- YES >> Proceed to <u>BR-72, "Diagnosis Procedure"</u>.
- NO >> INSPECTION END

Diagnosis Procedure

1.PERFORM SELF-DIAGNOSIS (1)

With CONSULT

 Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

2. Start CONSULT and perform "BRAKE" self-diagnosis.

"PAST" or "CRNT" shown in self-diagnosis results ("C1A62")?

YES ("PAST")>>GO TO 2.

YES ("CRNT")>>GO TO 6.

NO >> INŚPECTION END

2. INTERVIEW FROM THE CUSTOMER (1)

Check to see if there is a removal history of 12V battery or 12V battery terminals.

Is there a removal history of 12V battery or 12V battery terminals?

YES >> GO TO 3. NO >> GO TO 6. INFOID:000000010634183

< DTC/CIRCUIT DIAGNOSIS >	
3.INTERVIEW FROM THE CUSTOMER (2)	^
Check to see if there is a lighting history of the brake system warning lamp (yellow).	А
Is there a lighting history of the brake system warning lamp (yellow)?	
YES >> GO TO 6. NO >> GO TO 4.	В
4. INTERVIEW FROM THE CUSTOMER (3)	
Check to see if the customer has an experience of feeling unusual braking force (brake pedal operation).	С
Does the customer have an experience of feeling unusual braking force?	
YES >> GO TO 6.	
NO >> GO TO 5.	D
5.PERFORM SELF-DIAGNOSIS (2)	
With CONSULT	E
 Turn the power switch OFF to ON without depressing the brake pedal. CAUTION: 	
Never set the vehicle to READY.	BR
2. Repeat step 1 two or more times.	DR
CAUTION: Be sure to wait for 5 seconds or more after turning the power switch OFF.	
3. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.	G
4. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for	
3 minutes or more with all doors closed. CAUTION:	
Never operate the vehicle while waiting.	Η
5. Turn the power switch ON without depressing the brake pedal.	
CAUTION: Never set the vehicle to READY.	
Start CONSULT and erase self-diagnosis result of "BRAKE".	
 Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 	
3 minutes or more with all doors closed.	J
CAUTION:	
Never operate the vehicle while waiting.9. Turn the power switch ON without depressing the brake pedal.	K
CAUTION:	
Never set the vehicle to READY.	
 Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more. Release brake pedal. 	L
12. Start CONSULT and perform "BRAKE" self-diagnosis.	
Is DTC "C1A62" detected?	N
YES >> GO TO 6.	
NO >> INSPECTION END [DTC "C1A62" is detected when12V battery terminals are disconnected after turning the power switch OFF with any door open (including back door) or without waiting 3 min-	
utes after closing all doors (including back door).]	Ν
6.CHECK 12V BATTERY	
1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.	С
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for	
3 minutes or more with all doors closed. CAUTION:	_
Never operate the vehicle while waiting.	Ρ
3. Check the 12V battery terminal connections. Refer to <u>BR-6, "Precaution for Removing 12V Battery"</u> and	
PG-76, "Work Flow". 4. Check the 12V battery. Refer to PG-76, "Work Flow".	
Is the inspection result normal?	
YES >> GO TO 7.	
NO >> Repair or replace error-detected parts and GO TO 7	

NO >> Repair or replace error-detected parts and GO TO 7.

< DTC/CIRCUIT DIAGNOSIS >

7.PERFORM SELF-DIAGNOSIS (3)

With CONSULT

- 1. Connect 12V battery cable to negative terminal.
- Turn the power switch OFF to ON without depressing the brake pedal.
 CAUTION:
- Never set the vehicle to READY.
- Repeat step 2 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 4. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 5. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 - CAUTION:

Never operate the vehicle while waiting.

6. Turn the power switch ON without depressing the brake pedal. **CAUTION:**

Never set the vehicle to READY.

- 7. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 8. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 9. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

10. Turn the power switch ON without depressing the brake pedal. **CAUTION:**

Never set the vehicle to READY.

- 11. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 12. Release brake pedal.
- 13. Start CONSULT and perform "BRAKE" self-diagnosis.
- Is DTC "C1A62" detected?
- YES >> GO TO 8.
- NO >> INSPECTION END

8.CHECK CONNECTOR TERMINALS

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, <u>"Precaution for Removing 12V Bat-tery"</u>.
- 4. Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.

Is the inspection result normal?

YES >> GO TO 9.

NO >> Repair or replace error-detected parts and GO TO 9.

9. PERFORM SELF-DIAGNOSIS (4)

With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:
- Never set the vehicle to READY.
- 4. Repeat step 3 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

5. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.

< DTC/CIRCUIT DIAGNOSIS >

6. Close all doors (i	naluding haak daar)			
	re with all doors closed		lamp is OFF, get out of the vehicle, and	wait for
	he vehicle while wait	ing.		
7. Turn the power s	witch ON without depr		edal.	
CAUTION: Never set the ve	ehicle to READY.			
8. Start CONSULT	and erase self-diagnos			
			ect CONSULT from data link connector	
10. Close all doors (i	including back door), c re with all doors closed	heck that the room	lamp is OFF, get out of the vehicle, and	wait for
CAUTION:		J.		
Never operate t	he vehicle while wait			
 Turn the power s CAUTION: 	witch ON without depr	ressing the brake pe	edal.	
	ehicle to READY.			
		in) or more, and ho	ld the position for 5 seconds or more.	
13. Release brake p				
	and perform "BRAKE"	seit-alagnosis.		
s DTC "C1A62" dete				
YES >> GO TO 1 NO >> INSPEC				
	R SWITCH ON POWE			
	ttery cable to negative		ect CONSULT from data link connector	
	WITCH UPP TO EXIT CUP	NSULI, and disconr	ect (, UNSULT from data link connector	
3. Close all doors (including back door), c	check that the room	lamp is OFF, get out of the vehicle, and	
3. Close all doors (check that the room		
 Close all doors (3 minutes or monopole CAUTION: Never operate t 	including back door), c re with all doors closec he vehicle while wait	heck that the room d. .ing.	lamp is OFF, get out of the vehicle, and	wait for
 Close all doors (i 3 minutes or mon CAUTION: Never operate t Disconnect 12V 	including back door), c re with all doors closec he vehicle while wait	heck that the room d. .ing.		wait for
 Close all doors (i 3 minutes or more CAUTION: Never operate t Disconnect 12V tery". 	including back door), c re with all doors closec he vehicle while wait	check that the room d. : ing. gative terminal. Ref	lamp is OFF, get out of the vehicle, and er to <u>BR-6, "Precaution for Removing 1</u>	wait for
 Close all doors (3 minutes or more CAUTION: Never operate t Disconnect 12V <u>tery"</u>. Disconnect the experimentation of the experimentation o	including back door), c re with all doors closed he vehicle while wait battery cable from neg electrically-driven intelli ttery cable to negative	check that the room d. gative terminal. Ref igent brake unit han terminal.	lamp is OFF, get out of the vehicle, and er to <u>BR-6, "Precaution for Removing 1</u> ness connector.	wait for <u>2V Bat-</u>
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 Close all doors (i 3 minutes or mon CAUTION: Never operate t Disconnect 12V tery". Disconnect the e Connect 12V bat Check the voltag Electrically-driven Connector E34 	including back door), c re with all doors closed he vehicle while wait battery cable from neg electrically-driven intelli ttery cable to negative le between the electric intelligent brake unit Terminal 26	check that the room d. gative terminal. Ref igent brake unit han terminal. cally-driven intelliger 	lamp is OFF, get out of the vehicle, and er to <u>BR-6, "Precaution for Removing 1</u> ness connector. In brake unit harness connector and gro Voltage (Approx.) $0 \vee$	wait for <u>2V Bat-</u>
 Close all doors (i 3 minutes or mon CAUTION: Never operate t Disconnect 12V tery". Disconnect the e Connect 12V bat Check the voltag Electrically-driven Connector E34 Turn the power s 	including back door), c re with all doors closed he vehicle while wait battery cable from neg electrically-driven intelli ttery cable to negative te between the electric intelligent brake unit Terminal	check that the room d. gative terminal. Ref igent brake unit han terminal. cally-driven intelliger 	lamp is OFF, get out of the vehicle, and er to <u>BR-6, "Precaution for Removing 1</u> ness connector. In brake unit harness connector and gro Voltage (Approx.) $0 \vee$	wait for <u>2V Bat-</u>
 Close all doors (i 3 minutes or mon CAUTION: Never operate t Disconnect 12V tery". Disconnect the e Connect 12V bat Check the voltag Electrically-driven Connector E34 Turn the power s CAUTION: 	including back door), c re with all doors closed he vehicle while wait battery cable from neg electrically-driven intelli ttery cable to negative je between the electric intelligent brake unit Terminal 26 switch ON without depr	check that the room d. gative terminal. Ref igent brake unit han terminal. cally-driven intelliger 	lamp is OFF, get out of the vehicle, and er to <u>BR-6, "Precaution for Removing 1</u> ness connector. In brake unit harness connector and gro Voltage (Approx.) $0 \vee$	wait for <u>2V Bat-</u>
 Close all doors (i 3 minutes or more CAUTION: Never operate t Disconnect 12V tery". Disconnect the e Connect 12V bat Check the voltage Electrically-driven Connector E34 Turn the power se CAUTION: Never set the voltage 	including back door), c re with all doors closed he vehicle while wait battery cable from neg electrically-driven intelli ttery cable to negative te between the electric intelligent brake unit Terminal 26 switch ON without depre- chicle to READY.	check that the room d. cing. gative terminal. Ref igent brake unit har terminal. cally-driven intelliger 	lamp is OFF, get out of the vehicle, and er to <u>BR-6, "Precaution for Removing 1</u> ness connector. In brake unit harness connector and gro Voltage (Approx.) $0 \vee$	wait for <u>2V Bat-</u> und.
 Close all doors (i 3 minutes or more CAUTION: Never operate t Disconnect 12V tery". Disconnect the e Connect 12V bat Check the voltage Electrically-driven Connector E34 Turn the power se CAUTION: Never set the voltage 	including back door), c re with all doors closed he vehicle while wait battery cable from neg electrically-driven intelli ttery cable to negative te between the electric intelligent brake unit Terminal 26 switch ON without depre- chicle to READY.	check that the room d. cing. gative terminal. Ref igent brake unit har terminal. cally-driven intelliger 	lamp is OFF, get out of the vehicle, and er to <u>BR-6</u> , <u>"Precaution for Removing 1</u> mess connector. In brake unit harness connector and gro Voltage (Approx.) 0 V edal.	wait for <u>2V Bat-</u> und.
 Close all doors (i 3 minutes or more CAUTION: Never operate t Disconnect 12V tery". Disconnect the e Connect 12V bat Check the voltag Electrically-driven Connector E34 Turn the power set CAUTION: Never set the voltag 9. Check the voltag	including back door), c re with all doors closed he vehicle while wait battery cable from neg electrically-driven intelli ttery cable to negative te between the electric intelligent brake unit Terminal 26 switch ON without depre- chicle to READY.	check that the room d. cing. gative terminal. Ref igent brake unit har terminal. cally-driven intelliger 	lamp is OFF, get out of the vehicle, and er to <u>BR-6, "Precaution for Removing 1</u> mess connector. In brake unit harness connector and gro Voltage (Approx.) 0 V edal.	wait for <u>2V Bat-</u> und.
 Close all doors (i 3 minutes or mon CAUTION: Never operate t Disconnect 12V tery". Disconnect the e Connect 12V bat Check the voltag Electrically-driven Connector E34 Turn the power se CAUTION: Never set the voltag Check the voltag 	including back door), c re with all doors closed he vehicle while wait battery cable from neg electrically-driven intelli ttery cable to negative le between the electric intelligent brake unit Terminal 26 switch ON without depr ehicle to READY. le between the electric	check that the room d. cing. gative terminal. Ref igent brake unit har terminal. cally-driven intelliger 	lamp is OFF, get out of the vehicle, and er to <u>BR-6</u> , <u>"Precaution for Removing 1</u> mess connector. In brake unit harness connector and gro Voltage (Approx.) 0 V edal.	wait for <u>2V Bat-</u> und.
 Close all doors (i 3 minutes or more CAUTION: Never operate t Disconnect 12V tery". Disconnect the e Connect 12V bat Check the voltag Electrically-driven Connector E34 Turn the power set Never set the voltag Check the voltag 	including back door), c re with all doors closed he vehicle while wait battery cable from neg electrically-driven intelli ttery cable to negative je between the electric intelligent brake unit <u>Terminal</u> <u>26</u> switch ON without depr ehicle to READY. je between the electric intelligent brake unit	check that the room d. cing. gative terminal. Ref igent brake unit har terminal. cally-driven intelliger 	lamp is OFF, get out of the vehicle, and er to <u>BR-6, "Precaution for Removing 1</u> ness connector. In brake unit harness connector and gro Voltage (Approx.) 0 V edal.	wait for <u>2V Bat-</u> und.
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 Close all doors (i 3 minutes or more CAUTION: Never operate t Disconnect 12V tery". Disconnect the e Connect 12V bat Check the voltag Electrically-driven Connector E34 Turn the power set CAUTION: Never set the voltag Electrically-driven Connector E34 Sthe inspection results YES >> GO TO 1 	including back door), c re with all doors closed he vehicle while wait battery cable from neg- electrically-driven intelli ttery cable to negative te between the electric intelligent brake unit 26 switch ON without depre- chicle to READY. Terminal 26 intelligent brake unit Terminal 26 aut normal? 13.	check that the room d. fing. gative terminal. Ref igent brake unit han terminal. cally-driven intelliger Ground ressing the brake per cally-driven intelliger —	lamp is OFF, get out of the vehicle, and er to <u>BR-6, "Precaution for Removing 1</u> ness connector. In brake unit harness connector and gro Voltage (Approx.) 0 V edal.	wait for <u>2V Bat-</u> und.
 Close all doors (i 3 minutes or more CAUTION: Never operate t Disconnect 12V tery". Disconnect the e Connect 12V bat Check the voltag Electrically-driven Connector E34 Turn the power set the voltag Electrically-driven Connector E34 Electrically-driven Check the voltag Electrically-driven Connector E34 Electrically-driven Connector E34 Electrically-driven Connector E34 Electrically-driven Connector E34 Electrically-driven Connector Connector E34 	including back door), c re with all doors closed he vehicle while wait battery cable from neg- electrically-driven intelli ttery cable to negative te between the electric intelligent brake unit 26 switch ON without depre- chicle to READY. Terminal 26 intelligent brake unit Terminal 26 aut normal? 13.	check that the room d. fing. gative terminal. Ref igent brake unit hard terminal. cally-driven intelliger Ground ressing the brake per cally-driven intelliger Ground	lamp is OFF, get out of the vehicle, and er to <u>BR-6, "Precaution for Removing 1</u> ness connector. In brake unit harness connector and gro Voltage (Approx.) 0 V edal. In the brake unit harness connector and gro Voltage (Approx.) 10 – 16 V	wait for <u>2V Bat-</u> und.

3 minutes or more with all doors closed. **CAUTION:**

Never operate the vehicle while waiting.

< DTC/CIRCUIT DIAGNOSIS >

- Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6. "Precaution for Removing 12V Bat-tery"</u>.
- 4. Check the 15A fuse (#62).
- 5. Disconnect IPDM E/R harness connector.
- 6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

Electrically-driven intelligent brake unit		IPDM E/R		Continuity
Connector	Terminal	Connector	Terminal	Continuity
E34	26	E15	62	Existed

7. Check the continuity between electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit				Continuity
Connecto	r	Terminal		Continuity
E34		26	Ground	Not existed

Is the inspection result normal?

- YES >> Perform trouble diagnosis for power ON power supply. Refer to <u>PG-29</u>, "Wiring Diagram—On <u>Power Supply—</u>".
- NO >> Repair or replace error-detected parts and GO TO 12.

12.PERFORM SELF-DIAGNOSIS (5)

With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect IPDM E/R harness connector.
- 3. Connect 12V battery cable to negative terminal.
- 4. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

5. Repeat step 4 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 6. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

8. Turn the power switch ON without depressing the brake pedal. **CAUTION:**

Never set the vehicle to READY.

- 9. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 10. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

SAUTION:

Never operate the vehicle while waiting.

- 12. Turn the power switch ON without depressing the brake pedal.
 - Never set the vehicle to READY.
- 13. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 14. Release brake pedal.
- 15. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A62" detected?

- YES >> GO TO 13.
- NO >> INSPECTION END
- **13.**CHECK 12V BATTERY POWER SUPPLY
- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.

< DTC/CIRCUIT DIAGNOSIS >

2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to BR-6, "Precaution for Removing 12V Bat-В terv".
- 4. Disconnect the electrically-driven intelligent brake unit harness connector.
- 5. Connect 12V battery cable to negative terminal.
- Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

Electrically-driver	Electrically-driven intelligent brake unit		
Connector	Terminal	(Approx.)	
	1 – 32		
E34	2 – 32	10 – 16 V	
	28 – 32	-	

7. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

Electrically-drive	Voltage	
Connector	Terminal	(Approx.)
	1 – 32	
E34	2 – 32	10 – 16 V
	28 – 32	

Is the inspection result normal?

YES >> GO TO 16.

>> GO TO 14. NO

14.CHECK 12V BATTERY POWER SUPPLY CIRCUIT

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Κ 2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

- L Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Batterv".
- Check the 60A fusible link (#F).
- Μ Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).
- Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).
- 7. Check the 15A fuse (#75).
- 8. Check the continuity and for short circuit between harness connector terminal 28 of electrically-driven intelligent brake unit and 15A fuse (#75).

Is the inspection result normal?

- YES >> Perform trouble diagnosis for 12V battery power supply. Refer to PG-18, "Wiring Diagram - Batterv Power Supply —".
- NO >> Repair or replace error-detected parts and GO TO 15.

15. PERFORM SELF-DIAGNOSIS (6)

(P)With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

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< DTC/CIRCUIT DIAGNOSIS >

Never set the vehicle to READY.

4. Repeat step 3 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 5. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

7. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 8. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 9. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 10. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

11. Turn the power switch ON without depressing the brake pedal.

Never set the vehicle to READY.

- 12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 13. Release brake pedal.
- 14. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A62" detected?

YES >> GO TO 16.

NO >> INSPECTION END

16. CHECK GROUND CIRCUIT

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6, "Precaution for Removing 12V Bat-tery"</u>.
- 4. Disconnect the electrically-driven intelligent brake unit harness connector.
- 5. Check the continuity between electrically-driven intelligent brake unit and ground.

Electrically-driven intelligent brake unit		— Continuity	
Connector	Terminal		
E34	32	Ground	Existed

Is the inspection result normal?

YES >> GO TO 18.

NO >> Repair or replace error-detected parts and GO TO 17.

17.PERFORM SELF-DIAGNOSIS (7)

With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

 Repeat step 3 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 5. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

< D	TC/CIRCUIT DIAGNOSIS >	
	CAUTION:	
7	Never operate the vehicle while waiting.	А
7.	Turn the power switch ON without depressing the brake pedal. CAUTION:	
	Never set the vehicle to READY.	D
8.	Start CONSULT and erase self-diagnosis result of "BRAKE".	В
9. 10	Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for	
10.	3 minutes or more with all doors closed.	С
	CAUTION:	0
44	Never operate the vehicle while waiting.	
11.	Turn the power switch ON without depressing the brake pedal.	D
	Never set the vehicle to READY.	
	Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.	_
	Release brake pedal. Start CONSULT and perform "BRAKE" self-diagnosis.	E
	DTC "C1A62" detected?	
	ES >> GO TO 18.	BR
N	>> INSPECTION END	
18	CHECK DATA MONITOR	
	Vith CONSULT	G
	Connect the electrically-driven intelligent brake unit harness connector.	
2.	Connect 12V battery cable to negative terminal.	Н
3.	Turn the power switch OFF to ON without depressing the brake pedal.	
	Never set the vehicle to READY.	
4.		
	CAUTION: Be sure to wait for 5 accords or more offer turning the newer switch OFF	
5.	Be sure to wait for 5 seconds or more after turning the power switch OFF. Start CONSULT and select "BRAKE" and "DATA MONITOR" according this order.	
6.	Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER". Refer to BR-33, "Reference	J
	Value".	
-	he inspection result normal?	К
YE N(S >> GO TO 19. S >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-510, "Removal and installation"</u>. 	1.
13	PERFORM SELF-DIAGNOSIS (8)	L
9		
1.	Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:	B. 4
	Never set the vehicle to READY.	M
2.	Repeat step 1 two or more times.	
	CAUTION: Be sure to wait for 5 seconds or more offer turning the newer switch OEE	Ν
3.	Be sure to wait for 5 seconds or more after turning the power switch OFF. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.	
4.	Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for	
	3 minutes or more with all doors closed.	0
	CAUTION: Never operate the vehicle while waiting.	
5.	Turn the power switch ON without depressing the brake pedal.	D
	CAUTION:	Ρ
6.	Never set the vehicle to READY. Start CONSULT and erase self-diagnosis result of "BRAKE".	
о. 7.	Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.	
8.	Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for	
	3 minutes or more with all doors closed.	
	CAUTION: Never operate the vehicle while waiting.	

< DTC/CIRCUIT DIAGNOSIS >

9. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 11. Release brake pedal.
- 12. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A62" detected?

- YES >> GO TO 20.
- NO >> INSPECTION END
- 20. CHECK BCM SYSTEM

With CONSULT

Perform self-diagnosis for "BCM". Refer to BCS-23, "BCM : CONSULT Function (BCM - BCM)".

Is any DTC detected?

- YES >> Check the DTC. Refer to <u>BCS-48, "DTC Index"</u>. GO TO 21.
- NO >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-510</u>, "Removal and installation".
- 21.PERFORM SELF-DIAGNOSIS (9)

With CONSULT

- Turn the power switch OFF to ON without depressing the brake pedal.
- CAUTION: Never set the vehicle to READY.
- 2. Repeat step 1 two or more times.
- CAUTION: Be sure to wait for 5 seconds or more after turning the power switch OFF.
- 3. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

5. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 6. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 7. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

9. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 11. Release brake pedal.
- 12. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A62" detected?

- YES >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-510, "Removal and installation"</u>.
- NO >> INSPECTION END

< DTC/CIRCUIT DIAGNOSIS >

C1A63 BRAKE POWER SUPPLY BACKUP UNIT

DTC Logic

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DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes	
C1A63	BACKUP POWER SUPPLY	 A open is detected in the circuit between electrical- ly-driven intelligent brake unit and brake power supply backup unit. A short circuit is detected in the circuit between electrically-driven intelligent brake unit and brake power supply backup unit. A short to power supply circuit is detected in the cir- cuit between electrically-driven intelligent brake unit and brake power supply backup unit. 	 Harness or connector Electrically-driven intelligent brake unit 	

DIC REPRODUCTION PROCEDURE

1.PRECONDITIONING

If DTC CONFIRMATION PROCEDURE" has been previously conducted, always turn power switch OFF and wait at least 10 seconds before conducting the next test.

>> GO TO 2.

2 . CHECK DTC DETECTION

With CONSULT

- Turn the power switch OFF to ON without depressing the brake pedal. 1 CAUTION: Never set the vehicle to READY. 2. Repeat step 1 two or more times. **CAUTION:** Be sure to wait for 5 seconds or more after turning the power switch OFF. 3. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. 4. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION: Never operate the vehicle while waiting. 5. Turn the power switch ON without depressing the brake pedal. CAUTION: Never set the vehicle to READY. Start CONSULT and erase self-diagnosis result of "BRAKE". 7. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. 8. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION: Never operate the vehicle while waiting. 9. Turn the power switch ON without depressing the brake pedal. **CAUTION:** Never set the vehicle to READY.
- 10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 11. Release brake pedal.
- 12. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A63" detected?

- YES >> Proceed to BR-82, "Diagnosis Procedure".
- NO >> INSPECTION END

< DTC/CIRCUIT DIAGNOSIS >

Diagnosis Procedure

INFOID:000000010634185

1.CHECK 12V BATTERY

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

- Check the 12V battery terminal connections. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery" and <u>PG-76</u>, "Work Flow".
- 4. Check the 12V battery. Refer to PG-76, "Work Flow".

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace error-detected parts and GO TO 2.

2.PERFORM SELF-DIAGNOSIS (1)

With CONSULT

- 1. Connect 12V battery cable to negative terminal.
- Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

3. Repeat step 2 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 4. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

6. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 7. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 8. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

10. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 11. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 12. Release brake pedal.
- 13. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A63" detected?

YES >> GO TO 3.

NO >> INSPECTION END

3.CHECK CONNECTOR TERMINALS

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, <u>"Precaution for Removing 12V Bat-tery"</u>.
- 4. Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.

< DTC/CIRCUIT DIAGNOSIS >

5.	 Disconnect the brake power supply backup unit harness connector, then check and connections. 	for failures of pin terminals
<u>ls t</u>	s the inspection result normal?	
	YES >> GO TO 5.	
	NO >> Repair or replace error-detected parts and GO TO 4.	
4.	1. PERFORM SELF-DIAGNOSIS (2)	
٩V	With CONSULT	
1.		
2.	2. Connect the brake power supply backup unit harness connector.	
3.	, , , , , , , , , , , , , , , , , , , ,	
4.		
	CAUTION: Never set the vehicle to READY.	
5.		
•	CAUTION:	
	Be sure to wait for 5 seconds or more after turning the power switch OFF.	-
6.		
7.	7. Close all doors (including back door), check that the room lamp is OFF, get out 3 minutes or more with all doors closed.	of the vehicle, and wait for
	CAUTION:	
	Never operate the vehicle while waiting.	
8.		
	CAUTION: Never set the vehicle to READY.	
9.		
	10. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from o	lata link connector.
	11. Close all doors (including back door), check that the room lamp is OFF, get out	
	3 minutes or more with all doors closed.	
	CAUTION:	
12	Never operate the vehicle while waiting. 12. Turn the power switch ON without depressing the brake pedal.	
12.	CAUTION:	
	Never set the vehicle to READY.	
	13. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 s	econds or more.
	 Release brake pedal. Start CONSULT and perform "BRAKE" self-diagnosis. 	
	· •	
	s DTC "C1A63" detected?	
	YES >> GO TO 5. NO >> INSPECTION END	
0.0	D.CHECK POWER SWITCH ON POWER SUPPLY	
1.		
2. 3.		lata link connector
з. 4.	,	
••	3 minutes or more with all doors closed.	
	CAUTION:	
_	Never operate the vehicle while waiting.	
5.	, , , , , , , , , , , , , , , , , , , ,	on tor Removing 12V Bat-
6.	<u>tery"</u> . Disconnect the electrically-driven intelligent brake unit harness connector.	
0. 7.		
8.		connector and ground.
		<u> </u>
	Electrically-driven intelligent brake unit Voltage	
	Connector Terminal (Approx.)	

Electrically-unver	Tintelligent brake unit		Voltage
Connector	Terminal		(Approx.)
E34	26	Ground	0 V

-

< DTC/CIRCUIT DIAGNOSIS >

9. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

10. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit			Voltage	
Connector	Terminal		(Approx.)	
E34	26	Ground	10 – 16 V	

Is the inspection result normal?

YES >> GO TO 8.

NO >> GO TO 6.

6.CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

- Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery".
- 4. Check the 15A fuse (#62).
- 5. Disconnect IPDM E/R harness connector.
- 6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

Electrically-driven in	ctrically-driven intelligent brake unit		IPDM E/R	
Connector	Terminal	Connector	Terminal	Continuity
E34	26	E15	62	Existed

7. Check the continuity between electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven in	telligent brake unit		Continuity
Connector	Terminal	—	Continuity
E34	26	Ground	Not existed

Is the inspection result normal?

- YES >> Perform trouble diagnosis for power ON power supply. Refer to <u>PG-29</u>, "Wiring Diagram—On <u>Power Supply</u>—".
- NO >> Repair or replace error-detected parts and GO TO 7.

7. PERFORM SELF-DIAGNOSIS (3)

()With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect IPDM E/R harness connector.
- 3. Connect 12V battery cable to negative terminal.
- 4. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

5. Repeat step 4 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 6. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 7. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

8. Turn the power switch ON without depressing the brake pedal. **CAUTION:**

Never set the vehicle to READY.

< DTC/CIRCUIT DIAGNOSIS >

10. Turn the power 11. Close all doors		NSULT, and discor check that the roor	E". nect CONSULT from data link connector. n lamp is OFF, get out of the vehicle, and wait for	A
Never operate 12. Turn the power CAUTION:	the vehicle while wait switch ON without dep		oedal.	В
 13. Depress brake 14. Release brake 			old the position for 5 seconds or more.	C
Is DTC "C1A63" det	tected?			D
•	CTION END			E
Ö. CHECK 12V BA	TTERY POWER SUPP	LY		
2. Close all doors		check that the roor	nect CONSULT from data link connector. I lamp is OFF, get out of the vehicle, and wait for	BR
Never operate 3. Disconnect 12\ tery".		gative terminal. Re	fer to <u>BR-6. "Precaution for Removing 12V Bat-</u>	G
5. Connect 12V ba	electrically-driven intell attery cable to negative age between the electric	terminal.	rness connector. ent brake unit harness connector terminals.	Η
Electrically-drive	n intelligent brake unit	Voltage	-	Ι
Connector	Terminal	(Approx.)		
	1 – 32		_	
E34	2 - 32	10 – 16 V		J
	28 - 32			
CAUTION: Never set the v	switch ON without dep	-	bedal. ent brake unit harness connector terminals.	K
Electrically-drive	n intelligent brake unit	Voltage	-	
Connector	Terminal	(Approx.)		M
	1 – 32		—	
E34	2 – 32	10 – 16 V		N
	28 - 32			Ν
Is the inspection res	sult normal?		-	
YES >> GO TO NO >> GO TO				0
9.CHECK 12V BA	TTERY POWER SUPP	LY CIRCUIT		D

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6. "Precaution for Removing 12V Bat-</u> tery".
- 4. Check the 60A fusible link (#F).

Ρ

< DTC/CIRCUIT DIAGNOSIS >

- 5. Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).
- 6. Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).
- 7. Check the 15A fuse (#75).
- 8. Check the continuity and for short circuit between harness connector terminal 28 of electrically-driven intelligent brake unit and 15A fuse (#75).

Is the inspection result normal?

- YES >> Perform trouble diagnosis for 12V battery power supply. Refer to <u>PG-18. "Wiring Diagram Bat-</u> tery Power Supply —".
- NO >> Repair or replace error-detected parts and GO TO 10.

10.PERFORM SELF-DIAGNOSIS (4)

With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

4. Repeat step 3 two or more times.

CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 5. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

7. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 8. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 9. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 10. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

11. Turn the power switch ON without depressing the brake pedal.

Never set the vehicle to READY.

- 12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 13. Release brake pedal.
- 14. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A63" detected?

YES >> GO TO 11.

NO >> INSPECTION END

11. CHECK GROUND CIRCUIT

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery".
- 4. Disconnect the electrically-driven intelligent brake unit harness connector.
- 5. Check the continuity between electrically-driven intelligent brake unit and ground.

< DTC/CIRCUIT DIAGNOSIS >

Electrically-driven intelligent brake unit Continuity Connector Terminal Continuity E34 32 Ground Existed Is the inspection result normal? YES >> GO TO 13.	В
Is the inspection result normal? YES >> GO TO 13.	R
YES >> GO TO 13.	
	D
NO >> Repair or replace error-detected parts and GO TO 12.	С
12.PERFORM SELF-DIAGNOSIS (5)	
With CONSULT Connect the electrically driven intelligent brake unit harness connector	D
 Connect the electrically-driven intelligent brake unit harness connector. Connect 12V battery cable to negative terminal. 	
Turn the power switch OFF to ON without depressing the brake pedal.	_
CAUTION: Never set the vehicle to READY.	Е
4. Repeat step 3 two or more times.	
CAUTION: Be sure to wait for 5 seconds or more after turning the power switch OFF.	BR
5. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.	
 Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. 	C
CAUTION:	G
Never operate the vehicle while waiting.	
 Turn the power switch ON without depressing the brake pedal. CAUTION: 	Н
Never set the vehicle to READY.	
 Start CONSULT and erase self-diagnosis result of "BRAKE". Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. 	1
10. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for	
3 minutes or more with all doors closed. CAUTION:	
Never operate the vehicle while waiting.	J
11. Turn the power switch ON without depressing the brake pedal.	
CAUTION: Never set the vehicle to READY.	Κ
12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.	
 Release brake pedal. Start CONSULT and perform "BRAKE" self-diagnosis. 	1
Is DTC "C1A63" detected?	L
YES >> GO TO 13.	
NO >> INSPECTION END	M
13. CHECK DATA MONITOR	
With CONSULT	Ν
 Connect the electrically-driven intelligent brake unit harness connector. Connect 12V battery cable to negative terminal. 	
Turn the power switch OFF to ON without depressing the brake pedal.	
CAUTION: Never set the vehicle to READY.	0
4. Repeat step 3 two or more times.	
CAUTION: Be sure to wait for 5 accords or more ofter turning the newer switch OFF	Ρ
Be sure to wait for 5 seconds or more after turning the power switch OFF. 5. Start CONSULT and select "BRAKE" and "DATA MONITOR" according this order.	
6. Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER". Refer to BR-33, "Reference	
Value". Is the inspection result normal?	
YES >> GO TO 14.	
NO >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-510, "Removal and installation"</u> .	

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< DTC/CIRCUIT DIAGNOSIS >

14.PERFORM SELF-DIAGNOSIS (6)

With CONSULT

- 1. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:
 - Never set the vehicle to READY.
- Repeat step 1 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 3. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

5. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 6. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 7. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

9. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 11. Release brake pedal.
- 12. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A63", "C1A6B", "C1A6C", "C1A6D", "C1AC8" or "C1AD0" detected?

YES (C1A63)>>GO TO 15.

- YES (C1A6B)>>Refer to BR-123, "Diagnosis Procedure".
- YES (C1A6C)>>Refer to BR-134, "Diagnosis Procedure".
- YES (C1A6D)>>Refer to BR-142, "Diagnosis Procedure".
- YES (C1AC8)>>Refer to BR-429, "Diagnosis Procedure".
- YES (C1AD0)>>Refer to BR-440, "Diagnosis Procedure".
- NO >> INSPECTION END

15. CHECK CIRCUIT BETWEEN ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT AND BRAKE POWER SUPPLY BACKUP UNIT

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6. "Precaution for Removing 12V Bat-</u> <u>tery"</u>.
- 4. Disconnect the electrically-driven intelligent brake unit harness connector.
- 5. Check the continuity between electrically-driven intelligent brake unit and ground.

Electrically-driver	n intelligent brake unit		Continuity	
Connector	Terminal			
E34	32	Ground	Existed	

6. Check the continuity between electrically-driven intelligent brake unit and ground.

Electrically-driven intelligent brake unit		_	Continuity
Connector	Terminal		Continuity
E34	31	Ground	Not existed

< DTC/CIRCUIT DIAGNOSIS >

- 7.
- Disconnect the brake power supply backup unit harness connector. Check the continuity between electrically-driven intelligent brake unit and brake power supply backup unit. 8. А

Electrically-driver	n intelligent brake unit	Brake power su	upply backup unit	Continuity
Connector	Terminal	Connector	Terminal	Continuity
E34	31	B15	1	Existed
6.CHECK BRAK		ACKUP UNIT GROU		
-				
Connector	upply backup unit		Continuity	
B15	2	Cround	Existed	
the inspection res	_	Ground	EXISIEU	
	17. or replace error-detect LF-DIAGNOSIS (7)	ed parts and GO TO	17.	
Connect the bra	ctrically-driven intellig	up unit harness conn		
Turn the power CAUTION:	attery cable to negative switch OFF to ON with rehicle to READY.		orake pedal.	
Repeat step 4 tv CAUTION:	wo or more times.			
Turn the power Close all doors	t for 5 seconds or mo switch OFF to exit CC (including back door), ore with all doors close	NSULT, and disconne check that the room I	ect CONSULT from d	ata link connector. of the vehicle, and wait fo
Turn the power CAUTION :	the vehicle while wa switch ON without dep		dal.	
Start CONSULT D. Turn the power	ehicle to READY. and erase self-diagno switch OFF to exit CC	NSULT, and disconne	ect CONSULT from d	ata link connector. of the vehicle, and wait fo
3 minutes or mo	the vehicle while wa	ed.		n me venicie, and wall io
2. Turn the power CAUTION:	switch ON without dep		dal.	
 Depress brake Release brake 	oedal by 100 mm (3.94	,	d the position for 5 se	econds or more.
<u>DTC "C1A63" det</u> YES >> Replace	ected?	-	t. Refer to <u>BR-510, "R</u>	emoval and installation

< DTC/CIRCUIT DIAGNOSIS >

C1A65 INCOMPLETE STROKE SENSOR

DTC Logic

INFOID:000000010634186

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1A65	STROKE SENSOR SET	Stroke sensor 0 point learning has not been completed.	Stroke sensor 0 point learning has not been performed.

DTC REPRODUCTION PROCEDURE

1.PRECONDITIONING

If "DTC CONFIRMATION PROCEDURE" has been previously conducted, always turn power switch OFF and wait at least 10 seconds before conducting the next test.

>> GO TO 2.

2. CHECK DTC DETECTION

With CONSULT

 Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

 Repeat step 1 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 3. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

5. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 6. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 7. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

9. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 11. Release brake pedal.
- 12. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A65" detected?

- YES >> Proceed to <u>BR-90, "Diagnosis Procedure"</u>.
- NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000010634187

1.CHECK 12V BATTERY

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

< D1	TC/CIRCUIT DIAGNOSIS >	
	Check the 12V battery terminal connections. Refer to <u>BR-6, "Precaution for Removing 12V Battery"</u> and <u>PG-76, "Work Flow"</u> .	А
4.	Check the 12V battery. Refer to <u>PG-76, "Work Flow"</u> .	
	e inspection result normal?	
YE NC		В
-	ERFORM SELF-DIAGNOSIS (1)	
		С
	ith CONSULT Connect 12V battery cable to negative terminal.	
2.	Turn the power switch OFF to ON without depressing the brake pedal.	D
	Never set the vehicle to READY.	
	Repeat step 2 two or more times. CAUTION:	_
	Be sure to wait for 5 seconds or more after turning the power switch OFF.	Ε
	Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.	
	Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION:	BR
	Never operate the vehicle while waiting.	
6.	Turn the power switch ON without depressing the brake pedal.	G
	CAUTION: Never set the vehicle to READY.	
	Start CONSULT and erase self-diagnosis result of "BRAKE".	
	Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.	Н
	Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.	
	CAUTION:	
	Never operate the vehicle while waiting.	
	Turn the power switch ON without depressing the brake pedal.	
	Never set the vehicle to READY.	J
	Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.	
	Release brake pedal.	17
	Start CONSULT and perform "BRAKE" self-diagnosis.	Κ
	TC "C1A65" detected?	
YE NC		L
-	HECK CONNECTOR TERMINALS	
	Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for	M
	3 minutes or more with all doors closed.	
	CAUTION:	NI
	Never operate the vehicle while waiting. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6, "Precaution for Removing 12V Bat-</u>	Ν
	tery".	
4.	Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin	0
	terminals and connections. Disconnect the stroke sensor harness connector, then check for failures of pin terminals and connections.	
	e inspection result normal?	_
YE		Ρ
NC		
4 . _P	ERFORM SELF-DIAGNOSIS (2)	
<u> </u>		

- With CONSULTConnect the electrically-driven intelligent brake unit harness connector.
- 2. Connect stroke sensor harness connector.

< DTC/CIRCUIT DIAGNOSIS >

- 3. Connect 12V battery cable to negative terminal.
- 4. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

5. Repeat step 4 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 6. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

8. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 9. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 10. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 11. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

12. Turn the power switch ON without depressing the brake pedal.

Never set the vehicle to READY.

- 13. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 14. Release brake pedal.
- 15. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A65" detected?

YES >> GO TO 5.

NO >> INSPECTION END

5.CHECK POWER SWITCH ON POWER SUPPLY

- 1. Connect stroke sensor harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- 5. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery".
- 6. Disconnect the electrically-driven intelligent brake unit harness connector.
- 7. Connect 12V battery cable to negative terminal.
- 8. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit			Voltage
Connector	Terminal		(Approx.)
E34	26	Ground	0 V

9. Turn the power switch ON without depressing the brake pedal.

Never set the vehicle to READY.

10. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit			Voltage
Connector	Terminal		(Approx.)
E34	26	Ground	10 – 16 V

Is the inspection result normal?

< DTC/CIRCUIT DIAGNOSIS >

YES >> GO TO 8. NO >> GO TO 6. А $\mathbf{6}$.CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 2. 3 minutes or more with all doors closed. **CAUTION:** Never operate the vehicle while waiting. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Batterv". 4. Check the 15A fuse (#62). D Disconnect IPDM E/R harness connector. 5 6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R. Ε IPDM E/R Electrically-driven intelligent brake unit Continuity Connector Terminal Terminal Connector 62 E34 26 E15 Existed BR Check the continuity between electrically-driven intelligent brake unit harness connector and ground. 7. Electrically-driven intelligent brake unit Continuity Connector Terminal E34 26 Ground Not existed Н Is the inspection result normal? YES >> Perform trouble diagnosis for power ON power supply. Refer to PG-29, "Wiring Diagram-On Power Supply—". NO >> Repair or replace error-detected parts and GO TO 7. **7.** PERFORM SELF-DIAGNOSIS (3) (P)With CONSULT Connect the electrically-driven intelligent brake unit harness connector. Connect IPDM E/R harness connector. 2. Connect 12V battery cable to negative terminal. 3. Κ Turn the power switch OFF to ON without depressing the brake pedal. 4 **CAUTION:** Never set the vehicle to READY. Repeat step 4 two or more times. **CAUTION:** Be sure to wait for 5 seconds or more after turning the power switch OFF. 6. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. M 7. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. **CAUTION:** Ν Never operate the vehicle while waiting. 8. Turn the power switch ON without depressing the brake pedal. **CAUTION:** Never set the vehicle to READY. Start CONSULT and erase self-diagnosis result of "BRAKE". Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. 11. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for P 3 minutes or more with all doors closed. **CAUTION:**

Never operate the vehicle while waiting.

12. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

13. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.

14. Release brake pedal.

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< DTC/CIRCUIT DIAGNOSIS >

15. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A65" detected?

YES >> GO TO 8.

NO >> INSPECTION END

8.CHECK 12V BATTERY POWER SUPPLY

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6, "Precaution for Removing 12V Bat-tery"</u>.
- 4. Disconnect the electrically-driven intelligent brake unit harness connector.
- 5. Connect 12V battery cable to negative terminal.
- 6. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

Electrically-driven intelligent brake unit		Voltage
Connector	Terminal	(Approx.)
	1 – 32	
E34	2 – 32	10-16 V
	28 - 32	

7. Turn the power switch ON without depressing the brake pedal. **CAUTION:**

Never set the vehicle to READY.

8. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

Electrically-driver	Voltage	
Connector	Terminal	(Approx.)
	1 – 32	
E34	2 – 32	10 – 16 V
	28 – 32	

Is the inspection result normal?

YES >> GO TO 11.

NO >> GO TO 9.

9.CHECK 12V BATTERY POWER SUPPLY CIRCUIT

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6. "Precaution for Removing 12V Bat-</u> <u>tery"</u>.
- 4. Check the 60A fusible link (#F).
- 5. Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).
- 6. Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).
- 7. Check the 15A fuse (#75).
- 8. Check the continuity and for short circuit between harness connector terminal 28 of electrically-driven intelligent brake unit and 15A fuse (#75).

Is the inspection result normal?

YES >> Perform trouble diagnosis for 12V battery power supply. Refer to <u>PG-18</u>, "Wiring Diagram — Battery Power Supply —".

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< D	TC/CIRCUIT DIA	GNOSIS >			_
N	•	replace error-detecte	d parts and GO TO	10.	-
(PERFORM SEL	F-DIAGNOSIS (4)			
) (Vith CONSULT				•
		rically-driven intellige		s connector.	
•		ery cable to negative			
•	CAUTION:	witch OFF to ON with	but depressing the b	rake pedal.	
	Never set the ve	hicle to READY.			
	Repeat step 3 two	o or more times.			
	CAUTION: Bo sure to wait f	or 5 seconds or mo	o after turning the	nower switch OFF	
				ect CONSULT from data link connector.	
				amp is OFF, get out of the vehicle, and wait for	•
		e with all doors closed	l.		
	CAUTION: Never operate th	e vehicle while wait	ina		
		witch ON without depr		dal.	
	CAUTION:	·	- '		
	Never set the ve	hicle to READY. Ind erase self-diagnos		'n	
				ect CONSULT from data link connector.	
	Close all doors (in	ncluding back door), c	heck that the room I	amp is OFF, get out of the vehicle, and wait for	•
		e with all doors closed	l.		
	CAUTION: Never operate th	e vehicle while wait	ina		
1.		witch ON without depr		dal.	
	CAUTION:				
2	Never set the ve		in) or more and hol	d the position for 5 seconds or more.	
	Release brake pe				
4.	Start CONSULT a	ind perform "BRAKE"	self-diagnosis.		
	TC "C1A65" deteo				
	ES >> GO TO 1				
	>> INSPECT				
	.CHECK GROUN	D CIRCUIT			_
				ect CONSULT from data link connector.	
		icluding back door), c e with all doors closed		amp is OFF, get out of the vehicle, and wait for	
	CAUTION:		I.		
	Never operate th	e vehicle while wait			
		pattery cable from neg	gative terminal. Refe	er to <u>BR-6, "Precaution for Removing 12V Bat</u>	
	tery". Disconnect the el	ectrically-driven intelli	gent brake unit harn	less connector	
				brake unit and ground.	
	Electrically-driven in	ntelligent brake unit	_	Continuity	
	Connector	Terminal		Continuity	
	E34	32	Ground	Existed	
		t normal?		 _	
t	ne inspection resu				
Y	ES >> GO TO 1	3.			
YE	ES >> GO TO 1	3. replace error-detecte	d parts and GO TO	12.	

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal.

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< DTC/CIRCUIT DIAGNOSIS >

CAUTION:

Never set the vehicle to READY.

- 4. Repeat step 3 two or more times.
- CAUTION: Bo sure to wait fr

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 5. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

7. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 8. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 9. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

11. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 13. Release brake pedal.
- 14. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A65" detected?

YES >> GO TO 13.

NO >> INSPECTION END

13.CHECK DATA MONITOR

With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

4. Repeat step 3 two or more times.

CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 5. Start CONSULT and select "BRAKE", "DATA MONITOR" according this order.
- Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER. Refer to <u>BR-33, "Reference</u> <u>Value"</u>.

Is the inspection result normal?

YES >> GO TO 14.

NO >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-510</u>, "Removal and installation"

14.PERFORM SELF-DIAGNOSIS (6)

With CONSULT

- 1. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:
 - Never set the vehicle to READY.
- 2. Repeat step 1 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 3. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

5. Turn the power switch ON without depressing the brake pedal.

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< DTC/CIRCUIT DIAGNOSIS >	
CAUTION:	
	А
6. Start CONSULT and erase self-diagnosis result of "BRAKE".	
 Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 	
3 minutes or more with all doors closed.	В
CAUTION:	
Never operate the vehicle while waiting.	
9. Turn the power switch ON without depressing the brake pedal.	С
CAUTION:	
Never set the vehicle to READY.	
10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.	D
 Release brake pedal. Start CONSULT and perform "BRAKE" self-diagnosis. 	
· · · ·	
Is DTC "C1A65" detected?	Е
YES >> GO TO 15.	
NO >> INSPECTION END	
15.STROKE SENSOR 0 POINT LEARNING (1)	BR
(P)With CONSULT	
Perform stroke sensor 0 point learning. Refer to <u>BR-53, "Work Procedure"</u> .	
	G
displayed?	
"COMPLETED">>GO TO 16.	
	Н
16.PERFORM SELF-DIAGNOSIS (7)	
TO. FERFORM SELF-DIAGNOSIS (7)	
With CONSULT	
 Turn the power switch OFF to ON without depressing the brake pedal. 	
CAUTION:	
Never set the vehicle to READY.2. Repeat step 1 two or more times.	.]
CAUTION:	0
Be sure to wait for 5 seconds or more after turning the power switch OFF.	
3 Turn the nower switch OFE to exit CONSULT and disconnect CONSULT from data link connector	Κ
4. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for	17
3 minutes or more with all doors closed.	
CAUTION:	1
Never operate the vehicle while waiting.	L
 Turn the power switch ON without depressing the brake pedal. CAUTION: 	
	в. Л
6. Start CONSULT and erase self-diagnosis result of "BRAKE".	Μ
7. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.	
8. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for	
3 minutes or more with all doors closed.	Ν
CAUTION:	
Never operate the vehicle while waiting.	
	0
CAUTION: Never set the vehicle to READY.	
10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.	
11. Release brake pedal.	Ρ
12. Start CONSULT and perform "BRAKE" self-diagnosis.	
Is DTC "C1A65" detected?	
YES >> GO TO 17. NO >> INSPECTION END	
17.VISUALLY CHECK STROKE SENSOR	

< DTC/CIRCUIT DIAGNOSIS >

Check the stroke sensor for damage.

Is the inspection result normal?

YES >> GO TO 18.

NO >> Repair or replace error-detected parts and GO TO 21.

18.CHECK STROKE SENSOR INSTALLATION

Check the stroke sensor for looseness and disconnection.

Is the inspection result normal?

YES >> GO TO 19.

NO >> Repair or replace error-detected parts and GO TO 21.

19.CHECK BRAKE PEDAL HEIGHT

Check each brake pedal height. Refer to BR-490, "Inspection and Adjustment".

Is the inspection result normal?

YES >> GO TO 20.

NO >> Adjust each height. Refer to <u>BR-490, "Inspection and Adjustment"</u>. GO TO 21.

20.STROKE SENOR 0 POINT LEARNING (2)

Perform stroke sensor 0 point learning. Refer to BR-53, "Work Procedure".

>> GO TO 21.

21.PERFORM SELF-DIAGNOSIS (8)

With CONSULT

- 1. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:
 - Never set the vehicle to READY.
- Repeat step 1 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 3. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

5. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 6. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 7. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

9. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 11. Release brake pedal.
- 12. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A65" detected?

YES >> GO TO 22.

NO >> INSPECTION END

22.CHECK STROKE SENSOR CIRCUIT (1)

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 - CAUTION:

< DTC/CIRCUIT DIAGNOSIS >

Never operate the vehicle while waiting.

- Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Bat-<u>tery"</u>.
- 4. Disconnect the stroke sensor harness connector.
- 5. Disconnect the electrically-driven intelligent brake unit harness connector.
- 6. Check the continuity between stroke sensor harness connector and electrically-driven intelligent brake unit.

Stroke s	Stroke sensor Electrically-driven intelligent brake unit		ntelligent brake unit	Continuity
Connector	Terminal	Connector	Terminal	Continuity
	3		18	Existed
-	3	-	33	Not existed
	3	-	19	Not existed
-	3		35	Not existed
-	2	-	18	Not existed
-	2		33	Existed
-	2	E34	19	Not existed
F26	2		35	Not existed
E36	1		18	Not existed
-	1		33	Not existed
-	1		19	Existed
	1		35	Not existed
	4	-	18	Not existed
-	4		33	Not existed
	4		19	Not existed
	4		35	Existed
inspection result >> GO TO 23				

23. CHECK STROKE SENSOR POWER SUPPLY

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

4. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

5. Check the stroke sensor power voltage.

Stroke sensor Connector Terminal			Voltage (Approx.)	
E36	3	Ground	4.75 – 5.25 V	

Is the inspection result normal?

YES >> GO TO 24.

NO >> Repair or replace error-detected parts and GO TO 24.

24. CHECK STROKE SENSOR CIRCUIT (2)

1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.

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< DTC/CIRCUIT DIAGNOSIS >

 Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Batterv".
- 4. Disconnect stroke sensor harness connector.
- 5. Disconnect the electrically-driven intelligent brake unit harness connector.
- 6. Check the continuity between stroke sensor and ground.

Strol	ke sensor		- Continuity	
Connector Terminal			Continuity	
E36	4	Ground	Not existed	

Is the inspection result normal?

YES >> GO TO 25.

NO >> Repair or replace error-detected parts and GO TO 25.

25. CHECK STROKE SENSOR RESISTANCE

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery".
- 4. Connect stroke sensor harness connector.
- 5. Disconnect the electrically-driven intelligent brake unit harness connector.
- 6. Check the resistance between stroke sensor connector pin terminals.

Electrically-driven intelligent brake unit		Condition	Resistance	
Connector	Connector Terminal			
E34	33 – 19	Gradually depress the brake pedal.	Resistance value increases between 0.1 – 1.33 k Ω , according to the depth of brake depression.	
E34	35 – 19		Resistance value decreases between $0.1 - 1.33 \text{ k}\Omega$, according to the depth of brake depression.	

Is the inspection result normal?

YES >> GO TO 28.

NO >> GO TO 26.

26.REPLACE STROKE SENSOR

Replace the stroke sensor. Refer to BR-500, "Removal and Installation".

>> GO TO 27.

27.STROKE SENOR 0 POINT LEARNING (3)

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Perform stroke sensor 0 point learning. Refer to BR-53, "Work Procedure".

>> GO TO 28.

28.PERFORM SELF-DIAGNOSIS (9)

() With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

BR-100

< DTC/CIRCUIT DIAGNOSIS >	
 Never set the vehicle to READY. 4. Repeat step 3 two or more times. 	А
 CAUTION: Be sure to wait for 5 seconds or more after turning the power switch OFF. 5. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. 6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION: 	В
 Never operate the vehicle while waiting. 7. Turn the power switch ON without depressing the brake pedal. CAUTION: 	С
 Never set the vehicle to READY. 8. Start CONSULT and erase self-diagnosis result of "BRAKE". 9. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. 	D
 10. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION: 	Е
Never operate the vehicle while waiting. 11. Turn the power switch ON without depressing the brake pedal. CAUTION:	BR
 Never set the vehicle to READY. 12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more. 13. Release brake pedal. 14. Start CONSULT and perform "BRAKE" self-diagnosis. 	G
Is DTC "C1A65" detected? YES >> GO TO 22. NO >> INSPECTION END	Н
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< DTC/CIRCUIT DIAGNOSIS >

C1A67 STOP LAMP SWITCH

DTC Logic

INFOID:000000010634188

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1A67	STOP LAMP SWITCH	Stop lamp switch signal is not input when brake pedal operates.	 Harness or connector Stop lamp switch Electrically-driven intelligent brake unit

DTC REPRODUCTION PROCEDURE

1.PRECONDITIONING

If "DTC CONFIRMATION PROCEDURE" has been previously conducted, always turn power switch OFF and wait at least 10 seconds before conducting the next test.

>> GO TO 2.

2. CHECK DTC DETECTION

(B) With CONSULT

1. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

 Repeat step 1 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 3. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

5. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 6. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 7. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

CAUTION:

Never operate the vehicle while waiting.
9. Turn the power switch ON without depressing the brake pedal.
CAUTION:

Never set the vehicle to READY.

- 10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 11. Release brake pedal.
- 12. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A67" detected?

- YES >> Proceed to <u>BR-102, "Diagnosis Procedure"</u>.
- NO >> INSPECTION END

Diagnosis Procedure

1.CHECK STOP LAMP FOR ILLUMINATION (1)

Depress the brake pedal to a depth of 100 mm (3.94 in) or more and maintain the brake depression for 5 seconds or more to check that the stop lamp turns ON.

Is the inspection result normal?

INFOID:000000010634189

< DTC/CIRCUIT DIAGNOSIS >

- YES >> GO TO 2.
- NO >> Repair or replace error-detected parts and GO TO 4.

2.CHECK STOP LAMP SWITCH CIRCUIT (1)

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery".
- 4. Disconnect the electrically-driven intelligent brake unit harness connector.
- 5. Connect 12V battery cable to negative terminal.
- 6. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-drive	n intelligent brake unit		Test condition	Voltage
Connector	Terminal	—	Test condition	(Approx.)
E34	24	Ground	Brake pedal is depressed.	10 – 16 V
204	27	Ground	Brake pedal is not depressed.	0 V

7. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

8. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-drive	n intelligent brake unit		Test condition	Voltage
Connector	Terminal	_		(Approx.)
E34	24	Ground	Brake pedal is depressed.	10 – 16 V
E34	24		Brake pedal is not depressed.	0 V

Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 4.

3.CHECK STOP LAMP SWITCH CIRCUIT (2)

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery".
- 4. Disconnect stop lamp switch harness connector.
- 5. Check the continuity between electrically-driven intelligent brake unit and stop lamp switch harness connector.

Electrically-driven in	ntelligent brake unit	Stop lan	וף switch	Continuity
Connector	Terminal	Connector	Terminal	Continuity
E34	24	E102	2	Existed

Is the inspection result normal?

NO >> Repair or replace error-detected parts and GO TO 4.

4.CHECK 12V BATTERY

1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.

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YES >> Perform trouble diagnosis for 12V battery power supply. Refer to <u>PG-18</u>, "Wiring <u>Diagram — Battery Power Supply —</u>".

< DTC/CIRCUIT DIAGNOSIS >

 Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- 3. Check the 12V battery terminal connections. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery" and <u>PG-76</u>, "Work Flow".
- 4. Check the 12V battery. Refer to <u>PG-76, "Work Flow"</u>.
- Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace error-detected parts and GO TO 5.

5. PERFORM SELF-DIAGNOSIS (1)

With CONSULT

- T. Connect 12V battery cable to negative terminal.
- 2. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:
 - Never set the vehicle to READY.
- Repeat step 2 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 4. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 5. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION:

Never operate the vehicle while waiting.

6. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 7. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 8. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

10. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 11. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 12. Release brake pedal.
- 13. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A67" detected?

YES >> GO TO 6.

NO >> INSPECTION END

6.CHECK CONNECTOR TERMINALS

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6. "Precaution for Removing 12V Bat-</u> tery".
- 4. Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.
- 5. Check that there is no malfunction in pin terminals and connection of stop lamp switch harness connector.

Is the inspection result normal?

YES >> GO TO 8.

NO >> Repair or replace error-detected parts and GO TO 7.

/.PERFORM SELF-DIAGNOSIS (2)

< D	TC/CIRCUIT DI	-						
	Vith CONSULT				—			
1.		ctrically-driven intellige	ent brake unit harnes	ss connector.	А			
2.	Connect stop lamp switch harness connector.							
3.	, ,							
4.								
	CAUTION:	vehicle to READY.						
5.		wo or more times.						
•	CAUTION:				С			
		t for 5 seconds or mo						
				ect CONSULT from data link connector.				
7.				lamp is OFF, get out of the vehicle, and wait	t for D			
	CAUTION:	ore with all doors close	u.					
		the vehicle while wai	tina.					
8.		switch ON without dep		edal.	E			
	CAUTION:							
~		vehicle to READY.		- "				
		and erase self-diagno			BR			
				lamp is OFF, get out of the vehicle, and wait	t for			
	3 minutes or mo	ore with all doors close	d.					
	CAUTION:				G			
		the vehicle while wai						
12.		switch ON without dep	ressing the brake pe	edal.				
	CAUTION: H							
13	Never set the vehicle to READY. 13. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.							
	14. Release brake pedal.							
	15. Start CONSULT and perform "BRAKE" self-diagnosis.							
ls [DTC "C1A67" det	ected?						
YI	ES >> GO TO	8.			J			
N	O >> INSPEC	CTION END			J			
8.	CHECK POWER	SWITCH ON POWER	SUPPLY					
1.	Connect stop la	mp switch harness cor	nector.		K			
2.		attery cable to negative						
3.	Turn the power	switch OFF to exit CO	NSULT, and disconn	ect CONSULT from data link connector.				
4.				lamp is OFF, get out of the vehicle, and wait	t for 👔			
		ore with all doors close	d.					
	CAUTION: Never operate	the vehicle while wai	tina					
5.				er to BR-6. "Precaution for Removing 12V B	Bat- M			
	Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6, "Precaution for Removing 12V Bat-</u> <u>M</u> tery".							
6.		electrically-driven intell		ness connector.				
7.	Connect 12V battery cable to negative terminal. N Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.							
8.	Uneck the volta		any-unven inteiliger	it brake unit namess connector and ground.				
	Electrically-driver	n intelligent brake unit		Voltage	0			
	Connector	Terminal	—	(Approx.)	0			
	E34	26	Ground	0 V				
9.	Turn the power	switch ON without dep	ressing the brake pe	edal	Р			
0.	CAUTION:							
		vehicle to READY.						

Never set the vehicle to READY.

10. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

< DTC/CIRCUIT DIAGNOSIS >

Electrically-driven in	telligent brake unit		Voltage	
Connector	Terminal		(Approx.)	
E34	26	Ground	10 – 16 V	

Is the inspection result normal?

YES >> GO TO 11.

NO >> GO TO 9.

9. CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 - CAUTION:

Never operate the vehicle while waiting.

- Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6. "Precaution for Removing 12V Bat-tery"</u>.
- 4. Check the 15A fuse (#62).
- 5. Disconnect IPDM E/R harness connector.
- 6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

Electrically-driven intelligent brake unit		IPDI	Continuity	
Connector	Terminal	Connector	Terminal	Continuity
E34	26	E15	62	Existed

7. Check the continuity between electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven ir	ntelligent brake unit		Continuity
Connector	Terminal		
E34	26	Ground	Not existed

Is the inspection result normal?

- YES >> Perform trouble diagnosis for power ON power supply. Refer to <u>PG-29</u>, "Wiring Diagram—On <u>Power Supply</u>—".
- NO >> Repair or replace error-detected parts and GO TO 10.

10.PERFORM SELF-DIAGNOSIS (3)

With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect IPDM E/R harness connector.
- 3. Connect stop lamp switch harness connector.
- 4. Connect 12V battery cable to negative terminal.
- 5. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

 Repeat step 5 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 7. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 8. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

9. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 10. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 11. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.

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< DTC/CIRCUIT DIAGNOSIS >

· D						
12.	 Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION: 					
13.	Never operate the vehicle while waiting. 3. Turn the power switch ON without depressing the brake pedal. CAUTION:					
			l in) or more, and h	old the position for 5 seconds or more.		
		and perform "BRAKE	" self-diagnosis.			
-	<u>)TC "C1A67" det</u>					
YE	ES >> GO TO	11. CTION END				
		ATTERY POWER SUP	PLY			
1. 2.	Turn the power	switch OFF to exit CO	NSULT, and discor	nect CONSULT from data link connector. n lamp is OFF, get out of the vehicle, and wait for		
	3 minutes or mo	bre with all doors close	d.			
3.	Disconnect 12V			fer to <u>BR-6, "Precaution for Removing 12V Bat-</u>		
4.	tery". Disconnect the	electrically-driven intell	ligent brake unit ha	rness connector		
. 5.	Connect 12V ba	attery cable to negative	e terminal.			
6.	Check the volta	ge between the electric	cally-driven intellige	ent brake unit harness connector terminals.		
	Electrically-driver	n intelligent brake unit		_		
	Connector	Terminal	Voltage (Approx.)			
		1 – 32		_		
	E34	2 – 32	10 – 16 V			
		28 - 32				
7.		switch ON without dep	pressing the brake	pedal.		
8.		vehicle to READY. ge between the electric	cally-driven intellige	ent brake unit harness connector terminals.		
	Electrically-driver	n intelligent brake unit	Voltage	_		
	Connector	Terminal	(Approx.)			
		1 – 32		_		
	E34	2 – 32	10 – 16 V			
		28 – 32				
ls tł	ne inspection res	sult normal?		_		
	ES >> GO TO					
N(1 2						
		ATTERY POWER SUP				
1. 2.	Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION:					
3.	Disconnect 12V tery".			fer to <u>BR-6, "Precaution for Removing 12V Bat-</u>		
4. 5.	Check the conti	fusible link (#F). nuity and for short circ t and 60A fusible link (/		s connector terminal 1 of electrically-driven intel-		

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< DTC/CIRCUIT DIAGNOSIS >

- 6. Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).
- 7. Check the 15A fuse (#75).
- 8. Check the continuity and for short circuit between harness connector terminal 28 of electrically-driven intelligent brake unit and 15A fuse (#75).

Is the inspection result normal?

- YES >> Perform trouble diagnosis for 12V battery power supply. Refer to <u>PG-18</u>, "Wiring Diagram Battery Power Supply —".
- NO >> Repair or replace error-detected parts and GO TO 13.

13.PERFORM SELF-DIAGNOSIS (4)

() With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

4. Repeat step 3 two or more times.

CAUTION:

- Be sure to wait for 5 seconds or more after turning the power switch OFF.
- 5. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

7. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 8. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 9. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

Turn the power switch ON without depressing the brake pedal.
 CAUTION:

Never set the vehicle to READY.

- 12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 13. Release brake pedal.
- 14. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A67" detected?

YES >> GO TO 14.

NO >> INSPECTION END

14.CHECK GROUND CIRCUIT

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6. "Precaution for Removing 12V Bat-</u> tery".
- 4. Disconnect the electrically-driven intelligent brake unit harness connector.
- 5. Check the continuity between electrically-driven intelligent brake unit and ground.

Electrically-driver	n intelligent brake unit		Continuity
Connector	Terminal		
E34	32	Ground	Existed

< DTC/CIRCUIT DIAGNOSIS >	
Is the inspection result normal?	
YES >> GO TO 17.	А
NO >> Repair or replace error-detected parts and GO TO 15.	
15. PERFORM SELF-DIAGNOSIS (5)	В
 With CONSULT Connect the electrically-driven intelligent brake unit harness connector. 	
2. Connect 12V battery cable to negative terminal.	С
 Turn the power switch OFF to ON without depressing the brake pedal. CAUTION: 	0
Never set the vehicle to READY.	
4. Repeat step 3 two or more times. CAUTION:	D
Be sure to wait for 5 seconds or more after turning the power switch OFF.	
 Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 	Е
3 minutes or more with all doors closed.	_
CAUTION: Never operate the vehicle while waiting.	BR
7. Turn the power switch ON without depressing the brake pedal.	
CAUTION: Never set the vehicle to READY.	0
8. Start CONSULT and erase self-diagnosis result of "BRAKE".	G
 Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 	
3 minutes or more with all doors closed.	Н
CAUTION: Never operate the vehicle while waiting.	
 Turn the power switch ON without depressing the brake pedal. CAUTION: 	
Never set the vehicle to READY.	
 Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more. Release brake pedal. 	J
14. Start CONSULT and perform "BRAKE" self-diagnosis.	-
Is DTC "C1A67" detected?	1Z
YES >> GO TO 16. NO >> INSPECTION END	K
16. CHECK DATA MONITOR	
(P)With CONSULT	L
1. Turn the power switch OFF to ON without depressing the brake pedal.	
CAUTION: Never set the vehicle to READY.	M
2. Repeat step 1 two or more times.	
CAUTION: Be sure to wait for 5 seconds or more after turning the power switch OFF.	Ν
3. Start CONSULT and select "BRAKE" and "DATA MONITOR" according this order.	IN
4. Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER". Refer to <u>BR-33</u> , " <u>Reference</u> <u>Value</u> ".	
Is the inspection result normal?	0
YES >> GO TO 17.	
NO >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-510, "Removal and installation"</u> .	Ρ
17.PERFORM SELF-DIAGNOSIS (6)	
 With CONSULT Turn the power switch OFF to ON without depressing the brake pedal. 	
CAUTION:	
Never set the vehicle to READY.2. Repeat step 1 two or more times.	

CAUTION: Revision: June 2014

< DTC/CIRCUIT DIAGNOSIS >

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 3. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 4. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION: Never operate the vehicle while waiting.

5. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 6. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 7. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 8. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 - CAUTION:

Never operate the vehicle while waiting.

9. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 11. Release brake pedal.
- 12. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A67" detected?

YES >> GO TO 18.

NO >> INSPECTION END

18.VISUALLY CHECK STOP LAMP SWITCH

Check the stop lamp switch for damage.

Is the inspection result normal?

YES >> GO TO 19.

NO >> Repair or replace error-detected parts and GO TO 28.

19. CHECK STOP LAMP SWITCH INSTALLATION

Check the stop lamp switch for looseness and disconnection.

Is the inspection result normal?

YES >> GO TO 20.

NO >> Correct stop lamp switch installation or replace stop lamp switch. GO TO 28.

20. CHECK BRAKE PEDAL HEIGHT

Check the each brake pedal height. Refer to <u>BR-490. "Inspection and Adjustment"</u>.

Is the inspection result normal?

YES >> GO TO 21.

NO >> Adjust each brake pedal height. Refer to <u>BR-490, "Inspection and Adjustment"</u>. GO TO 28.

21.STROKE SENOR 0 POINT LEARNING

Perform stroke sensor 0 point learning. Refer to <u>BR-53, "Work Procedure"</u>.

>> GO TO 22.

22.CHECK STOP LAMP FOR ILLUMINATION (2)

Depress the brake pedal to a depth of 100 mm (3.94 in) or more and maintain the brake depression for 5 seconds or more to check that the stop lamp turns ON.

Is the inspection result normal?

YES >> Repair or replace error-detected parts and GO TO 28.

NO >> GO TO 23.

23. CHECK STOP LAMP SWITCH CLEARANCE

1. Turn the power switch OFF to exit CONSULT.

Check the stop lamp clearance. Refer to <u>BR-490, "Inspection and Adjustment"</u>.

< DTC/CIRCUIT DIAGNOSIS >

Is the inspection result normal? YES >> GO TO 24. NO >> Adjust stop lamp switch clearance. Refer to <u>BR-490, "Inspection and Adjustment"</u>. GO TO 28. 24. CHECK STOP LAMP SWITCH CIRCUIT (3) 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 2. 3 minutes or more with all doors closed. **CAUTION:** Never operate the vehicle while waiting. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery". 4 Disconnect the electrically-driven intelligent brake unit harness connector. 5. Connect 12V battery cable to negative terminal. 6 Check the voltage between the electrically-driven intelligent brake unit harness connector and ground. Electrically-driven intelligent brake unit Test condition

Voltage (Approx.) Connector Terminal 10 - 16 V Brake pedal is depressed. E34 24 Ground Brake pedal is not depressed. 0 V

Turn the power switch ON without depressing the brake pedal. 7. CAUTION:

Never set the vehicle to READY.

Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit			Test condition	Voltage
Connector	Terminal			(Approx.)
E34	24	24 Ground	Brake pedal is depressed.	10 – 16 V
E34	24		Brake pedal is not depressed.	0 V

Is the inspection result normal?

YES >> GO TO 26.

NO >> GO TO 25.

25. CHECK STOP LAMP SWITCH CIRCUIT (4)

- Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. 1.
- 2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to BR-6, "Precaution for Removing 12V Battery".
- 4. Disconnect stop lamp switch harness connector.
- Ν 5. Check the continuity between electrically-driven intelligent brake unit and stop lamp switch harness connector.

Electrically-driven intelligent brake unit		Stop lamp switch		Continuity	C
Connector	Terminal	Connector	Terminal	Continuity	
E34	24	E102	2	Existed	Р

Is the inspection result normal?

NO >> Repair or replace error-detected parts and GO TO 26.

26.CHECK STOP LAMP SWITCH

Check the stop lamp switch. Refer to BR-112, "Component Inspection".

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YES >> Perform trouble diagnosis for 12V battery power supply. Refer to PG-18, "Wiring Diagram — Battery Power Supply —".

< DTC/CIRCUIT DIAGNOSIS >

Is the inspection result normal?

- YES >> GO TO 27.
- NO >> Replace the stop lamp switch. Refer to <u>BR-500, "Removal and Installation"</u>. GO TO 28.

27.CHECK STOP LAMP FOR ILLUMINATION (3)

- 1. Connect stop lamp switch harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Depress the brake pedal to a depth of 100 mm (3.94 in) or more and maintain the brake depression for 5 seconds or more to check that the stop lamp turns ON.

Is the inspection result normal?

- YES >> GO TO 28.
- NO >> Repair or replace error-detected parts and GO TO 28.

28.PERFORM SELF-DIAGNOSIS (7)

With CONSULT

- Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:
 - Never set the vehicle to READY.
- Repeat step 1 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 3. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 4. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

5. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 6. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 7. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

9. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 11. Release brake pedal.
- 12. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A67" detected?

YES >> GO TO 24.

NO >> INSPECTION END

Component Inspection

INFOID:000000010634190

1.CHECK STOP LAMP SWITCH

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect stop lamp switch harness connector.
- 4. Check the continuity when stop lamp switch is operated.

< DTC/CIRCUIT DIAGNOSIS >

Stop I	amp switch	Test condition Continuity	
Te	erminal	Test condition	Continuity
	1 0	When stop lamp switch is released (when brake pedal is depressed)	Existed
1 – 2		When stop lamp switch is pressed (when brake pedal is released)	Not existed
Is the inspe	ection result no	rmal?	
-	> INSPECTION > Replace the s	I END stop lamp switch. Refer to <u>BR-500. "I</u>	Removal and Installa

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< DTC/CIRCUIT DIAGNOSIS >

C1A69 MOTOR

DTC Logic

INFOID:000000010634191

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1A69	MOTOR	The occurrence of abnormality in motor current (Q- axis current) of the electrically-driven intelligent brake unit.	Electrically-driven intelligent brake unit

DTC REPRODUCTION PROCEDURE

1.PRECONDITIONING

If "DTC CONFIRMATION PROCEDURE" has been previously conducted, always turn power switch OFF and wait at least 10 seconds before conducting the next test.

>> GO TO 2.

2.check dtc detection

(P)With CONSULT

Turn the power switch OFF to ON without depressing the brake pedal. 1. CAUTION:

Never set the vehicle to READY.

2. Repeat step 1 two or more times. **CAUTION:**

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 3. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 4. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. **CAUTION:**

Never operate the vehicle while waiting.

5. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- Start CONSULT and erase self-diagnosis result of "BRAKE".
- 7. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 8. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. **CAUTION:**

Never operate the vehicle while waiting.

9. Turn the power switch ON without depressing the brake pedal. **CAUTION:**

Never set the vehicle to READY.

- 10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 11. Release brake pedal.
- Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A69" detected?

- YES >> Proceed to <u>BR-114</u>, "Diagnosis Procedure".
- >> INSPECTION END NO

Diagnosis Procedure

1.CHECK 12V BATTERY

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. **CAUTION:**

Never operate the vehicle while waiting.

INFOID:000000010634192

< D	TC/CIRCUIT DIAGNOSIS >	
3.	Check the 12V battery terminal connections. Refer to <u>BR-6</u> , "Precaution for Removing 12V Battery" and <u>PG-76</u> , "Work Flow".	А
4.	, , , , , , , , , , , , , , , , , , ,	
	he inspection result normal?	
YE N(ES >> GO TO 2. O >> Repair or replace error-detected part and GO TO 2.	В
	PERFORM SELF-DIAGNOSIS (1)	С
\sim	With CONSULT	0
1. 2.	Connect 12V battery cable to negative terminal. Turn the power switch OFF to ON without depressing the brake pedal.	
	CAUTION:	D
2	Never set the vehicle to READY.	
3.	Repeat step 2 two or more times. CAUTION:	E
	Be sure to wait for 5 seconds or more after turning the power switch OFF.	
	Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.	
5.	Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.	BR
	CAUTION:	
_	Never operate the vehicle while waiting.	
6.	Turn the power switch ON without depressing the brake pedal.	G
	Never set the vehicle to READY.	
7.	Start CONSULT and erase self-diagnosis result of "BRAKE".	Н
8. 9.	Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for	
9.	3 minutes or more with all doors closed.	
	CAUTION:	
10	Never operate the vehicle while waiting.	
10.	Turn the power switch ON without depressing the brake pedal.	
	Never set the vehicle to READY.	J
	Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.	
	Release brake pedal. Start CONSULT and perform "BRAKE" self-diagnosis.	K
	DTC "C1A69" detected?	
	ES >> GO TO 3.	
N		L
3.	CHECK CONNECTOR TERMINALS	
1.	Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.	Μ
2.	Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for	1 V I
	3 minutes or more with all doors closed. CAUTION:	
	Never operate the vehicle while waiting.	Ν
3.	Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u> , "Precaution for Removing 12V Bat-	
4.	tery". Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin	
4.	terminals and connections.	0
<u>ls</u> t	he inspection result normal?	
	ES >> GO TO 5.	Р
N		
4.	PERFORM SELF-DIAGNOSIS (2)	
	With CONSULT	
1.	Connect the electrically-driven intelligent brake unit harness connector.	

- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal.

< DTC/CIRCUIT DIAGNOSIS >

CAUTION:

Never set the vehicle to READY.

- 4. Repeat step 3 two or more times.
 - CAUTION: Be sure to wait for 5 seconds or more after turning the power switch OFF.
- 5. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

7. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 8. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 9. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

11. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 13. Release brake pedal.
- 14. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A69" detected?

YES >> GO TO 5.

NO >> INSPECTION END

5. CHECK POWER SWITCH ON POWER SUPPLY

- 1. Connect 12V battery cable to negative terminal.
- 2. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 3. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

- 4. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6, "Precaution for Removing 12V Bat-</u> <u>tery"</u>.
- 5. Disconnect the electrically-driven intelligent brake unit harness connector.
- 6. Connect 12V battery cable to negative terminal.
- 7. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit			Voltage
Connector	Terminal		(Approx.)
E34	26	Ground	0 V

8. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

9. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit			Voltage
Connector	Terminal		(Approx.)
E34	26	Ground	10 – 16 V

Is the inspection result normal?

YES >> GO TO 8. NO >> GO TO 6.

< DTC/CIRCUIT DIAGNOSIS >

6.CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6. "Precaution for Removing 12V Bat-</u> tery".
- 4. Check the 15A fuse (#62).
- 5. Disconnect IPDM E/R harness connector.
- 6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

Electrically-driven intelligent brake unit		IPDM E/R		Continuity
Connector	Terminal	Connector	Terminal	Continuity
E34	26	E15	62	Existed

7. Check the continuity between electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit			Continuity
Connector	Terminal		Continuity
E34	26	Ground	Not existed

Is the inspection result normal?

- YES >> Perform trouble diagnosis for power ON power supply. Refer to <u>PG-29</u>, "Wiring Diagram—On ^H <u>Power Supply—</u>".
- NO >> Repair or replace error-detected part and GO TO 7.

7.PERFORM SELF-DIAGNOSIS (3)

With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect IPDM E/R harness connector.
- 3. Connect 12V battery cable to negative terminal.
- 4. Turn the power switch OFF to ON without depressing the brake pedal.

CAUTION: Never set the vehicle to READY.

Repeat step 4 two or more times.
 CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 6. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

Turn the power switch ON without depressing the brake pedal.
 CAUTION:

Never set the vehicle to READY.

- 9. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 10. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 11. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION:

Never operate the vehicle while waiting.

12. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 13. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 14. Release brake pedal.
- 15. Start CONSULT and perform "BRAKE" self-diagnosis.

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< DTC/CIRCUIT DIAGNOSIS >

Is DTC "C1A69" detected?

YES >> GO TO 8.

NO >> INSPECTION END

8. CHECK 12V BATTERY POWER SUPPLY

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery".
- 4. Disconnect the electrically-driven intelligent brake unit harness connector.
- 5. Connect 12V battery cable to negative terminal.
- 6. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

Electrically-drive	Voltage (Approx.)	
Connector	Connector Terminal	
	1 – 32	
E34	2 – 32	10 – 16 V
	28 – 32	

7. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

8. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

Electrically-drive	Voltage	
Connector Terminal		(Approx.)
	1 – 32	
E34	2 – 32	10 – 16 V
	28 - 32	

Is the inspection result normal?

YES >> GO TO 11.

NO >> GO TO 9.

9.CHECK 12V BATTERY POWER SUPPLY CIRCUIT

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6. "Precaution for Removing 12V Bat-</u> <u>tery"</u>.
- 4. Check the 60A fusible link (#F).
- 5. Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).
- 6. Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).
- 7. Check the 15A fuse (#75).
- 8. Check the continuity and for short circuit between harness connector terminal 28 of electrically-driven intelligent brake unit and 15A fuse (#75).

Is the inspection result normal?

- YES >> Perform trouble diagnosis for 12V battery power supply. Refer to <u>PG-18</u>, "Wiring Diagram Battery Power Supply —".
- NO >> Repair or replace the error-detected parts and GO TO 10.

< DTC/CIRCUIT DIAGNOSIS >

10.PERFORM SELF-DIAGNOSIS (4)

	With CONSULT				
1.	Connect the ele	ectrically-driven intellige		s connector.	
		attery cable to negative			В
3.		switch OFF to ON with	nout depressing the b	rake pedal.	
	CAUTION:	vehicle to DEADV			
٨		vehicle to READY.			С
4.	CAUTION:	wo or more times.			0
		t for 5 seconds or mo	ore after turning the	power switch OFF	
5.				ect CONSULT from data link con	nector.
6.				amp is OFF, get out of the vehicl	
		ore with all doors close		1 2	,
	CAUTION:				_
		the vehicle while wai			E
7.		switch ON without dep	pressing the brake pe	dal.	
	CAUTION:				
0		vehicle to READY.		33	BR
		F and erase self-diagno		ect CONSULT from data link con	nastar
				amp is OFF, get out of the vehicl	
10.		ore with all doors close			G G
	CAUTION:		u.		
		the vehicle while wai	ting.		
11.		switch ON without dep		dal.	Н
	CAUTION:				
		vehicle to READY.			
			in) or more, and hol	d the position for 5 seconds or m	iore.
	Release brake				I
		F and perform "BRAKE"	self-diagnosis.		
ls I	<u> 0TC "C1A69" det</u>				J
	ES >> GO TO				J
N		CTION END			
11	.CHECK GROU	JND CIRCUIT			
			NCI II T and diagons	at CONCLUIT from data link can	K
1. 2.				ect CONSULT from data link con amp is OFF, get out of the vehicl	
۷.		ore with all doors close		amp is of i, get out of the vehicle	
	CAUTION:		u.		
		the vehicle while wai	tina.		
3.	Disconnect 12V	/ battery cable from ne	gative terminal. Refe	r to <u>BR-6, "Precaution for Remo</u>	ving 12V Bat-
	<u>tery"</u> .	,	0		M
4.		electrically-driven intel			
5.	Check the conti	inuity between electrica	ally-driven intelligent	brake unit and ground.	
					Ν
	Electrically-driver	n intelligent brake unit		.	
	Connector	Terminal		Continuity	
	E34	32	Ground	Existed	0
		54	Ground	ENOLOG	

Is the inspection result normal?

YES >> GO TO 13.

NO >> Repair or replace the error-detected parts and GO TO 12.

12. PERFORM SELF-DIAGNOSIS (5)

- With CONSULT
 Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- Turn the power switch OFF to ON without depressing the brake pedal. 3. **CAUTION:**

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< DTC/CIRCUIT DIAGNOSIS >

Never set the vehicle to READY.

4. Repeat step 3 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 5. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

7. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 8. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 9. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 10. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

11. Turn the power switch ON without depressing the brake pedal.

Never set the vehicle to READY.

- 12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 13. Release brake pedal.
- 14. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A69" detected?

YES >> GO TO 13.

NO >> INSPECTION END

13.CHECK DATA MONITOR (1)

() With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

4. Repeat step 3 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 5. Start CONSULT and select "BRAKE", "DATA MONITOR" according this order.
- Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER". Refer to <u>BR-33, "Reference</u> <u>Value"</u>.

Is the inspection result normal?

YES >> GO TO 14.

NO >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-510</u>, "Removal and installation".

14.PERFORM SELF-DIAGNOSIS (6)

(I) With CONSULT

1. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

Repeat step 1 two or more times.
 CAUTION:
 Be sure to wait for 5 seconds or

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 3. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 4. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

5. Turn the power switch ON without depressing the brake pedal. **CAUTION:**

< DTC/CIRCUIT DIAGNOSIS >

6. Start CONS	the vehicle to READY.
	SULT and erase self-diagnosis result of "BRAKE".
	ower switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
	pors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for
	or more with all doors closed.
CAUTION:	
	rate the vehicle while waiting.
	ower switch ON without depressing the brake pedal.
CAUTION:	
	the vehicle to READY.
	ake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
 Release br 	
12. Start CONS	SULT and perform "BRAKE" self-diagnosis.
s DTC "C1A69	" detected?
) TO 15.
	SPECTION END
-	
I J .CHECK D	ATA MONITOR (2)
With CONSL	
	ower switch OFF to ON without depressing the brake pedal.
CAUTION:	
	the vehicle to READY.
	p 1 two or more times.
	wait for 5 seconds or more after turning the power switch OFF.
	SULT and select "BRAKE", "DATA MONITOR" according this order.
	"MOTOR TEMPERATURE". Refer to <u>BR-33. "Reference Value"</u> .
MOTOR TEM	<u>PERATURE" is 125 °C (257 °F) or more?</u>
YES >> GC) TO 16.
NO >> Re	place the electrically-driven intelligent brake unit. Refer to BR-510, "Removal and installation".
	IOTOR ROOM
heck for any l	ocations of abnormal heating around the electrically-driven intelligent brake unit.
re there any h	leated locations?
	rform diagnosis of the heated locations, and wait for the temperature to fall. GO TO 17.
	place the electrically-driven intelligent brake unit. Refer to <u>BR-510, "Removal and installation"</u> .
7.PERFORI	M SELF-DIAGNOSIS (7)
With CONSU	
. Turn the po	ower switch OFF to ON without depressing the brake pedal.
. Turn the po CAUTION:	ower switch OFF to ON without depressing the brake pedal.
. Turn the po CAUTION: Never set	ower switch OFF to ON without depressing the brake pedal. the vehicle to READY.
. Turn the po CAUTION: Never set . Repeat ste	ower switch OFF to ON without depressing the brake pedal. the vehicle to READY. p 1 two or more times.
. Turn the po CAUTION: Never set	ower switch OFF to ON without depressing the brake pedal. the vehicle to READY. p 1 two or more times.
. Turn the po CAUTION: Never set . Repeat ste CAUTION: Be sure to	ower switch OFF to ON without depressing the brake pedal. the vehicle to READY. p 1 two or more times. wait for 5 seconds or more after turning the power switch OFF.
. Turn the po CAUTION: Never set Repeat ste CAUTION: Be sure to Turn the po	ower switch OFF to ON without depressing the brake pedal. the vehicle to READY. p 1 two or more times. wait for 5 seconds or more after turning the power switch OFF. ower switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
. Turn the po CAUTION: Never set Repeat ste CAUTION: Be sure to Turn the po	ower switch OFF to ON without depressing the brake pedal. the vehicle to READY. p 1 two or more times. wait for 5 seconds or more after turning the power switch OFF.
Turn the po CAUTION: Never set Repeat ste CAUTION: Be sure to Turn the po Close all do	ower switch OFF to ON without depressing the brake pedal. the vehicle to READY. p 1 two or more times. wait for 5 seconds or more after turning the power switch OFF. ower switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
Turn the po CAUTION: Never set Repeat ste CAUTION: Be sure to Turn the po Close all do	ower switch OFF to ON without depressing the brake pedal. the vehicle to READY. p 1 two or more times. wait for 5 seconds or more after turning the power switch OFF. ower switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. pors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for or more with all doors closed.
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Turn the por CAUTION: Never set Repeat ste CAUTION: Be sure to Turn the por Close all do 3 minutes of CAUTION: Never ope Turn the por	wer switch OFF to ON without depressing the brake pedal. the vehicle to READY. p 1 two or more times. wait for 5 seconds or more after turning the power switch OFF. ower switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. bors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for or more with all doors closed. rate the vehicle while waiting. ower switch ON without depressing the brake pedal.
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 Turn the port of CAUTION: Never set Repeat ste CAUTION: Be sure to Turn the port of CAUTION: Never ope Turn the port of CAUTION: Never ope Turn the port of CAUTION: Never set 	 wer switch OFF to ON without depressing the brake pedal. the vehicle to READY. p 1 two or more times. wait for 5 seconds or more after turning the power switch OFF. ower switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. bors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for br more with all doors closed. rate the vehicle while waiting. ower switch ON without depressing the brake pedal. the vehicle to READY.
Turn the por CAUTION: Never set Repeat ste CAUTION: Be sure to Turn the por Close all do 3 minutes of CAUTION: Never ope Turn the por CAUTION: Never set Start CONS	 wer switch OFF to ON without depressing the brake pedal. the vehicle to READY. p 1 two or more times. wait for 5 seconds or more after turning the power switch OFF. ower switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. bors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for br more with all doors closed. rate the vehicle while waiting. ower switch ON without depressing the brake pedal. the vehicle to READY. SULT and erase self-diagnosis result of "BRAKE".
Turn the por CAUTION: Never set Repeat ste CAUTION: Be sure to Turn the por Close all do 3 minutes of CAUTION: Never ope Turn the por CAUTION: Never set Start CONS Turn the por	wer switch OFF to ON without depressing the brake pedal. the vehicle to READY. p 1 two or more times. wait for 5 seconds or more after turning the power switch OFF. over switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. bors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for or more with all doors closed. rate the vehicle while waiting. over switch ON without depressing the brake pedal. the vehicle to READY. SULT and erase self-diagnosis result of "BRAKE". over switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
Turn the por CAUTION: Never set Never set CAUTION: Be sure to Turn the por Close all do 3 minutes of CAUTION: Never ope Turn the por CAUTION: Never ope Turn the por CAUTION: Never set Start CONS Turn the por Close all do Start CONS Turn the por	wer switch OFF to ON without depressing the brake pedal. the vehicle to READY. p 1 two or more times. wait for 5 seconds or more after turning the power switch OFF. over switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. oors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for or more with all doors closed. rate the vehicle while waiting. over switch ON without depressing the brake pedal. the vehicle to READY. SULT and erase self-diagnosis result of "BRAKE". over switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. SULT and erase self-diagnosis result of "BRAKE". over switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
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 Turn the possibility of the second se	 wer switch OFF to ON without depressing the brake pedal. the vehicle to READY. p 1 two or more times. wait for 5 seconds or more after turning the power switch OFF. over switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. bors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for or more with all doors closed. rate the vehicle while waiting. over switch ON without depressing the brake pedal. the vehicle to READY. SULT and erase self-diagnosis result of "BRAKE". over switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. oors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for or more with all doors closed.

Never operate the vehicle while waiting.

< DTC/CIRCUIT DIAGNOSIS >

9. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 11. Release brake pedal.
- 12. Start CONSULT and perform "BRAKE" self-diagnosis.
- Is DTC "C1A69" detected?
- YES >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-510, "Removal and installation"</u>.
- NO >> INSPECTION END

< DTC/CIRCUIT DIAGNOSIS >

C1A6B BRAKE POWER SUPPLY BACKUP UNIT

DTC Logic

INFOID:0000000010634193

DTC DETECTION LOGIC В DTC Malfunction detection condition Display item Possible causes · Harness or connector · Reception/transmission of an unspecified signal for Fuse 2 consecutive seconds or more via brake power • Brake power supply backup POWER SUPPLY BACKUP C1A6B supply backup communication line. UNIT unit Occurrence of a open in the wake up signal circuit D · Electrically-driven intelligent of brake power supply backup unit. brake unit DTC REPRODUCTION PROCEDURE Е 1.PRECONDITIONING If "DTC CONFIRMATION PROCEDURE" has been previously conducted, always turn power switch OFF and BR wait at least 10 seconds before conducting the next test. >> GO TO 2. 2 . CHECK DTC DETECTION (P)With CONSULT Turn the power switch OFF to ON without depressing the brake pedal. Н CAUTION: Never set the vehicle to READY. Repeat step 1 two or more times. **CAUTION:** Be sure to wait for 5 seconds or more after turning the power switch OFF. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. 4. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION: Never operate the vehicle while waiting. Κ 5. Turn the power switch ON without depressing the brake pedal. **CAUTION:** Never set the vehicle to READY. Start CONSULT and erase self-diagnosis result of "BRAKE". 7. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. 8. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. М **CAUTION:** Never operate the vehicle while waiting. Turn the power switch ON without depressing the brake pedal. Ν **CAUTION:** Never set the vehicle to READY. 10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more. 11. Release brake pedal. 12. Start CONSULT and perform "BRAKE" self-diagnosis. Is DTC "C1A6B" detected? YES >> Proceed to BR-123, "Diagnosis Procedure". Ρ NO >> INSPECTION END Diagnosis Procedure INFOID:000000010634194 **1.**CHECK 12V BATTERY

1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.

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 Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- 3. Check the 12V battery terminal connections. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery" and <u>PG-76</u>, "Work Flow".
- 4. Check the 12V battery. Refer to <u>PG-76, "Work Flow"</u>.
- Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace error-detected parts and GO TO 2.

2. PERFORM SELF-DIAGNOSIS (1)

With CONSULT

- 1. Connect 12V battery cable to negative terminal.
- 2. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

3. Repeat step 2 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 4. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

6. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 7. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 8. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

10. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 11. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 12. Release brake pedal.
- 13. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A6B" detected?

YES >> GO TO 3.

NO >> INSPECTION END

3. CHECK CONNECTOR TERMINALS

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery".
- 4. Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.
- 5. Disconnect the brake power supply backup unit harness connector, then check for failures of pin terminals and connections.

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace error-detected parts and GO TO 4.

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1 .P	ERFORM SELF	-DIAGNOSIS (2)			
])W	ith CONSULT				
		ctrically-driven intellige			
		ake power supply back		ector.	
		attery cable to negative switch OFF to ON with		rako nodal	
	CAUTION:		iout depressing the b	are peual.	
		vehicle to READY.			
I		wo or more times.			
		t for 5 seconds or mo	ore after turning the	power switch OFF.	
-	Turn the power	switch OFF to exit CO	NSULT, and disconne	ect CONSULT from data link connector.	
(Close all doors	(including back door),	check that the room la	amp is OFF, get out of the vehicle, and wait	for
		ore with all doors close	d.		
	CAUTION:				
		the vehicle while wai			
		switch ON without dep	pressing the brake pe		
	CAUTION: Never set the y	vehicle to READY.			
		and erase self-diagno	sis result of "BRAKE	,	
				ect CONSULT from data link connector.	
				amp is OFF, get out of the vehicle, and wait	for
;	3 minutes or mo	ore with all doors close			
	CAUTION:				
		the vehicle while wai			
		switch ON without dep	pressing the brake pe	dal.	
	CAUTION:	vahiala ta BEADY			
		rehicle to READY.	Lin) or more and hole	the position for 5 seconds or more.	
	Release brake				
		and perform "BRAKE	" self-diagnosis.		
	TC "C1A6B" det	•			
	S >> GO TO				
0		5. CTION END			
		SWITCH ON POWER	RSUPPLY		
		ake power supply back		actor	
		attery cable to negative			
				ect CONSULT from data link connector.	
				amp is OFF, get out of the vehicle, and wait	for
	3 minutes or mo	ore with all doors close			
	CAUTION:				
		the vehicle while wai			
		battery cable from ne	gative terminal. Refe	r to <u>BR-6, "Precaution for Removing 12V E</u>	sat-
	<u>tery"</u> . Disconnect the	electrically-driven intel	ligent brake unit born	ess connector	
		attery cable to negative			
				brake unit harness connector and ground.	
			yyyyyyy		
	Electrically-driver	n intelligent brake unit		Voltage	
	Connector	Terminal		(Approx.)	
	E34	26	Ground	0 V	

9. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

10. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

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Electrically-driven in	telligent brake unit		Voltage
Connector	Terminal		(Approx.)
E34	26	Ground	10 – 16 V

Is the inspection result normal?

YES >> GO TO 8.

NO >> GO TO 6.

 ${f 6}.$ CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 - **CAUTION:**

Never operate the vehicle while waiting.

- Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery".
- 4. Check the 15A fuse (#62).
- 5. Disconnect IPDM E/R harness connector.
- 6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

Electrically-driven in	itelligent brake unit	IPDI	M E/R	Continuity
Connector	Terminal	Connector	Terminal	Continuity
E34	26	E15	62	Existed

7. Check the continuity between electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven ir	ntelligent brake unit		Continuity
Connector	Terminal		Continuity
E34	26	Ground	Not existed

Is the inspection result normal?

- YES >> Perform trouble diagnosis for power ON power supply. Refer to <u>PG-29</u>, "Wiring Diagram—On <u>Power Supply—</u>".
- NO >> Repair or replace error-detected parts and GO TO 7.

7. PERFORM SELF-DIAGNOSIS (3)

With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect IPDM E/R harness connector.
- 3. Connect 12V battery cable to negative terminal.
- 4. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

 Repeat step 4 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 6. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

8. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 9. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 10. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 11. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

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	CAUTION:				
		the vehicle while wai			А
12.	CAUTION:	switch ON without dep	pressing the brake	pedal.	
		vehicle to READY.			
			l in) or more, and h	hold the position for 5 seconds or more.	В
14.	Release brake	pedal.	" colf diagnosia		
	DTC "C1A6B" dei	and perform "BRAKE	sell-diagnosis.		С
	ES >> GO TO				0
N		CTION END			
8.	CHECK 12V BAT	ITERY POWER SUPP	ΥLY		D
1.				nnect CONSULT from data link connector.	
2.				n lamp is OFF, get out of the vehicle, and wait for	E
	3 minutes or mo	ore with all doors close			
	CAUTION:	the vehicle while wai	ting	1	
3.				efer to BR-6, "Precaution for Removing 12V Bat-	BR
	<u>tery"</u> .	-	-		
4. 5		electrically-driven intel		irness connector.	
5. 6.		attery cable to negative		ent brake unit harness connector terminals.	G
0.		ge between the electric	carry arrent internet		
	Electrically-driver	n intelligent brake unit	Voltage	-	Н
	Connector	Terminal	(Approx.)		
		1 – 32		—	
	E34	2 - 32	10 – 16 V		
		28 – 32	-		
7.	Turn the power	switch ON without dep	pressing the brake	 pedal.	
••	CAUTION:		g the brane		J
0		vehicle to READY.	aalluu duiveen intallia		
8.	Check the volta	ge between the electri	cally-onven intellige	ent brake unit harness connector terminals.	К
	Electrically-driver	n intelligent brake unit		_	
	Connector	Terminal	Voltage (Approx.)		
	Connector	1 – 32	(********	—	L
	E34	2 - 32	 10 – 16 V		
	E34		10 – 16 V		M
		28 – 32		_	IVI
	he inspection res				
YI N	ES >> GO TO 0 >> GO TO				Ν
-		U. ITERY POWER SUPP			
1. 2.				nnect CONSULT from data link connector. n lamp is OFF, get out of the vehicle, and wait for	0
۷.		ore with all doors close			
	CAUTION:				D

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6, "Precaution for Removing 12V Bat-</u> <u>tery"</u>.
- 4. Check the 60A fusible link (#F).
- 5. Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).
- 6. Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).

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- 7. Check the 15A fuse (#75).
- 8. Check the continuity and for short circuit between harness connector terminal 28 of electrically-driven intelligent brake unit and 15A fuse (#75).

Is the inspection result normal?

- YES >> Perform trouble diagnosis for 12V battery power supply. Refer to <u>PG-18</u>, "Wiring Diagram Battery Power Supply —".
- NO >> Repair or replace error-detected parts and GO TO 10.

10.PERFORM SELF-DIAGNOSIS (4)

(B) With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

4. Repeat step 3 two or more times.

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 5. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

7. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 8. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 9. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 10. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

11. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 13. Release brake pedal.
- 14. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A6B" detected?

YES >> GO TO 11.

NO >> INSPECTION END

11.CHECK GROUND CIRCUIT

1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.

- 2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
- CAUTION:

Never operate the vehicle while waiting.

- Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6, "Precaution for Removing 12V Bat-tery"</u>.
- 4. Disconnect the electrically-driven intelligent brake unit harness connector.
- 5. Check the continuity between electrically-driven intelligent brake unit and ground.

Electrically-driver	n intelligent brake unit		Continuity
Connector	Terminal		Continuity
E34	32	Ground	Existed

Is the inspection result normal?

YES >> GO TO 13.

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NO >> Repair or replace error-detected parts and GO TO 12.	
12.PERFORM SELF-DIAGNOSIS (5)	
 With CONSULT Connect the electrically-driven intelligent brake unit harness connector. Connect 12V battery cable to negative terminal. Turn the power switch OFF to ON without depressing the brake pedal. 	
CAUTION: Never set the vehicle to READY.	
4. Repeat step 3 two or more times. CAUTION:	
 Be sure to wait for 5 seconds or more after turning the power switch OFF. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 	
3 minutes or more with all doors closed. CAUTION: Never operate the vehicle while waiting.	
7. Turn the power switch ON without depressing the brake pedal. CAUTION: Never set the vehicle to READY.	E
 Start CONSULT and erase self-diagnosis result of "BRAKE". Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION: 	
Never operate the vehicle while waiting. 1. Turn the power switch ON without depressing the brake pedal. CAUTION: Never set the vehicle to READX	
 Never set the vehicle to READY. 2. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more. 3. Release brake pedal. 4. Start CONSULT and perform "BRAKE" self-diagnosis. 	
s DTC "C1A6B" detected?	
YES >> GO TO 13. NO >> INSPECTION END	
3. CHECK DATA MONITOR	
 With CONSULT Connect the electrically-driven intelligent brake unit harness connector. Connect 12V battery cable to negative terminal. Turn the power switch OFF to ON without depressing the brake pedal. 	
CAUTION: Never set the vehicle to READY. Repeat step 3 two or more times. CAUTION:	
 Be sure to wait for 5 seconds or more after turning the power switch OFF. Start CONSULT and select "BRAKE", "DATE MONITOR" according this order. Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER". Refer to <u>BR-33</u>, "<u>Reference</u> <u>Value</u>". 	
s the inspection result normal?	
YES >> GO TO 14. NO >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-510, "Removal and installation"</u> .	
14.PERFORM SELF-DIAGNOSIS (6)	
 With CONSULT Turn the power switch OFF to ON without depressing the brake pedal. CAUTION: Never set the vehicle to READY. Repeat step 1 two or more times. 	

CAUTION:

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Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 3. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 4. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION: Never operate the vehicle while waiting.

5. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 6. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 7. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 8. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 - CAUTION:

Never operate the vehicle while waiting.

9. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 11. Release brake pedal.
- 12. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A6B" detected?

- YES >> GO TO 15.
- NO >> INSPECTION END

15. CHECK BRAKE POWER SUPPLY BACKUP UNIT CIRCUIT

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6. "Precaution for Removing 12V Bat-</u> tery".
- 4. Disconnect the electrically-driven intelligent brake unit harness connector.
- 5. Disconnect the brake power supply backup unit harness connector.
- 6. Check the continuity between electrically-driven intelligent brake unit and brake power supply backup unit.

Electrically-driven ir	telligent brake unit	Brake power su	pply backup unit	Continuity
Connector	Terminal	Connector	Terminal	Continuity
			1	Existed
E34	31	B15	4	Not existed
L34	51	615	5	Not existed
			6	Not existed

7. Check the continuity between brake power supply backup unit and ground.

Brake power	supply backup unit		Continuity
Connector	Terminal		Continuity
B15	1	Ground	Not existed

Is the inspection result normal?

YES >> GO TO 16.

NO >> Repair or replace error-detected parts and GO TO 16.

16.CHECK BRAKE POWER SUPPLY BACKUP UNIT POWER SUPPLY

1. Connect 12V battery cable to negative terminal.

2. Check the voltage between brake power supply backup unit and ground.

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-	upply backup unit		Voltage	
Connector	Terminal	_	(Approx.)	
B15	6	Ground	9 – 16 V	-
CAUTION: Never set the v	switch ON without dep ehicle to READY. ge between brake pow			-
Brake power s	upply backup unit		Voltage	-
Connector	Terminal		(Approx.)	
B15	6	Ground	9 – 16 V	-
he inspection res ES >> GO TO O >> GO TO	18.			
CHECK BRAK	E POWER SUPPLY B	ACKUP UNIT POWE	R SUPPLY CIRCUI	Т
3 minutes or mo	(including back door), or with all doors close		amp is OFF, get out	of the vehicle, and wait fo
Check the 15A f Disconnect 12V tery". Check the conti	battery cable from ne nuity and for short cir	gative terminal. Refe		ion for Removing 12V Bat Il 6 of brake power supply
Never operate to Check the 15A for Disconnect 12V tery". Check the contribution to the contribution of the	use (#82). battery cable from ne nuity and for short cir 15A fuse (#82).	gative terminal. Refe		-
Never operate Check the 15A f Disconnect 12V tery". Check the conti backup unit and he inspection res ES >> GO TO O >> Perform tery Pov	use (#82). battery cable from ne nuity and for short cir 15A fuse (#82). <u>ult normal?</u> 18. trouble diagnosis for <u>ver Supply —</u> ".	gative terminal. Refe cuit between harness 12V battery power su	s connector termina pply. Refer to <u>PG-1</u>	al 6 of brake power supply 8. "Wiring Diagram — Bat
Never operate Check the 15A f Disconnect 12V tery". Check the conti backup unit and he inspection res ES >> GO TO O >> Perform tery Pow CHECK BRAKI	use (#82). battery cable from ne 15A fuse (#82). <u>ult normal?</u> 18. trouble diagnosis for <u>ver Supply —</u> ". E POWER SUPPLY B,	gative terminal. Refe cuit between harness 12V battery power su ACKUP UNIT COMM	s connector termina pply. Refer to <u>PG-1</u> UNICATION CIRCU	al 6 of brake power supply 8. "Wiring Diagram — Bat
Never operate Check the 15A f Disconnect 12V tery". Check the conti backup unit and he inspection res ES >> GO TO O >> Perform tery Pow CHECK BRAKI	use (#82). battery cable from ne 15A fuse (#82). <u>ult normal?</u> 18. trouble diagnosis for <u>ver Supply —</u> ". E POWER SUPPLY B,	gative terminal. Refe cuit between harness 12V battery power su ACKUP UNIT COMM	s connector termina pply. Refer to <u>PG-1</u> UNICATION CIRCU	al 6 of brake power supply 8. "Wiring Diagram — Bat
Never operate a Check the 15A f Disconnect 12V tery". Check the conti backup unit and he inspection res ES >> GO TO D >> Perform tery Pow CHECK BRAKI Check the contin	use (#82). battery cable from ne nuity and for short cin 15A fuse (#82). <u>ult normal?</u> 18. trouble diagnosis for <u>ver Supply —</u> ". E POWER SUPPLY B, nuity between electrica	gative terminal. Refe cuit between harness 12V battery power su ACKUP UNIT COMM illy-driven intelligent b	s connector termina pply. Refer to <u>PG-1</u> UNICATION CIRCL rake unit and brake	al 6 of brake power supply 8. "Wiring Diagram — Bat
Never operate Check the 15A f Disconnect 12V tery". Check the conti backup unit and he inspection res ES >> GO TO D >> Perform tery Pov CHECK BRAKI Check the contin	use (#82). battery cable from ne 15A fuse (#82). <u>ult normal?</u> 18. trouble diagnosis for <u>ver Supply —</u> ". E POWER SUPPLY B,	gative terminal. Refe cuit between harness 12V battery power su ACKUP UNIT COMM illy-driven intelligent b	s connector termina pply. Refer to <u>PG-1</u> UNICATION CIRCU	al 6 of brake power supply 8. "Wiring Diagram — Bat
Never operate a Check the 15A f Disconnect 12V tery". Check the conti backup unit and the inspection res ES >> GO TO D >> Perform tery Pow CHECK BRAKI Check the contin	use (#82). battery cable from ne 15A fuse (#82). <u>ult normal?</u> 18. trouble diagnosis for <u>ver Supply —</u> ". E POWER SUPPLY Banuity between electrica	gative terminal. Refe cuit between harness 12V battery power su ACKUP UNIT COMM Illy-driven intelligent b Brake power su	s connector termina pply. Refer to <u>PG-1</u> UNICATION CIRCU rake unit and brake pply backup unit	al 6 of brake power supply 8. "Wiring Diagram — Bat JIT power supply backup unit
Never operate of Check the 15A f Disconnect 12V tery". Check the contribution of the content of the content of the content of the connector	use (#82). battery cable from ne 15A fuse (#82). <u>ult normal?</u> 18. trouble diagnosis for <u>ver Supply —"</u> . E POWER SUPPLY B. nuity between electrica intelligent brake unit Terminal	gative terminal. Refe cuit between harness 12V battery power su ACKUP UNIT COMM Illy-driven intelligent b Brake power su Connector	s connector termina pply. Refer to <u>PG-1</u> UNICATION CIRCU trake unit and brake pply backup unit Terminal	al 6 of brake power supply 8. "Wiring Diagram — Bat JIT power supply backup unit Continuity
Never operate a Check the 15A f Disconnect 12V tery". Check the conti backup unit and he inspection res ES >> GO TO O >> Perform tery Pow CHECK BRAKI Check the contin	use (#82). battery cable from ne 15A fuse (#82). <u>ult normal?</u> 18. trouble diagnosis for <u>ver Supply —</u> ". E POWER SUPPLY Banuity between electrica	gative terminal. Refe cuit between harness 12V battery power su ACKUP UNIT COMM Illy-driven intelligent b Brake power su	s connector termina pply. Refer to <u>PG-1</u> UNICATION CIRCU rake unit and brake pply backup unit Terminal	al 6 of brake power supply 8. "Wiring Diagram — Bat JIT power supply backup unit Continuity Not existed

Brake power s	supply backup unit		Continuity
Connector	Terminal		Continuity
B15	5	Ground	Not existed

Is the inspection result normal?

YES >> GO TO 19.

NO >> Repair or replace error-detected parts. GO TO 19.

 $19. {\sf check \ brake \ power \ supply \ backup \ unit \ wake \ up \ circuit}$

1. Check the continuity between electrically-driven intelligent brake unit and brake power supply backup unit.

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Electrically-driven in	telligent brake unit	Brake power su	pply backup unit	Continuity
Connector	Terminal	Connector	Terminal	- Continuity
			1	Not existed
E34	22	B15	4	Existed
	22		5	Not existed
			6	Not existed

2. Check the continuity between brake power supply backup unit and ground.

Brake power	supply backup unit		Continuity
Connector	Terminal		Continuity
B15	4	Ground	Not existed

Is the inspection result normal?

>> Replace the brake power supply backup unit. Refer to <u>BR-513, "Removal and Installation"</u>. >> Repair or replace error-detected parts. YES

NO

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C1A6C BRAKE POWER SUPPLY BACKUP UNIT

DTC Logic

INFOID:000000010634195

DTC DETECTION LOGIC

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DTC	Display item	Malfunction detection condition	Possible causes	
C1A6C	POWER SUPPLY BACKUP UNIT VOLT	 No battery charge for 150 seconds or more after bringing the vehicle into READY state. Power voltage of brake power supply backup unit is as shown below. Power voltage of brake power supply backup unit: 9 V ≥ Power voltage of brake power supply backup unit. Power voltage of brake power supply backup unit. Power voltage of brake power supply backup unit: 16 V ≤ Power voltage of brake power supply backup unit. 	 Harness or connector Fuse Brake power supply backup unit Electrically-driven intelligent brake unit 12V battery is low 	[
	PRODUCTION PROCEDUR	E		В

1.PRECONDITIONING

If "DTC CONFIRMATION PROCEDURE" has been previously conducted, always turn power switch OFF and wait at least 10 seconds before conducting the next test.

>> GO TO 2.

2. CHECK DTC DETECTION

(P)V	Vith CONSULT	
<u>1</u> .	Turn the power switch OFF to ON without depressing the brake pedal.	
	CAUTION:	
	Never set the vehicle to READY.	
2.	Repeat step 1 two or more times.	J
	CAUTION:	
_	Be sure to wait for 5 seconds or more after turning the power switch OFF.	
	Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.	K
4.	Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for	I.V.
	3 minutes or more with all doors closed.	
	CAUTION:	
5.	Never operate the vehicle while waiting. Turn the power switch ON without depressing the brake pedal.	L
5.	CAUTION:	
	Never set the vehicle to READY.	
6.	Start CONSULT and erase self-diagnosis result of "BRAKE".	M
7.	Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.	
8.	Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for	
	3 minutes or more with all doors closed.	Ν
	CAUTION:	
	Never operate the vehicle while waiting.	
9.	Turn the power switch ON without depressing the brake pedal.	0
	CAUTION:	0
	Never set the vehicle to READY.	
	Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.	_
	Release brake pedal.	Ρ
	Start CONSULT and perform "BRAKE" self-diagnosis.	
ls D	DTC "C1A6C" detected?	
YE	ES >> Proceed to BR-134, "Diagnosis Procedure".	

NO >> INSPECTION END

< DTC/CIRCUIT DIAGNOSIS >

Diagnosis Procedure

INFOID:000000010634196

1.CHECK 12V BATTERY

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

- Check the 12V battery terminal connections. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery" and <u>PG-76</u>, "Work Flow".
- 4. Check the 12V battery. Refer to PG-76, "Work Flow".

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace error-detected parts and GO TO 2.

2.PERFORM SELF-DIAGNOSIS (1)

With CONSULT

- 1. Connect 12V battery cable to negative terminal.
- Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

3. Repeat step 2 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 4. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

6. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 7. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 8. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

10. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 11. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 12. Release brake pedal.
- 13. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A6C" detected?

YES >> GO TO 3.

NO >> INSPECTION END

3.CHECK CONNECTOR TERMINALS

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery".
- 4. Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.

< DTC/CIRCUIT DIAGNOSIS >

5.	Disconnect the and connection		ackup unit harness co	nnector, then check for failures of pin termina	
le t	he inspection res				A
	ES >> GO TO				
N		or replace error-detect	ed parts and GO TO	4.	В
	•	-DIAGNOSIS (2)			
	Vith CONSULT				_
1.		ectrically-driven intellige	ent brake unit harnes	s connector.	С
2.		ake power supply back		nector.	
3.		attery cable to negative			D
4.	CAUTION:	switch OFF to ON with	nout depressing the b	frake pedal.	D
		vehicle to READY.			
5.		wo or more times.			Е
	CAUTION:				
~		t for 5 seconds or mo			
6. 7.				ect CONSULT from data link connector. amp is OFF, get out of the vehicle, and wait for	or BR
1.		ore with all doors close		amp is Of 1, get out of the vehicle, and wait h	
	CAUTION:				
		the vehicle while wai			G
8.		switch ON without dep	pressing the brake pe	edal.	
	CAUTION:	vehicle to READY.			
9.		and erase self-diagno	osis result of "BRAKE	"	Н
				ect CONSULT from data link connector.	
	Close all doors	(including back door),	check that the room I	amp is OFF, get out of the vehicle, and wait fo	or
		ore with all doors close	ed.		
	CAUTION:	the vehicle while we			
12		the vehicle while wai switch ON without dep		dal	
12.	CAUTION:	Switch Old without dep	bicosing the brake pe	udi.	J
		vehicle to READY.			
			4 in) or more, and hol	ld the position for 5 seconds or more.	
	Release brake		" .		K
		and perform "BRAKE	self-diagnosis.		
	DTC "C1A6C" de				
	ES >> GO TO	-			L
N		CTION END			
Э.	CHECK POWER	SWITCH ON POWER	R SUPPLY		ΝЛ
1.	Connect the bra	ake power supply back	up unit harness conn	nector.	M
2.		attery cable to negative			
3. ⊿				ect CONSULT from data link connector.	or N
4.		(including back door), ore with all doors close		lamp is OFF, get out of the vehicle, and wait f	
	CAUTION:				
	Never operate	the vehicle while wai			0
5.	Disconnect 12V			er to <u>BR-6, "Precaution for Removing 12V Ba</u>	
e	tery".	alastriaslly drives intel	ligant broke whith	and connector	
6. 7.		electrically-driven intel attery cable to negative			Р
7. 8.				t brake unit harness connector and ground.	
		J	,		
	Electrically-driver	n intelligent brake unit		Voltage	
	Connector	Terminal		(Approx.)	

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E34

Ground

0 V

< DTC/CIRCUIT DIAGNOSIS >

9. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

10. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven in	telligent brake unit		Voltage
Connector	Terminal		(Approx.)
E34	26	Ground	10 – 16 V

Is the inspection result normal?

YES >> GO TO 8.

NO >> GO TO 6.

6.CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

- Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery".
- 4. Check the 15A fuse (#62).
- 5. Disconnect IPDM E/R harness connector.
- 6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

Electrically-driven in	telligent brake unit	IPDN	/I E/R	Continuity
Connector	Terminal	Connector	Terminal	Continuity
E34	26	E15	62	Existed

7. Check the continuity between electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven in	telligent brake unit		Continuity
Connector	Terminal	—	Continuity
E34	26	Ground	Not existed

Is the inspection result normal?

- YES >> Perform trouble diagnosis for power ON power supply. Refer to <u>PG-29</u>, "Wiring Diagram—On <u>Power Supply</u>—".
- NO >> Repair or replace error-detected parts and GO TO 7.

7. PERFORM SELF-DIAGNOSIS (3)

()With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect the IPDM E/R harness connector.
- 3. Connect 12V battery cable to negative terminal.
- 4. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

5. Repeat step 4 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 6. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 7. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

8. Turn the power switch ON without depressing the brake pedal. **CAUTION:**

Never set the vehicle to READY.

< DTC/CIRCUIT DIAGNOSIS >

. Start CONSULT	and erase self-diagno	sis result of "BRA	KE″.	
			nnect CONSULT from data link connector.	А
			m lamp is OFF, get out of the vehicle, and wait for	
3 minutes or mo	ore with all doors closed	d.		
	the vehicle while wait	tina		В
	switch ON without dep		nedal	
CAUTION:	Switch Old Without dep	ressing the brane		
	vehicle to READY.			С
3. Depress brake	pedal by 100 mm (3.94	in) or more, and I	hold the position for 5 seconds or more.	
4. Release brake				
	and perform "BRAKE"	' self-diagnosis.		D
<u>s DTC "C1A6C" de</u>				
YES >> GO TO				
NO >> INSPE(CTION END			Ε
CHECK 12V BAT	TERY POWER SUPP	LY		
			nnost CONSLILT from data link connector	
			nnect CONSULT from data link connector. m lamp is OFF, get out of the vehicle, and wait for	BR
	ore with all doors closed		in lamp is of 1, get out of the vehicle, and wait for	
CAUTION:				
	the vehicle while wait	ting.		G
	battery cable from ne	gative terminal. R	efer to <u>BR-6. "Precaution for Removing 12V Bat-</u>	0
<u>tery"</u> .				
. Disconnect the	electrically-driven intell		arness connector.	Н
Disconnect the Connect 12V ba	attery cable to negative	terminal.		Н
Disconnect the Connect 12V ba	attery cable to negative	terminal.	arness connector. ent brake unit harness connector terminals.	Н
 Disconnect the Connect 12V base Check the volta 	attery cable to negative ge between the electric	terminal. cally-driven intellig		Н
Disconnect the Connect 12V ba Check the volta Electrically-driver	attery cable to negative	terminal. cally-driven intellig Voltage		H
 Disconnect the Connect 12V base Check the volta 	attery cable to negative ge between the electric	terminal. cally-driven intellig		H
Disconnect the Connect 12V ba Check the volta Electrically-driver	attery cable to negative ge between the electric n intelligent brake unit	terminal. cally-driven intellig Voltage		
Disconnect the Connect 12V ba Check the volta Electrically-driver	attery cable to negative ge between the electric n intelligent brake unit Terminal	terminal. cally-driven intellig Voltage		H I J
Disconnect the Connect 12V ba Check the volta Electrically-driver Connector	attery cable to negative ge between the electric n intelligent brake unit Terminal 1 – 32 2 – 32	terminal. cally-driven intellig Voltage (Approx.)		I
Electrically-driver	attery cable to negative ge between the electric n intelligent brake unit Terminal 1 – 32 2 – 32 28 – 32	terminal. cally-driven intellig Voltage (Approx.) 10 – 16 V	ent brake unit harness connector terminals.	l J
Disconnect the Connect 12V ba Check the volta Electrically-driver Connector E34 Turn the power	attery cable to negative ge between the electric n intelligent brake unit Terminal 1 – 32 2 – 32	terminal. cally-driven intellig Voltage (Approx.) 10 – 16 V	ent brake unit harness connector terminals.	J
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Disconnect the Connect 12V ba Check the volta Electrically-driver Connector E34 Turn the power CAUTION: Never set the volta	attery cable to negative ge between the electric n intelligent brake unit Terminal 1 – 32 2 – 32 28 – 32 switch ON without dep vehicle to READY.	terminal. cally-driven intellig Voltage (Approx.) 10 – 16 V ressing the brake	ent brake unit harness connector terminals.	l J
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 Disconnect the Connect 12V base Check the volta Electrically-driver Connector E34 Turn the power CAUTION: Never set the volta Electrically-driver 	attery cable to negative ge between the electric intelligent brake unit Terminal 1 – 32 2 – 32 28 – 32 switch ON without dep rehicle to READY. ge between the electric	terminal. cally-driven intellig Voltage (Approx.) 10 – 16 V ressing the brake cally-driven intellig Voltage	ent brake unit harness connector terminals.	I J L
 Disconnect the Connect 12V base Check the volta Electrically-driver Connector E34 Turn the power CAUTION: Never set the volta 	attery cable to negative ge between the electric n intelligent brake unit Terminal 1 – 32 2 – 32 28 – 32 switch ON without dep rehicle to READY. ge between the electric	terminal. cally-driven intellig Voltage (Approx.) 10 – 16 V ressing the brake cally-driven intellig	ent brake unit harness connector terminals.	I J L
 Disconnect the Connect 12V base Check the volta Electrically-driver Connector E34 Turn the power CAUTION: Never set the volta Electrically-driver 	attery cable to negative ge between the electric intelligent brake unit Terminal 1 – 32 2 – 32 28 – 32 switch ON without dep rehicle to READY. ge between the electric	terminal. cally-driven intellig Voltage (Approx.) 10 – 16 V ressing the brake cally-driven intellig Voltage	ent brake unit harness connector terminals.	l J
 Disconnect the Connect 12V base Check the volta Electrically-driver Connector E34 Turn the power CAUTION: Never set the volta Electrically-driver 	attery cable to negative ge between the electric n intelligent brake unit Terminal 1 – 32 2 – 32 28 – 32 switch ON without dep rehicle to READY. ge between the electric n intelligent brake unit Terminal	terminal. cally-driven intellig Voltage (Approx.) 10 – 16 V ressing the brake cally-driven intellig Voltage	ent brake unit harness connector terminals.	I J K L
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 Disconnect the Connect 12V base Check the volta Electrically-driver Connector E34 Turn the power CAUTION: Never set the volta Electrically-driver Check the volta Electrically-driver Connector E34 	attery cable to negative ge between the electric initelligent brake unit Terminal 1 - 32 2 - 32 28 - 32 switch ON without dep rehicle to READY. ge between the electric initelligent brake unit Terminal 1 - 32 2 - 32 28 - 32	terminal. cally-driven intellig Voltage (Approx.) 10 – 16 V ressing the brake cally-driven intellig Voltage (Approx.)	ent brake unit harness connector terminals.	I J K L
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 Disconnect the Connect 12V base Check the volta Electrically-driver Connector E34 Turn the power CAUTION: Never set the volta Electrically-driver Connector Electrically-driver Connector Electrically-driver Connector Electrically-driver Connector Electrically-driver Connector E34 Sthe inspection rese YES >> GO TO 	attery cable to negative ge between the electric in intelligent brake unit Terminal 1 - 32 2 - 32 28 - 32 switch ON without dep rehicle to READY. ge between the electric in intelligent brake unit Terminal 1 - 32 2 - 32 28 - 32 sult normal? 11.	terminal. cally-driven intellig Voltage (Approx.) 10 – 16 V ressing the brake cally-driven intellig Voltage (Approx.)	ent brake unit harness connector terminals.	M M I
 Disconnect the Connect 12V base Check the volta Electrically-driver Connector E34 Turn the power CAUTION: Never set the volta Electrically-driver Connector Electrically-driver Connector Ea4 Electrically-driver Connector E34 	attery cable to negative ge between the electric in intelligent brake unit Terminal 1 - 32 2 - 32 28 - 32 switch ON without dep rehicle to READY. ge between the electric in intelligent brake unit Terminal 1 - 32 2 - 32 28 - 32 sult normal? 11.	terminal. cally-driven intellig Voltage (Approx.) 10 – 16 V ressing the brake cally-driven intellig Voltage (Approx.) 10 – 16 V	ent brake unit harness connector terminals.	

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6. "Precaution for Removing 12V Bat-</u> tery".
- 4. Check the 60A fusible link (#F).

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- 5. Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).
- 6. Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).
- 7. Check the 15A fuse (#75).
- 8. Check the continuity and for short circuit between harness connector terminal 28 of electrically-driven intelligent brake unit and 15A fuse (#75).

Is the inspection result normal?

- YES >> Perform trouble diagnosis for 12V battery power supply. Refer to <u>PG-18. "Wiring Diagram Bat-</u> tery Power Supply —".
- NO >> Repair or replace error-detected parts and GO TO 10.

10.PERFORM SELF-DIAGNOSIS (4)

With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 4. Repeat step 3 two or more times.
 - CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 5. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

7. Turn the power switch ON without depressing the brake pedal. **CAUTION:**

Never set the vehicle to READY.

- 8. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 9. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 10. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

11. Turn the power switch ON without depressing the brake pedal.

Never set the vehicle to READY.

- 12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 13. Release brake pedal.
- 14. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A6C" detected?

YES >> GO TO 11.

NO >> INSPECTION END

11. CHECK GROUND CIRCUIT

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery".
- 4. Disconnect the electrically-driven intelligent brake unit harness connector.
- 5. Check the continuity between electrically-driven intelligent brake unit and ground.

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Electrically-drive	n intelligent brake unit				А
Connector	Terminal		Continuity		
E34	32	Ground	Existed		D
Is the inspection result normal?				В	
	YES >> GO TO 13.				
	or replace error-detect	ed parts and GO TO	12.		С
IZ.PERFORM SE	ELF-DIAGNOSIS (5)				
With CONSULT	atriaelly driven intellig	ant braka unit barnaa	a connector		D
	ectrically-driven intellige attery cable to negative		s connector.		
3. Turn the power	switch OFF to ON with		rake pedal.		_
CAUTION: Never set the v	vehicle to READY.				Ε
4. Repeat step 3 t	two or more times.				
CAUTION: Be sure to wai	it for 5 seconds or mo	ore after turning the	nower switch OFF		BR
5. Turn the power	switch OFF to exit CO	NSULT, and disconne	ect CONSULT from d		
	(including back door), ore with all doors close		amp is OFF, get out o	of the vehicle, and wait for	C
CAUTION:		u.			G
	the vehicle while wai		طما		
 Turn the power CAUTION: 	switch ON without dep	bressing the brake pe	ual.		Н
Never set the	vehicle to READY.				
	F and erase self-diagnon switch OFF to exit CO			lata link connector	
10. Close all doors	. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. 0. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for				
3 minutes or mo	ore with all doors close	d.			
	the vehicle while wai	ting.			J
	switch ON without dep	pressing the brake pe	dal.		
CAUTION: Never set the v	vehicle to READY.				Κ
12. Depress brake	pedal by 100 mm (3.94	1 in) or more, and hol	d the position for 5 s	econds or more.	
13. Release brake	pedal. F and perform "BRAKE	" self-diagnosis			I
Is DTC "C1A6C" de	•	con alagnoolor			L
YES >> GO TO	13.				
	CTION END				\mathbb{M}
13.CHECK DATA	MONITOR				
With CONSULT					Ν
	ectrically-driven intellige attery cable to negative		s connector.		
3. Turn the power	switch OFF to ON with		rake pedal.		
CAUTION: Never set the s	vehicle to READY.				0
	two or more times.				
CAUTION: Bo sure to wai	it for 5 seconds or ma	ro after turning the	nower switch OFF		Ρ
5. Start CONSULT	Be sure to wait for 5 seconds or more after turning the power switch OFF. 5. Start CONSULT and select "BRAKE", "DATE MONITOR" according this order.				
Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER". Refer to <u>BR-33</u>, "Reference					
Value". Is the inspection result normal?					
YES >> GO TO					
		i intelligent brake unit	. Refer to <u>BR-510, "F</u>	Removal and installation".	

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14.PERFORM SELF-DIAGNOSIS (6)

With CONSULT

- Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:
 - Never set the vehicle to READY.
- Repeat step 1 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 3. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

 Turn the power switch ON without depressing the brake pedal. CAUTION: Never set the vehicle to READX

Never set the vehicle to READY.

- 6. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 7. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

9. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 11. Release brake pedal.
- 12. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A6C" detected?

YES >> GO TO 15.

NO >> INSPECTION END

15. CHECK BRAKE POWER SUPPLY BACKUP UNIT POWER SUPPLY

- 1. Connect 12V battery cable to negative terminal.
- 2. Check the voltage between brake power supply backup unit and ground.

Brake power supply backup unit			Voltage
Connector	Terminal	—	(Approx.)
B15	6	Ground	9 – 16 V

3. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

4. Check the voltage between brake power supply backup unit and ground.

Brake power supply backup unit			Voltage
Connector	Terminal	—	(Approx.)
B15	6	Ground	9 – 16 V

Is the inspection result normal?

```
YES >> Replace the brake power supply backup unit. Refer to <u>BR-513</u>, "<u>Removal and Installation</u>".
NO >> GO TO 16.
```

16. CHECK BRAKE POWER SUPPLY BACKUP UNIT POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.

 Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

< DTC/CIRCUIT DIAGNOSIS >

Never operate the vehicle while waiting.

3.	Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6, "Precaution for Removing 12V Bat-</u>	A
	tery".	

- 4. Check the 15A fusible link (#82).
- Check the continuity and for short circuit between harness connector terminal 6 of brake power supply backup unit and 15A fuse (#82).

Is the inspection result normal?

- YES >> Replace the brake power supply backup unit. Refer to <u>BR-513</u>, "Removal and Installation".
- NO >> Perform trouble diagnosis for 12V battery power supply. Refer to <u>PG-18</u>, "Wiring Diagram Battery Power Supply —".

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< DTC/CIRCUIT DIAGNOSIS >

C1A6D BRAKE POWER SUPPLY BACKUP UNIT

DTC Logic

INFOID:000000010634197

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1A6D	POWER SUPPLY BACKUP UNIT OUTPUT	An internal malfunction (abnormal output circuit) is detected in brake power supply backup unit.	 Harness or connector Brake power supply backup unit Electrically-driven intelligent brake unit

DTC REPRODUCTION PROCEDURE

1.PRECONDITIONING

If "DTC CONFIRMATION PROCEDURE" has been previously conducted, always turn power switch OFF and wait at least 10 seconds before conducting the next test.

>> GO TO 2.

2. CHECK DTC DETECTION

() With CONSULT

1. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

 Repeat step 1 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 3. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 4. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

5. Turn the power switch ON without depressing the brake pedal. **CAUTION:**

Never set the vehicle to READY.

- 6. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 7. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

9. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 11. Release brake pedal.
- 12. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A6D" detected?

YES >> Proceed to <u>BR-142</u>, "Diagnosis Procedure".

NO >> INSPECTION END

Diagnosis Procedure

1.CHECK 12V BATTERY

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

BR-142

INFOID:000000010634198

< DTC/CIRCUIT DIAGNOSIS >				
	CAUTION:			
0	Never operate the vehicle while waiting.	А		
3.	Check the 12V battery terminal connections. Refer to <u>BR-6</u> , " <u>Precaution for Removing 12V Battery</u> " and <u>PG-76</u> , " <u>Work Flow</u> ".			
4.		_		
	ne inspection result normal?	В		
	ES >> GO TO 2.			
N		0		
2.	PERFORM SELF-DIAGNOSIS (1)	С		
	Vith CONSULT			
1.	Connect 12V battery cable to negative terminal.	D		
2.	Turn the power switch OFF to ON without depressing the brake pedal.			
	CAUTION:			
2	Never set the vehicle to READY.	E		
3.	Repeat step 2 two or more times. CAUTION:			
	Be sure to wait for 5 seconds or more after turning the power switch OFF.			
4.	Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.	BR		
5.	Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for			
	3 minutes or more with all doors closed.			
	CAUTION:	G		
6.	Never operate the vehicle while waiting. Turn the power switch ON without depressing the brake pedal.			
0.	CAUTION:			
	Never set the vehicle to READY.	Н		
7.	Start CONSULT and erase self-diagnosis result of "BRAKE".			
8.	Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.			
9.	Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for			
	3 minutes or more with all doors closed. CAUTION:			
	Never operate the vehicle while waiting.			
10.	Turn the power switch ON without depressing the brake pedal.	J		
	CAUTION:			
	Never set the vehicle to READY.			
	Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more. Release brake pedal.	Κ		
	Start CONSULT and perform "BRAKE" self-diagnosis.			
	DTC "C1A6D" detected?	1		
	ES >> GO TO 3.			
N				
-	CHECK CONNECTOR TERMINALS	M		
		1 1 1		
1.	Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.			
2.	Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.	Ν		
	CAUTION:			
	Never operate the vehicle while waiting.			
3.	Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u> , "Precaution for Removing 12V Bat-	0		
	tery".			
4.	Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.			
5.	Disconnect the brake power supply backup unit harness connector, then check for failures of pin terminals	Ρ		
υ.	and connections.			
ls th	ne inspection result normal?			
	ES >> GO TO 5.			

NO >> Repair or replace error-detected parts and GO TO 4.

4.PERFORM SELF-DIAGNOSIS (2)

< DTC/CIRCUIT DIAGNOSIS >

With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect the brake power supply backup unit harness connector.
- 3. Connect 12V battery cable to negative terminal.
- 4. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:
- Never set the vehicle to READY.
- 5. Repeat step 4 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 6. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 7. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 - CAUTION:

Never operate the vehicle while waiting.

8. Turn the power switch ON without depressing the brake pedal. **CAUTION:**

Never set the vehicle to READY.

- 9. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 10. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

12. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 13. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 14. Release brake pedal.
- 15. Start CONSULT and perform "BRAKE" self-diagnosis.
- Is DTC "C1A6D" detected?

YES >> GO TO 5.

NO >> INSPECTION END

5.CHECK POWER SWITCH ON POWER SUPPLY

- 1. Connect the brake power supply backup unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- 5. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery".
- 6. Disconnect the electrically-driven intelligent brake unit harness connector.
- 7. Connect 12V battery cable to negative terminal.
- 8. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit			Voltage	
Connector	Terminal		(Approx.)	
E34	26	Ground	0 V	

9. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

10. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

< DTC/CIRCUIT DIAGNOSIS >

Electrically-driven in	telligent brake unit		Valtaga	Ą
Connector	Terminal	—	Voltage (Approx.)	
E34	26	Ground	10 – 16 V	-
Is the inspection result	t normal?			E
YES >> GO TO 8. NO >> GO TO 6.				
6.CHECK POWER S				C
				ata link connector
2. Close all doors (in		check that the room I	ect CONSULT from d amp is OFF, get out c	of the vehicle, and wait for \Box
Never operate th	e vehicle while wait			E
 Disconnect 12V b tery". 	attery cable from neg	gative terminal. Refe	er to <u>BR-6, "Precautio</u>	on for Removing 12V Bat-
4. Check the 15A fus	se (#62).			
	E/R harness connec			BF
6. Check the continu	lity between electrica	lly-driven intelligent	brake unit and IPDM	E/R.
Electrically-driven in	telligent brake unit	IPD	M E/R	(-
Connector	Terminal	Connector	Terminal	Continuity
E34	26	E15	62	Existed
7. Check the continu	uity between electrica	llv-driven intelligent	brake unit harness co	
Electrically-driven in	telligent brake unit			
Connector	Terminal	—	Continuity	
E34	26	Ground	Not existed	
Is the inspection result	t normal?			J
		power ON power s	upply. Refer to PG-2	<u>29, "Wiring Diagram—On</u>
Power Su		d parts and CO TO	7	ķ
—	replace error-detecte	a parts and GO TO	1.	
1.PERFORM SELF-	JIAGNOSIS (3)			
With CONSULT	ala a Uria aladi ya ang kasta Uliana			
	rically-driven intellige R harness connector.		s connector.	
3. Connect 12V batte	ery cable to negative	terminal.		N
 Turn the power sv CAUTION: 	vitch OFF to ON with	out depressing the b	rake pedal.	
Never set the vel	hicle to READY.			
5. Repeat step 4 two	or more times.			Ν
CAUTION: Be sure to wait f	or 5 seconds or mo	re after turning the	nower switch OFF	
			ect CONSULT from d	ata link connector.
7. Close all doors (in	cluding back door), c	check that the room I		of the vehicle, and wait for
3 minutes or more CAUTION:	e with all doors closed	d.		
	e vehicle while wait	ting.		F
8. Turn the power sv	vitch ON without dep		dal.	
CAUTION: Never set the vel	hicle to PEADV			
	nd erase self-diagnos	sis result of "BRAKE	"	
10. Turn the power sv	vitch OFF to exit CON	NSULT, and disconne	ect CONSULT from d	
	icluding back door), c e with all doors closed		amp is OFF, get out c	of the vehicle, and wait for
		J.		

< DTC/CIRCUIT DIAGNOSIS >

CAUTION:

Never operate the vehicle while waiting.

12. Turn the power switch ON without depressing the brake pedal.

CAUTION: Never set the vehicle to READY.

- 13. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 14. Release brake pedal.
- 15. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A6D" detected?

YES >> GO TO 8.

NO >> INSPECTION END

8.CHECK 12V BATTERY POWER SUPPLY

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6, "Precaution for Removing 12V Bat-</u> <u>tery"</u>.
- 4. Disconnect the electrically-driven intelligent brake unit harness connector.
- 5. Connect 12V battery cable to negative terminal.
- 6. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

Electrically-drive	Voltage	
Connector	Terminal	(Approx.)
	1 – 32	
E34	2 – 32	10 – 16 V
	28 - 32	

7. Turn the power switch ON without depressing the brake pedal. **CAUTION:**

Never set the vehicle to READY.

8. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

Electrically-drive	Electrically-driven intelligent brake unit	
Connector	Terminal	(Approx.)
	1 – 32	
E34	2 – 32	$10-16 \ V$
	28 – 32	

Is the inspection result normal?

YES >> GO TO 11.

NO >> GO TO 9.

9.CHECK 12V BATTERY POWER SUPPLY CIRCUIT

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

- Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery".
- 4. Check the 60A fusible link (#F).
- 5. Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).
- 6. Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).

< D	TC/CIRCUIT DIAGNOSIS >	
7. 8.	Check the 15A fuse (#75). Check the continuity and for short circuit between harness connector terminal 28 of electrically-driven intelligent brake unit and 15A fuse (#75).	A
<u>Is th</u> YE		В
N		
	.PERFORM SELF-DIAGNOSIS (4)	С
(B)V 1. 2. 3.	Vith CONSULT Connect the electrically-driven intelligent brake unit harness connector. Connect 12V battery cable to negative terminal. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:	D
4.	Never set the vehicle to READY. Repeat step 3 two or more times. CAUTION:	E
5. 6.	Be sure to wait for 5 seconds or more after turning the power switch OFF. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION:	BR G
7	Never operate the vehicle while waiting.	G
	Turn the power switch ON without depressing the brake pedal. CAUTION: Never set the vehicle to READY.	Н
9.	Start CONSULT and erase self-diagnosis result of "BRAKE". Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION:	
11.	Never operate the vehicle while waiting. Turn the power switch ON without depressing the brake pedal. CAUTION:	J
13.	Never set the vehicle to READY. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more. Release brake pedal. Start CONSULT and perform "BRAKE" self-diagnosis.	К
	<u>TC "C1A6D" detected?</u>	L
YE N(>> INSPECTION END	
11	.CHECK GROUND CIRCUIT	M
1. 2.	Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION:	Ν
3.	Never operate the vehicle while waiting. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u> , "Precaution for Removing 12V Bat- tery".	0
4. 5.	Disconnect the electrically-driven intelligent brake unit harness connector. Check the continuity between electrically-driven intelligent brake unit and ground.	Ρ
	Electrically-driven intelligent brake unit Continuity	
	Continuity	

ls the	inspection	result	normal?
13 110	Inspection	TESUIL	normar:

Terminal

32

YES >> GO TO 13.

Connector E34

Ground

Existed

< DTC/CIRCUIT DIAGNOSIS >

NO >> Repair or replace error-detected parts and GO TO 12.

12.PERFORM SELF-DIAGNOSIS (5)

(B) With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

4. Repeat step 3 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 5. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

7. Turn the power switch ON without depressing the brake pedal.

CAUTION: Never set the vehicle to READY.

- 8. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 9. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 10. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

11. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 13. Release brake pedal.
- 14. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A6D" detected?

- YES >> GO TO 13.
- NO >> INSPECTION END

13.CHECK DATA MONITOR

With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

4. Repeat step 3 two or more times.

CAUTION: Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 5. Start CONSULT and select "BRAKE", "DATE MONITOR" according this order.
- 6. Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER". Refer to <u>BR-33, "Reference</u> <u>Value"</u>.

Is the inspection result normal?

YES >> GO TO 14.

NO >> Replace the electrically-driven intelligent brake unit. Refer to BR-510, "Removal and installation".

14.PERFORM SELF-DIAGNOSIS (6)

() With CONSULT

1. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

 Repeat step 1 two or more times. CAUTION:

< DTC/CIRCUIT DIAGNOSIS >

Bo suro to wait	for 5 seconds or mo	ro after turning the	nower switch OFF			
 Be sure to wait for 5 seconds or more after turning the power switch OFF. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 						
	including back door), c re with all doors closed		imp is OFF, get out o	of the vehicle, and wait for		
CAUTION:		4.				
	he vehicle while wait					
 Turn the power s CAUTION: 	switch ON without depr	ressing the brake peo	lal.			
	ehicle to READY.					
	and erase self-diagnos					
	switch OFF to exit CON			b the vehicle, and wait for		
3 minutes or mo	re with all doors closed					
CAUTION:		•				
	he vehicle while wait switch ON without depr		lal.			
CAUTION:						
	ehicle to READY.	in) or more and hale	the position for 5 or	acondo or more		
 Depress brake p Release brake p 	edal by 100 mm (3.94 edal.	ing of more, and hold		econds of more.		
	and perform "BRAKE"	self-diagnosis.				
s DTC "C1A6D" dete	ected?					
YES >> GO TO						
NO >> INSPEC			-			
	E POWER SUPPLY BA					
	switch OFF to exit CON			lata link connector. of the vehicle, and wait for		
	re with all doors closed					
CAUTION:		_				
CAUTION: Never operate t	he vehicle while wait		to BR-6 "Precautic	on for Removing 12V Bat-		
CAUTION: Never operate t			to <u>BR-6, "Precautic</u>	on for Removing 12V Bat-		
CAUTION: Never operate t Disconnect 12V <u>tery"</u> . Disconnect the e	battery cable from neg	gative terminal. Refer igent brake unit harne	ess connector.	on for Removing 12V Bat-		
CAUTION: Never operate t Disconnect 12V <u>tery"</u> . Disconnect the e Disconnect the b	battery cable from neg electrically-driven intelli brake power supply bac	gatīve terminal. Refer igent brake unit harne ckup unit harness cor	ess connector. nnector.	-		
CAUTION: Never operate t Disconnect 12V <u>tery"</u> . Disconnect the e Disconnect the b	battery cable from neg electrically-driven intelli brake power supply bac	gatīve terminal. Refer igent brake unit harne ckup unit harness cor	ess connector. nnector.	-		
CAUTION: Never operate to Disconnect 12V tery". Disconnect the to Disconnect the to Check the contin	battery cable from neg electrically-driven intelli brake power supply bac	gatīve terminal. Refer igent brake unit harne ckup unit harness cor	ess connector. nnector. rake unit and brake	power supply backup unit.		
CAUTION: Never operate to Disconnect 12V tery". Disconnect the to Disconnect the to Check the contin	battery cable from neg electrically-driven intelli prake power supply bac nuity between electrical	gative terminal. Refer igent brake unit harne ckup unit harness cor lly-driven intelligent b	ess connector. nnector. rake unit and brake	-		
CAUTION: Never operate to Disconnect 12V tery". Disconnect the to Disconnect the to Check the contin	battery cable from neg electrically-driven intelli brake power supply bac nuity between electrical intelligent brake unit	gative terminal. Refer igent brake unit harne ckup unit harness cor lly-driven intelligent b Brake power sup	ess connector. nnector. rake unit and brake oply backup unit	power supply backup unit.		
CAUTION: Never operate to Disconnect 12V tery". Disconnect the to Disconnect the to Check the contin	battery cable from neg electrically-driven intelli orake power supply bac nuity between electrical intelligent brake unit Terminal	gative terminal. Refer igent brake unit harne ckup unit harness cor lly-driven intelligent b Brake power sup Connector	ess connector. nnector. rake unit and brake poply backup unit Terminal	power supply backup unit.		
CAUTION: Never operate to Disconnect 12V tery". Disconnect the to Disconnect the to Check the contin	battery cable from neg electrically-driven intelli prake power supply bac nuity between electrical intelligent brake unit Terminal 31	gative terminal. Refer igent brake unit harne ckup unit harness cor lly-driven intelligent b Brake power sup	ess connector. nnector. rake unit and brake p oply backup unit Terminal 1	power supply backup unit. Continuity Existed		

Brake power	Brake power supply backup unit		Continuity
Connector	Terminal		Continuity
B15	1	Ground	Not existed

Is the inspection result normal?

>> Replace the brake power supply backup unit. Refer to <u>BR-513, "Removal and Installation"</u>. >> Repair or replace error-detected parts. YES

NO

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< DTC/CIRCUIT DIAGNOSIS >

C1A6E EV SYSTEM

DTC Logic

INFOID:000000010634199

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1A6E	EV/HEV SYSTEM	Malfunction is detected in the VCM system.	 Harness or connector VCM Electrically-driven intelligent brake unit

DTC REPRODUCTION PROCEDURE

1.PRECONDITIONING

If "DTC CONFIRMATION PROCEDURE" has been previously conducted, always turn power switch OFF and wait at least 10 seconds before conducting the next test.

>> GO TO 2.

2. CHECK DTC DETECTION

()With CONSULT

1. Turn the power switch OFF to ON without depressing the brake pedal. **CAUTION:**

Never set the vehicle to READY.

 Repeat step 1 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 3. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

5. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 6. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 7. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

CAUTION:

Never operate the vehicle while waiting.
9. Turn the power switch ON without depressing the brake pedal.
CAUTION:

Never set the vehicle to READY.

- 10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 11. Release brake pedal.
- 12. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A6E" detected?

- YES >> Proceed to <u>BR-150, "Diagnosis Procedure"</u>.
- NO >> INSPECTION END

Diagnosis Procedure

1.PERFORM VCM SELF DIAGNOSIS

Start CONSULT and perform self-diagnosis for "EV/HEV". Refer to EVC-73, "CONSULT Function". Is any DTC detected?

YES >> Check the DTC. Refer to EVC-103, "DTC Index".

BR-150

INFOID:000000010634200

< DTC/CIRCUIT DIAGNOSIS >	
NO >> GO TO 2.	
2.PERFORM SELF-DIAGNOSIS (1)	A
 With CONSULT 1. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION: 	В
Never set the vehicle to READY. 2. Repeat step 1 two or more times. CAUTION:	С
 Be sure to wait for 5 seconds or more after turning the power switch OFF. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and 3 minutes or more with all doors closed. CAUTION: 	
 Never operate the vehicle while waiting. 5. Turn the power switch ON without depressing the brake pedal. CAUTION: 	E
 Never set the vehicle to READY. Start CONSULT and erase self-diagnosis result of "BRAKE". Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and 3 minutes or more with all doors closed. CAUTION: 	
 Never operate the vehicle while waiting. 9. Turn the power switch ON without depressing the brake pedal. CAUTION: 	Н
Never set the vehicle to READY. 10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more. 11. Release brake pedal. 12. Start CONSULT and perform "BRAKE" self-diagnosis.	
Is DTC "C1A6E" detected? YES >> GO TO 3. NO >> INSPECTION END	J
3.CHECK 12V BATTERY	
 Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and 3 minutes or more with all doors closed. 	
 CAUTION: Never operate the vehicle while waiting. Check the 12V battery terminal connections. Refer to <u>BR-6</u>, "<u>Precaution for Removing 12V Batter</u> 	⊥ <u>ery"</u> and
 <u>PG-76, "Work Flow"</u>. 4. Check the 12V battery. Refer to <u>PG-76, "Work Flow"</u>. 	M
Is the inspection result normal?	
YES >> GO TO 4.	Ν
NO >> Repair or replace error-detected parts and GO TO 4.	IN
4.PERFORM SELF-DIAGNOSIS (2)	
 With CONSULT Connect 12V battery cable to negative terminal. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION: 	0
 Never set the vehicle to READY. 3. Repeat step 2 two or more times. CAUTION: 	Р
 Be sure to wait for 5 seconds or more after turning the power switch OFF. 4. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. 5. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and 3 minutes or more with all doors closed. 	

CAUTION:

< DTC/CIRCUIT DIAGNOSIS >

Never operate the vehicle while waiting.

6. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 7. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 8. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

10. Turn the power switch ON without depressing the brake pedal.

Never set the vehicle to READY.

- 11. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 12. Release brake pedal.
- 13. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A6E" detected?

YES >> GO TO 5.

NO >> INSPECTION END

5.CHECK CONNECTOR TERMINALS

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery".
- 4. Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.

Is the inspection result normal?

YES >> GO TO 7.

NO >> Repair or replace error-detected parts and GO TO 6.

6. PERFORM SELF-DIAGNOSIS (3)

(I) With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

 Repeat step 3 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 5. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

7. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 8. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 9. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

Turn the power switch ON without depressing the brake pedal.
 CAUTION:

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		GNOSIS >			
 Depres Releas 	ss brake pe se brake pe	edal.		d the position for 5 se	conds or more.
		and perform "BRAKE'	' self-diagnosis.		
	A6E" dete				
	> GO TO 7 > INSPEC1				
-		SWITCH ON POWER			
Turn th Close a 3 minu CAUTI Never	ne power s all doors (in tes or mor I <mark>ON:</mark> operate th	ncluding back door), o e with all doors close ne vehicle while wai	NSULT, and disconn check that the room I d. ting.		f the vehicle, and wait for
	nect 12V I	pattery cable from ne	gative terminal. Refe	er to <u>BR-6, "Precautio</u>	n for Removing 12V Bat-
. Conne	ct 12V bat	lectrically-driven intell tery cable to negative e between the electric	e terminal.		connector and ground.
Electri	cally-driven i	ntelligent brake unit		Voltage	
Conne	ector	Terminal		(Approx.)	
E34	1	26	Ground	0 V	
. Turn th CAUTI Never	ne power s I <mark>ON:</mark> set the ve	witch ON without dep	ressing the brake pe	dal.	oppostor and ground
Turn th CAUTI Never Check	ne power si ON: set the ve the voltage cally-driven in	witch ON without dep hicle to READY. e between the electric ntelligent brake unit	ressing the brake pe	dal. t brake unit harness c ^{Voltage}	connector and ground.
Turn th CAUTI Never Check Electri Conr	ne power s ION: set the ve the voltage cally-driven in nector	witch ON without dep hicle to READY. e between the electric ntelligent brake unit Terminal	ressing the brake pe	dal. t brake unit harness c Voltage (Approx.)	connector and ground.
Turn th CAUTI Never Check Electri Conr	ne power si ON: set the ve the voltage cally-driven in	witch ON without dep hicle to READY. e between the electric ntelligent brake unit	ressing the brake pe	dal. t brake unit harness c ^{Voltage}	connector and ground.
Turn th CAUTI Never Check Electri Conr E: the inspe YES >> NO >>	e power s ON: set the ve the voltage cally-driven in hector 34 ection resu > GO TO 1 > GO TO 8	witch ON without dep chicle to READY. the between the electric intelligent brake unit Terminal 26 It normal? 0.	ressing the brake pe cally-driven intelligen Ground	dal. t brake unit harness c Voltage (Approx.)	connector and ground.
Turn th CAUTI Never Check Electri Conr E: the inspe YES >> NO >>	e power s ON: set the ve the voltage cally-driven in hector 34 ection resu > GO TO 1 > GO TO 8	witch ON without dep chicle to READY. the between the electric ntelligent brake unit Terminal 26 <u>It normal?</u> 0.	ressing the brake pe cally-driven intelligen Ground	dal. t brake unit harness c Voltage (Approx.)	connector and ground.
Turn th CAUTI Never Check Electri Conr Eisthe inspective (ES >> NO >> .CHECK Turn th Close a 3 minu CAUTI	ne power s' ION: set the veltage the voltage cally-driven in nector 34 ection resu > GO TO 1 > GO TO 8 POWER S ne power s' all doors (in tes or mor ION:	witch ON without dep chicle to READY. e between the electric ntelligent brake unit Terminal 26 It normal? 0. SWITCH ON POWER witch OFF to exit CO ncluding back door), o e with all doors closed	R SUPPLY CIRCUIT NSULT, and disconne check that the room I d.	dal. t brake unit harness o Voltage (Approx.) 10 – 16 V	
Turn th CAUTI Never Check Electri Conr E: the inspe (ES >> (ES >> NO >> .CHECK Turn th Close a 3 minu CAUTI Never Discon tery".	e power s Set the ve the voltage cally-driven in hector 34 ection resu > GO TO 1 > GO TO 1 > GO TO 8 POWER S he power s all doors (in tes or mor ON: operate th nect 12V b	witch ON without dep chicle to READY. the between the electric intelligent brake unit Terminal 26 It normal? 0. SWITCH ON POWER witch OFF to exit COI ncluding back door), of the with all doors closed the vehicle while wait battery cable from ne	R SUPPLY CIRCUIT NSULT, and disconne check that the room I d.	dal. t brake unit harness of (Approx.) 10 – 16 V ect CONSULT from da amp is OFF, get out o	ata link connector.
Turn th CAUTI Never Check Electri Conr E: Conr Conr E: Conr Conr E: Conr Conr CON CHECK Conr Conr CON CHECK Conr Conr Conr CON CHECK Conr Conr Conr Conr Conr Conr Conr Conr	e power s ION: set the vetage the voltage cally-driven in tector 34 ection resu action r	witch ON without dep whicle to READY. the between the electric intelligent brake unit Terminal 26 It normal? 0. SWITCH ON POWER witch OFF to exit COI ncluding back door), of the with all doors closed the vehicle while wair battery cable from ne use (#62). 1 E/R harness connect	R SUPPLY CIRCUIT NSULT, and disconne check that the room I d. gative terminal. Refe	dal. t brake unit harness of (Approx.) 10 – 16 V ect CONSULT from da amp is OFF, get out o	ata link connector. f the vehicle, and wait for n for Removing 12V Bat-
Turn th CAUTI Never Check Electri Conr E: Conr Conr E: Conr Conr E: Conr Conr Conr Conr Conr Conr Conr Conr	e power s Set the ve the voltage cally-driven in hector 34 ection resu > GO TO 1 > GO TO 1 > GO TO 8 POWER S he power s all doors (in tes or mor ON: operate th hect 12V b the 15A fu hect IPDN the continu	witch ON without dep whicle to READY. the between the electric intelligent brake unit Terminal 26 It normal? 0. SWITCH ON POWER witch OFF to exit COI ncluding back door), of the with all doors closed the vehicle while wair battery cable from ne use (#62). 1 E/R harness connect	R SUPPLY CIRCUIT NSULT, and disconne check that the room I d. ting. gative terminal. Refe	dal. t brake unit harness of Voltage (Approx.) 10 – 16 V ect CONSULT from da amp is OFF, get out of er to <u>BR-6, "Precautio</u>	ata link connector. f the vehicle, and wait for <u>n for Removing 12V Bat-</u> E/R.
Turn th CAUTI Never Check Electri Conr Es the inspe (ES >> NO >> .CHECK Turn th Close a 3 minu CAUTI Never Discon tery". Check Discon Check	e power s Set the ve the voltage cally-driven in hector 34 ection resu > GO TO 1 > GO TO 1 > GO TO 8 POWER S he power s all doors (in tes or mor ON: operate th hect 12V b the 15A fu hect IPDN the continu	witch ON without dep hicle to READY. e between the electric ntelligent brake unit Terminal 26 It normal? 0. SWITCH ON POWER witch OFF to exit COI ncluding back door), o e with all doors closed ne vehicle while wait battery cable from ne use (#62). I E/R harness connect uity between electrica	R SUPPLY CIRCUIT NSULT, and disconne check that the room I d. ting. gative terminal. Refe	dal. t brake unit harness of Voltage (Approx.) 10 – 16 V ect CONSULT from da amp is OFF, get out of er to <u>BR-6, "Precaution</u> brake unit and IPDM I	ata link connector. f the vehicle, and wait for n for Removing 12V Bat-

7. Check the continuity between electrically-driven intelligent brake unit harness connector and ground.

< DTC/CIRCUIT DIAGNOSIS >

Electrically-driven intelligent brake unit			Continuity	
Connector	Terminal		Continuity	
E34	26	Ground	Not existed	

Is the inspection result normal?

- YES >> Perform trouble diagnosis for power ON power supply. Refer to <u>PG-29</u>, "Wiring Diagram—On <u>Power Supply</u>—".
- NO >> Repair or replace error-detected parts and GO TO 9.

9. PERFORM SELF-DIAGNOSIS (4)

With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect IPDM E/R harness connector.
- 3. Connect 12V battery cable to negative terminal.
- 4. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

5. Repeat step 4 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 6. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 7. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

8. Turn the power switch ON without depressing the brake pedal. **CAUTION:**

Never set the vehicle to READY.

- 9. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 10. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

12. Turn the power switch ON without depressing the brake pedal.

Never set the vehicle to READY.

- 13. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 14. Release brake pedal.
- 15. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A6E" detected?

YES >> GO TO 10.

NO >> INSPECTION END

10.CHECK 12V BATTERY POWER SUPPLY

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6, "Precaution for Removing 12V Bat-</u> tery".
- 4. Disconnect the electrically-driven intelligent brake unit harness connector.
- 5. Connect 12V battery cable to negative terminal.
- 6. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

< DTC/CIRCUIT DIAGNOSIS >

Electrically-driven	Electrically-driven intelligent brake unit		
Connector	Terminal	(Approx.)	
	1 – 32		
E34	2 – 32	10 – 16 V	
-	28 - 32		

7. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

8. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

Electrically-drive	Voltage	
Connector	Terminal	(Approx.)
	1 – 32	
E34	2 - 32	10 – 16 V
	28 - 32	

Is the inspection result normal?

	•
YES	>> GO TO 13.

NO >> GO TO 11.

11. CHECK 12V BATTERY POWER SUPPLY CIRCUIT

Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
 Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery".
- 4. Check the 60A fusible link (#F).
- 5. Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).
- Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).
- 7. Check the 15A fuse (#75).
- 8. Check the continuity and for short circuit between harness connector terminal 28 of electrically-driven intelligent brake unit and 15A fuse (#75).

Is the inspection result normal?

- YES >> Perform trouble diagnosis for 12V battery power supply. Refer to <u>PG-18</u>, "Wiring Diagram Battery Power Supply —".
- NO >> Repair or replace error-detected parts and GO TO 12.

12. PERFORM SELF-DIAGNOSIS (5)

With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

 Repeat step 3 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 5. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

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< DTC/CIRCUIT DIAGNOSIS >

7. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 8. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 9. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 10. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

11. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 13. Release brake pedal.
- 14. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A6E" detected?

YES >> GO TO 13.

NO >> INSPECTION END

13. CHECK GROUND CIRCUIT

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6. "Precaution for Removing 12V Bat-</u> <u>tery"</u>.
- 4. Disconnect the electrically-driven intelligent brake unit harness connector.
- 5. Check the continuity between electrically-driven intelligent brake unit and ground.

Electrically-driven intelligent brake unit			Continuity	
Connector	Terminal	—	Continuity	
E34	32	Ground	Existed	

Is the inspection result normal?

YES >> GO TO 15.

NO >> Repair or replace error-detected parts and GO TO 14.

14.PERFORM SELF-DIAGNOSIS (6)

BWith CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

 Repeat step 3 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 5. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

7. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 8. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 9. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 10. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

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< DTC/CIRCUIT DIAGNOSIS >	
CAUTION: Never operate the vehicle while waiting. 11. Turn the power switch ON without depressing the brake pedal. CAUTION:	A
Never set the vehicle to READY. 12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more. 13. Release brake pedal. 14. Start CONSULT and perform "BRAKE" self-diagnosis.	В
Is DTC "C1A6E" detected?	С
YES >> GO TO 15. NO >> INSPECTION END	
15. CHECK DATA MONITOR	D
1. Connect the electrically-driven intelligent brake unit harness connector.	Е
 Connect 12V battery cable to negative terminal. Turn the power switch OFF to ON without depressing the brake pedal. 	
CAUTION: Never set the vehicle to READY.	BR
4. Repeat step 3 two or more times.	
 CAUTION: Be sure to wait for 5 seconds or more after turning the power switch OFF. 5. Start CONSULT and select "BRAKE" and "DATA MONITOR" according this order. 6. Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER". Refer to <u>BR-33, "Reference</u>" 	G
Value".	Н
<u>Is the inspection result normal?</u> YES >> GO TO 16.	
NO >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-510</u> , "Removal and installation".	
16.PERFORM SELF-DIAGNOSIS (7)	
 With CONSULT 1. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION: 	J
 Never set the vehicle to READY. 2. Repeat step 1 two or more times. CAUTION: 	К
Be sure to wait for 5 seconds or more after turning the power switch OFF.	
 Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION: 	L
 Never operate the vehicle while waiting. 5. Turn the power switch ON without depressing the brake pedal. CAUTION: 	Μ
Never set the vehicle to READY.	Ν
 Start CONSULT and erase self-diagnosis result of "BRAKE". Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. 	
 Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION: 	0
 Never operate the vehicle while waiting. 9. Turn the power switch ON without depressing the brake pedal. CAUTION: 	Ρ
Never set the vehicle to READY. 10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more. 11. Release brake pedal. 12. Start CONSULT and perform "BRAKE" self-diagnosis.	
Is DTC "C1A6E" or "U1000" detected?	
YES ("C1A6E")>>GO TO 1.	

< DTC/CIRCUIT DIAGNOSIS >

YES ("U1000")>>Refer to <u>BR-449, "Diagnosis Procedure"</u>.

NO >> INSPECTION END

< DTC/CIRCUIT DIAGNOSIS >

C1A6F VCM SYSTEM

DTC Logic

INFOID:000000010634201

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DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes	
C1A6F	TCM/VCM SYSTEM	Malfunction is detected in the VCM system.	 Harness or connector VCM Electrically-driven intelligent brake unit 	C
DTC RE	PRODUCTION PROCE	DURE		D
1.PREC	ONDITIONING			_
If "DTC C	ONFIRMATION PROCED	OURE" has been previously conducted, always	turn power switch OFF and	E
wait at lea	ast 10 seconds before cor	nducting the next test.		
	>> GO TO 2.			BR
-	K DTC DETECTION			
				G
With C		ON without depressing the brake pedal.		
CAU	TION:			Н
	er set the vehicle to REA eat step 1 two or more time			11
CAU	TION:			
		s or more after turning the power switch OF exit CONSULT, and disconnect CONSULT from		I
4. Close	e all doors (including back	door), check that the room lamp is OFF, get or		
	utes or more with all door TION:	s closed.		J
Neve	r operate the vehicle wh			
	the power switch ON with TION:	out depressing the brake pedal.		K
Neve	er set the vehicle to REA			N
		-diagnosis result of "BRAKE". exit CONSULT, and disconnect CONSULT from	n data link connector	
8. Close	e all doors (including back	door), check that the room lamp is OFF, get or		L
	utes or more with all door TION:	s closed.		
Neve	er operate the vehicle wh			M
	the power switch ON with TION:	out depressing the brake pedal.		
Neve	er set the vehicle to REA			Ν
•	ess brake pedal by 100 m ase brake pedal.	m (3.94 in) or more, and hold the position for 5	5 seconds or more.	IN
	CONSULT and perform "E	BRAKE" self-diagnosis.		
<u>ls DTC "(</u>	21A6F" detected?			0
	>> Proceed to <u>BR-159, "D</u>	iagnosis Procedure".		
-	>> INSPECTION END			Р
Diagno	sis Procedure		INFOID:000000010634202	
1.PERF	ORM VCM SELF DIAGNO	DSIS		

Start CONSULT and perform self-diagnosis for "EV/HEV". Refer to EVC-73, "CONSULT Function". Is any DTC detected?

YES >> Check the DTC. Refer to EVC-103, "DTC Index".

< DTC/CIRCUIT DIAGNOSIS >

NO >> GO TO 2.

2. PERFORM SELF-DIAGNOSIS (1)

With CONSULT

- 1. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:
- Never set the vehicle to READY.
- 2. Repeat step 1 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 3. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 4. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 - CAUTION:

Never operate the vehicle while waiting.

5. Turn the power switch ON without depressing the brake pedal. **CAUTION:**

Never set the vehicle to READY.

- 6. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 7. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

9. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 11. Release brake pedal.
- 12. Start CONSULT and perform "BRAKE" self-diagnosis.
- Is DTC "C1A6F" detected?
- YES >> GO TO 3.
- NO >> INSPECTION END

3.CHECK 12V BATTERY

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

- 3. Check the 12V battery terminal connections. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery" and <u>PG-76</u>, "Work Flow".
- 4. Check the 12V battery. Refer to PG-76, "Work Flow".

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace error-detected parts and GO TO 4.

4.PERFORM SELF-DIAGNOSIS (2)

With CONSULT

- 1. Connect 12V battery cable to negative terminal.
- 2. Turn the power switch OFF to ON without depressing the brake pedal.

CAUTION: Never set the vehicle to READY.

Repeat step 2 two or more times.
 CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 4. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

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< DTC/CIRCUIT DIAGNOSIS >

Never operate the vehicle while waiting.6. Turn the power switch ON without depressing the brake pedal.	_
CAUTION:	1
Never set the vehicle to READY.7. Start CONSULT and erase self-diagnosis result of "BRAKE".	
8. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.	E
9. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait fo	r
3 minutes or more with all doors closed. CAUTION:	C
Never operate the vehicle while waiting.	
10. Turn the power switch ON without depressing the brake pedal.	
CAUTION: Never set the vehicle to READY.	
11. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.	
12. Release brake pedal.	E
 Start CONSULT and perform "BRAKE" self-diagnosis. Is DTC "C1A6F" detected? 	
YES >> GO TO 5.	
NO >> INSPECTION END	BF
5. CHECK CONNECTOR TERMINALS	
1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.	_
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait fo	r
3 minutes or more with all doors closed.	
CAUTION: Never operate the vehicle while waiting.	ŀ
3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6, "Precaution for Removing 12V Bat</u>	=
tery". 1. Disconnect the electrically driven intelligent brake unit barness connector, then check for failures of nic	•
 Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections. 	I
Is the inspection result normal?	
YES >> GO TO 7.	
NO >> Repair or replace error-detected parts and GO TO 6.	
O.PERFORM SELF-DIAGNOSIS (3)	
With CONSULT	- 1
 Connect the electrically-driven intelligent brake unit harness connector. Connect 12V battery cable to negative terminal. 	
3. Turn the power switch OFF to ON without depressing the brake pedal.	l
CAUTION:	
Never set the vehicle to READY.	
 Repeat step 3 two or more times. CAUTION: 	N
Be sure to wait for 5 seconds or more after turning the power switch OFF.	
5. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.	r ľ
 Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait fo 3 minutes or more with all doors closed. 	1
CAUTION:	
Never operate the vehicle while waiting.	(
 Turn the power switch ON without depressing the brake pedal. CAUTION: 	
Never set the vehicle to READY.	
8. Start CONSULT and erase self-diagnosis result of "BRAKE".	F
Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait fo	r
3 minutes or more with all doors closed.	•
CAUTION:	
Never operate the vehicle while waiting. 11. Turn the power switch ON without depressing the brake pedal.	

11. Turn the power switch ON without depressing the brake pedal. **CAUTION:**

< DTC/CIRCUIT DIAGNOSIS >

Never set the vehicle to READY.

- 12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 13. Release brake pedal.
- 14. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A6F" detected?

YES >> GO TO 7.

NO >> INSPECTION END

7. CHECK POWER SWITCH ON POWER SUPPLY

- 1. Connect 12V battery cable to negative terminal.
- 2. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- 4. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, <u>"Precaution for Removing 12V Bat-tery"</u>.
- 5. Disconnect the electrically-driven intelligent brake unit harness connector.
- 6. Connect 12V battery cable to negative terminal.
- 7. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit			Voltage	
Connector	Terminal		(Approx.)	
E34	26	Ground	0 V	

8. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

9. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit			Voltage
Connector	Terminal		(Approx.)
E34	26	Ground	10 – 16 V

Is the inspection result normal?

YES >> GO TO 10.

NO >> GO TO 8.

8.CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery".
- 4. Check the 15A fuse (#62).
- 5. Disconnect IPDM E/R harness connector.
- 6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

Electrically-driven in	Electrically-driven intelligent brake unit		IPDM E/R	
Connector	Terminal	Connector	Terminal	Continuity
E34	26	E15	62	Existed

7. Check the continuity between electrically-driven intelligent brake unit harness connector and ground.

< DTC/CIRCUIT DIAGNOSIS >

Electrically-driven in		Continuity		
Connector	Terminal			
E34	26	Ground	Not existed	
the inspection result	<u>t normal?</u>			
<pre>/ES >> Perform tr</pre>	ouble diagnosis for p	ower ON power su	pply. <u>PG-29, "Wiring Diagram—On Power Su</u>	<u>p-</u>
<u>ply—"</u> .				
	replace error-detecte	d parts GO TO 9.		
.PERFORM SELF-	DIAGNOSIS (4)			
With CONSULT				
	rically-driven intelliger	nt brake unit harne	ss connector.	
	R harness connector.	4		
	ery cable to negative vitch OFF to ON witho		brako podal	
CAUTION:		but depressing the	brake pedal.	_
Never set the vel	nicle to READY.			
Repeat step 4 two	or more times.			
CAUTION:				
	or 5 seconds or mor		ect CONSULT from data link connector.	
			lamp is OFF, get out of the vehicle, and wait t	or
	with all doors closed			
CAUTION:		_		
	e vehicle while wait			
Turn the power sv CAUTION:	vitch ON without depr	essing the brake p	edal.	
Never set the vel	nicle to READY.			
	nd erase self-diagnos			
). Turn the power sv	vitch OFF to exit CON	ISULT, and discon	ect CONSULT from data link connector.	
			lamp is OFF, get out of the vehicle, and wait	or
CAUTION:	e with all doors closed			
	e vehicle while wait	ing.		
	vitch ON without depr		edal.	
CAUTION:				
Never set the vel		in) or more and he	Id the position for 5 accords or more	
 Depress brake pe Release brake pe 		in) of more, and no	ld the position for 5 seconds or more.	
	nd perform "BRAKE"	self-diagnosis.		
DTC "C1A6F" detec	•	0		
/ES >> GO TO 10				
NO >> INSPECT				
O. CHECK 12V BAT	TERY POWER SUP	PLY		
			ect CONSULT from data link connector.	
			lamp is OFF, get out of the vehicle, and wait f	or
	with all doors closed		, , , , , , , , , , , , , , , , , , , 	-
CAUTION:		_		
	e vehicle while wait			_ 1
Disconnect 12V b terv".	attery caple from neg	jative terminal. Ref	er to <u>BR-6, "Precaution for Removing 12V Ba</u>	<u>at-</u>
	ectrically-driven intelli	gent brake unit har	ness connector.	
Connect 12V batte	ery cable to negative	terminal.		

< DTC/CIRCUIT DIAGNOSIS >

Electrically-driven intelligent brake unit		Voltage
Connector	Terminal	(Approx.)
	1 – 32	
E34	2 – 32	10 – 16 V
	28 – 32	

7. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

8. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

Electrically-drive	Electrically-driven intelligent brake unit	
Connector	Connector Terminal	
	1 – 32	
E34	2 – 32	$10-16 \ V$
	28 - 32	

Is the inspection result normal?

YES >> GO TO 13.

NO >> GO TO 11.

11. CHECK 12V BATTERY POWER SUPPLY CIRCUIT

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION: Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, <u>"Precaution for Removing 12V Bat-tery"</u>.
- 4. Check the 60A fusible link (#F).
- 5. Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).
- 6. Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).
- 7. Check the 15A fuse (#75).
- 8. Check the continuity and for short circuit between harness connector terminal 28 of electrically-driven intelligent brake unit and 15A fuse (#75).

Is the inspection result normal?

- YES >> Perform trouble diagnosis for 12V battery power supply. Refer to <u>PG-18. "Wiring Diagram Battery Power Supply —"</u>.
- NO >> Repair or replace error-detected parts and GO TO 12.

12. PERFORM SELF-DIAGNOSIS (5)

(D) With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

4. Repeat step 3 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 5. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

< D	TC/CIRCUIT DI	AGNOSIS >			
7.		switch ON without dep	ressing the brake pe	dal.	
	CAUTION: Never set the vehicle to READY.				
11.		the vehicle while wai switch ON without dep		dal.	С
13.	Depress brake p Release brake p	bedal.		d the position for 5 seconds or more.	D
	TC "C1A6F" dete	and perform "BRAKE'	self-diagnosis.		Е
YE	S >> GO TO	13.			
N(13) >> INSPEC				BR
1. 2.	Close all doors (3 minutes or mo CAUTION:	(including back door), or ore with all doors close	check that the room l d.	ect CONSULT from data link connector. amp is OFF, get out of the vehicle, and wait for	G
3.	Disconnect 12V	the vehicle while wai battery cable from ne		er to BR-6. "Precaution for Removing 12V Bat-	Н
4	tery". Disconnect the e	electrically-driven intell	ligent brake unit harn	less connector	
т.					
. 5.				brake unit and ground.	
	Check the contir	nuity between electrica		brake unit and ground.	
	Check the contir				l J
	Check the contin	nuity between electrica		brake unit and ground.	J
5. Is th	Check the contin Electrically-driven Connector E34 ne inspection res	intelligent brake unit Terminal 32 ult normal?	ally-driven intelligent I	brake unit and ground. Continuity	I J K
5. 	Check the contin	nuity between electrica intelligent brake unit Terminal 32 ult normal? 15.	ally-driven intelligent I Ground	brake unit and ground. Continuity Existed	I J K
5. Is the YE	Check the contin	intelligent brake unit Terminal 32 ult normal?	ally-driven intelligent I Ground	brake unit and ground. Continuity Existed	I J K
5. <u>Is th</u> YE NC	Check the contin	nuity between electrica intelligent brake unit Terminal 32 ult normal? 15. or replace error-detecte	ally-driven intelligent I Ground	brake unit and ground. Continuity Existed	I J K
5. <u>Is th</u> YE NO 14 ®V 1.	Check the contin	nuity between electrica intelligent brake unit Terminal 32 <u>ult normal?</u> 15. or replace error-detecte LF-DIAGNOSIS (6) ctrically-driven intellige	Ground Ground Ed parts and GO TO	brake unit and ground. Continuity Existed 14.	L
5. <u>Is tt</u> YE NO 14 ®V	Check the contin	nuity between electrica intelligent brake unit Terminal 32 ult normal? 15. or replace error-detecte LF-DIAGNOSIS (6)	Ground Ground Ed parts and GO TO ent brake unit harness terminal.	brake unit and ground. Continuity Existed 14. s connector.	I J K L
5. <u>Is th</u> YE NO 14 ®V 1. 2.	Check the contin	nuity between electrica intelligent brake unit Terminal 32 ult normal? 15. or replace error-detecte LF-DIAGNOSIS (6) ctrically-driven intellige ittery cable to negative switch OFF to ON with	Ground Ground Ed parts and GO TO ent brake unit harness terminal.	brake unit and ground. Continuity Existed 14. s connector.	L
5. <u>Is th</u> YE NO 14 ®V 1. 2.	Check the contin	nuity between electrica intelligent brake unit Terminal 32 <u>ult normal?</u> 15. or replace error-detected LF-DIAGNOSIS (6) ctrically-driven intelligent ttery cable to negative	Ground Ground Ed parts and GO TO ent brake unit harness terminal.	brake unit and ground. Continuity Existed 14. s connector.	L
5. <u>Is tt</u> YE NC 14 [®] V 1. 2. 3.	Check the contin	intelligent brake unit Terminal 32 <u>ult normal?</u> 15. or replace error-detected LF-DIAGNOSIS (6) ctrically-driven intelliged ttery cable to negative switch OFF to ON with ehicle to READY. vo or more times. for 5 seconds or mo switch OFF to exit CO	Ground Ground ed parts and GO TO ent brake unit harness terminal. hout depressing the b ore after turning the NSULT, and disconne check that the room l	brake unit and ground. Continuity Existed 14. s connector. orake pedal.	L M N
5. <u>Is th</u> YE NO 14 ©V 1. 2. 3. 4. 5.	Check the contin	intelligent brake unit Terminal 32 <u>ult normal?</u> 15. or replace error-detected LF-DIAGNOSIS (6) ctrically-driven intelliged ttery cable to negative switch OFF to ON with ehicle to READY. wo or more times. for 5 seconds or mo switch OFF to exit CO (including back door), or with all doors close	ent brake unit harness terminal. hout depressing the b ore after turning the NSULT, and disconne check that the room I d.	brake unit and ground. Continuity Existed 14. s connector. orake pedal. power switch OFF. ect CONSULT from data link connector.	L M N
5. <u>Is th</u> YE NO 14 ©V 1. 2. 3. 4. 5.	Check the contin	intelligent brake unit Terminal 32 ult normal? 15. or replace error-detected LF-DIAGNOSIS (6) ctrically-driven intelliged terry cable to negative switch OFF to ON with ehicle to READY. wo or more times. for 5 seconds or mo switch OFF to exit CO (including back door), or the vehicle while wair switch ON without dep	ed parts and GO TO ent brake unit harness terminal. hout depressing the b ore after turning the NSULT, and disconne check that the room la d. ting.	brake unit and ground. Continuity Existed 14. s connector. orake pedal. power switch OFF. ect CONSULT from data link connector. amp is OFF, get out of the vehicle, and wait for	L M N
5. <u>Is th</u> YE NO 14 ©V 1. 2. 3. 4. 5. 6. 7. 8. 9.	Check the contin	intelligent brake unit Terminal 32 <u>ult normal?</u> 15. or replace error-detected LF-DIAGNOSIS (6) ctrically-driven intelliged ttery cable to negative switch OFF to ON with ehicle to READY. wo or more times. for 5 seconds or mo switch OFF to exit CO (including back door), or with all doors close the vehicle while wai switch ON without dep ehicle to READY. and erase self-diagno switch OFF to exit CO	Ground Ground ed parts and GO TO ent brake unit harness terminal. out depressing the b ore after turning the NSULT, and disconne check that the room I d. ting. ressing the brake pe sis result of "BRAKE NSULT, and disconne check that the room I	Continuity Existed 14. s connector. orake pedal. power switch OFF. ect CONSULT from data link connector. amp is OFF, get out of the vehicle, and wait for	L M N P

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< DTC/CIRCUIT DIAGNOSIS >

CAUTION:

Never operate the vehicle while waiting.

11. Turn the power switch ON without depressing the brake pedal.

CAUTION: Never set the vehicle to READY.

- 12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 13. Release brake pedal.
- 14. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A6F" detected?

YES >> GO TO 15.

NO >> INSPECTION END

15.CHECK DATA MONITOR

With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

4. Repeat step 3 two or more times.

CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 5. Start CONSULT and select "BRAKE" and "DATA MONITOR" according this order.
- Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER". Refer to <u>BR-33, "Reference</u> <u>Value"</u>.

Is the inspection result normal?

YES >> GO TO 16.

NO	>> Replace the electrically	y-driven intelligent brake unit.	Refer to BR-510.	"Removal and installation".
----	-----------------------------	----------------------------------	------------------	-----------------------------

16.PERFORM SELF-DIAGNOSIS (7)

With CONSULT

Turn the power switch OFF to ON without depressing the brake pedal.

CAUTION: Never set the vehicle to READY.

2. Repeat step 1 two or more times.

CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 3. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

5. Turn the power switch ON without depressing the brake pedal. **CAUTION:**

Never set the vehicle to READY.

- 6. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 7. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

9. Turn the power switch ON without depressing the brake pedal. **CAUTION:**

Never set the vehicle to READY.

- 10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 11. Release brake pedal.
- 12. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A6F" or "U1000" detected?

YES ("C1A6F")>>GO TO 1.

< DTC/CIRCUIT DIAGNOSIS >	
YES ("U1000")>>Refer to <u>BR-449, "Diagnosis Procedure"</u> . NO >> INSPECTION END	А

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< DTC/CIRCUIT DIAGNOSIS >

C1A70 BRAKE CONTROL SYSTEM

DTC Logic

INFOID:000000010634203

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1A70	BRAKE CONTROL SYSTEM	Malfunction is detected in ABS actuator and electric unit (control unit) system.	 Harness or connector ABS actuator and electric unit (control unit) Electrically-driven intelligent brake unit

DTC REPRODUCTION PROCEDURE

1.PRECONDITIONING

If "DTC CONFIRMATION PROCEDURE" has been previously conducted, always turn power switch OFF and wait at least 10 seconds before conducting the next test.

>> GO TO 2.

2. CHECK DTC DETECTION

(I) With CONSULT

1. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

 Repeat step 1 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 3. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 4. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

5. Turn the power switch ON without depressing the brake pedal. **CAUTION:**

Never set the vehicle to READY.

- 6. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 7. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

9. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 11. Release brake pedal.
- 12. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A70" detected?

- YES >> Proceed to <u>BR-168</u>, "Diagnosis Procedure".
- NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000010634204

1.PERFORM SELF-DIAGNOSIS OF ABS ACTUATOR AND CONTROL UNIT

Start CONSULT and perform self-diagnosis for "ABS". Refer to <u>BRC-46, "CONSULT Function"</u>. Is any DTC detected?

< DTC/CIRCUIT DIAGNOSIS >	
YES >> Check the DTC. Refer to <u>BRC-56. "DTC Index"</u> . NO >> GO TO 2.	_
NO >> GO TO 2. 2.PERFORM SELF-DIAGNOSIS (1)	A
Provide Construction (1)	—
1. Turn the power switch OFF to ON without depressing the brake pedal.	В
CAUTION: Never set the vehicle to READY.	
2. Repeat step 1 two or more times.	С
CAUTION:	
Be sure to wait for 5 seconds or more after turning the power switch OFF.Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.	
4. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait f	or
3 minutes or more with all doors closed. CAUTION:	
Never operate the vehicle while waiting.	E
 Turn the power switch ON without depressing the brake pedal. CAUTION: 	_
Never set the vehicle to READY.	BR
6. Start CONSULT and erase self-diagnosis result of "BRAKE".	
 Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait f 	or
3 minutes or more with all doors closed.	G
CAUTION: Never operate the vehicle while waiting.	
9. Turn the power switch ON without depressing the brake pedal.	Н
CAUTION: Never set the vehicle to READY.	
10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.	I
 Release brake pedal. Start CONSULT and perform "BRAKE" self-diagnosis. 	I
Is DTC "C1A70" detected?	
YES >> GO TO 3.	J
NO >> INSPECTION END	
3.CHECK 12V BATTERY	K
 Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait f 	or
3 minutes or more with all doors closed.	
CAUTION:	L
 Never operate the vehicle while waiting. Check the 12V battery terminal connections. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery" are 	nd
PG-76, "Work Flow".	Μ
 Check the 12V battery. Refer to <u>PG-76, "Work Flow"</u>. <u>Is the inspection result normal?</u> 	
YES >> GO TO 4.	Ν
NO >> Repair or replace error-detected parts and GO TO 4.	
4. PERFORM SELF-DIAGNOSIS (2)	0
With CONSULT	_ 0
 Connect 12V battery cable to negative terminal. Turn the power switch OFF to ON without depressing the brake pedal. 	
CAUTION:	Ρ
Never set the vehicle to READY.	
 Repeat step 2 two or more times. CAUTION: 	
Be sure to wait for 5 seconds or more after turning the power switch OFF.	
 Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait f 	or
3 minutes or more with all doors closed.	

< DTC/CIRCUIT DIAGNOSIS >

CAUTION:

Never operate the vehicle while waiting.

6. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 7. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 8. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

10. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 11. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 12. Release brake pedal.
- 13. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A70" detected?

YES >> GO TO 5.

NO >> INSPECTION END

5.CHECK CONNECTOR TERMINALS

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery".
- 4. Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.

Is the inspection result normal?

YES >> GO TO 7.

NO >> Repair or replace error-detected parts and GO TO 6.

6. PERFORM SELF-DIAGNOSIS (3)

(I) With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal.
- CAUTION: Never set the vehicle to READY.

4. Repeat step 3 two or more times.

4. Repeat step 5 two or more times.

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 5. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

7. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 8. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 9. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

11. Turn the power switch ON without depressing the brake pedal.

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< C	DTC/CIRCUIT DIA	GNOSIS >				
	CAUTION: Never set the vel Depress brake pe Release brake pe	dal by 100 mm (3.94	in) or more, and hold	the position for 5 s	econds or more.	А
14.	Start CONSULT a	nd perform "BRAKE'	' self-diagnosis.			В
	DTC "C1A70" detec					
	ES >> GO TO 7. O >> INSPECT					
7.		WITCH ON POWER	RSUPPLY			С
1.		ery cable to negative				
2. 3.	Turn the power sw Close all doors (in	vitch OFF to exit CO	NSULT, and disconne check that the room la		lata link connector. of the vehicle, and wait for	D
	CAUTION:					E
4.		e vehicle while wai		to BR-6 "Precauti	on for Removing 12V Bat-	
	<u>tery"</u> .				and the reason of the reason o	
5. 6.		ectrically-driven intell ery cable to negative	ligent brake unit harne	ess connector.		BR
0. 7.				brake unit harness	connector and ground.	
	_				-	G
	Electrically-driven in	telligent brake unit	_	Voltage		
	Connector	Terminal		(Approx.)		Н
	E34	26	Ground	0 V		
8. 9.	CAUTION: Never set the vel	hicle to READY.	ressing the brake peo cally-driven intelligent		connector and ground.	I
	Electrically-driven in	itelligent brake unit		Voltage		J
	Connector	Terminal	—	(Approx.)		
	E34	26	Ground	10 – 16 V		K
Y N	the inspection result ES >> GO TO 10 O >> GO TO 8. CHECK POWER S).				L
1. 2.	Turn the power sv Close all doors (in 3 minutes or more CAUTION:	vitch OFF to exit CO	NSULT, and disconne check that the room la d.		lata link connector. of the vehicle, and wait for	N
3.	Disconnect 12V b tery".	attery cable from ne		r to <u>BR-6, "Precautio</u>	on for Removing 12V Bat-	I.
4. 5	Check the 15A fus	se (#62). E/R harness connec	tor			C
5. 6.			ally-driven intelligent b	orake unit and IPDM	E/R.	
	Electrically-driven ir	ntelligent brake unit	וחסו	1 E/R		F
	Connector	Terminal	Connector	Terminal	Continuity	
	E34	26	E15	62	Existed	
_						

7. Check the continuity between electrically-driven intelligent brake unit harness connector and ground.

< DTC/CIRCUIT DIAGNOSIS >

Electrically-driven in	ntelligent brake unit			
Connector	Terminal		Continuity	
E34	26	Ground	Not existed	-
Is the inspection resul	t normal?			
		power ON power s	supply. Refer to PG	-29, "Wiring Diagram—On
<u>Power Su</u> NO >> Repair or	pply—". replace error-detecte	ad parts and GO TO	٥	
9.PERFORM SELF-	•		5.	
J.PERFURIN SELF-	DIAGNOSIS (4)			
	ula a llo a dulo a su la fa ll'as			
	rically-driven intellige R harness connector		s connector.	
	ery cable to negative			
	witch OFF to ON with	out depressing the b	orake pedal.	
CAUTION: Never set the ve	hicle to PEADV			
5. Repeat step 4 two				
CAUTION:				
	or 5 seconds or mo			
Turn the power sw	vitch OFF to exit CO	NSULT, and disconn	ect CONSULT from	data link connector.

- tor.
- 7. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

8. Turn the power switch ON without depressing the brake pedal. **CAUTION:**

Never set the vehicle to READY.

- 9. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 10. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 11. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION:

Never operate the vehicle while waiting.

12. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 13. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 14. Release brake pedal.
- Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A70" detected?

YES >> GO TO 10.

>> INSPECTION END NO

10.CHECK 12V BATTERY POWER SUPPLY

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
- **CAUTION:**

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to BR-6, "Precaution for Removing 12V Batterv".
- Disconnect the electrically-driven intelligent brake unit harness connector.
- 5. Connect 12V battery cable to negative terminal.
- 6. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

< DTC/CIRCUIT DIAGNOSIS >

Electrically-driven intelligent brake unit		Voltage
Connector	Connector Terminal	
	1 – 32	
E34	2 – 32	10 – 16 V
	28 – 32	

7. Turn the power switch ON without depressing the brake pedal. **CAUTION:**

Never set the vehicle to READY.

8. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

Electrically-driven intelligent brake unit		Voltage
Connector Terminal		(Approx.)
	1 – 32	
E34	2 – 32	10 – 16 V
	28 - 32	

Is the inspection result normal?

YES >> GO TO 13.

NO >> GO TO 11.

11. CHECK 12V BATTERY POWER SUPPLY CIRCUIT

Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
 Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery".
- 4. Check the 60A fusible link (#F).
- 5. Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).
- Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).
- 7. Check the 15A fuse (#75).
- 8. Check the continuity and for short circuit between harness connector terminal 28 of electrically-driven intelligent brake unit and 15A fuse (#75).

Is the inspection result normal?

- YES >> Perform trouble diagnosis for 12V battery power supply. Refer to <u>PG-18</u>, "Wiring Diagram Battery Power Supply —".
- NO >> Repair or replace error-detected parts and GO TO 12.

12. PERFORM SELF-DIAGNOSIS (5)

With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

 Repeat step 3 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 5. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

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< DTC/CIRCUIT DIAGNOSIS >

7. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 8. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 9. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 10. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

11. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 13. Release brake pedal.
- 14. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A70" detected?

YES >> GO TO 13.

NO >> INSPECTION END

13. CHECK GROUND CIRCUIT

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery".
- 4. Disconnect the electrically-driven intelligent brake unit harness connector.
- 5. Check the continuity between electrically-driven intelligent brake unit and ground.

Electrically-driven intelligent brake unit			Continuity
Connector Terminal			Continuity
E34	32	Ground	Existed

Is the inspection result normal?

YES >> GO TO 15.

NO >> Repair or replace error-detected parts and GO TO 14.

14.PERFORM SELF-DIAGNOSIS (6)

With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

 Repeat step 3 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 5. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

7. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 8. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 9. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 10. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

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< DTC/CIRCUIT DIAGNOSIS >	
CAUTION: Never operate the vehicle while waiting. 11. Turn the power switch ON without depressing the brake pedal.	A
 CAUTION: Never set the vehicle to READY. 12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more. 13. Release brake pedal. 14. Clease ONCHUT and perform "DDAKE" actin diagnosis. 	В
 Start CONSULT and perform "BRAKE" self-diagnosis. <u>Is DTC "C1A70" detected?</u> 	С
YES >> GO TO 15.	
NO >> INSPECTION END 15.CHECK DATA MONITOR	D
With CONSULT	
1. Connect the electrically-driven intelligent brake unit harness connector.	Е
 Connect 12V battery cable to negative terminal. Turn the power switch OFF to ON without depressing the brake pedal. 	
CAUTION: Never set the vehicle to READY.	BR
4. Repeat step 3 two or more times. CAUTION:	
 Be sure to wait for 5 seconds or more after turning the power switch OFF. 5. Start CONSULT and select "BRAKE" and "DATA MONITOR" according this order. 6. Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER". Refer to <u>BR-33</u>, "Reference 	G
Value". Is the inspection result normal?	Н
YES >> GO TO 16. NO >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-510, "Removal and installation"</u> .	
16.PERFORM SELF-DIAGNOSIS (7)	
With CONSULT	
 Turn the power switch OFF to ON without depressing the brake pedal. CAUTION: 	J
Never set the vehicle to READY.2. Repeat step 1 two or more times.	
CAUTION:	K
 Be sure to wait for 5 seconds or more after turning the power switch OFF. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION: 	L
Never operate the vehicle while waiting.5. Turn the power switch ON without depressing the brake pedal.	M
CAUTION: Never set the vehicle to READY.	
Start CONSULT and erase self-diagnosis result of "BRAKE".	Ν
 Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. 	0
CAUTION: Never operate the vehicle while waiting.	-
9. Turn the power switch ON without depressing the brake pedal.	Р
CAUTION: Never set the vehicle to READY.	-
 Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more. Release brake pedal. 	
12. Start CONSULT and perform "BRAKE" self-diagnosis.	
<u>Is DTC "C1A70" or "U1000" detected?</u> YES ("C1A70")>>GO TO 1.	

< DTC/CIRCUIT DIAGNOSIS >

YES ("U1000")>>Refer to <u>BR-449, "Diagnosis Procedure"</u>.

NO >> INSPECTION END

< DTC/CIRCUIT DIAGNOSIS >

C1A74 STEERING ANGLE SENSOR

DTC Logic

INFOID:000000010634205

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DTC DETECTION LOGIC В DTC Display item Malfunction detection condition Possible causes · Harness or connector ABS actuator and electric unit Malfunction is detected in the steering angle (control unit) C1A74 ST ANG SEN CIRCUIT sensor system. Steering angle sensor D Electrically-driven intelligent brake unit DTC REPRODUCTION PROCEDURE Е 1.PRECONDITIONING If "DTC CONFIRMATION PROCEDURE" has been previously conducted, always turn power switch OFF and BR wait at least 10 seconds before conducting the next test. >> GO TO 2. 2 . CHECK DTC DETECTION (P)With CONSULT Turn the power switch OFF to ON without depressing the brake pedal. Н CAUTION: Never set the vehicle to READY. Repeat step 1 two or more times. **CAUTION:** Be sure to wait for 5 seconds or more after turning the power switch OFF. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. 4. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION: Never operate the vehicle while waiting. Κ 5. Turn the power switch ON without depressing the brake pedal. **CAUTION:** Never set the vehicle to READY. Start CONSULT and erase self-diagnosis result of "BRAKE". 7. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. 8. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. M **CAUTION:** Never operate the vehicle while waiting. Turn the power switch ON without depressing the brake pedal. Ν CAUTION: Never set the vehicle to READY. 10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more. 11. Release brake pedal. 12. Start CONSULT and perform "BRAKE" self-diagnosis. Is DTC "C1A74" detected? YES >> Proceed to BR-177, "Diagnosis Procedure". Ρ NO >> INSPECTION END Diagnosis Procedure INFOID:000000010634206 **1.**CHECK 12V BATTERY

1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.

< DTC/CIRCUIT DIAGNOSIS >

 Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- 3. Check the 12V battery terminal connections. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery" and <u>PG-76</u>, "Work Flow".
- 4. Check the 12V battery. Refer to <u>PG-76, "Work Flow"</u>.
- Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace error-detected parts and GO TO 2.

2. PERFORM SELF-DIAGNOSIS (1)

(I) With CONSULT

- 1. Connect 12V battery cable to negative terminal.
- 2. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:
 - Never set the vehicle to READY.
- Repeat step 2 two or more times.
 CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 4. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

6. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 7. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 8. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

10. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 11. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 12. Release brake pedal.
- 13. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A74" detected?

YES >> GO TO 3.

NO >> INSPECTION END

3.CHECK CONNECTOR TERMINALS

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery".
- 4. Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace error-detected parts and GO TO 4.

4.PERFORM SELF-DIAGNOSIS (2)

< DTC/CIRCUIT DIA	GNOSIS >					
(P)With CONSULT						
	trically-driven intellige	ent brake unit harness	s connector.	A		
	tery cable to negative					
	Turn the power switch OFF to ON without depressing the brake pedal.					
CAUTION:	biolo to BEADV			В		
4. Repeat step 3 tw						
CAUTION:						
	for 5 seconds or mo	re after turning the	power switch OFF.	С		
			ct CONSULT from data link connect	or.		
	Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for					
	e with all doors close	d.		D		
CAUTION:						
	ne vehicle while wai					
	witch ON without dep	ressing the brake pe	dal.	E		
CAUTION:						
Never set the ve			,			
		sis result of "BRAKE"		or		
			ect CONSULT from data link connect amp is OFF, get out of the vehicle, ar			
	e with all doors close		amp is OFF, get out of the vehicle, at			
CAUTION:		u.				
	ne vehicle while wai	tina.		G		
11. Turn the power s	witch ON without dep	ressing the brake pe	dal.			
CAUTION:	•	5				
Never set the ve	hicle to READY.			Н		
12. Depress brake pe	edal by 100 mm (3.94	in) or more, and hole	the position for 5 seconds or more.			
13. Release brake pe						
14. Start CONSULT a	and perform "BRAKE	' self-diagnosis.		1		
Is DTC "C1A74" dete	cted?			I		
YES >> GO TO 5						
NO >> INSPECT	FION END			1		
5. CHECK POWER		SUPPLY		J		
1. Connect 12V bat						
			ct CONSULT from data link connect			
			amp is OFF, get out of the vehicle, ar	id wait for		
CAUTION:	e with all doors close	u.				
	ne vehicle while wai	tina		L		
			r to <u>BR-6, "Precaution for Removing</u>	12V Bat-		
terv".			to <u>bit e; i recaduor for temoving</u>	<u>TZV Dat</u>		
	lectricallv-driven intel	igent brake unit harn	ess connector.	M		
	Dissertie electrolary arven intelligent brake unit harress sentester.					
			brake unit harness connector and g	round.		
-		-	-	Ν		
Electricallv-driven i	ntelligent brake unit		Voltage	1.4		
Connector			Voltage (Approx.)			
	Terminal			0		
E34	26	Ground	0 V	0		
	witch ON without dep	ressing the brake pe	dal.			
CAUTION:				Р		
CAUTION: Never set the ve	hicle to READY.	5 .	dal. brake unit harness connector and g			

Electrically-driven in	telligent brake unit		Voltage	
Connector	Terminal		(Approx.)	
E34	26	Ground	10 – 16 V	

< DTC/CIRCUIT DIAGNOSIS >

Is the inspection result normal?

YES >> GO TO 8.

NO >> GO TO 6.

6.CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

- Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery".
- 4. Check the 15A fuse (#62).
- 5. Disconnect IPDM E/R harness connector.
- 6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

Electrically-driven intelligent brake unit		IPDM E/R		Continuity
Connector	Terminal	Connector	Terminal	Continuity
E34	26	E15	62	Existed

7. Check the continuity between electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven in	telligent brake unit		Continuity	
Connector	Terminal			
E34	26	Ground	Not existed	

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. <u>PG-29</u>, "Wiring Diagram—On Power Supply—".

NO >> Repair or replace error-detected parts and GO TO 7.

7. PERFORM SELF-DIAGNOSIS (3)

(I) With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect IPDM E/R harness connector.
- 3. Connect 12V battery cable to negative terminal.
- 4. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

5. Repeat step 4 two or more times.

CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 6. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

8. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 9. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 10. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 11. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

12. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

< DTC/CIRCUIT DIAGNOSIS >

3. Depress brake pe	edal by 100 mm (3.94	in) or more, and ho	ld the position for 5 seconds or more.
 Release brake per per se de la secta de la se secta de la secta d	edal.	,	
	and perform "BRAKE"	self-diagnosis.	
<u>s DTC "C1A74" deteo</u> YES >> GO TO 8			
NO >> INSPECT			
CHECK 12V BATT	TERY POWER SUPPL	Y	
			nect CONSULT from data link connector.
. Close all doors (ii	ncluding back door), c	heck that the room	lamp is OFF, get out of the vehicle, and wait for
3 minutes or more CAUTION:	e with all doors closed	d.	
	he vehicle while wait	ing.	
	pattery cable from neg	gative terminal. Ref	er to <u>BR-6. "Precaution for Removing 12V Bat-</u>
. Disconnect the el	lectrically-driven intelli	igent brake unit har	ness connector.
. Connect 12V bat	tery cable to negative	terminal.	_
. Check the voltage	e between the electric	ally-driven intellige	nt brake unit harness connector terminals.
	· · · · ·		
_	ntelligent brake unit	Voltage (Approx.)	
Connector	Terminal	(дрргох.)	-
F 24	1 – 32	10 10 1	
E34	2 – 32	10 – 16 V	
	28 – 32		-
CAUTION: Never set the ve			edal. nt brake unit harness connector terminals.
CAUTION: Never set the ve Check the voltage	hicle to READY.		
CAUTION: Never set the ve Check the voltage	ehicle to READY. e between the electric	ally-driven intellige	
CAUTION: Never set the ve Check the voltage Electrically-driven in	e between the electric	ally-driven intellige	
CAUTION: Never set the ve Check the voltage Electrically-driven in	e between the electric ntelligent brake unit Terminal	ally-driven intellige	
CAUTION: Never set the ve Check the voltage Electrically-driven in Connector	e between the electric ntelligent brake unit Terminal 1 – 32	voltage (Approx.)	
CAUTION: Never set the ve Check the voltage Electrically-driven in Connector E34	e between the electric ntelligent brake unit Terminal 1 – 32 2 – 32 28 – 32 It normal?	voltage (Approx.)	
CAUTION: Never set the ve Check the voltage Electrically-driven in Connector E34 Ethe inspection resu YES >> GO TO 1	Phicle to READY. e between the electric ntelligent brake unit Terminal 1 - 32 2 - 32 28 - 32 It normal? 1.	voltage (Approx.)	
CAUTION: Never set the ve Check the voltage Electrically-driven in Connector E34 the inspection resu YES >> GO TO 1 NO >> GO TO 9	The between the electric ntelligent brake unit Terminal 1 - 32 2 - 32 28 - 32 It normal? 1.	voltage (Approx.)	
CAUTION: Never set the ve Check the voltage Electrically-driven in Connector E34 E34 the inspection resu YES >> GO TO 1 NO >> GO TO 9 CHECK 12V BATT	Terminal 1 - 32 2 - 32 28 - 32 It normal? 1. . TERY POWER SUPPL	Voltage (Approx.) 10 – 16 V	nt brake unit harness connector terminals. - -
CAUTION: Never set the ve Check the voltage Electrically-driven in Connector E34 the inspection resu YES >> GO TO 1 NO >> GO TO 1 NO >> GO TO 9 CHECK 12V BATT Turn the power st	Thicle to READY. e between the electric Intelligent brake unit Terminal 1 – 32 2 – 32 28 – 32 It normal? 1. . FERY POWER SUPPL witch OFF to exit CON	Voltage (Approx.) 10 – 16 V	nt brake unit harness connector terminals.
CAUTION: Never set the ve Check the voltage Electrically-driven in Connector E34 the inspection resu YES >> GO TO 1 NO >> GO TO 9 CHECK 12V BATT Turn the power st Close all doors (in 3 minutes or more	Thicle to READY. e between the electric Intelligent brake unit Terminal 1 – 32 2 – 32 28 – 32 It normal? 1. . FERY POWER SUPPL witch OFF to exit CON	Voltage (Approx.) 10 – 16 V	nt brake unit harness connector terminals. - -
CAUTION: Never set the ve Check the voltage Electrically-driven in Connector E34 the inspection resurve YES >> GO TO 1 NO >> GO TO 9 CHECK 12V BATT Turn the power so Close all doors (in 3 minutes or more CAUTION:	hicle to READY. e between the electric ntelligent brake unit Terminal 1 – 32 2 – 32 28 – 32 It normal? 1. FERY POWER SUPPL witch OFF to exit CON ncluding back door), c e with all doors closed	Voltage (Approx.) 10 – 16 V LY CIRCUIT SULT, and disconresheck that the room	nt brake unit harness connector terminals.
CAUTION: Never set the ve Check the voltage Electrically-driven in Connector E34 the inspection resu (ES >> GO TO 1 NO >> GO TO 9 .CHECK 12V BATT Turn the power so Close all doors (in 3 minutes or more CAUTION: Never operate th	hicle to READY. e between the electric ntelligent brake unit Terminal 1 – 32 2 – 32 28 – 32 It normal? 1. FERY POWER SUPPL witch OFF to exit CON ncluding back door), c e with all doors closed he vehicle while wait	Voltage (Approx.) 10 – 16 V LY CIRCUIT NSULT, and disconresheck that the room	nt brake unit harness connector terminals.
CAUTION: Never set the ve Check the voltage Electrically-driven in Connector E34 the inspection resury YES >> GO TO 1 NO >> GO TO 9 CHECK 12V BATT Turn the power se Close all doors (in 3 minutes or more CAUTION: Never operate the Disconnect 12V to tery".	e between the electric ntelligent brake unit Terminal 1 – 32 2 – 32 28 – 32 It normal? 1. FERY POWER SUPPL witch OFF to exit CON ncluding back door), c e with all doors closed he vehicle while wait battery cable from neg	Voltage (Approx.) 10 – 16 V LY CIRCUIT NSULT, and disconresheck that the room	nt brake unit harness connector terminals.
CAUTION: Never set the ve Check the voltage Electrically-driven in Connector E34 the inspection resu YES >> GO TO 1 NO >> GO TO 9 CHECK 12V BATT Turn the power so Close all doors (in 3 minutes or more CAUTION: Never operate th Disconnect 12V to tery".	hicle to READY. e between the electric ntelligent brake unit Terminal 1 – 32 2 – 32 28 – 32 It normal? 1. FERY POWER SUPPL witch OFF to exit CON ncluding back door), c e with all doors closed he vehicle while wait battery cable from neg usible link (#F).	Voltage (Approx.) 10 – 16 V LY CIRCUIT NSULT, and disconr sheck that the room d. ing. gative terminal. Ref	ht brake unit harness connector terminals.
CAUTION: Never set the ve Check the voltage Electrically-driven in Connector E34 E34 Tethe inspection resur YES >> GO TO 1 NO >> GO TO 9 CHECK 12V BATT Turn the power se Close all doors (in 3 minutes or more CAUTION: Never operate th Disconnect 12V to tery". Check the 60A fu Check the continu- ligent brake unit a	Terminal 1 - 32 2 - 32 28 - 32 It normal? 1. Server of the terminal 1 - 32 2 - 32 28 - 32 It normal? 1. Server of terminal 1 - 32 2 - 32 2 - 32 2 - 32 2 - 32 2 - 32 2 - 32 2 - 32 2 - 32 2 - 32 2 - 32 2 - 32 2 - 32 2 - 32 2 - 32 2 - 32 1. . FERY POWER SUPPL witch OFF to exit CON ncluding back door), c e with all doors closed he vehicle while wait battery cable from neg usible link (#F). uity and for short circular and 60A fusible link (#	A voltage (Approx.) 10 – 16 V -Y CIRCUIT NSULT, and disconrelation theck that the room d. ing. gative terminal. Refut it between harness F).	ht brake unit harness connector terminals.
CAUTION: Never set the ve Check the voltage Electrically-driven in Connector E34 Sthe inspection resur YES >> GO TO 1 NO >> GO TO 9 CHECK 12V BATT . Turn the power so Close all doors (in 3 minutes or more CAUTION: Never operate th Disconnect 12V to tery''. . Check the 60A fu Check the continu- ligent brake unit a . Check the continu-	hicle to READY. e between the electric ntelligent brake unit Terminal 1 – 32 2 – 32 28 – 32 It normal? 1. FERY POWER SUPPL witch OFF to exit CON ncluding back door), c e with all doors closed he vehicle while wait battery cable from neg usible link (#F). uity and for short circu and 60A fusible link (# uity and for short circu	A voltage (Approx.) 10 – 16 V LY CIRCUIT NSULT, and disconrelation theck that the room d. ting. gative terminal. Refut to between harness (F).	ht brake unit harness connector terminals.
CAUTION: Never set the ve Check the voltage Electrically-driven in Connector E34 Sthe inspection resur YES >> GO TO 1 NO >> GO TO 9 CHECK 12V BATT Or Close all doors (in 3 minutes or more CAUTION: Never operate th Disconnect 12V to tery". Check the 60A fu Check the continue ligent brake unit a Check the continue	hicle to READY. e between the electric ntelligent brake unit Terminal 1 – 32 2 – 32 28 – 32 It normal? 1. FERY POWER SUPPL witch OFF to exit CON ncluding back door), c e with all doors closed he vehicle while wait battery cable from neg usible link (#F). uity and for short circu and 60A fusible link (# uity and for short circu and 60A fusible link (#	A voltage (Approx.) 10 – 16 V LY CIRCUIT NSULT, and disconrelation theck that the room d. ting. gative terminal. Refut to between harness (F).	ht brake unit harness connector terminals.
CAUTION: Never set the ve Check the voltage Electrically-driven in Connector E34 The inspection resur YES >> GO TO 1 NO >> GO TO 9 CHECK 12V BATT Turn the power st Close all doors (in 3 minutes or more CAUTION: Never operate th Disconnect 12V to tery". Check the 60A fur Check the continue ligent brake unit a Check the continue	hicle to READY. e between the electric ntelligent brake unit Terminal 1 – 32 2 – 32 28 – 32 It normal? 1. FERY POWER SUPPL witch OFF to exit CON ncluding back door), c e with all doors closed he vehicle while wait battery cable from neg usible link (#F). uity and for short circu and 60A fusible link (# uity and for short circu	Voltage (Approx.) 10 – 16 V -Y CIRCUIT NSULT, and disconrection theck that the room d. ing. gative terminal. Ref it between harness (F). it between harness (F). cuit between harness	ht brake unit harness connector terminals.
CAUTION: Never set the ve Check the voltage Electrically-driven in Connector E34 the inspection resur YES >> GO TO 1 NO >> GO TO 9 CHECK 12V BATT Turn the power st Close all doors (in 3 minutes or more CAUTION: Never operate th Disconnect 12V to tery". Check the 60A fur Check the continue ligent brake unit at Check the continue	Terminal 1 - 32 2 - 32 28 - 32 It normal? 1. . FERY POWER SUPPL witch OFF to exit CON ncluding back door), c e with all doors closed he vehicle while wait battery cable from neg usible link (#F). uity and for short circuland 60A fusible link (# uity and for short circuland 60A fusible link (# use (#75). uity and for short circuland 60A fusible link (# use (#75). uity and for short circuland for short circuland 60A fusible link (#	Voltage (Approx.) 10 – 16 V -Y CIRCUIT NSULT, and disconrection theck that the room d. ing. gative terminal. Ref it between harness (F). it between harness (F). cuit between harness	ht brake unit harness connector terminals.

< DTC/CIRCUIT DIAGNOSIS >

- YES >> Perform trouble diagnosis for 12V battery power supply. Refer to <u>PG-18. "Wiring Diagram Battery Power Supply —</u>".
- NO >> Repair or replace error-detected parts and GO TO 10.

10. PERFORM SELF-DIAGNOSIS (4)

With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- Repeat step 3 two or more times.
 CAUTION: Be sure to wait for 5 seconds or more after turning the power switch OFF.
- 5. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

7. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 8. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 9. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 10. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

11. Turn the power switch ON without depressing the brake pedal.

Never set the vehicle to READY.

- 12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 13. Release brake pedal.
- 14. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A74" detected?

YES >> GO TO 11.

NO >> INSPECTION END

11. CHECK GROUND CIRCUIT

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "<u>Precaution for Removing 12V Bat-</u> <u>tery</u>".
- 4. Disconnect the electrically-driven intelligent brake unit harness connector.
- 5. Check the continuity between electrically-driven intelligent brake unit and ground.

Electrically-driven intelligent brake unit			Continuity
Connector	Connector Terminal		Continuity
E34	32	Ground	Existed

Is the inspection result normal?

YES >> GO TO 13.

- NO >> Repair or replace error-detected parts and GO TO 12.
- 12.PERFORM SELF-DIAGNOSIS (5)

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.

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< [DTC/CIRCUIT DIAGNOSIS >	
2.	Connect 12V battery cable to negative terminal.	
3.	Turn the power switch OFF to ON without depressing the brake pedal.	А
	CAUTION:	
4.	Never set the vehicle to READY. Repeat step 3 two or more times.	
4.	CAUTION:	В
	Be sure to wait for 5 seconds or more after turning the power switch OFF.	
5.	Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.	
6.	Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for	С
	3 minutes or more with all doors closed.	
	Never operate the vehicle while waiting.	
7.		D
	CAUTION:	
~	Never set the vehicle to READY.	_
8.		Ε
9. 10	Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for	
10.	O reference an annual with all dears also ad	BR
	CAUTION:	вκ
	Never operate the vehicle while waiting.	
11.	Turn the power switch ON without depressing the brake pedal.	G
	CAUTION: Never set the vehicle to READY.	G
12	Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.	
	Release brake pedal.	Н
14.	Start CONSULT and perform "BRAKE" self-diagnosis.	
ls I	DTC "C1A74" detected?	
	ES >> GO TO 13.	
	O >> INSPECTION END	
13	3. CHECK DATA MONITOR	
	With CONSULT	J
1.	Connect the electrically-driven intelligent brake unit harness connector.	
	Connect 12V battery cable from negative terminal	
3.	Turn the power switch OFF to ON without depressing the brake pedal.	Κ
	CAUTION: Never set the vehicle to READY.	
4.		
	CAUTION:	L
_	Be sure to wait for 5 seconds or more after turning the power switch OFF.	
5.	Start CONSULT and select "BRAKE" and "DATA MONITOR" according this order. Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER". Refer to <u>BR-33</u> , "Reference	M
6.	Value".	1 V I
le t	the inspection result normal?	
		Ν
Y	ES >> GO TO 14.	Ν
Y N	ES >> GO TO 14. O >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-510, "Removal and installation"</u> .	Ν
Y N 1 4	 S GO TO 14. S Replace the electrically-driven intelligent brake unit. Refer to <u>BR-510, "Removal and installation"</u>. PERFORM SELF-DIAGNOSIS (6) 	N
Y N 1 4	 ES >> GO TO 14. O >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-510, "Removal and installation"</u>. PERFORM SELF-DIAGNOSIS (6) With CONSULT 	
Y N 1 4	ES >> GO TO 14. O >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-510, "Removal and installation"</u> . 1. PERFORM SELF-DIAGNOSIS (6) With CONSULT Turn the power switch OFF to ON without depressing the brake pedal.	
Y N 1 4	 ES >> GO TO 14. O >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-510, "Removal and installation"</u>. PERFORM SELF-DIAGNOSIS (6) With CONSULT 	
Y N 14 (1) 1.	 Source of the sector of the sec	0
Y N 14 (1) 1.	 Section 14. Section 14. Section 2. Replace the electrically-driven intelligent brake unit. Refer to <u>BR-510</u>, "Removal and installation". PERFORM SELF-DIAGNOSIS (6) With CONSULT Turn the power switch OFF to ON without depressing the brake pedal. CAUTION: Never set the vehicle to READY. Repeat step 1 two or more times. CAUTION: 	0
Y N 12 () 1. 2.	 Section 14. 	0
Y N 12 (1) 1. 2. 3.	 Section 14. Section 14. Section 24. Section 24. Section 24. Section 24. Section 26. With CONSULT Turn the power switch OFF to ON without depressing the brake pedal. CAUTION: Never set the vehicle to READY. Repeat step 1 two or more times. CAUTION: Be sure to wait for 5 seconds or more after turning the power switch OFF. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. 	0
Y N 12 () 1. 2.	 ES >> GO TO 14. >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-510</u>, "Removal and installation". 1. PERFORM SELF-DIAGNOSIS (6) With CONSULT Turn the power switch OFF to ON without depressing the brake pedal. CAUTION: Never set the vehicle to READY. Repeat step 1 two or more times. CAUTION: Be sure to wait for 5 seconds or more after turning the power switch OFF. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. 	0

< DTC/CIRCUIT DIAGNOSIS >

Never operate the vehicle while waiting.

5. Turn the power switch ON without depressing the brake pedal. **CAUTION:**

Never set the vehicle to READY.

- 6. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 7. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

9. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 11. Release brake pedal.
- 12. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A74" or "U1000" detected?

YES ("C1A74")>>GO TO 15.

YES ("U1000")>>Refer to <u>BR-449, "Diagnosis Procedure"</u>.

NO >> INSPECTION END

15. PERFORM SELF-DIAGNOSIS OF ABS ACTUATOR AND CONTROL UNIT

Start CONSULT and perform self-diagnosis for "ABS". Refer to BRC-46, "CONSULT Function".

Is any DTC detected?

- YES >> Check the DTC. Refer to <u>BRC-56, "DTC Index"</u>. GO TO 16.
- NO >> GO TO 16.
- **16**.PERFORM SELF-DIAGNOSIS (7)

With CONSULT

- 1. Turn the power switch OFF to ON without depressing the brake pedal. **CAUTION:**
- Never set the vehicle to READY.
- 2. Repeat step 1 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 3. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 4. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

5. Turn the power switch ON without depressing the brake pedal. **CAUTION:**

Never set the vehicle to READY.

- 6. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 7. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

9. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 11. Release brake pedal.
- 12. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A74" detected?

YES >> GO TO 15.

NO >> INSPECTION END

< DTC/CIRCUIT DIAGNOSIS >

DTC DETECTION LOGIC

C1A80 CONTROL MODULE

DTC Logic

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INFOID:000000010634207

DTC	Display item	Malfunction detection condition	Possible causes
C1A80	CONTROL MODULE-2	 A malfunction is detected in the control module of electrically-driven intelligent brake unit. (Sum of 3- phase current values is excessively large.) A malfunction is detected in the control module of electrically-driven intelligent brake unit. (Sum of 3- phase current values is excessively small.) 	Electrically-driven intelligent brake unit
DTC RE	PRODUCTION PROCE	DURE	
1.PREC	CONDITIONING		
		OURE" has been previously conducted, always	turn power switch OFF ar
wait at le	ast 10 seconds before co	nducting the next test.	
	>> GO TO 2.		
-	CK DTC DETECTION		
	CONSULT the power switch OFF to	ON without depressing the brake pedal.	
CAU	ITION:		
	er set the vehicle to REA		
	eat step 1 two or more tim ITION:	es.	
Be s	ure to wait for 5 second	s or more after turning the power switch OF	
		exit CONSULT, and disconnect CONSULT from	
	e all doors (including back nutes or more with all doo	(door), check that the room lamp is OFF, get ou rs closed	It of the vehicle, and wait i
	ITION:		
	er operate the vehicle w		
	TION:	nout depressing the brake pedal.	
Neve	er set the vehicle to REA		
		f-diagnosis result of "BRAKE".	data link connector
		exit CONSULT, and disconnect CONSULT from (door), check that the room lamp is OFF, get ou	
3 mii	nutes or more with all doo	rs closed.	
	ITION: er operate the vehicle wi	hile waiting	
		nout depressing the brake pedal.	
	ITION:		
	er set the vehicle to REA	DY. 1m (3.94 in) or more, and hold the position for 5	seconds or more
	ase brake pedal.		Seconds of more.
	CONSULT and perform "	BRAKE" self-diagnosis.	
	C1A80" detected?		
	>> Proceed to <u>BR-185, "[</u>	Diagnosis Procedure".	
	>> INSPECTION END		
Jiagno	sis Procedure		INFOID:00000001063

1.CHECK 12V BATTERY

1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.

< DTC/CIRCUIT DIAGNOSIS >

 Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- Check the 12V battery terminal connections. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery" and <u>PG-76</u>, "Work Flow".
- 4. Check the 12V battery. Refer to <u>PG-76, "Work Flow"</u>.
- Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace error-detected parts and GO TO 2.

2. PERFORM SELF-DIAGNOSIS (1)

With CONSULT

- T. Connect 12V battery cable to negative terminal.
- 2. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:
 - Never set the vehicle to READY.
- Repeat step 2 two or more times.
 CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 4. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 5. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

Never operate the vehicle while waiting.

6. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 7. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 8. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

10. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 11. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 12. Release brake pedal.
- 13. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A80" detected?

YES >> GO TO 3.

NO >> INSPECTION END

- **3.**CHECK CONNECTOR TERMINALS
- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery".
- 4. Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace error-detected parts and GO TO 4.

4.PERFORM SELF-DIAGNOSIS (2)

< DTC/CIRCUIT DIAGNOSIS >				
With CONSULT				
 Connect the electrically-driven intellige Connect 12V battery cable to negative 		s connector.		A
3. Turn the power switch OFF to ON with		ake pedal.		
CAUTION:	1 0	•		В
Never set the vehicle to READY.4. Repeat step 3 two or more times.				
 Repeat step 3 two or more times. CAUTION: 				
Be sure to wait for 5 seconds or mo				С
 Turn the power switch OFF to exit CO Close all doors (including back door), etc. 				
3 minutes or more with all doors close		inp is Of 1, get out t	i the vehicle, and wait for	D
CAUTION:				D
 Never operate the vehicle while wai Turn the power switch ON without dep 				
CAUTION:	lessing the blake per	Jai.		Ε
Never set the vehicle to READY.				
 8. Start CONSULT and erase self-diagno 9. Turn the power switch OFF to exit CO 			ata link connector	
10. Close all doors (including back door),				BR
3 minutes or more with all doors close		1 ,0	,	
CAUTION: Never operate the vehicle while wai	ting			G
11. Turn the power switch ON without dep		dal.		
CAUTION:	U .			
Never set the vehicle to READY. 12. Depress brake pedal by 100 mm (3.94	Lin) or more and hold	the position for 5 se	conds or more	Н
13. Release brake pedal.			conds of more.	
14. Start CONSULT and perform "BRAKE"	' self-diagnosis.			I
Is DTC "C1A80" detected?				I
YES >> GO TO 5. NO >> INSPECTION END				
_				J
5. CHECK POWER SWITCH ON POWER				
 Connect 12V battery cable to negative Turn the power switch OFF to exit CO 		ot CONSULT from d	ata link connector	К
 Turn the power switch OFF to exit CO Close all doors (including back door), or 				rx.
3 minutes or more with all doors close				
CAUTION:	ting			L
 Never operate the vehicle while wai Disconnect 12V battery cable from ne 		r to BR-6, "Precautio	n for Removing 12V Bat-	
tery".	-			
 Disconnect the electrically-driven intel Connect 12V battery cable to negative 		ess connector.		Μ
7. Check the voltage between the electric		brake unit harness of	connector and ground.	
Ū.	, 0		0	Ν
Electrically-driven intelligent brake unit		Voltage		
Connector Terminal	_	(Approx.)		
E34 26	Ground	0 V		0
8. Turn the power switch ON without dep	ressing the brake peo	dal.		
CAUTION: Never set the vehicle to READY.				Ρ
9. Check the voltage between the electric	cally-driven intelligent	brake unit harness of	connector and ground.	
C C	, 01		5	

Electrically-driven intelligent brake unit			Voltage
Connector Terminal			(Approx.)
E34	26	Ground	10 – 16 V

< DTC/CIRCUIT DIAGNOSIS >

Is the inspection result normal?

YES >> GO TO 8.

NO >> GO TO 6.

6.CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

- Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery".
- 4. Check the 15A fuse (#62).
- 5. Disconnect IPDM E/R harness connector.
- 6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

Electrically-driven intelligent brake unit		IPDM E/R		Continuity
Connector	Terminal	Connector	Terminal	Continuity
E34	26	E15	62	Existed

7. Check the continuity between electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit			Continuity
Connector	Connector Terminal		Continuity
E34	26	Ground	Not existed

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to <u>PG-29</u>, "Wiring Diagram—On <u>Power Supply</u>—".

NO >> Repair or replace error-detected parts and GO TO 7.

7. PERFORM SELF-DIAGNOSIS (3)

(I) With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect IPDM E/R harness connector.
- 3. Connect 12V battery cable to negative terminal.
- 4. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

5. Repeat step 4 two or more times.

CAUTION:

- Be sure to wait for 5 seconds or more after turning the power switch OFF.
- 6. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

8. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 9. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 10. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 11. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

12. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

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< DTC/CIRCUIT D	IAGNOSIS >	0 OOMINOL		
		in) or more, and h	old the position for 5 seconds or more.	
14. Release brake	pedal. 「and perform "BRAKE"	self-diagnosis		А
Is DTC "C1A80" det	•	Sell diagnosis.		
YES >> GO TO	8.			В
•	CTION END			
8. CHECK 12V BA	TTERY POWER SUPPL	Y		0
2. Close all doors	switch OFF to exit CON (including back door), c ore with all doors closed	heck that the roor	nect CONSULT from data link connector. n lamp is OFF, get out of the vehicle, and wait for	D
	the vehicle while wait			
 Disconnect 12\ <u>terv</u>. 	/ battery cable from neg	gative terminal. Re	efer to <u>BR-6. "Precaution for Removing 12V Bat-</u>	_
4. Disconnect the	electrically-driven intelli		irness connector.	E
	attery cable to negative		ent brake unit harness connector terminals.	
0. Oneck the volta			chi brake unit namess connector terminals.	BR
Electrically-drive	n intelligent brake unit	Voltage	-	
Connector	Terminal	(Approx.)		G
	1 – 32		—	0
E34	2 – 32	$10-16 \ V$		
	28 - 32			Н
	vehicle to READY. Ige between the electric	ally-driven intellig	ent brake unit harness connector terminals.	I
Electrically-drive	n intelligent brake unit	Voltage	_	J
Connector	Terminal	(Approx.)		
	1 – 32			Κ
E34	2 – 32	10-16 V		
	28 – 32		_	
Is the inspection res				L
YES >> GO TO NO >> GO TO				
•	TTERY POWER SUPPL	Y CIRCUIT		M
			nect CONSULT from data link connector.	
2. Close all doors		heck that the roor	n lamp is OFF, get out of the vehicle, and wait for	Ν
Never operate	the vehicle while wait			
 Disconnect 12\ <u>tery"</u>. 	/ battery cable from neg	gative terminal. Re	efer to <u>BR-6. "Precaution for Removing 12V Bat-</u>	0
5. Check the cont	fusible link (#F). inuity and for short circu t and 60A fusible link (#		s connector terminal 1 of electrically-driven intel-	Р
6. Check the cont ligent brake uni	inuity and for short circu t and 60A fusible link (#	iit between harnes	s connector terminal 2 of electrically-driven intel-	
			ness connector terminal 28 of electrically-driven	
Is the inspection res	sult normal?			

< DTC/CIRCUIT DIAGNOSIS >

- YES >> Perform trouble diagnosis for 12V battery power supply. Refer to <u>PG-18</u>, "Wiring Diagram Battery Power Supply —".
- NO >> Repair or replace error-detected parts and GO TO 10.

10. PERFORM SELF-DIAGNOSIS (4)

With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- Repeat step 3 two or more times.
 CAUTION: Be sure to wait for 5 seconds or more after turning the power switch OFF.
- 5. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

7. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 8. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 9. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 10. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

11. Turn the power switch ON without depressing the brake pedal.

Never set the vehicle to READY.

- 12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 13. Release brake pedal.
- 14. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A80" detected?

YES >> GO TO 11.

NO >> INSPECTION END

11. CHECK GROUND CIRCUIT

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "<u>Precaution for Removing 12V Bat-</u> <u>tery</u>".
- 4. Disconnect the electrically-driven intelligent brake unit harness connector.
- 5. Check the continuity between electrically-driven intelligent brake unit and ground.

Electrically-driven intelligent brake unit			Continuity
Connector	Connector Terminal		Continuity
E34	32	Ground	Existed

Is the inspection result normal?

YES >> GO TO 13.

- NO >> Repair or replace error-detected parts and GO TO 12.
- 12.PERFORM SELF-DIAGNOSIS (5)

()With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.

BR-190

< DT	C/CIRCUIT DIAGNOSIS >	
3.	Connect 12V battery cable to negative terminal. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:	A
4. I	Never set the vehicle to READY. Repeat step 3 two or more times. CAUTION:	В
5. 6. (Be sure to wait for 5 seconds or more after turning the power switch OFF. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION:	С
7.	Never operate the vehicle while waiting. Turn the power switch ON without depressing the brake pedal. CAUTION:	D
8. 9. 10. (Never set the vehicle to READY. Start CONSULT and erase self-diagnosis result of "BRAKE". Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION:	E BR
11.	Never operate the vehicle while waiting. Turn the power switch ON without depressing the brake pedal. CAUTION:	G
12. 13. 14. \$	Never set the vehicle to READY. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more. Release brake pedal. Start CONSULT and perform "BRAKE" self-diagnosis. IC "C1A80" detected?	Н
YES NO	S >> GO TO 13.	Ι
	ith CONSULT	J
1. (2. (3.	Connect the electrically-driven intelligent brake unit harness connector. Connect 12V battery cable to negative terminal. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:	K
4. I	Never set the vehicle to READY. Repeat step 3 two or more times. CAUTION:	L
5. 5. 6.	Be sure to wait for 5 seconds or more after turning the power switch OFF. Start CONSULT and select "BRAKE" and "DATA MONITOR" according this order. Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER". Refer to <u>BR-33. "Reference</u> Value".	M
YES NO	>> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-510, "Removal and installation"</u> .	Ν
	PERFORM SELF-DIAGNOSIS (6)	0
1.	ith CONSULT Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:	Р
2.	Never set the vehicle to READY. Repeat step 1 two or more times. CAUTION:	Г
3. 4. (Be sure to wait for 5 seconds or more after turning the power switch OFF. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION:	

< DTC/CIRCUIT DIAGNOSIS >

Never operate the vehicle while waiting.

5. Turn the power switch ON without depressing the brake pedal. **CAUTION:**

Never set the vehicle to READY.

- 6. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 7. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

9. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 11. Release brake pedal.
- 12. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A80" detected?

- YES >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-510</u>, "Removal and installation".
- NO >> INSPECTION END

< DTC/CIRCUIT DIAGNOSIS >

C1A81 CONTROL MODULE

DTC Logic

А

INFOID:000000010634209

DTC	Display item	Malfunction detection condition	Possible causes
C1A81	CONTROL MODULE-3	 A malfunction is detected in the control module of electrically-driven intelligent brake unit. (Power supply current is excessively large.) A malfunction is detected in the control module of electrically-driven intelligent brake unit. (Power supply current is excessively small.) 	Electrically-driven intelligent brake unit
OTC RF		DURE	
	CONDITIONING		
		DURE" has been previously conducted, always	turn power switch OFF and
	east 10 seconds before co		·
	>> GO TO 2.		
	CK DTC DETECTION		
1. Turr	the power switch OFF to	ON without depressing the brake pedal.	
	JTION: er set the vehicle to REA	ADY.	
2. Rep	eat step 1 two or more tim	les.	
2. Rep CAL	eat step 1 two or more tim JTION:		F.
2. Rep CAL Bes 3. Turr	eat step 1 two or more tim JTION: sure to wait for 5 second in the power switch OFF to	s or more after turning the power switch OF exit CONSULT, and disconnect CONSULT from	n data link connector.
2. Rep CAL Be s 3. Turr 4. Clos	eat step 1 two or more tim JTION: sure to wait for 5 second in the power switch OFF to	s or more after turning the power switch OF exit CONSULT, and disconnect CONSULT from (door), check that the room lamp is OFF, get ou	n data link connector.
2. Rep CAL Bes 3. Turr 4. Clos 3 mi CAL	eat step 1 two or more tim JTION: sure to wait for 5 second in the power switch OFF to se all doors (including back inutes or more with all doo JTION:	s or more after turning the power switch OF exit CONSULT, and disconnect CONSULT from (door), check that the room lamp is OFF, get ou rs closed.	n data link connector.
2. Rep CAL Be s 3. Turr 4. Clos 3 mi CAL Nev 5. Turr	eat step 1 two or more tim JTION: sure to wait for 5 second in the power switch OFF to se all doors (including back inutes or more with all doo JTION: er operate the vehicle with in the power switch ON with	s or more after turning the power switch OF exit CONSULT, and disconnect CONSULT from (door), check that the room lamp is OFF, get ou rs closed.	n data link connector.
2. Rep CAL Be s 3. Turr 4. Clos 3 mi CAL Nev 5. Turr CAL	eat step 1 two or more tim JTION: sure to wait for 5 second in the power switch OFF to se all doors (including back inutes or more with all doo JTION: er operate the vehicle with in the power switch ON with JTION:	s or more after turning the power switch OF exit CONSULT, and disconnect CONSULT from (door), check that the room lamp is OFF, get ou rs closed. hile waiting. nout depressing the brake pedal.	n data link connector.
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2. Rep CAL Bes 3. Turr 4. Clos 3 mi CAL Nev 5. Turr CAL Nev 6. Star 7. Turr	eat step 1 two or more tim JTION: sure to wait for 5 second in the power switch OFF to se all doors (including back inutes or more with all doo JTION: er operate the vehicle with JTION: er set the vehicle to REA t CONSULT and erase sel in the power switch OFF to	s or more after turning the power switch OF exit CONSULT, and disconnect CONSULT from (door), check that the room lamp is OFF, get ou rs closed. hile waiting. nout depressing the brake pedal. ADY. f-diagnosis result of "BRAKE". exit CONSULT, and disconnect CONSULT from	n data link connector. ut of the vehicle, and wait for n data link connector.
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2. Rep CAL Bes 3. Turr 4. Clos 3 mi CAL Nev 5. Turr 6. Star 7. Turr 8. Clos 3 mi CAL Nev 9. Turr CAL Nev 9. Turr CAL Nev	eat step 1 two or more tim JTION: sure to wait for 5 second in the power switch OFF to se all doors (including back inutes or more with all doo JTION: er operate the vehicle to REA the power switch ON with JTION: er set the vehicle to REA the power switch OFF to se all doors (including back inutes or more with all doo JTION: er operate the vehicle with a the power switch ONFF to se all doors (including back inutes or more with all doo JTION: er operate the vehicle to REA the power switch ON with JTION: er set the vehicle to REA	Is or more after turning the power switch OF exit CONSULT, and disconnect CONSULT from a door), check that the room lamp is OFF, get ou rs closed. hile waiting. nout depressing the brake pedal. ADY. f-diagnosis result of "BRAKE". exit CONSULT, and disconnect CONSULT from a door), check that the room lamp is OFF, get ou rs closed. hile waiting. nout depressing the brake pedal. ADY.	n data link connector. ut of the vehicle, and wait for n data link connector. ut of the vehicle, and wait for
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 Rep CAL Be s Turr 4. Clos 3 mi CAL Nev Turr CAL Nev Star 7. Turr CAL Nev Star CAL Nev Turr CAL Nev Star CAL Nev Turr CAL Nev Turr CAL Nev Star Star Star 	eat step 1 two or more tim JTION: sure to wait for 5 second in the power switch OFF to se all doors (including back inutes or more with all doo JTION: er operate the vehicle with the power switch ON with JTION: er set the vehicle to REA t CONSULT and erase sel in the power switch OFF to se all doors (including back inutes or more with all doo JTION: er operate the vehicle with a the power switch ON with JTION: er operate the vehicle with a the power switch ON with JTION: er set the vehicle to REA ress brake pedal by 100 m ease brake pedal. t CONSULT and perform " C1A81" detected?	Is or more after turning the power switch OF exit CONSULT, and disconnect CONSULT from a door), check that the room lamp is OFF, get ou rs closed. hile waiting. nout depressing the brake pedal. ADY. f-diagnosis result of "BRAKE". exit CONSULT, and disconnect CONSULT from a door), check that the room lamp is OFF, get ou rs closed. hile waiting. nout depressing the brake pedal. ADY. mm (3.94 in) or more, and hold the position for 5 BRAKE" self-diagnosis.	n data link connector. ut of the vehicle, and wait for n data link connector. ut of the vehicle, and wait for
 Rep CAL Be s Turr Clos Turr CAL Nev Turr CAL Nev Star Turr Star Turr CAL Nev Star Turr CAL Nev Star Star 	eat step 1 two or more tim JTION: sure to wait for 5 second in the power switch OFF to se all doors (including back inutes or more with all doo JTION: er operate the vehicle with a the power switch ON with JTION: er set the vehicle to REA t CONSULT and erase sel in the power switch OFF to se all doors (including back inutes or more with all doo JTION: er operate the vehicle with a the power switch ON with JTION: er operate the vehicle with a the power switch ON with JTION: er operate the vehicle to REA ress brake pedal by 100 m ease brake pedal. t CONSULT and perform "	Is or more after turning the power switch OF exit CONSULT, and disconnect CONSULT from a door), check that the room lamp is OFF, get ou rs closed. hile waiting. nout depressing the brake pedal. ADY. f-diagnosis result of "BRAKE". exit CONSULT, and disconnect CONSULT from a door), check that the room lamp is OFF, get ou rs closed. hile waiting. nout depressing the brake pedal. ADY. mm (3.94 in) or more, and hold the position for 5 BRAKE" self-diagnosis.	n data link connector. ut of the vehicle, and wait for n data link connector. ut of the vehicle, and wait for

1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.

< DTC/CIRCUIT DIAGNOSIS >

 Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- 3. Check the 12V battery terminal connections. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery" and <u>PG-76</u>, "Work Flow".
- 4. Check the 12V battery. Refer to <u>PG-76, "Work Flow"</u>.
- Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace error-detected parts and GO TO 2.

2. PERFORM SELF-DIAGNOSIS (1)

With CONSULT

- 1. Connect 12V battery cable to negative terminal.
- 2. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

 Repeat step 2 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 4. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 5. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

Never operate the vehicle while waiting.

6. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 7. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 8. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

10. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 11. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 12. Release brake pedal.
- 13. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A81" detected?

YES >> GO TO 3.

NO >> INSPECTION END

3.CHECK CONNECTOR TERMINALS

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6. "Precaution for Removing 12V Bat-</u> tery".
- 4. Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace error-detected parts and GO TO 4.

4.PERFORM SELF-DIAGNOSIS (2)

< DTC/CIRCUIT DIAGNOSIS >			
With CONSULT			
1. Connect the electrically-driven intellig		s connector.	A
 Connect 12V battery cable to negative Turn the power switch OFF to ON with 		rake nedal	
CAUTION:	iour depressing the bi		D
Never set the vehicle to READY.			В
4. Repeat step 3 two or more times.			
CAUTION: Be sure to wait for 5 seconds or mo	ore after turning the	power switch OFF.	С
5. Turn the power switch OFF to exit CC	NSULT, and disconne	ect CONSULT from data	
6. Close all doors (including back door),		amp is OFF, get out of t	he vehicle, and wait for
3 minutes or more with all doors close CAUTION:	20.		D
Never operate the vehicle while wa	iting.		
7. Turn the power switch ON without dep		dal.	F
CAUTION: Never set the vehicle to READY.			E
8. Start CONSULT and erase self-diagno	osis result of "BRAKE'		
9. Turn the power switch OFF to exit CC	NSULT, and disconne	ect CONSULT from data	
10. Close all doors (including back door),		amp is OFF, get out of t	he vehicle, and wait for
3 minutes or more with all doors close CAUTION:			
Never operate the vehicle while wa			G
11. Turn the power switch ON without dep	pressing the brake peo	dal.	
CAUTION: Never set the vehicle to READY.			Н
12. Depress brake pedal by 100 mm (3.94	4 in) or more, and hold	d the position for 5 seco	
13. Release brake pedal.	" colf diagnosia		
14. Start CONSULT and perform "BRAKE Is DTC "C1A81" detected?	sell-ulagnosis.		
YES >> GO TO 5.			
NO >> INSPECTION END			1
5. CHECK POWER SWITCH ON POWER	R SUPPLY		J
1. Connect 12V battery cable to negative			
2. Turn the power switch OFF to exit CC		ect CONSULT from data	a link connector. K
3. Close all doors (including back door),	check that the room la		
3 minutes or more with all doors close CAUTION:	ed.		
Never operate the vehicle while wa	itina		L
4. Disconnect 12V battery cable from ne	egative terminal. Refe	r to <u>BR-6, "Precaution</u>	for Removing 12V Bat-
tery".			Ν.4
 Disconnect the electrically-driven intel Connect 12V battery cable to negative 		ess connector.	M
7. Check the voltage between the electric		brake unit harness co	nnector and ground.
Ū.	, ,		N
Electrically-driven intelligent brake unit		Voltage	
Connector Terminal		(Approx.)	
E34 26	Ground	0 V	0
8. Turn the power switch ON without dep	pressing the brake peo	dal.	
CAUTION: Never set the vehicle to READY			Р
9. Check the voltage between the electric	cally-driven intelligent	brake unit harness co	nnector and ground.
	,		

Electrically-driven in	telligent brake unit		Voltage	
Connector Terminal			(Approx.)	
E34	26	Ground	10 – 16 V	

< DTC/CIRCUIT DIAGNOSIS >

Is the inspection result normal?

YES >> GO TO 8.

NO >> GO TO 6.

6.CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

- Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery".
- 4. Check the 15A fuse (#62).
- 5. Disconnect IPDM E/R harness connector.
- 6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

Electrically-driven in	Electrically-driven intelligent brake unit		IPDM E/R	
Connector	Terminal	Connector	Terminal	Continuity
E34	26	E15	62	Existed

7. Check the continuity between electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven in	telligent brake unit		Continuity	
Connector	Terminal			
E34	26	Ground	Not existed	

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to <u>PG-29</u>, "Wiring Diagram—On <u>Power Supply—</u>".

NO >> Repair or replace error-detected parts and GO TO 7.

7. PERFORM SELF-DIAGNOSIS (3)

(I) With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect IPDM E/R harness connector.
- 3. Connect 12V battery cable to negative terminal.
- 4. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

5. Repeat step 4 two or more times.

CAUTION:

- Be sure to wait for 5 seconds or more after turning the power switch OFF.
- 6. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

8. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 9. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 10. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 11. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

12. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

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< DTC/CIRCUIT D			NODOLL	
		in) or more, and h	old the position for 5 seconds or more.	
14. Release brake 15. Start CONSUL	pedal. T and perform "BRAKE"	self-diagnosis.		А
<u>ls DTC "C1A81" de</u>	•	0		
YES >> GO TO				В
•		V		
	TTERY POWER SUPPI			С
2. Close all doors	including back door), c ore with all doors closed	heck that the roon	nect CONSULT from data link connector. a lamp is OFF, get out of the vehicle, and wait for	D
Never operate	the vehicle while wait			
 Disconnect 12 <u>terv</u>". 	V battery cable from nee	gative terminal. Re	fer to <u>BR-6</u> , "Precaution for Removing 12V Bat-	_
4. Disconnect the	electrically-driven intelli		rness connector.	Е
	attery cable to negative		ent brake unit harness connector terminals.	
				BR
Electrically-drive	en intelligent brake unit	Voltage	- •	
Connector	Terminal	(Approx.)	_	G
	1 – 32			
E34	2 - 32	10 – 16 V		Н
	28 – 32		-	
 Turn the power CAUTION: 	r switch ON without dep	ressing the brake p	oedal.	
	vehicle to READY.			
8. Check the volta	age between the electric	ally-driven intellige	ent brake unit harness connector terminals.	
Electrically-drive	en intelligent brake unit	Voltage	-	J
Connector	Terminal	(Approx.)		
	1 – 32		_	V
E34	2 – 32	10 - 16 V		K
	28 - 32			
Is the inspection re				L
YES >> GO TO NO >> GO TO				
•	, 9. TTERY POWER SUPPI			Μ
			neet CONCLUIT from data link connector	
2. Close all doors		heck that the roon	nect CONSULT from data link connector. a lamp is OFF, get out of the vehicle, and wait for	Ν
	the vehicle while wait	ing.		
<u>tery"</u> .		gative terminal. Re	fer to <u>BR-6. "Precaution for Removing 12V Bat-</u>	0
5. Check the cont	fusible link (#F). tinuity and for short circu it and 60A fusible link (#		s connector terminal 1 of electrically-driven intel-	Ρ
6. Check the cont		iit between harnes	s connector terminal 2 of electrically-driven intel-	
7. Check the 15A	fuse (#75). Itinuity and for short cir	cuit between harn	ess connector terminal 28 of electrically-driven	
	e unit and 15A fuse (#73	5).		

< DTC/CIRCUIT DIAGNOSIS >

- YES >> Perform trouble diagnosis for 12V battery power supply. Refer to <u>PG-18. "Wiring Diagram Battery Power Supply —</u>".
- NO >> Repair or replace error-detected parts and GO TO 10.

10. PERFORM SELF-DIAGNOSIS (4)

With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- Repeat step 3 two or more times.
 CAUTION: Be sure to wait for 5 seconds or more after turning the power switch OFF.
- 5. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

7. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 8. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 9. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 10. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

11. Turn the power switch ON without depressing the brake pedal.

Never set the vehicle to READY.

- 12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 13. Release brake pedal.
- 14. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A81" detected?

YES >> GO TO 11.

NO >> INSPECTION END

11. CHECK GROUND CIRCUIT

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "<u>Precaution for Removing 12V Bat-</u> <u>tery</u>".
- 4. Disconnect the electrically-driven intelligent brake unit harness connector.
- 5. Check the continuity between electrically-driven intelligent brake unit and ground.

Electrically-driven intelligent brake unit			Continuity
Connector	Terminal		Continuity
E34	32	Ground	Existed

Is the inspection result normal?

YES >> GO TO 13.

- NO >> Repair or replace error-detected parts and GO TO 12.
- 12.PERFORM SELF-DIAGNOSIS (5)

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.

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< DTC/CIRCUIT DIA	SNOSIS >	
	ry cable to negative terminal. itch OFF to ON without depressing the brake pedal.	A
A Repeat step 3 two CAUTION:		В
Be sure to wait f 5. Turn the power sv 6. Close all doors (ir	r 5 seconds or more after turning the power switch OFF. itch OFF to exit CONSULT, and disconnect CONSULT from data link connector. cluding back door), check that the room lamp is OFF, get out of the vehicle, and wait for with all doors closed.	С
Never operate the	e vehicle while waiting. itch ON without depressing the brake pedal.	D
9. Turn the power sv 10. Close all doors (ir	nd erase self-diagnosis result of "BRAKE". itch OFF to exit CONSULT, and disconnect CONSULT from data link connector. cluding back door), check that the room lamp is OFF, get out of the vehicle, and wait for	E
11. Turn the power sy CAUTION:	e vehicle while waiting. itch ON without depressing the brake pedal.	G
13. Release brake pe	dal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more. lal. nd perform "BRAKE" self-diagnosis.	Н
YES >> GO TO 13 NO >> INSPECT 13. CHECK DATA M	ON END	I
		J
 Connect the elect Connect 12V batt Turn the power sy CAUTION: 	ically-driven intelligent brake unit harness connector. ry cable to negative terminal. itch OFF to ON without depressing the brake pedal.	K
 Never set the ve Repeat step 3 two CAUTION: 		L
5. Start CONSULT a	or 5 seconds or more after turning the power switch OFF. nd select "BRAKE" and "DATA MONITOR" according this order. R POWER SUPPLY" and "CONTROL MODULE POWER". Refer to <u>BR-33, "Reference</u>	M
· ·	e electrically-driven intelligent brake unit. Refer to <u>BR-510, "Removal and installation"</u> .	Ν
14.PERFORM SELI	-DIAGNOSIS (6)	0
CAUTION:	itch OFF to ON without depressing the brake pedal.	Р
Never set the ve2.Repeat step 1 twoCAUTION:	or more times.	
 Turn the power sv Close all doors (ir 	r 5 seconds or more after turning the power switch OFF. itch OFF to exit CONSULT, and disconnect CONSULT from data link connector. cluding back door), check that the room lamp is OFF, get out of the vehicle, and wait for with all doors closed.	

< DTC/CIRCUIT DIAGNOSIS >

Never operate the vehicle while waiting.

5. Turn the power switch ON without depressing the brake pedal. **CAUTION:**

Never set the vehicle to READY.

- 6. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 7. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

9. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 11. Release brake pedal.
- 12. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A81" detected?

- YES >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-510</u>, "Removal and installation".
- NO >> INSPECTION END

< DTC/CIRCUIT DIAGNOSIS >

C1A82 CONTROL MODULE

DTC Lo	ogic		INFOID:000000010634211
TC DE	TECTION LOGIC		
DTC	Display item	Malfunction detection condition	Possible causes
C1A82	CONTROL MODULE-4	A malfunction is detected in the control module of electrically-driven intelligent brake unit. (Abnormal EEP-ROM)	Electrically-driven intelligent brake unit
TC RE	PRODUCTION PROCE	EDURE	
.PREC	ONDITIONING		
		DURE" has been previously conducted, always	s turn power switch OFF and
alt at le	ast 10 seconds before co	nducting the next test.	
	>> GO TO 2.		
.CHEC	K DTC DETECTION		
	ONSULT		
	the power switch OFF to TION:	ON without depressing the brake pedal.	
Neve	er set the vehicle to REA		
	eat step 1 two or more tim	les.	
		s or more after turning the power switch OF exit CONSULT, and disconnect CONSULT fror	
. Clos	e all doors (including back	door), check that the room lamp is OFF, get o	
	nutes or more with all doo TION:	rs closed.	
Neve	er operate the vehicle w	hile waiting.	
	TION:	nout depressing the brake pedal.	
	er set the vehicle to REA	ADY. f-diagnosis result of "BRAKE".	
. Turn	the power switch OFF to	exit CONSULT, and disconnect CONSULT fror	
	e all doors (including back nutes or more with all doo	< door), check that the room lamp is OFF, get o rs closed.	ut of the vehicle, and wait for
	TION:	hile weiting	
. Turn		nout depressing the brake pedal.	
	TION: er set the vehicle to REA	NDY	
0. Depr	ess brake pedal by 100 n	nm (3.94 in) or more, and hold the position for \$	5 seconds or more.
	ase brake pedal. CONSULT and perform "	BRAKE" self-diagnosis.	
	C1A82" detected?	Ŭ	
	>> Proceed to <u>BR-201, "[</u> >> INSPECTION END	Diagnosis Procedure".	
	sis Procedure		INFOID:000000010634212
•	K 12V BATTERY		
.UNEU			

1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.

- 2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. **CAUTION:**
 - Never operate the vehicle while waiting.

А

< DTC/CIRCUIT DIAGNOSIS >

- 3. Check the 12V battery terminal connections. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery" and <u>PG-76</u>, "Work Flow".
- 4. Check the 12V battery. Refer to PG-76. "Work Flow".

Is the inspection result normal?

- YES >> GO TO 2.
- NO >> Repair or replace error-detected parts and GO TO 2.

2.PERFORM SELF-DIAGNOSIS (1)

With CONSULT

- 1. Connect 12V battery cable to negative terminal.
- Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 3. Repeat step 2 two or more times.
 - CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 4. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

6. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 7. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 8. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

10. Turn the power switch ON without depressing the brake pedal.

Never set the vehicle to READY.

- 11. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 12. Release brake pedal.
- 13. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A82" detected?

YES >> GO TO 3.

NO >> INSPECTION END

3.CHECK CONNECTOR TERMINALS

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery".
- 4. Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace error-detected parts and GO TO 4.

4.PERFORM SELF-DIAGNOSIS (2)

With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal.

< D	TC/CIRCUIT DIA	AGNOSIS >				
	CAUTION:					
		hicle to READY.				А
4.	Repeat step 3 tw CAUTION:	o or more times.				
		for 5 seconds or mo	ore after turning the	power switch OFF.		
5.		witch OFF to exit CO			lata link connector.	В
6.					of the vehicle, and wait for	
		re with all doors close	d.			
	CAUTION:					С
-		he vehicle while wai				
1.	CAUTION:	witch ON without dep	pressing the brake pe	edal.		
		ehicle to READY.				D
8.		and erase self-diagno	sis result of "BRAKF	"		
9.		witch OFF to exit CO			lata link connector.	
					of the vehicle, and wait for	Ε
		re with all doors close	d.			
	CAUTION:					
44		he vehicle while wai				BR
11.	CAUTION:	witch ON without dep	pressing the brake pe	edal.		
		ehicle to READY.				
12.		edal by 100 mm (3.94	in) or more, and ho	ld the position for 5 s	econds or more.	G
	Release brake p		,			
14.	Start CONSULT	and perform "BRAKE	" self-diagnosis.			
ls D	TC "C1A82" dete	cted?				Н
YE	S >> GO TO 5	5.				
Ň						
5		SWITCH ON POWER	SUPPLY			1
		tery cable to negative		a at CONCLUIT from a	lata link connector	
2. 3.		witch OFF to exit CO			of the vehicle, and wait for	J
0.		re with all doors close			of the vehicle, and wait for	
	CAUTION:					
	Never operate t	he vehicle while wai	ting.			Κ
4.		battery cable from ne	gative terminal. Refe	er to <u>BR-6, "Precautio</u>	on for Removing 12V Bat-	
_	tery"					
5.		lectrically-driven intell		ness connector.		
6. 7.		tery cable to negative		t brake unit barness	connector and ground.	
1.	Check the voltag		cany-unven intelliger	It brake unit harness	connector and ground.	
		intelligent broken				M
	-	intelligent brake unit	_	Voltage		
	Connector	Terminal		(Approx.)		
	E34	26	Ground	0 V		Ν
8.	Turn the power s	witch ON without dep	pressing the brake pe	edal.		
	CAUTION:		C 1			
_		ehicle to READY.				0
9.	Check the voltag	e between the electric	cally-driven intelliger	t brake unit harness	connector and ground.	
	Electrically-driven	intelligent brake unit		Voltage		Ρ
	Connector	Terminal		(Approx.)		
	E34	26	Ground	10 – 16 V		
	ne inspection resu	ult normal?		<u> </u>		
	ES >> GO TO 8					

YES >> GO TO 8. NO >> GO TO 6.

< DTC/CIRCUIT DIAGNOSIS >

6.CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6. "Precaution for Removing 12V Bat-</u> <u>tery"</u>.
- 4. Check the 15A fuse (#62).
- 5. Disconnect IPDM E/R harness connector.
- 6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

Electrically-driven in	Electrically-driven intelligent brake unit		IPDM E/R		
Connector	Terminal	Connector	Terminal	Continuity	
E34	26	E15	62	Existed	

7. Check the continuity between electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven in	telligent brake unit		Continuity
Connector	Terminal		Continuity
E34	26	Ground	Not existed

Is the inspection result normal?

- YES >> Perform trouble diagnosis for power ON power supply. Refer to <u>PG-29</u>, "Wiring <u>Diagram—On</u> <u>Power Supply—"</u>.
- NO >> Repair or replace error-detected parts and GO TO 7.

7. PERFORM SELF-DIAGNOSIS (3)

With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect IPDM E/R harness connector.
- 3. Connect 12V battery cable to negative terminal.
- 4. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

5. Repeat step 4 two or more times.

CAUTION: Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 6. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

Turn the power switch ON without depressing the brake pedal.
 CAUTION:

Never set the vehicle to READY.

- 9. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 10. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

12. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 13. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 14. Release brake pedal.
- 15. Start CONSULT and perform "BRAKE" self-diagnosis.

	C1A8	32 CONTROL	MODULE
DTC/CIRCUIT DI	AGNOSIS >		
DTC "C1A82" det	ected?		
ES >> GO TO			
	CTION END		
CHECK 12V BAT	ITERY POWER SUPP	ĽY	
Close all doors 3 minutes or mo CAUTION:		check that the roon d.	nect CONSULT from data link connector. I lamp is OFF, get out of the vehicle, and wait for
Disconnect 12V	/ battery cable from ne	gative terminal. Re	fer to BR-6. "Precaution for Removing 12V Bat-
<u>tery"</u> .			
	electrically-driven intel attery cable to negative		rness connector.
			ent brake unit harness connector terminals.
	ge	ee	
Electrically-driver	n intelligent brake unit	Voltage	-
Connector	Terminal	(Approx.)	
	1 – 32		—
E34	2 – 32	10 – 16 V	
	28 – 32	-	
Turn the power	switch ON without dep	reasing the broke i	
-	n intelligent brake unit	Voltage	
Connector	Terminal	(Approx.)	_
	1 – 32		
E34	2 – 32	10 – 16 V	
	28 – 32		_
the inspection res			
'ES >> GO TO IO >> GO TO			
	ITERY POWER SUPP		
Close all doors		check that the roon	nect CONSULT from data link connector. a lamp is OFF, get out of the vehicle, and wait for
	the vehicle while wai		for to PD 6. "Droppution for Demoving 401/ Det
Disconnect 12v <u>terv"</u> .	ballery cable from he	gauve terminal. Re	fer to <u>BR-6, "Precaution for Removing 12V Bat-</u>
Check the 60A	fusible link (#F).		
			s connector terminal 1 of electrically-driven intel-
	t and 60A fusible link (a nuity and for short circ		s connector terminal 2 of electrically-driven intel-
	t and 60A fusible link (a		
Check the 15A	fuse (#75).		
	tinuity and for short ci e unit and 15A fuse (#7		ess connector terminal 28 of electrically-driven
the inspection res	sult normal?		
	n trouble diagnosis for wer Supply —".	12V battery power	supply. Refer to <u>PG-18, "Wiring Diagram — Bat-</u>
	or replace error-detect	ed parts and GO To	D 10.

NO >> Repair or replace error-detected parts and GO TO 10.

< DTC/CIRCUIT DIAGNOSIS >

10.PERFORM SELF-DIAGNOSIS (4)

With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal. **CAUTION:**

Never set the vehicle to READY.

- 4. Repeat step 3 two or more times.
 - **CAUTION:**

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 5. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. **CAUTION:**

Never operate the vehicle while waiting.

Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- Start CONSULT and erase self-diagnosis result of "BRAKE".
- 9. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 10. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

11. Turn the power switch ON without depressing the brake pedal. **CAUTION:**

Never set the vehicle to READY.

- 12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 13. Release brake pedal.
- Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A82" detected?

YES >> GO TO 11.

NO >> INSPECTION END

11.CHECK GROUND CIRCUIT

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 2. 3 minutes or more with all doors closed. CAUTION:

Never operate the vehicle while waiting.

- Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Bat-3. tery".
- Disconnect the electrically-driven intelligent brake unit harness connector.
- 5. Check the continuity between electrically-driven intelligent brake unit and ground.

Electrically-driver	n intelligent brake unit		Continuity	
Connector Terminal			Continuity	
E34	32	Ground	Existed	

Is the inspection result normal?

YES >> GO TO 13.

NO >> Repair or replace error-detected parts and GO TO 12.

12. PERFORM SELF-DIAGNOSIS (5)

- With CONSULT
 Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal. **CAUTION:**



< DTC/CIRCUIT DIAGNOSIS >	
 Never set the vehicle to READY. 4. Repeat step 3 two or more times. CAUTION: 	A
 Be sure to wait for 5 seconds or more after turning the power switch OFF. 5. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link con 6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehic 3 minutes or more with all doors closed. CAUTION: 	nnector. cle, and wait for B
 Never operate the vehicle while waiting. 7. Turn the power switch ON without depressing the brake pedal. CAUTION: 	С
 Never set the vehicle to READY. 8. Start CONSULT and erase self-diagnosis result of "BRAKE". 9. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link control of the set of the s	
 Close all doors (including back door), check that the room lamp is OFF, get out of the vehic 3 minutes or more with all doors closed. CAUTION: 	cle, and wait for E
Never operate the vehicle while waiting. 11. Turn the power switch ON without depressing the brake pedal. CAUTION: Never set the vehicle to READY.	BR
 Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or r Release brake pedal. Start CONSULT and perform "BRAKE" self-diagnosis. 	more. G
Is DTC "C1A82" detected? YES >> GO TO 13. NO >> INSPECTION END	Н
13. CHECK DATA MONITOR	I
 With CONSULT Connect the electrically-driven intelligent brake unit harness connector. Connect 12V battery cable to negative terminal. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION: 	J
Never set the vehicle to READY. 4. Repeat step 3 two or more times. CAUTION:	К
 Be sure to wait for 5 seconds or more after turning the power switch OFF. 5. Start CONSULT and select "BRAKE" and "DATA MONITOR" according this order. 6. Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER". Refer to <u>BR-Value</u>". 	33. "Reference
Is the inspection result normal? YES >> GO TO 14. NO >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-510, "Removal ar</u> "	M
14.PERFORM SELF-DIAGNOSIS (6)	N
 With CONSULT 1. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION: 	0
 Never set the vehicle to READY. 2. Repeat step 1 two or more times. CAUTION: 	
 Be sure to wait for 5 seconds or more after turning the power switch OFF. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link con Close all doors (including back door), check that the room lamp is OFF, get out of the vehic 3 minutes or more with all doors closed. CAUTION: 	
 Never operate the vehicle while waiting. 5. Turn the power switch ON without depressing the brake pedal. CAUTION: 	

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< DTC/CIRCUIT DIAGNOSIS >

Never set the vehicle to READY.

- 6. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 7. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

Turn the power switch ON without depressing the brake pedal.
 CAUTION:

Never set the vehicle to READY.

- 10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 11. Release brake pedal.
- 12. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A82" detected?

- YES >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-510</u>, "Removal and installation".
- NO >> INSPECTION END

< DTC/CIRCUIT DIAGNOSIS >

C1A83 CONTROL MODULE

DTC Lo	ogic		INFOID:000000010634213
DTC DE	TECTION LOGIC		
DTC	Display item	Malfunction detection condition	Possible causes
C1A83	CONTROL MODULE-5	A malfunction is detected in the control module of electrically-driven intelligent brake unit. (Abnormal power supply in main CPU)	Electrically-driven intelligent brake unit
TC RE	PRODUCTION PROCE	DURE	
.PREC	ONDITIONING		
		DURE" has been previously conducted, always	s turn power switch OFF and
ait at le	ast 10 seconds before co	nducting the next test.	
	>> GO TO 2.		
CHEC	K DTC DETECTION		
With C	ONSULT		
	the power switch OFF to TION:	ON without depressing the brake pedal.	
	er set the vehicle to REA	DY.	
	eat step 1 two or more tim TION:	es.	
Be s	ure to wait for 5 second	s or more after turning the power switch OF	
		exit CONSULT, and disconnect CONSULT fror (door), check that the room lamp is OFF, get o	
3 mir	nutes or more with all doo		
	TION: er operate the vehicle wi	nile waiting.	
Turn	the power switch ON with TION:	nout depressing the brake pedal.	
Neve	er set the vehicle to REA		
		f-diagnosis result of "BRAKE". exit CONSULT, and disconnect CONSULT fror	n data link connector
Close	e all doors (including back	door), check that the room lamp is OFF, get o	
	nutes or more with all doo TION:	rs closed.	
Neve	er operate the vehicle wi		
	TION:	nout depressing the brake pedal.	
	er set the vehicle to REA	.DY. Im (3.94 in) or more, and hold the position for \$	5 seconds or more
. Rele	ase brake pedal.		o seconds of more.
	CONSULT and perform "	BRAKE" self-diagnosis.	
	<u>C1A83" detected?</u> >> Proceed to <u>BR-209, "E</u>)iagnosis Procedure".	
	>> INSPECTION END	<u></u>	
iagno	sis Procedure		INFOID:000000010634214
	K 12V BATTERY		
. OHLU			

1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.

Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 2. 3 minutes or more with all doors closed. **CAUTION:**

А

< DTC/CIRCUIT DIAGNOSIS >

- 3. Check the 12V battery terminal connections. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery" and <u>PG-76</u>, "Work Flow".
- 4. Check the 12V battery. Refer to PG-76. "Work Flow".

Is the inspection result normal?

- YES >> GO TO 2.
- NO >> Repair or replace error-detected parts and GO TO 2.

2.PERFORM SELF-DIAGNOSIS (1)

With CONSULT

- 1. Connect 12V battery cable to negative terminal.
- Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 3. Repeat step 2 two or more times.
 - **CAUTION:**

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 4. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

6. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 7. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 8. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

10. Turn the power switch ON without depressing the brake pedal.

Never set the vehicle to READY.

- 11. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 12. Release brake pedal.
- 13. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A83" detected?

YES >> GO TO 3.

NO >> INSPECTION END

3.CHECK CONNECTOR TERMINALS

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery".
- 4. Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace error-detected parts and GO TO 4.

4.PERFORM SELF-DIAGNOSIS (2)

With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal.

< D	TC/CIRCUIT DIA	AGNOSIS >					
	CAUTION:	biele to DEADY					
4.	Never set the vehicle to READY. A Repeat step 3 two or more times.						
	CAUTION:						
5.	Be sure to wait for 5 seconds or more after turning the power switch OFF. . Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.						
6.	Close all doors (i	ncluding back door),	check that the room I		of the vehicle, and wait for		
	3 minutes or mor CAUTION:	re with all doors close	d.			С	
	Never operate t	he vehicle while wai				C	
7.		witch ON without dep	ressing the brake pe	edal.			
	CAUTION: Never set the ve	ehicle to READY.				D	
8.		and erase self-diagno					
9. 10		witch OFF to exit CO			lata link connector.	Е	
10.	3 minutes or mor	re with all doors close					
	CAUTION:	he vehicle while wai	ting				
11.		witch ON without dep		dal.		BR	
	CAUTION:	ehicle to READY.					
12.		edal by 100 mm (3.94	in) or more, and hol	d the position for 5 s	econds or more.	G	
13.	Release brake p	edal.					
	Start CONSULT	and perform "BRAKE	self-diagnosis.			Н	
	ES >> GO TO 5					11	
N							
5.	CHECK POWER	SWITCH ON POWEF	R SUPPLY				
1.		tery cable to negative					
2. 3.		witch OFF to exit CO			lata link connector. of the vehicle, and wait for	J	
0.	3 minutes or mor	re with all doors close			of the vehicle, and wait for		
	CAUTION:	ha yahiala whila wai	ting				
4.	Disconnect 12V	he vehicle while wai battery cable from ne	gative terminal. Refe	er to BR-6, "Precauti	on for Removing 12V Bat-	K	
	<u>tery"</u> .	-	-				
5. 6.		lectrically-driven intellectrically-driven intellectrically-driven		less connector.		L	
7.				t brake unit harness	connector and ground.		
						M	
	-	intelligent brake unit	_	Voltage		1 V I	
	Connector	Terminal		(Approx.)			
	E34	26	Ground	0 V		Ν	
8.	Turn the power s	witch ON without dep	ressing the brake pe	dal.			
_	Never set the ve	ehicle to READY.				0	
9.	Check the voltag	e between the electric	cally-driven intelligen	t brake unit harness	connector and ground.	-	
	Electrically driven	intelligent brake unit				F	
	Connector	Terminal	_	Voltage (Approx.)		Ρ	
	E34	26	Ground	10 – 16 V			
ls t	he inspection resu						
	ES >> GO TO 8						

YES >> GO TO 8. NO >> GO TO 6.

< DTC/CIRCUIT DIAGNOSIS >

6.CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6. "Precaution for Removing 12V Bat-</u> <u>tery"</u>.
- 4. Check the 15A fuse (#62).
- 5. Disconnect IPDM E/R harness connector.
- 6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

Electrically-driven intelligent brake unit		IPDM E/R		Continuity	
Connector	Terminal	Connector Terminal		Continuity	
E34	26	E15	62	Existed	

7. Check the continuity between electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven ir	ntelligent brake unit		Continuity	
Connector Terminal			Continuity	
E34	26	Ground	Not existed	

Is the inspection result normal?

- YES >> Perform trouble diagnosis for power ON power supply. Refer to <u>PG-29</u>, "Wiring <u>Diagram—On</u> <u>Power Supply—"</u>.
- NO >> Repair or replace error-detected parts and GO TO 7.

7. PERFORM SELF-DIAGNOSIS (3)

With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect IPDM E/R harness connector.
- 3. Connect 12V battery cable to negative terminal.
- 4. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

5. Repeat step 4 two or more times.

CAUTION: Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 6. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

CAUTION:

Never operate the vehicle while waiting.

8. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 9. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 10. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

12. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 13. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 14. Release brake pedal.
- 15. Start CONSULT and perform "BRAKE" self-diagnosis.

	C1A8	3 CONTROL	MODULE
DTC/CIRCUIT DI	AGNOSIS >		
DTC "C1A83" det			
(ES >> GO TO			
		1.77	
	TERY POWER SUPP		
Close all doors 3 minutes or mo CAUTION:		check that the roon d.	nect CONSULT from data link connector. I lamp is OFF, get out of the vehicle, and wait for
Disconnect 12V			fer to BR-6. "Precaution for Removing 12V Bat-
tery". Disconnect the	electrically-driven intel	ligent brake unit ba	rness connector
	attery cable to negative		
			ent brake unit harness connector terminals.
Electrically-driver	n intelligent brake unit	Voltage	
Connector	Terminal	(Approx.)	_
	1 – 32		
E34	2 – 32	10 – 16 V	
Î	28 - 32		
Electrically-driver	n intelligent brake unit	Voltage	_
Connector	Terminal	(Approx.)	
	1 – 32		_
E34	2 - 32	10 – 16 V	
	28 - 32	-	
the inspection res 'ES >> GO TO IO >> GO TO .CHECK 12V BAT	11.	LY CIRCUIT	
			nect CONSULT from data link connector.
Close all doors 3 minutes or mo CAUTION:	(including back door), on the second se	check that the roon d.	a lamp is OFF, get out of the vehicle, and wait for
Disconnect 12V	the vehicle while wai battery cable from ne		fer to <u>BR-6, "Precaution for Removing 12V Bat-</u>
<u>tery"</u> . Check the 60A	fusible link (#F)		
		uit between harnes	s connector terminal 1 of electrically-driven intel-
ligent brake uni	t and 60A fusible link (#F).	-
			s connector terminal 2 of electrically-driven intel-
Check the 15A	t and 60A fusible link (፣ fuse (#75).	7 1 <i>)</i> .	
Check the cont			ess connector terminal 28 of electrically-driven
the inspection res	ult normal?		
tery Pov	<u>ver Supply —".</u>		supply. Refer to <u>PG-18, "Wiring Diagram — Bat-</u>
NO >> Repair (or replace error-detecte	T()_() bace stree be	1 7(1

NO >> Repair or replace error-detected parts and GO TO 10.

< DTC/CIRCUIT DIAGNOSIS >

10.PERFORM SELF-DIAGNOSIS (4)

With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal. **CAUTION:**

Never set the vehicle to READY.

- 4. Repeat step 3 two or more times.
 - **CAUTION:**

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 5. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. **CAUTION:**

Never operate the vehicle while waiting.

Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- Start CONSULT and erase self-diagnosis result of "BRAKE".
- 9. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 10. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

11. Turn the power switch ON without depressing the brake pedal. **CAUTION:**

Never set the vehicle to READY.

- 12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 13. Release brake pedal.
- Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A83" detected?

YES >> GO TO 11.

NO >> INSPECTION END

11.CHECK GROUND CIRCUIT

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 2. 3 minutes or more with all doors closed. CAUTION:

Never operate the vehicle while waiting.

- Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Bat-3. tery".
- Disconnect the electrically-driven intelligent brake unit harness connector.
- 5. Check the continuity between electrically-driven intelligent brake unit and ground.

Electrically-driver	n intelligent brake unit		Continuity	
Connector Terminal			Continuity	
E34	32	Ground	Existed	

Is the inspection result normal?

YES >> GO TO 13.

NO >> Repair or replace error-detected parts and GO TO 12.

12. PERFORM SELF-DIAGNOSIS (5)

- With CONSULT
 Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal. **CAUTION:**

< DTC/CIRCUIT DIAGNOSIS >	
Never set the vehicle to READY. 4. Repeat step 3 two or more times. CAUTION:	А
 Be sure to wait for 5 seconds or more after turning the power switch OFF. 5. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. 6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION: 	В
 Never operate the vehicle while waiting. 7. Turn the power switch ON without depressing the brake pedal. CAUTION: 	С
 Never set the vehicle to READY. 8. Start CONSULT and erase self-diagnosis result of "BRAKE". 9. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. 10. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 	D
3 minutes or more with all doors closed. CAUTION: Never operate the vehicle while waiting. 11. Turn the power switch ON without depressing the brake pedal.	E
CAUTION: Never set the vehicle to READY. 12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.	BR
 Release brake pedal. Start CONSULT and perform "BRAKE" self-diagnosis. <u>Is DTC "C1A83" detected?</u> 	G
YES >> GO TO 13. NO >> INSPECTION END	Η
13.CHECK DATA MONITOR	I
 With CONSULT Connect the electrically-driven intelligent brake unit harness connector. Connect 12V battery cable to negative terminal. Turn the power switch OFF to ON without depressing the brake pedal. 	J
CAUTION: Never set the vehicle to READY. 4. Repeat step 3 two or more times. CAUTION:	K
 Be sure to wait for 5 seconds or more after turning the power switch OFF. 5. Start CONSULT and select "BRAKE" and "DATA MONITOR" according this order. 6. Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER". Refer to <u>BR-33</u>, "<u>Reference</u> <u>Value</u>". 	L
<u>Is the inspection result normal?</u> YES >> GO TO 14. NO >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-510</u> , " <u>Removal and installation</u> ".	M
14.PERFORM SELF-DIAGNOSIS (6)	Ν
 With CONSULT Turn the power switch OFF to ON without depressing the brake pedal. CAUTION: 	0
 Never set the vehicle to READY. 2. Repeat step 1 two or more times. CAUTION: 	D
 Be sure to wait for 5 seconds or more after turning the power switch OFF. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION: 	Ρ
 Never operate the vehicle while waiting. 5. Turn the power switch ON without depressing the brake pedal. CAUTION: 	

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< DTC/CIRCUIT DIAGNOSIS >

Never set the vehicle to READY.

- 6. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 7. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

Turn the power switch ON without depressing the brake pedal.
 CAUTION:

Never set the vehicle to READY.

- 10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 11. Release brake pedal.
- 12. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A83" detected?

- YES >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-510</u>, "Removal and installation".
- NO >> INSPECTION END

< DTC/CIRCUIT DIAGNOSIS >

C1A84 CONTROL MODULE

DTC Lo	ogic		INFOID:000000010634215
DTC DE	TECTION LOGIC		
DTC	Display item	Malfunction detection condition	Possible causes
C1A84	CONTROL MODULE-6	A malfunction is detected in the control module of electrically-driven intelligent brake unit. (Abnormal power supply in sub CPU)	Electrically-driven intelligent brake unit
DTC RE	PRODUCTION PROCE	DURE	
.PREC	ONDITIONING		
		URE" has been previously conducted, always	s turn power switch OFF and
ait at le	ast 10 seconds before con	ducting the next test.	
	>> GO TO 2.		
.CHEC	K DTC DETECTION		
	ONSULT		
	the power switch OFF to (TION:	ON without depressing the brake pedal.	
Neve	er set the vehicle to REA		
	eat step 1 two or more time TION:	35.	
		or more after turning the power switch Of exit CONSULT, and disconnect CONSULT from	
Close	e all doors (including back	door), check that the room lamp is OFF, get o	ut of the vehicle, and wait for
	nutes or more with all door TION:	s closed.	
Neve	er operate the vehicle wh	ile waiting. out depressing the brake pedal.	
CAU	TION:		
	er set the vehicle to REA CONSULT and erase self	DY. -diagnosis result of "BRAKE".	
Turn	the power switch OFF to e	exit CONSULT, and disconnect CONSULT from	
	e all doors (including back nutes or more with all door	door), check that the room lamp is OFF, get o s closed.	ut of the vehicle, and walt for
	TION: er operate the vehicle wh	ile waiting	
Turn	the power switch ON with	out depressing the brake pedal.	
	TION: er set the vehicle to REA	DY.	
	ess brake pedal by 100 m ase brake pedal.	m (3.94 in) or more, and hold the position for	5 seconds or more.
	CONSULT and perform "E	BRAKE" self-diagnosis.	
	C1A84" detected?		
	>> Proceed to <u>BR-217, "D</u> >> INSPECTION END	iagnosis Procedure".	
iagno	sis Procedure		INFOID:000000010634216
	K 12V BATTERY		
.UHEU			

1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.

Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 2. 3 minutes or more with all doors closed. **CAUTION:**

А

< DTC/CIRCUIT DIAGNOSIS >

- 3. Check the 12V battery terminal connections. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery" and <u>PG-76</u>, "Work Flow".
- 4. Check the 12V battery. Refer to PG-76. "Work Flow".

Is the inspection result normal?

- YES >> GO TO 2.
- NO >> Repair or replace error-detected parts and GO TO 2.

2.PERFORM SELF-DIAGNOSIS (1)

With CONSULT

- 1. Connect 12V battery cable to negative terminal.
- Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 3. Repeat step 2 two or more times.
 - CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 4. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

6. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 7. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 8. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

10. Turn the power switch ON without depressing the brake pedal.

Never set the vehicle to READY.

- 11. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 12. Release brake pedal.
- 13. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A84" detected?

YES >> GO TO 3.

NO >> INSPECTION END

3. CHECK CONNECTOR TERMINALS

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery".
- 4. Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace error-detected parts and GO TO 4.

4.PERFORM SELF-DIAGNOSIS (2)

With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal.

< D	TC/CIRCUIT DIA	AGNOSIS >				
	CAUTION:	hists to DEADY				
4.		ehicle to READY.				A
т.	CAUTION:					
-		for 5 seconds or mo			Lefe Pellins and the	В
5. 6.		witch OFF to exit CO			lata link connector.	
0.		e with all doors close				
	CAUTION:					С
7		he vehicle while wai		dal		
1.	CAUTION:	witch ON without dep	ressing the brake per	ual.		_
		hicle to READY.				D
8.		and erase self-diagno				
9. 10		witch OFF to exit CO			lata link connector. of the vehicle, and wait for	Е
10.		re with all doors close		amp is OFF, get out	of the vehicle, and wait for	
	CAUTION:		-			
		he vehicle while wai		-1-1		BR
11.	CAUTION:	witch ON without dep	ressing the brake pe	dal.		
		hicle to READY.				
		edal by 100 mm (3.94	in) or more, and hole	d the position for 5 s	econds or more.	G
	Release brake po	edal. and perform "BRAKE'	solf diagnosis			
	DTC "C1A84" dete	•	sell-ulagriosis.			Н
	ES >> GO TO 5					
N						
5.	CHECK POWER	SWITCH ON POWER	SUPPLY			
1.		tery cable to negative				
2.	Turn the power s	witch OFF to exit CO	NSULT, and disconne			1
3.				amp is OFF, get out	of the vehicle, and wait for	J
	CAUTION:	e with all doors close	u.			
	Never operate t	he vehicle while wai	ting.			Κ
4.		battery cable from ne	gative terminal. Refe	r to <u>BR-6, "Precaution</u>	on for Removing 12V Bat-	
5.	tery". Disconnect the e	lectrically-driven intell	igent brake unit harn	ess connector		
6.		tery cable to negative				L
7.				t brake unit harness	connector and ground.	
						M
	_	intelligent brake unit	_	Voltage		
	Connector	Terminal		(Approx.)		
	E34	26	Ground	0 V		Ν
8.	Turn the power s	witch ON without dep	ressing the brake pe	dal.		
		ehicle to READY.				0
9.			cally-driven intelligent	t brake unit harness	connector and ground.	U
			1			
	-	intelligent brake unit	_	Voltage (Approx.)		Ρ
	Connector	Terminal	Construct.			
_	E34	26	Ground	10 – 16 V		
	he inspection resu =S >> GO TO 8					

YES >> GO TO 8. NO >> GO TO 6.

< DTC/CIRCUIT DIAGNOSIS >

6.CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

CAUTION:

- Never operate the vehicle while waiting.
- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6. "Precaution for Removing 12V Bat-</u> <u>tery"</u>.
- 4. Check the 15A fuse (#62).
- 5. Disconnect IPDM E/R harness connector.
- 6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

Electrically-driven intelligent brake unit		IPDI	IPDM E/R	
Connector	Terminal	Connector	Terminal	Continuity
E34	26	E15	62	Existed

7. Check the continuity between electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven in	itelligent brake unit		Continuity
Connector	Terminal		Continuity
E34	26	Ground	Not existed

Is the inspection result normal?

- YES >> Perform trouble diagnosis for power ON power supply. Refer to <u>PG-29</u>, "Wiring <u>Diagram—On</u> <u>Power Supply—"</u>.
- NO >> Repair or replace error-detected parts and GO TO 7.

7. PERFORM SELF-DIAGNOSIS (3)

With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect IPDM E/R harness connector.
- 3. Connect 12V battery cable to negative terminal.
- 4. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

5. Repeat step 4 two or more times.

CAUTION: Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 6. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

CAUTION:

Never operate the vehicle while waiting.

8. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 9. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 10. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

12. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 13. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 14. Release brake pedal.
- 15. Start CONSULT and perform "BRAKE" self-diagnosis.

	C1A8	34 CONTROL	MODULE
DTC/CIRCUIT DI	AGNOSIS >		
DTC "C1A84" det	ected?		
/ES >> GO TO			
NO >> INSPEC			
CHECK 12V BAT	TERY POWER SUPP	LY	
Close all doors (3 minutes or mo CAUTION:		check that the roon d.	nect CONSULT from data link connector. I lamp is OFF, get out of the vehicle, and wait for
Disconnect 12V	battery cable from ne	egative terminal. Re	fer to BR-6. "Precaution for Removing 12V Bat-
<u>tery"</u> .			
	electrically-driven intell		rness connector.
	ttery cable to negative		ent brake unit harness connector terminals.
Electrically-driven	intelligent brake unit	Valtaga	-
Connector	Terminal	Voltage (Approx.)	
Connector	1 – 32		_
E34	2 - 32	10 – 16 V	
L04	-	10 – 10 v	
Turn the power	28 – 32 switch ON without dep		
Electrically-driven	intelligent brake unit	Voltage	_
Connector	Terminal	(Approx.)	
	1 – 32		—
E34	2 – 32	10 – 16 V	
	28 - 32		
the inspection res	ult normal?		_
'ES >> GO TO			
0 >> GO TO			
CHECK 12V BAT	TERY POWER SUPP	LY CIRCUIT	
Close all doors (3 minutes or mo CAUTION:	(including back door), (ore with all doors close	check that the roon d.	nect CONSULT from data link connector. I lamp is OFF, get out of the vehicle, and wait for
	the vehicle while wai		for to RD 6. "Procedution for Domoving 19\/ Bot
tery".	Dattery Capie ITOITI Ne	gauve terminal. Re	fer to <u>BR-6, "Precaution for Removing 12V Bat-</u>
Check the 60A f			
			s connector terminal 1 of electrically-driven intel-
	and 60A fusible link (an uity and for short circle		s connector terminal 2 of electrically-driven intel-
	and 60A fusible link (
Check the 15A f	fuse (#75).		
intelligent brake	unit and 15A fuse (#7		ess connector terminal 28 of electrically-driven
the inspection res			
<u>tery Pov</u>	ver Supply —".		supply. Refer to <u>PG-18, "Wiring Diagram — Bat-</u>
IO >> Repair o	or replace error-detecte	ed parts and GO T(J 10.

NO >> Repair or replace error-detected parts and GO TO 10.

< DTC/CIRCUIT DIAGNOSIS >

10.PERFORM SELF-DIAGNOSIS (4)

With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal. **CAUTION:**

Never set the vehicle to READY.

- 4. Repeat step 3 two or more times.
 - **CAUTION:**

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 5. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. **CAUTION:**

Never operate the vehicle while waiting.

Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- Start CONSULT and erase self-diagnosis result of "BRAKE".
- 9. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 10. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

11. Turn the power switch ON without depressing the brake pedal. **CAUTION:**

Never set the vehicle to READY.

- 12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 13. Release brake pedal.
- Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A84" detected?

YES >> GO TO 11.

NO >> INSPECTION END

11.CHECK GROUND CIRCUIT

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 2. 3 minutes or more with all doors closed. CAUTION:

Never operate the vehicle while waiting.

- Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Bat-3. tery".
- Disconnect the electrically-driven intelligent brake unit harness connector.
- 5. Check the continuity between electrically-driven intelligent brake unit and ground.

Electrically-driver	n intelligent brake unit		Continuity	
Connector	Terminal		Continuity	
E34	32	Ground	Existed	

Is the inspection result normal?

YES >> GO TO 13.

NO >> Repair or replace error-detected parts and GO TO 12.

12. PERFORM SELF-DIAGNOSIS (5)

- With CONSULT
 Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal. **CAUTION:**



< D	TC/CIRCUIT DIAGNOSIS >	
4.	Never set the vehicle to READY. Repeat step 3 two or more times. CAUTION:	A
5. 6.	Be sure to wait for 5 seconds or more after turning the power switch OFF. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION:	В
7.	Never operate the vehicle while waiting. Turn the power switch ON without depressing the brake pedal. CAUTION:	С
	Never set the vehicle to READY. Start CONSULT and erase self-diagnosis result of "BRAKE".	D
	Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION:	E
11.	Never operate the vehicle while waiting. Turn the power switch ON without depressing the brake pedal. CAUTION:	BR
13.	Never set the vehicle to READY. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more. Release brake pedal. Start CONSULT and perform "BRAKE" self-diagnosis.	G
<u>Is E</u>	DTC "C1A84" detected?	
N		Η
13	CHECK DATA MONITOR	I
	Vith CONSULT	1
	Connect the electrically-driven intelligent brake unit harness connector. Connect 12V battery cable to negative terminal.	
2. 3.	Turn the power switch OFF to ON without depressing the brake pedal.	J
4	Never set the vehicle to READY.	IZ.
4.	Repeat step 3 two or more times. CAUTION:	Κ
5. 6.	Be sure to wait for 5 seconds or more after turning the power switch OFF. Start CONSULT and select "BRAKE" and "DATA MONITOR" according this order.	L
<u>ls t</u>	ne inspection result normal?	M
YE		IVI
N(1 /		
	PERFORM SELF-DIAGNOSIS (6)	Ν
⊕V 1.	Vith CONSULT Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:	0
	Never set the vehicle to READY.	0
2.	Repeat step 1 two or more times. CAUTION:	Р
3.	Be sure to wait for 5 seconds or more after turning the power switch OFF. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.	1
3. 4.	Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.	
	CAUTION: Never operate the vehicle while waiting.	
5.	Turn the power switch ON without depressing the brake pedal. CAUTION:	

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< DTC/CIRCUIT DIAGNOSIS >

Never set the vehicle to READY.

- 6. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 7. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

Turn the power switch ON without depressing the brake pedal.
 CAUTION:

Never set the vehicle to READY.

- 10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 11. Release brake pedal.
- 12. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A84" detected?

- YES >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-510</u>, "Removal and installation".
- NO >> INSPECTION END

< DTC/CIRCUIT DIAGNOSIS >

C1A85 CONTROL MODULE

DTC Logic

DTC DETECTION LOGIC

INFOID:000000010634217	

E	1	
Г	5	

Н

А

DTC	Display item	Malfunction detection condition	Possible causes	
C1A85	CONTROL MODULE-7	 A malfunction is detected in the control module of electrically-driven intelligent brake unit. (Malfunction in internal power supply circuit of Main CPU) A malfunction is detected in the control module of electrically-driven intelligent brake unit. [Abnormal analog-digital converter (AD converter) of main CPU] A malfunction is detected in the control module of electrically-driven intelligent brake unit. (Abnormal Amalfunction is detected in the control module of electrically-driven intelligent brake unit. (Abnormal RAM of main CPU) A malfunction is detected in the control module of electrically-driven intelligent brake unit. (Abnormal RAM of main CPU) A malfunction is detected in the control module of electrically-driven intelligent brake unit. (Abnormal ROM of main CPU) 	Electrically-driven intelligent brake unit	

DTC REPRODUCTION PROCEDURE

1	
	.PRECONDITIONING
	.FRECONDITIONING

If "DTC CONFIRMATION PROCEDURE" has been previously conducted, always turn power switch OFF and wait at least 10 seconds before conducting the next test.

>> GO TO 2.

2.	CHECK DTC DETECTION	
	Vith CONSULT	
1.	Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:	J
	Never set the vehicle to READY.	
2.	Repeat step 1 two or more times. CAUTION:	K
	Be sure to wait for 5 seconds or more after turning the power switch OFF.	
3. 4.	Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION:	L
	Never operate the vehicle while waiting.	
5.	Turn the power switch ON without depressing the brake pedal.	M
	Never set the vehicle to READY.	
6. 7. 8.	Start CONSULT and erase self-diagnosis result of "BRAKE". Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for	Ν
	3 minutes or more with all doors closed.	0
9.	CAUTION: Never operate the vehicle while waiting. Turn the power switch ON without depressing the brake pedal.	0
	CAUTION:	Р
11.	Never set the vehicle to READY. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more. Release brake pedal. Start CONSULT and perform "BRAKE" self-diagnosis.	
	· · · · · · · · · · · · · · · · · · ·	

Is DTC "C1A85" detected?

- YES >> Proceed to <u>BR-226, "Diagnosis Procedure"</u>.
- NO >> INSPECTION END

< DTC/CIRCUIT DIAGNOSIS >

Diagnosis Procedure

INFOID:000000010634218

1.CHECK 12V BATTERY

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

- Check the 12V battery terminal connections. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery" and <u>PG-76</u>, "Work Flow".
- 4. Check the 12V battery. Refer to PG-76, "Work Flow".

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace error-detected parts and GO TO 2.

2.PERFORM SELF-DIAGNOSIS (1)

With CONSULT

- 1. Connect 12V battery cable to negative terminal.
- Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

3. Repeat step 2 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 4. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

6. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 7. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 8. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

10. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 11. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 12. Release brake pedal.
- 13. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A85" detected?

YES >> GO TO 3.

NO >> INSPECTION END

3.CHECK CONNECTOR TERMINALS

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, <u>"Precaution for Removing 12V Bat-tery"</u>.
- 4. Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.

Is the inspection result normal?

		UIAU		JUOLL	
< DTC/	CIRCUIT DI	AGNOSIS >			
YES	>> GO TO				
NO	•	or replace error-detecte	ed parts and GO TO 4		А
4.PER	RFORM SELF	-DIAGNOSIS (2)			
(P)With	CONSULT				
		ctrically-driven intellige	nt brake unit harness	connector.	В
		attery cable to negative			
	IN the power	switch OFF to ON with	out depressing the br	ake pedal.	С
		vehicle to READY.			0
4. Rep	peat step 3 tv	wo or more times.			
	UTION:				D
		t for 5 seconds or mo		ct CONSULT from data link conne	otor
				mp is OFF, get out of the vehicle,	
3 m	ninutes or mo	ore with all doors closed		1 20	E
	UTION:	the vehicle while weit			
		the vehicle while wait switch ON without dep		al	DD
	UTION:		receiving the brane per		BR
-		vehicle to READY.			
		and erase self-diagno		ct CONSULT from data link conne	octor G
				mp is OFF, get out of the vehicle,	
3 m	ninutes or mo	ore with all doors closed			
					Н
11 Tur	rn the nower	the vehicle while wait switch ON without dep	l ing. ressing the brake per	al	
	UTION:	Switch ON without dep			
		vehicle to READY.			
			in) or more, and hold	the position for 5 seconds or mo	re.
	lease brake j art CONSULT	and perform "BRAKE"	self-diagnosis		J
	"C1A85" det	•	een alagireeler		
YES	>> GO TO				
NO	>> INSPEC	CTION END			K
5. CHE	ECK POWER	SWITCH ON POWER	SUPPLY		
1. Co	nnect 12V ba	attery cable to negative	terminal		
				ct CONSULT from data link conne	ector.
				mp is OFF, get out of the vehicle,	and wait for
	ninutes or mo	ore with all doors closed	J.		M
		the vehicle while wait	ting.		111
4. Dis	sconnect 12V			to BR-6, "Precaution for Removi	<u>ng 12V Bat-</u>
E Die		olootrioolly driven intell	a ont broke	an connector	Ν
		electrically-driven intell attery cable to negative		ess connector.	
				brake unit harness connector and	l ground.
		-	- 0		0
EI	lectrically-driver	n intelligent brake unit		Voltage	
C	onnector	Terminal	—	(Approx.)	
	E34	26	Ground	0 V	P
8. Tur	n the power	switch ON without dep	ressing the brake per	al	
J. 10		sinton ora without dep	sooning the brake pet		

8. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

9. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

< DTC/CIRCUIT DIAGNOSIS >

Electrically-driven in	telligent brake unit		Voltage
Connector	Terminal	(Approx.)	(Approx.)
E34	26	Ground	10 – 16 V

Is the inspection result normal?

YES >> GO TO 8.

NO >> GO TO 6.

 ${f 6}.$ CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

- Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery".
- 4. Check the 15A fuse (#62).
- 5. Disconnect IPDM E/R harness connector.
- 6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

Electrically-driven intelligent brake unit		IPDI	Continuity	
Connector	Terminal	Connector	Terminal	Continuity
E34	26	E15	62	Existed

7. Check the continuity between electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven ir	ntelligent brake unit		Continuity	
Connector	Terminal		Continuity	
E34	26	Ground	Not existed	

Is the inspection result normal?

- YES >> Perform trouble diagnosis for power ON power supply. Refer to <u>PG-29</u>, "Wiring Diagram—On <u>Power Supply</u>—".
- NO >> Repair or replace error-detected parts and GO TO 7.

7. PERFORM SELF-DIAGNOSIS (3)

With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect IPDM E/R harness connector.
- 3. Connect 12V battery cable to negative terminal.
- 4. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

 Repeat step 4 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 6. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

8. Turn the power switch ON without depressing the brake pedal. **CAUTION:**

Never set the vehicle to READY.

- 9. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 10. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 11. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.



< DTC/CIRCUIT D	AGNOSIS >			
CAUTION:				
	the vehicle while wait		nadal	А
CAUTION:	switch ON without dep	ressing the brake	pedal.	
	vehicle to READY.			D
		in) or more, and	hold the position for 5 seconds or more.	В
14. Release brake	pedal. and perform "BRAKE"	self-diagnosis		
Is DTC "C1A85" det	•	Sen diagnosis.		С
YES >> GO TO				
	CTION END			
8.CHECK 12V BAT	ITERY POWER SUPPI	Y		D
2. Close all doors		heck that the roo	nnect CONSULT from data link connector. m lamp is OFF, get out of the vehicle, and wait for	E
Never operate	the vehicle while wait	ing.		БВ
 Disconnect 12V tery". 	battery cable from neg	gative terminal. R	efer to <u>BR-6</u> , "Precaution for Removing 12V Bat-	BR
	electrically-driven intell	gent brake unit h	arness connector.	
5. Connect 12V ba	attery cable to negative	terminal.		G
6. Check the volta	ge between the electric	ally-driven intellig	ent brake unit harness connector terminals.	
Electrically driver	n intelligent brake unit		—	
Connector	Terminal	Voltage (Approx.)		Н
Connector		(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
504	1 – 32	40 40.14		1
E34	2 - 32	10 – 16 V		
	28 - 32		—	
7. Turn the power CAUTION:	switch ON without dep	ressing the brake	pedal.	J
	vehicle to READY.			
8. Check the volta	ge between the electric	ally-driven intellig	ent brake unit harness connector terminals.	1Z
				Κ
Electrically-driver	n intelligent brake unit	Voltage		
Connector	Terminal	(Approx.)		L
	1 – 32			
E34	2 – 32	10-16 V		
	28 – 32			M
Is the inspection res	sult normal?		—	
YES >> GO TO	11.			NI
NO >> GO TO				Ν
9.CHECK 12V BAT	TTERY POWER SUPPI	Y CIRCUIT		
1. Turn the power	switch OFF to exit COM	SULT, and disco	nnect CONSULT from data link connector.	0
			m lamp is OFF, get out of the vehicle, and wait for	
3 minutes or mo	ore with all doors closed	1.		
	the vehicle while wait	ina.		Ρ
3. Disconnect 12V			efer to BR-6, "Precaution for Removing 12V Bat-	
tery".				
	fusible link (#F). nuity and for short circu	iit hetween harne	ss connector terminal 1 of electrically-driven intel-	
	t and 60A fusible link (#			

6. Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).

< DTC/CIRCUIT DIAGNOSIS >

- 7. Check the 15A fuse (#75).
- 8. Check the continuity and for short circuit between harness connector terminal 28 of electrically-driven intelligent brake unit and 15A fuse (#75).

Is the inspection result normal?

- YES >> Perform trouble diagnosis for 12V battery power supply. Refer to <u>PG-18</u>, "Wiring Diagram Battery Power Supply —".
- NO >> Repair or replace error-detected parts and GO TO 10.

10.PERFORM SELF-DIAGNOSIS (4)

() With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

4. Repeat step 3 two or more times.

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 5. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

7. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 8. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 9. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 10. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

11. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 13. Release brake pedal.
- 14. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A85" detected?

YES >> GO TO 11.

NO >> INSPECTION END

11.CHECK GROUND CIRCUIT

1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.

- 2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
- CAUTION:

Never operate the vehicle while waiting.

- Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6, "Precaution for Removing 12V Bat-tery"</u>.
- 4. Disconnect the electrically-driven intelligent brake unit harness connector.
- 5. Check the continuity between electrically-driven intelligent brake unit and ground.

Electrically-driver	n intelligent brake unit		Continuity
Connector	Terminal		Continuity
E34	32	Ground	Existed

Is the inspection result normal?

YES >> GO TO 13.

< DTC/CIRCUIT DIAGNOSIS >	
NO >> Repair or replace error-detected parts and GO TO 12.	
12.perform self-diagnosis (5)	А
 With CONSULT Connect the electrically-driven intelligent brake unit harness connector. 	В
 Connect 12V battery cable to negative terminal. Turn the power switch OFF to ON without depressing the brake pedal. 	
CAUTION: Never set the vehicle to READY.	С
 4. Repeat step 3 two or more times. CAUTION: 	0
 Be sure to wait for 5 seconds or more after turning the power switch OFF. 5. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. 6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. 	D
CAUTION:	Ε
Never operate the vehicle while waiting.7. Turn the power switch ON without depressing the brake pedal.	
CAUTION:	BR
 Never set the vehicle to READY. 8. Start CONSULT and erase self-diagnosis result of "BRAKE". 	
 Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION: 	G
Never operate the vehicle while waiting.	Н
 Turn the power switch ON without depressing the brake pedal. CAUTION: 	
Never set the vehicle to READY.	1
 Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more. Release brake pedal. 	-
14. Start CONSULT and perform "BRAKE" self-diagnosis.	J
<u>Is DTC "C1A85" detected?</u> YES >> GO TO 13.	J
NO >> INSPECTION END	
13. CHECK DATA MONITOR	K
With CONSULT	
 Connect the electrically-driven intelligent brake unit harness connector. Connect 12V battery cable to negative terminal. 	L
Turn the power switch OFF to ON without depressing the brake pedal.	
CAUTION: Never set the vehicle to READY.	M
4. Repeat step 3 two or more times.	
 CAUTION: Be sure to wait for 5 seconds or more after turning the power switch OFF. 5. Start CONSULT and select "BRAKE" and "DATA MONITOR" according this order. 6. Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER". Refer to <u>BR-33</u>. "Reference Value". 	Ν
Is the inspection result normal?	0
YES >> GO TO 14.	
NO >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-510, "Removal and installation"</u> .	Ρ
14.PERFORM SELF-DIAGNOSIS (6)	
 With CONSULT Turn the power switch OFF to ON without depressing the brake pedal. CAUTION: Never set the vehicle to READY. Repeat step 1 two or more times. CAUTION: 	

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CAUTION:

< DTC/CIRCUIT DIAGNOSIS >

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 3. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 4. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION:

Never operate the vehicle while waiting.

5. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 6. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 7. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 8. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 - CAUTION: Never operate the vehicle while waiting.
- 9. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 11. Release brake pedal.
- 12. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A85" detected?

- YES >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-510</u>, "Removal and installation".
- NO >> INSPECTION END

< DTC/CIRCUIT DIAGNOSIS >

C1A86 CONTROL MODULE

DTC Logic

DTC DETECTION LOGIC

INFOID:000000010634219	

А

В

Н

DTC	Display item	Malfunction detection condition	Possible causes	
C1A86	CONTROL MODULE-8	 A malfunction is detected in the control module of electrically-driven intelligent brake unit. (Malfunction in internal power supply circuit of sub CPU) A malfunction is detected in the control module of electrically-driven intelligent brake unit. [Abnormal analog-digital converter (AD converter) of sub CPU] A malfunction is detected in the control module of electrically-driven intelligent brake unit. (Abnormal RAM of sub CPU) A malfunction is detected in the control module of electrically-driven intelligent brake unit. (Abnormal RAM of sub CPU) A malfunction is detected in the control module of electrically-driven intelligent brake unit. (Abnormal ROM of sub CPU) 	Electrically-driven intelligent brake unit	

DTC REPRODUCTION PROCEDURE

.PRECONDITIONING

If "DTC CONFIRMATION PROCEDURE" has been previously conducted, always turn power switch OFF and wait at least 10 seconds before conducting the next test.

>> GO TO 2.

2.	CHECK DTC DETECTION	
	Vith CONSULT	
1.	Turn the power switch OFF to ON without depressing the brake pedal.	J
	CAUTION:	0
~	Never set the vehicle to READY.	
2.	Repeat step 1 two or more times.	К
	CAUTION: Be sure to wait for 5 seconds or more after turning the power switch OFF.	n
3.		
4.	Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for	
	3 minutes or more with all doors closed.	L
	CAUTION:	
	Never operate the vehicle while waiting.	
5.	Turn the power switch ON without depressing the brake pedal.	Μ
	CAUTION:	
~	Never set the vehicle to READY.	
6.	Start CONSULT and erase self-diagnosis result of "BRAKE".	Ν
7. 8.	Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for	
0.	3 minutes or more with all doors closed.	
	CAUTION:	0
	Never operate the vehicle while waiting.	
9.	Turn the power switch ON without depressing the brake pedal.	
	CAUTION:	Ρ
	Never set the vehicle to READY.	
	Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.	
	Release brake pedal.	
	Start CONSULT and perform "BRAKE" self-diagnosis.	
IS L	DTC "C1A86" detected?	

- YES >> Proceed to <u>BR-234, "Diagnosis Procedure"</u>.
- NO >> INSPECTION END

< DTC/CIRCUIT DIAGNOSIS >

Diagnosis Procedure

INFOID:000000010634220

1.CHECK 12V BATTERY

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

- Check the 12V battery terminal connections. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery" and <u>PG-76</u>, "Work Flow".
- 4. Check the 12V battery. Refer to PG-76, "Work Flow".

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace error-detected parts and GO TO 2.

2.PERFORM SELF-DIAGNOSIS (1)

With CONSULT

- 1. Connect 12V battery cable to negative terminal.
- Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

3. Repeat step 2 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 4. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

6. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 7. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 8. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

10. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 11. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 12. Release brake pedal.
- 13. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A86" detected?

YES >> GO TO 3.

NO >> INSPECTION END

3.CHECK CONNECTOR TERMINALS

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, <u>"Precaution for Removing 12V Bat-tery"</u>.
- 4. Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.

Is the inspection result normal?

		CIAC		JUOLL	
< DTC/	CIRCUIT DI	AGNOSIS >			
YES	>> GO TO				
NO	>> Repair c	or replace error-detecte	ed parts and GO TO 4		
4 .PEF	RFORM SELF	-DIAGNOSIS (2)			
	CONSULT	ctrically-driven intellige	nt brake unit harness	connector	
		ttery cable to negative		connector.	
		switch OFF to ON with		ake pedal.	
	UTION:				
-		ehicle to READY.			
	peat step 3 tv	vo or more times.			
		for 5 seconds or mo	re after turning the i	ower switch OFF	
5. Tu	rn the power	switch OFF to exit COI	NSULT. and disconne	ct CONSULT from data	ink connector.
6. Clo	ose all doors (including back door), o	check that the room la	mp is OFF, get out of the	e vehicle, and wait for
-		re with all doors close	d.		
	UTION:				
		t he vehicle while wai t switch ON without dep		al	
	UTION:		ressing the blake per	al.	В
		ehicle to READY.			
		and erase self-diagno			
				ct CONSULT from data	
				mp is OFF, get out of the	e vehicle, and wait for
	ninutes or mo	re with all doors closed	0.		
		the vehicle while wait	tina.		
11. Tu	rn the power	switch ON without dep	ressing the brake peo	al.	
	UTION:	1	5		
		ehicle to READY.			
			in) or more, and hold	the position for 5 secon	ds or more.
	lease brake p	and perform "BRAKE"	self-diagnosis		
	<u>"C1A86" dete</u>	•	sen diagnosis.		
YES	>> GO TO :				
NO	>> INSPEC				
_		SWITCH ON POWER	ע וחחו ע		
J.CHE	ECK POWER	SWITCH ON POWER	SUPPLI		
		ttery cable to negative			
				ct CONSULT from data	
		re with all doors close		mp is OFF, get out of the	e venicle, and wait for
	UTION:		J.		
		the vehicle while wait	ting.		
		battery cable from ne	gative terminal. Refe	to BR-6, "Precaution for	r Removing 12V Bat-
<u>ter</u>			la ant bualca constituir con		
		electrically-driven intell ttery cable to negative		ess connector.	
				brake unit harness conr	ector and around
01					cotor and ground.
F	lectrically-driven	intelligent brake unit			
	-	_	—	Voltage (Approx.)	
C	Connector	Terminal			
	E34	26	Ground	0 V	
8. Tu	rn the power	switch ON without dep	ressing the brake peo	al.	

8. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

9. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

< DTC/CIRCUIT DIAGNOSIS >

Electrically-driven in	telligent brake unit		Voltage
Connector	Terminal		(Approx.)
E34	26	Ground	10 – 16 V

Is the inspection result normal?

YES >> GO TO 8.

NO >> GO TO 6.

 ${f 6}.$ CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

- Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery".
- 4. Check the 15A fuse (#62).
- 5. Disconnect IPDM E/R harness connector.
- 6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

Electrically-driven in	telligent brake unit	IPDM E/R		Continuity	
Connector	Terminal	Connector	Terminal	Continuity	
E34	26	E15	62	Existed	

7. Check the continuity between electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit			Continuity
Connector	Terminal		Continuity
E34	26	Ground	Not existed

Is the inspection result normal?

- YES >> Perform trouble diagnosis for power ON power supply. Refer to <u>PG-29</u>, "Wiring Diagram—On <u>Power Supply</u>—".
- NO >> Repair or replace error-detected parts and GO TO 7.

7. PERFORM SELF-DIAGNOSIS (3)

With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect IPDM E/R harness connector.
- 3. Connect 12V battery cable to negative terminal.
- 4. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

 Repeat step 4 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 6. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

8. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 9. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 10. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 11. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.



< DTC/CIRCUIT D	IAGNOSIS >			
CAUTION:				
	the vehicle while wait			А
12. Turn the power CAUTION:	r switch ON without dep	ressing the brake	pedal.	
	vehicle to READY.			_
		in) or more, and h	hold the position for 5 seconds or more.	В
14. Release brake				
	T and perform "BRAKE"	self-diagnosis.		С
Is DTC "C1A86" de				0
YES >> GO TC NO >> INSPE	CTION END			
•	TTERY POWER SUPP	LY		D
P			anast CONSULT from data link connector	
			nnect CONSULT from data link connector. n lamp is OFF, get out of the vehicle, and wait for	_
3 minutes or m	ore with all doors close			Е
CAUTION:	al.,	(1		
	the vehicle while wait		efer to BR-6, "Precaution for Removing 12V Bat-	BR
tery".			Sich to <u>Bive</u> , <u>Freedution for Kentowing 127 Bat</u>	
4. Disconnect the	electrically-driven intell		arness connector.	
	attery cable to negative			G
6. Check the volta	age between the electric	cally-driven intellig	ent brake unit harness connector terminals.	
Electrically drive	en intelligent brake unit		_	
Connector	_	Voltage (Approx.)		Н
Connector	Terminal	(rippiox.)		
	1 - 32	10 1011		1
E34		1		
	28 – 32		_	
	r switch ON without dep	ressing the brake	pedal.	J
CAUTION: Never set the	vehicle to READY.			
		cally-driven intellig	ent brake unit harness connector terminals.	
				Κ
Electrically-drive	en intelligent brake unit	Voltage		
Connector	Terminal	(Approx.)		I
	1 – 32		_	<u> </u>
E34	2 - 32	10 – 16 V		
	28 – 32			M
Is the inspection re			_	
YES >> GO TC				
NO >> GO TO				Ν
9. CHECK 12V BA	TTERY POWER SUPP	LY CIRCUIT		
			nnect CONSULT from data link connector.	\sim
			n lamp is OFF, get out of the vehicle, and wait for	0
3 minutes or m	ore with all doors close			
CAUTION:				Р
	the vehicle while wait		efer to BR-6, "Precaution for Removing 12V Bat-	
tery".		gauve terminai. Ru	sion to <u>DIV-0, The caution for Nethoving 12 v Dat-</u>	
4. Check the 60A	fusible link (#F).			
			s connector terminal 1 of electrically-driven intel-	
ligent brake un	it and 60A fusible link (#	FF).		

Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).

< DTC/CIRCUIT DIAGNOSIS >

- 7. Check the 15A fuse (#75).
- 8. Check the continuity and for short circuit between harness connector terminal 28 of electrically-driven intelligent brake unit and 15A fuse (#75).

Is the inspection result normal?

- YES >> Perform trouble diagnosis for 12V battery power supply. Refer to <u>PG-18</u>, "Wiring Diagram Battery Power Supply —".
- NO >> Repair or replace error-detected parts and GO TO 10.

10.PERFORM SELF-DIAGNOSIS (4)

() With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

4. Repeat step 3 two or more times.

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 5. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

7. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 8. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 9. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 10. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

11. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 13. Release brake pedal.
- 14. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A86" detected?

YES >> GO TO 11.

NO >> INSPECTION END

11.CHECK GROUND CIRCUIT

1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.

- 2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
- CAUTION:

Never operate the vehicle while waiting.

- Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6, "Precaution for Removing 12V Bat-tery"</u>.
- 4. Disconnect the electrically-driven intelligent brake unit harness connector.
- 5. Check the continuity between electrically-driven intelligent brake unit and ground.

Electrically-driven intelligent brake unit			Continuity
Connector	Terminal		Continuity
E34	32	Ground	Existed

Is the inspection result normal?

YES >> GO TO 13.

< DTC/CIRCUIT DIAGNOSIS >	
NO >> Repair or replace error-detected parts and GO TO 12.	
12.perform self-diagnosis (5)	А
 With CONSULT Connect the electrically-driven intelligent brake unit harness connector. Connect 12V battery cable to negative terminal. 	В
 Turn the power switch OFF to ON without depressing the brake pedal. CAUTION: Never set the vehicle to READY. 	С
4. Repeat step 3 two or more times. CAUTION:	
 Be sure to wait for 5 seconds or more after turning the power switch OFF. 5. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. 6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. 	D
CAUTION: Never operate the vehicle while waiting.	E
 Turn the power switch ON without depressing the brake pedal. CAUTION: Never set the vehicle to READY. 	BR
 Start CONSULT and erase self-diagnosis result of "BRAKE". Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION: 	G
 Never operate the vehicle while waiting. 11. Turn the power switch ON without depressing the brake pedal. CAUTION: 	Η
 Never set the vehicle to READY. 12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more. 13. Release brake pedal. 	Ι
 14. Start CONSULT and perform "BRAKE" self-diagnosis. <u>Is DTC "C1A86" detected?</u> YES >> GO TO 13. 	J
NO >> INSPECTION END 13.CHECK DATA MONITOR	K
 With CONSULT Connect the electrically-driven intelligent brake unit harness connector. Connect 12V battery cable to negative terminal. Turn the power switch OFF to ON without depressing the brake pedal. 	L
CAUTION: Never set the vehicle to READY. 4. Repeat step 3 two or more times. CAUTION:	Μ
 Be sure to wait for 5 seconds or more after turning the power switch OFF. 5. Start CONSULT and select "BRAKE" and "DATA MONITOR" according this order. 6. Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER". Refer to <u>BR-33</u>, "Reference <u>Value"</u>. 	N
<u>Is the inspection result normal?</u> YES >> GO TO 14. NO >> Replace the electrically-driven intelligent brake unit. Refer to BR-510, "Removal and installation".	0
NO >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-510, "Removal and installation"</u> . 14. PERFORM SELF-DIAGNOSIS (6)	Ρ
 With CONSULT Turn the power switch OFF to ON without depressing the brake pedal. CAUTION: Never set the vehicle to READY. Repeat step 1 two or more times. CAUTION: 	

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CAUTION:

< DTC/CIRCUIT DIAGNOSIS >

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 3. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 4. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION:

Never operate the vehicle while waiting.

5. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 6. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 7. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 8. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 - CAUTION: Never operate the vehicle while waiting.
- Turn the power switch ON without depressing the brake pedal.
 CAUTION:

Never set the vehicle to READY.

- 10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 11. Release brake pedal.
- 12. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A86" detected?

- YES >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-510</u>, "Removal and installation".
- NO >> INSPECTION END

< DTC/CIRCUIT DIAGNOSIS >

C1A87 CONTROL MODULE

DTC	Display item	Malfunction detection condition	Possible causes			
C1A87	A malfunction is detected in the control module of Electrically-driven intelligent					
DTC RE	PRODUCTION PROCE	DURE				
1.PREC	ONDITIONING					
		OURE" has been previously conducted, always	turn power switch OFF and			
wait at le	ast 10 seconds before cor	nducting the next test.				
	>> GO TO 2.					
2. снес	K DTC DETECTION					
	ONSULT	_				
	the power switch OFF to TION:	ON without depressing the brake pedal.				
Neve	er set the vehicle to REA					
	eat step 1 two or more time TION:	es.				
		s or more after turning the power switch OF exit CONSULT, and disconnect CONSULT fror				
4. Close	e all doors (including back	door), check that the room lamp is OFF, get o				
	nutes or more with all door TION:	rs closed.				
Neve 5. Turn	er operate the vehicle whether the power switch ON with	nile waiting. out depressing the brake pedal.				
CAU	TION:					
	er set the vehicle to REA CONSULT and erase self	DY. -diagnosis result of "BRAKE".				
7. Turn	the power switch OFF to	exit CONSULT, and disconnect CONSULT fror				
	nutes or more with all door	door), check that the room lamp is OFF, get or rs closed.	ut of the vehicle, and wait to			
	TION: er operate the vehicle wh	nile waiting.				
9. Turn	the power switch ON with	out depressing the brake pedal.				
	TION: er set the vehicle to REA	DY.				
10. Depr	ess brake pedal by 100 m ase brake pedal.	m (3.94 in) or more, and hold the position for \$	5 seconds or more.			
		DDAKE" colf diagnosis				
11. Rele	CONSULT and perform "I	SRARE Sell-ulagilusis.				
11. Reie 12. Start I <u>s DTC "(</u>	C1A87" detected?	-				
11. Rele 12. Start <u>ls DTC "(</u> YES	<u>C1A87" detected?</u> >> Proceed to <u>BR-241, "D</u>	-				
11. Reie 12. Start <u>s DTC "(</u> YES NO	C1A87" detected?	-	INFQID:0000000106342			

1.CHECK 12V BATTERY

1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.

2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. **CAUTION:**

А

< DTC/CIRCUIT DIAGNOSIS >

- 3. Check the 12V battery terminal connections. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery" and <u>PG-76</u>, "Work Flow".
- 4. Check the 12V battery. Refer to PG-76, "Work Flow".

Is the inspection result normal?

- YES >> GO TO 2.
- NO >> Repair or replace error-detected parts and GO TO 2.

2.PERFORM SELF-DIAGNOSIS (1)

With CONSULT

- T. Connect 12V battery cable to negative terminal.
- Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 3. Repeat step 2 two or more times.
 - **CAUTION:**

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 4. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

6. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 7. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 8. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

10. Turn the power switch ON without depressing the brake pedal.

Never set the vehicle to READY.

- 11. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 12. Release brake pedal.
- 13. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A87" detected?

YES >> GO TO 3.

NO >> INSPECTION END

3. CHECK CONNECTOR TERMINALS

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery".
- 4. Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace error-detected parts and GO TO 4.

4.PERFORM SELF-DIAGNOSIS (2)

With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal.

< D	TC/CIRCUIT DIA	AGNOSIS >						
	CAUTION:	hists to DEADY						
4.	Never set the vehicle to READY. A . Repeat step 3 two or more times. A							
ч.	CAUTION:							
_		for 5 seconds or mo			a fa Pala a sa sa sa sa	В		
5. 6.		witch OFF to exit CO			ata link connector.			
0.		e with all doors close		amp is of i, get out t				
	CAUTION:					С		
-	Never operate the vehicle while waiting. Turn the power switch ON without depressing the brake pedal.							
1.	I urn the power s	witch ON without dep	ressing the brake pe	dal.				
		ehicle to READY.				D		
8.	Start CONSULT	and erase self-diagno						
9.		witch OFF to exit CO				_		
10.		ncluding back door), (re with all doors close		amp is OFF, get out o	of the vehicle, and wait for	E		
	CAUTION:		u.					
	Never operate t	he vehicle while wai				BR		
11.		witch ON without dep	ressing the brake pe	dal.		BR		
	CAUTION:	hicle to READY.						
12.		edal by 100 mm (3.94	in) or more, and hole	d the position for 5 se	econds or more.	G		
	Release brake p		,,					
14.	Start CONSULT	and perform "BRAKE'	' self-diagnosis.					
ls D	<u>)TC "C1A87" dete</u>	cted?				Н		
	ES >> GO TO 5							
		SWITCH ON POWER				I		
1.		tery cable to negative		at CONCLUET from d	ata link connector			
2. 3.	Close all doors (i	witch OFF to exit CO	check that the room la	amp is OFF get out (of the vehicle, and wait for	J		
•.	3 minutes or mor	e with all doors close						
	CAUTION:							
4.	Never operate t	he vehicle while wai	ting. gatiya terminal . Pefe	r to BR-6 "Precautic	on for Removing 12V Bat-	K		
4.	tery".		galive terminal. Refe	T to <u>DIV-0, Trecaute</u>	In tor removing 12 v Dat-			
5.	Disconnect the e	lectrically-driven intell		ess connector.		1		
6.		tery cable to negative				L		
7.	Check the voltag	e between the electric	cally-driven intelligent	brake unit harness of	connector and ground.			
	Electrically-driven	intelligent brake unit		Voltage		\mathbb{N}		
	Connector	Terminal	—	(Approx.)				
	E34	26	Ground	0 V		Ν		
8.	Turn the power s	witch ON without dep	ressing the brake pe	dal.				
	CAUTION:		2 P ²					
0		ehicle to READY.	ally driven intelligent	broko unit hornooo	appeater and ground	0		
9.	Check the voltag		any-unven menigen	Drake unit harness (connector and ground.			
	Electrically-driven i	intelligent brake unit		Voltage		Р		
	Connector	Terminal	—	(Approx.)		1-		
	E34	26	Ground	10 – 16 V				
ls ti	ne inspection resu							

YES >> GO TO 8. NO >> GO TO 6.

< DTC/CIRCUIT DIAGNOSIS >

6.CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6. "Precaution for Removing 12V Bat-terv"</u>.
- 4. Check the 15A fuse (#62).
- 5. Disconnect IPDM E/R harness connector.
- 6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

Electrically-driven in	cally-driven intelligent brake unit		IPDM E/R	
Connector	Terminal	Connector	Terminal	Continuity
E34	26	E15	62	Existed

7. Check the continuity between electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit			Continuity
Connector	Terminal		Continuity
E34	26	Ground	Not existed

Is the inspection result normal?

- YES >> Perform trouble diagnosis for power ON power supply. Refer to <u>PG-29</u>, "Wiring <u>Diagram—On</u> <u>Power Supply—"</u>.
- NO >> Repair or replace error-detected parts and GO TO 7.

7. PERFORM SELF-DIAGNOSIS (3)

With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect IPDM E/R harness connector.
- 3. Connect 12V battery cable to negative terminal.
- 4. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

5. Repeat step 4 two or more times.

CAUTION: Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 6. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

Turn the power switch ON without depressing the brake pedal.
 CAUTION:

Never set the vehicle to READY.

- 9. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 10. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

12. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 13. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 14. Release brake pedal.
- 15. Start CONSULT and perform "BRAKE" self-diagnosis.

AGNOSIS >		
(including back door), c ore with all doors closed the vehicle while wait	check that the roor d. t ing.	n lamp is OFF, get out of the vehicle, and wait for
	gative terminal re	Sol to <u>Dive. Proceedion for Komoving (27 Dec</u>
		irness connector.
		ent brake unit harness connector terminals
i intelligent brake unit	Voltage	_
Terminal	(Approx.)	
1 – 32		_
2 – 32	10 – 16 V	
28 - 32		
ı intelligent brake unit	Voltage	_
Terminal	(Approx.)	
1 – 32		
2 – 32	10 – 16 V	
28 – 32		_
		proof CONSULT from data link connector
(including back door), c ore with all doors closed	check that the roor d.	n lamp is OFF, get out of the vehicle, and wait for
		efer to BR-6. "Precaution for Removing 12V Bat-
-		<u></u>
	it between harnes	s connector terminal 1 of electrically-driven intel-
t and 60A fusible link (#	ŧF).	
nuity and for short circu		s connector terminal 2 of electrically-driven intel-
	th)	
t and 60A fusible link (# fuse (#75).	£⊢).	
t and 60A fusible link (# fuse (#75). inuity and for short cir unit and 15A fuse (#75	cuit between harr	ness connector terminal 28 of electrically-driven
t and 60A fusible link (# fuse (#75). inuity and for short cir unit and 15A fuse (#75 sult normal?	cuit between harr 5).	ness connector terminal 28 of electrically-driven supply. Refer to <u>PG-18, "Wiring Diagram — Bat-</u>
	switch OFF to exit COI (including back door), of one with all doors closed the vehicle while wait ' battery cable from near electrically-driven intell attery cable to negative ge between the electric in intelligent brake unit 1 - 32 2 - 32 28 - 32 switch ON without dep vehicle to READY. ge between the electric in intelligent brake unit 1 - 32 2 - 32 28 - 32 switch ON without dep vehicle to READY. ge between the electric in intelligent brake unit 1 - 32 2 - 32 28 - 32 switch OFF to exit COI (including back door), of one with all doors closed the vehicle while wait ' battery cable from near fusible link (#F). nuity and for short circu t and 60A fusible link (# nuity and for short circu	ected? 8. CTION END TTERY POWER SUPPLY switch OFF to exit CONSULT, and discor (including back door), check that the roor or with all doors closed. the vehicle while waiting. ' battery cable from negative terminal. References electrically-driven intelligent brake unit hat attery cable to negative terminal. ge between the electrically-driven intelligent nintelligent brake unit Voltage Terminal (Approx.) 1 - 32 10 - 16 V 28 - 32 switch ON without depressing the brake prehicle to READY. ge between the electrically-driven intelligent nintelligent brake unit Voltage nintelligent brake unit Voltage Yehicle to READY. ge between the electrically-driven intelligent nintelligent brake unit Voltage nintelligent brake unit Voltage Yehicle to READY. ge between the electrically-driven intelligent nintelligent brake unit Voltage nintelligent brake unit Voltage nintelligent brake unit Voltage nintelligent brake unit Voltage 1 - 32 10 - 16 V </td

NO >> Repair or replace error-detected parts and GO TO 10.

< DTC/CIRCUIT DIAGNOSIS >

10.PERFORM SELF-DIAGNOSIS (4)

With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal. **CAUTION:**

Never set the vehicle to READY.

- 4. Repeat step 3 two or more times.
 - **CAUTION:**

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 5. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. **CAUTION:**

Never operate the vehicle while waiting.

Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- Start CONSULT and erase self-diagnosis result of "BRAKE".
- 9. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 10. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

11. Turn the power switch ON without depressing the brake pedal. **CAUTION:**

Never set the vehicle to READY.

- 12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 13. Release brake pedal.
- Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A87" detected?

YES >> GO TO 11.

NO >> INSPECTION END

11.CHECK GROUND CIRCUIT

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 2. 3 minutes or more with all doors closed. CAUTION:

Never operate the vehicle while waiting.

- Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Bat-3. tery".
- Disconnect the electrically-driven intelligent brake unit harness connector.
- 5. Check the continuity between electrically-driven intelligent brake unit and ground.

Electrically-driven intelligent brake unit			Continuity
Connector	Terminal		Continuity
E34	32	Ground	Existed

Is the inspection result normal?

YES >> GO TO 13.

NO >> Repair or replace error-detected parts and GO TO 12.

12. PERFORM SELF-DIAGNOSIS (5)

- With CONSULT
 Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal. **CAUTION:**



< D	TC/CIRCUIT DIAGNOSIS >	
	Never set the vehicle to READY.	
4.	Repeat step 3 two or more times.	Α
	CAUTION:	
_	Be sure to wait for 5 seconds or more after turning the power switch OFF.	
5.	Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.	В
6.	Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for	
	3 minutes or more with all doors closed.	
	CAUTION: Never exercts the vehicle while waiting	0
7	Never operate the vehicle while waiting. Turn the power switch ON without depressing the brake pedal.	С
1.	CAUTION:	
	Never set the vehicle to READY.	
8	Start CONSULT and erase self-diagnosis result of "BRAKE".	D
	Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.	
	Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for	
-	3 minutes or more with all doors closed.	Ε
	CAUTION:	
	Never operate the vehicle while waiting.	
11.	Turn the power switch ON without depressing the brake pedal.	BR
	CAUTION:	BIL
	Never set the vehicle to READY.	
	Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.	0
	Release brake pedal.	G
	Start CONSULT and perform "BRAKE" self-diagnosis.	
ls E	DTC "C1A87" detected?	
	ES >> GO TO 13.	Η
N	>> INSPECTION END	
-13	CHECK DATA MONITOR	
	Vith CONSULT	
	Connect the electrically-driven intelligent brake unit harness connector.	
2. 3.	Connect 12V battery cable to negative terminal. Turn the power switch OFF to ON without depressing the brake pedal.	J
5.	CAUTION:	
	Never set the vehicle to READY.	
4	Repeat step 3 two or more times.	Κ
••	CAUTION:	
	Be sure to wait for 5 seconds or more after turning the power switch OFF.	
5.	Start CONSULT and select "BRAKE" and "DATA MONITOR" according this order.	1
6.		
	Value".	
ls tl	ne inspection result normal?	
YE	•	M
N		
	PERFORM SELF-DIAGNOSIS (6)	
	PERFORM SELF-DIAGNOSIS (0)	Ν
ÐV	Vith CONSULT	
Ĭ.	Turn the power switch OFF to ON without depressing the brake pedal.	
	CAUTION:	0
	Never set the vehicle to READY.	
2.	Repeat step 1 two or more times.	
	CAUTION:	Р
~	Be sure to wait for 5 seconds or more after turning the power switch OFF.	I.
	Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.	
4.	$\mathbf{J}_{\mathbf{r}} = \mathbf{J}_{\mathbf{r}} + $	
	3 minutes or more with all doors closed. CAUTION:	
	Never operate the vehicle while waiting.	

5. Turn the power switch ON without depressing the brake pedal. **CAUTION:**

< DTC/CIRCUIT DIAGNOSIS >

Never set the vehicle to READY.

- 6. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 7. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

Turn the power switch ON without depressing the brake pedal.
 CAUTION:

Never set the vehicle to READY.

- 10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 11. Release brake pedal.
- 12. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A87" detected?

- YES >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-510</u>, "Removal and installation".
- NO >> INSPECTION END

< DTC/CIRCUIT DIAGNOSIS >

C1A88 CONTROL MODULE

DTC Logic

DTC	Display item	Malfunction detection condition	Possible causes	
C1A88	A malfunction is detected in the control module of			
DTC RE	PRODUCTION PROCE	DURE		
1. PREC	ONDITIONING			
		DURE" has been previously conducted, always	turn power switch OFF and	
wait at le	ast 10 seconds before cor	nducting the next test.		
	>> GO TO 2.			
2. CHEC	K DTC DETECTION			
	ONSULT			
	the power switch OFF to TION:	ON without depressing the brake pedal.		
Neve	er set the vehicle to REA			
	eat step 1 two or more time	es.		
		s or more after turning the power switch OF		
		exit CONSULT, and disconnect CONSULT from a door), check that the room lamp is OFF, get or		
	nutes or more with all door TION:	rs closed.		
Neve	er operate the vehicle wh			
	the power switch ON with TION:	out depressing the brake pedal.		
Neve	er set the vehicle to REA			
		f-diagnosis result of "BRAKE". exit CONSULT, and disconnect CONSULT fror	n data link connector.	
8. Close		door), check that the room lamp is OFF, get o		
	TION:	is closed.		
	er operate the vehicle whether the power switch ON with	nile waiting. Nout depressing the brake pedal.		
CAU	TION:			
	er set the vehicle to REA ress brake pedal by 100 m	.DY. וווווווווווווווווווווווווווווווווווו	seconds or more	
11. Rele	ase brake pedal.			
	CONSULT and perform "I	BRAKE" self-diagnosis.		
	<u>C1A88" detected?</u> >> Proceed to <u>BR-249, "D</u>)iagnosis Procedure"		
		Aughono Frooduro .		
	>> INSPECTION END			
NO	sis Procedure		INFOID:0000000106342	

1.CHECK 12V BATTERY

1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.

2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION: Never operate the vehicle while waiting.

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< DTC/CIRCUIT DIAGNOSIS >

- 3. Check the 12V battery terminal connections. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery" and <u>PG-76</u>, "Work Flow".
- 4. Check the 12V battery. Refer to PG-76. "Work Flow".

Is the inspection result normal?

- YES >> GO TO 2.
- NO >> Repair or replace error-detected parts and GO TO 2.

2.PERFORM SELF-DIAGNOSIS (1)

With CONSULT

- T. Connect 12V battery cable to negative terminal.
- Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 3. Repeat step 2 two or more times.
 - **CAUTION:**

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 4. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

6. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 7. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 8. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

10. Turn the power switch ON without depressing the brake pedal.

Never set the vehicle to READY.

- 11. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 12. Release brake pedal.
- 13. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A87" detected?

YES >> GO TO 3.

NO >> INSPECTION END

3.CHECK CONNECTOR TERMINALS

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery".
- 4. Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace error-detected parts and GO TO 4.

4.PERFORM SELF-DIAGNOSIS (2)

With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal.

CAUTION: Never set the vehicle to READY. 4: Repeat step 3 two or more times. CAUTION: Be sure to wait for 5 seconds or more after turning the power switch OFF. 5: Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. 6: Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION: Never operate the vehicle to READY. 7: Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. 10: Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION: Never operate the vehicle waiting. 11: Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. 10: Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION: Never operate the vehicle to READY. 11: Turn the power switch ON without depressing the brake pedal. CAUTION: Never operate the vehicle to READY. 12: Depress brake pedal. 14: Start CONSULT and perform "BRAKE" self-diagnosis. Isplice/Close/Close/Close/Close/Clos	< D	TC/CIRCUIT DI	AGNOSIS >					
 Repeat step 3 two or more times. CAUTION: Be sure to wait for 5 seconds or more after turning the power switch OFF. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION: Never operate the vehicle on READY. Start CONSULT and erase self-diagnosis result of "BRAKE". Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION: Never operate the vehicle while waiting. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION: Never set the vehicle to READY. Never set the vehicle to READY. 1. Turn the power switch ON without depressing the brake pedal. CAUTION: Never set the vehicle to READY. 1. Turn the power switch ON mm (3.94 in) or more, and hold the position for 5 seconds or more. 13. Release brake pedal. 14. Start CONSULT and perform "BRAKE" self-diagnosis. 18 <u>DIC "CIAR" detected?</u> YES >> GO TO 5. NO →> INSPECTION END 5. CHECK POWER SWITCH ON POWER SUPPLY Connect 12V battery cable to negative terminal. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION: Never set the vehicle to READY. Disconnect 12V battery cable form negative terminal. Refer to <u>BR-6. "Precaution for Removing 12V Battery Co</u>								
CAUTION: Be sure to wait for 5 seconds or more after turning the power switch OFF. 5. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. 6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION: Never operate the vehicle while waiting. 7. Turn the power switch ON without depressing the brake pedal. CAUTION: Never set the vehicle to READY. 8. Start CONSULT and rease self-diagnosis result of "BRAKE". 9. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. 10. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION: Never operate the vehicle while waiting. 11. Turn the power switch ON without depressing the brake pedal. CAUTION: Never operate the vehicle to READY. 12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more. 13. Release brake pedal. 14. Start CONSULT and perform "BRAKE" self-diagnosis. Is DTC "C1A87" detected? YES > GO T0 5. NO >> INSPECTION END 5.CHECK POWER SWITCH ON POWER SUPPLY </td <td></td> <td></td> <td></td> <td></td> <td></td> <th></th> <td>А</td>							А	
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Is DTC "C1A87" detected? YES >> GO TO 5. NO >> INSPECTION END 5.CHECK POWER SWITCH ON POWER SUPPLY 1. Connect 12V battery cable to negative terminal. 2. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. 3. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION: Never operate the vehicle while waiting. 4. Disconnect 12V battery cable from negative terminal. Refer to BR-6, "Precaution for Removing 12V Battery.". 5. Disconnect the electrically-driven intelligent brake unit harness connector. 6. Connect 12V battery cable to negative terminal. 7. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground. Electrically-driven intelligent brake unit Voltage Connector Terminal Connector Terminal 26 Ground 0 v 8. Turn the power switch ON without depressing the brake pedal. CAUTION: Never set the vehicle to READY. 9. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.				" self-diagnosis.				
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	9.	Check the voltage	ge between the electri	cally-driven intelligen	t brake unit harness	connector and ground.	0	
		Electrically-driven	intelligent brake unit		Voltage	-	Р	
		-	_				۲	
						_		
E34 26 Ground 10 – 16 V		E34	26	Ground	10 – 16 V	_		
Is the inspection result normal?	<u>Is t</u> h	ne inspection res	ult normal?					

YES >> GO TO 8. NO >> GO TO 6.

< DTC/CIRCUIT DIAGNOSIS >

6.CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6. "Precaution for Removing 12V Bat-</u> <u>tery"</u>.
- 4. Check the 15A fuse (#62).
- 5. Disconnect IPDM E/R harness connector.
- 6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

Electrically-driven in	Electrically-driven intelligent brake unit		IPDM E/R	
Connector	Terminal	Connector	Terminal	Continuity
E34	26	E15	62	Existed

7. Check the continuity between electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven in	telligent brake unit		Continuity
Connector	Terminal		Continuity
E34	26	Ground	Not existed

Is the inspection result normal?

- YES >> Perform trouble diagnosis for power ON power supply. Refer to <u>PG-29</u>, "Wiring <u>Diagram—On</u> <u>Power Supply—"</u>.
- NO >> Repair or replace error-detected parts and GO TO 7.

7. PERFORM SELF-DIAGNOSIS (3)

With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect IPDM E/R harness connector.
- 3. Connect 12V battery cable to negative terminal.
- 4. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

5. Repeat step 4 two or more times.

CAUTION: Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 6. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

Turn the power switch ON without depressing the brake pedal.
 CAUTION:

Never set the vehicle to READY.

- 9. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 10. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

12. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 13. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 14. Release brake pedal.
- 15. Start CONSULT and perform "BRAKE" self-diagnosis.

DTC/CIRCUIT DI	AGNOSIS >		
DTC "C1A87" det			
YES >> GO TO			
		1.77	
	TERY POWER SUPP		
Close all doors of 3 minutes or mo CAUTION:	(including back door), or ore with all doors close	check that the room d.	nect CONSULT from data link connector. lamp is OFF, get out of the vehicle, and wait for
	the vehicle while wai ' battery cable from ne		fer to BR-6, "Precaution for Removing 12V Bat-
<u>tery"</u> .	-	-	
	electrically-driven intell attery cable to negative		ness connector.
			nt brake unit harness connector terminals.
	-	, ,	
Electrically-driven	i intelligent brake unit	Voltage	_
Connector	Terminal	(Approx.)	_
	1 – 32		
E34	2 – 32	10 – 16 V	
	28 – 32		_
	n intelligent brake unit	Voltage	nt brake unit harness connector terminals. –
Connector	Terminal	(Approx.)	
	1 – 32		-
E34	2 – 32	10 – 16 V	
_	28 - 32	-	
the inspection res	ult normal?		-
ES >> GO TO			
NO >> GO TO			
CHECK 12V BAT	TERY POWER SUPP	LY CIRCUIT	
Close all doors 3 minutes or mo CAUTION:	(including back door), or ore with all doors close	check that the room d.	nect CONSULT from data link connector. lamp is OFF, get out of the vehicle, and wait for
	the vehicle while wai		fer to BR-6, "Precaution for Removing 12V Bat-
<u>tery"</u> .	-	gauve terminal. Re	ion to <u>bix-o, in recaution for removing 12v Dat</u>
Check the 60A f		uit bohuroon borres	a compositor torminal 4 of all states the driver failed
	nuity and for short circl t and 60A fusible link (a		s connector terminal 1 of electrically-driven intel-
Check the conti	nuity and for short circ	uit between harnes	s connector terminal 2 of electrically-driven intel-
Check the 15A	t and 60A fusible link (a fuse (#75).	∓ ⊢).	
Check the cont			ess connector terminal 28 of electrically-driven
the inspection res	•		
<u>tery Pov</u>	<u>ver Supply —"</u> .		supply. Refer to <u>PG-18, "Wiring Diagram — Bat-</u>
NO >> Repair of	or replace error-detecte	ed parts and GO TO	0 10.

NO >> Repair or replace error-detected parts and GO TO 10.

< DTC/CIRCUIT DIAGNOSIS >

10.PERFORM SELF-DIAGNOSIS (4)

With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal. **CAUTION:**

Never set the vehicle to READY.

- 4. Repeat step 3 two or more times.
 - **CAUTION:**

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 5. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. **CAUTION:**

Never operate the vehicle while waiting.

Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- Start CONSULT and erase self-diagnosis result of "BRAKE".
- 9. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 10. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

11. Turn the power switch ON without depressing the brake pedal. **CAUTION:**

Never set the vehicle to READY.

- 12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 13. Release brake pedal.
- Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A87" detected?

YES >> GO TO 11.

NO >> INSPECTION END

11.CHECK GROUND CIRCUIT

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 2. 3 minutes or more with all doors closed. CAUTION:

Never operate the vehicle while waiting.

- Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Bat-3. tery".
- 4. Disconnect the electrically-driven intelligent brake unit harness connector.
- 5. Check the continuity between electrically-driven intelligent brake unit and ground.

Electrically-driver	n intelligent brake unit		Continuity
Connector	Terminal		Continuity
E34	32	Ground	Existed

Is the inspection result normal?

YES >> GO TO 13.

NO >> Repair or replace error-detected parts and GO TO 12.

12. PERFORM SELF-DIAGNOSIS (5)

- With CONSULT
 Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal. **CAUTION:**



< DTC/CIRCUIT DIAGNOSIS >	
 Never set the vehicle to READY. 4. Repeat step 3 two or more times. CAUTION: 	А
 Be sure to wait for 5 seconds or more after turning the power switch OFF. 5. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. 6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION: 	В
Never operate the vehicle while waiting. 7. Turn the power switch ON without depressing the brake pedal. CAUTION: Never set the vehicle to READY.	С
 8. Start CONSULT and erase self-diagnosis result of "BRAKE". 9. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. 10. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION: 	D
Never operate the vehicle while waiting. 11. Turn the power switch ON without depressing the brake pedal. CAUTION:	BR
 Never set the vehicle to READY. 12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more. 13. Release brake pedal. 14. Start CONSULT and perform "BRAKE" self-diagnosis. 	G
<u>Is DTC "C1A87" detected?</u> YES >> GO TO 13.	Н
NO >> INSPECTION END	
13. CHECK DATA MONITOR	
 With CONSULT Connect the electrically-driven intelligent brake unit harness connector. Connect 12V battery cable to negative terminal. Turn the power switch OFF to ON without depressing the brake pedal. 	J
CAUTION: Never set the vehicle to READY. 4. Repeat step 3 two or more times. CAUTION:	К
 Be sure to wait for 5 seconds or more after turning the power switch OFF. 5. Start CONSULT and select "BRAKE" and "DATA MONITOR" according this order. 6. Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER". Refer to <u>BR-33</u>, "Reference <u>Value"</u>. 	L
<u>Is the inspection result normal?</u> YES >> GO TO 14.	M
YES >> GO TO 14. NO >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-510, "Removal and installation"</u> .	
14.PERFORM SELF-DIAGNOSIS (6)	Ν
 With CONSULT 1. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION: 	0
Never set the vehicle to READY. 2. Repeat step 1 two or more times. CAUTION:	
 Be sure to wait for 5 seconds or more after turning the power switch OFF. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION: 	Ρ
 Never operate the vehicle while waiting. 5. Turn the power switch ON without depressing the brake pedal. CAUTION: 	

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Never set the vehicle to READY.

- 6. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 7. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

Turn the power switch ON without depressing the brake pedal.
 CAUTION:

Never set the vehicle to READY.

- 10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 11. Release brake pedal.
- 12. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A87" detected?

- YES >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-510</u>, "Removal and installation".
- NO >> INSPECTION END

< DTC/CIRCUIT DIAGNOSIS >

C1A89 CONTROL MODULE

DTC Logic

А

INFOID:000000010634225

	Display item	Malfunction detection condition	Possible causes
C1A89	CONTROL MODULE-11	 A malfunction is detected in the control module of electrically-driven intelligent brake unit. (Abnormal initial diagnosis) A malfunction is detected in the control module of electrically-driven intelligent brake unit. (Abnormal motor current) 	Electrically-driven intelligent brake unit
DTC RE	PRODUCTION PROCE	DURE	
1.PREC	ONDITIONING		
		URE" has been previously conducted, always	turn power switch OFF and
wait at le	ast 10 seconds before con	ducting the next test.	
-	>> GO TO 2.		
2. CHEC	K DTC DETECTION		
	ONSULT	ON without depressing the brake pedal.	
CAU	TION:		
	er set the vehicle to REA eat step 1 two or more time		
CAU	TION:	or more after turning the power switch OFI	E
 Turn Close 3 mir 	the power switch OFF to e	exit CONSULT, and disconnect CONSULT from door), check that the room lamp is OFF, get ou	data link connector.
Neve 5. Turn CAU	er operate the vehicle wh the power switch ON with TION:	out depressing the brake pedal.	
	er set the vehicle to REA CONSULT and erase self	DY. -diagnosis result of "BRAKE".	
7. Turn	the power switch OFF to e	exit CONSULT, and disconnect CONSULT from door), check that the room lamp is OFF, get ou	
3 mir CAU	nutes or more with all door TION:	s closed.	
Marra		ile waiting. out depressing the brake pedal.	
9. Turn CAU			
9. Turn CAU Neve	er set the vehicle to REA	DY. m (3.94 in) or more, and hold the position for 5	seconds or more.
9. Turn CAU Neve 10. Depr 11. Rele	er set the vehicle to REA	m (3.94 in) or more, and hold the position for 5	seconds or more.
9. Turn CAU Neve 10. Depr 11. Rele 12. Start Is DTC "(er set the vehicle to REA ress brake pedal by 100 m ase brake pedal. CONSULT and perform "E C1A89" detected?	m (3.94 in) or more, and hold the position for 5 BRAKE" self-diagnosis.	seconds or more.
9. Turn CAU Neve 10. Depr 11. Rele 12. Start Is DTC "(YES	er set the vehicle to REA ess brake pedal by 100 m ase brake pedal. CONSULT and perform "E	m (3.94 in) or more, and hold the position for 5 BRAKE" self-diagnosis.	seconds or more.
9. Turn CAU Neve 10. Depr 11. Rele 12. Start Is DTC "(YES NO	er set the vehicle to REA ress brake pedal by 100 m ase brake pedal. CONSULT and perform "E <u>C1A89" detected?</u> >> Proceed to <u>BR-257, "D</u>	m (3.94 in) or more, and hold the position for 5 BRAKE" self-diagnosis.	seconds or more.

1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.

< DTC/CIRCUIT DIAGNOSIS >

 Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- 3. Check the 12V battery terminal connections. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery" and <u>PG-76</u>, "Work Flow".
- 4. Check the 12V battery. Refer to <u>PG-76, "Work Flow"</u>.
- Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace error-detected parts and GO TO 2.

2. PERFORM SELF-DIAGNOSIS (1)

(B) With CONSULT

- 1. Connect 12V battery cable to negative terminal.
- 2. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:
 - Never set the vehicle to READY.
- Repeat step 2 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 4. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

6. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 7. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 8. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

10. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 11. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 12. Release brake pedal.
- 13. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A89" detected?

YES >> GO TO 3.

NO >> INSPECTION END

- **3.**CHECK CONNECTOR TERMINALS
- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery".
- 4. Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace error-detected parts and GO TO 4.

4.PERFORM SELF-DIAGNOSIS (2)

< DTC	C/CIRCUIT DIAGNOSIS >				
	h CONSULT				
	onnect the electrically-driven intellige		connector.		А
	onnect 12V battery cable to negative urn the power switch OFF to ON with		ake pedal.		
C	AUTION:				В
	ever set the vehicle to READY.				D
	epeat step 3 two or more times.				
В 5. Ті 6. С 3	e sure to wait for 5 seconds or mo urn the power switch OFF to exit CO lose all doors (including back door), o minutes or more with all doors close	NSULT, and disconned check that the room la	ct CONSULT from da		C
	AUTION:	the a			
7. Tu C	ever operate the vehicle while wai urn the power switch ON without dep AUTION:		al.		Е
	ever set the vehicle to READY. tart CONSULT and erase self-diagno	sis result of "BRAKE"			
9. Ti 10. C 3	urn the power switch OFF to exit CO lose all doors (including back door), o minutes or more with all doors close AUTION:	NSULT, and disconneo check that the room la	ct CONSULT from da		BR
	ever operate the vehicle while wai	tina.			G
11. Ti	urn the power switch ON without dep		al.		
	AUTION: ever set the vehicle to READY.				
12. D 13. R	epress brake pedal by 100 mm (3.94 elease brake pedal.		the position for 5 se	conds or more.	Η
	tart CONSULT and perform "BRAKE'	self-diagnosis.			
	<u>C "C1A89" detected?</u>				
YES NO	>> GO TO 5. >> INSPECTION END				
_	IECK POWER SWITCH ON POWER				J
-					
2. Tu 3. C 3	onnect 12V battery cable to negative urn the power switch OFF to exit COI lose all doors (including back door), of minutes or more with all doors close	NSULT, and disconned check that the room la			K
	AUTION:	tin a			L
4. D	ever operate the vehicle while wain isconnect 12V battery cable from ne ery".		to <u>BR-6, "Precautio</u>	n for Removing 12V Bat-	
	isconnect the electrically-driven intell		ess connector.		Μ
	onnect 12V battery cable to negative heck the voltage between the electric		hrake unit harness c	onnector and around	
7. 0	hear the voltage between the clean	Sany arrent intelligent		onneotor and ground.	Ν
	Electrically-driven intelligent brake unit		Voltage		14
	Connector Terminal	_	(Approx.)		
	E34 26	Ground	0 V		0
8. Ti	urn the power switch ON without dep	ressing the brake ped	al.		
C	AUTION:				Ρ
	ever set the vehicle to READY. heck the voltage between the electric	cally-driven intelligent	brake unit harness c	onnector and ground.	Г

Electrically-driven in	telligent brake unit		Voltage
Connector	Terminal		(Approx.)
E34	26	Ground	10 – 16 V

< DTC/CIRCUIT DIAGNOSIS >

Is the inspection result normal?

YES >> GO TO 8.

NO >> GO TO 6.

6.CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

- Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery".
- 4. Check the 15A fuse (#62).
- 5. Disconnect IPDM E/R harness connector.
- 6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

Electrically-driven in	telligent brake unit	IPDI	M E/R	Continuity
Connector	Terminal	Connector	Terminal	Continuity
E34	26	E15	62	Existed

7. Check the continuity between electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven in	telligent brake unit		Continuity
Connector	Terminal		Continuity
E34	26	Ground	Not existed

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to <u>PG-29</u>, "Wiring Diagram—On <u>Power Supply</u>—".

NO >> Repair or replace error-detected parts and GO TO 7.

7. PERFORM SELF-DIAGNOSIS (3)

(I) With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect IPDM E/R harness connector.
- 3. Connect 12V battery cable to negative terminal.
- 4. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

5. Repeat step 4 two or more times.

CAUTION:

- Be sure to wait for 5 seconds or more after turning the power switch OFF.
- 6. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

8. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 9. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 10. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 11. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

12. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

BR-260

< DTC/CIRCUIT D	IAGNOSIS >	JOONINOL		
		in) or more, and h	old the position for 5 seconds or more.	
14. Release brake	pedal. T and perform "BRAKE"	self-diagnosis		А
<u>Is DTC "C1A89" de</u>	•	sell-diagnosis.		
YES >> GO TC				В
•	CTION END			
8. CHECK 12V BA	TTERY POWER SUPPI	Y		
2. Close all doors	switch OFF to exit CON (including back door), c ore with all doors closed	heck that the roor	nect CONSULT from data link connector. n lamp is OFF, get out of the vehicle, and wait for	D
	the vehicle while wait	ing.		D
	/ battery cable from neg	gative terminal. Re	efer to <u>BR-6. "Precaution for Removing 12V Bat-</u>	
4. Disconnect the	electrically-driven intelli	gent brake unit ha	rness connector.	E
5. Connect 12V b	attery cable to negative	terminal.		
6. Check the volta	age between the electric	ally-driven intellige	ent brake unit harness connector terminals.	BR
Electrically-drive	n intelligent brake unit	Voltage	_	
Connector	Terminal	(Approx.)		
	1 – 32		—	G
E34	2 - 32	10 – 16 V		
	28 - 32			Н
	switch ON without dep	ressing the brake	bedal.	
CAUTION: Never set the	vehicle to READY.			I
		ally-driven intellige	ent brake unit harness connector terminals.	
			_	
Electrically-drive	n intelligent brake unit	Voltage		J
Connector	Terminal	(Approx.)		
	1 – 32			K
E34	2 – 32	10 – 16 V		
	28 – 32		_	
Is the inspection re				L
YES >> GO TC NO >> GO TC				
•	TTERY POWER SUPPL			M
2. Close all doors		heck that the roor	nect CONSULT from data link connector. n lamp is OFF, get out of the vehicle, and wait for	Ν
	the vehicle while wait	ing.		
<u>tery"</u> .		gative terminal. Re	efer to <u>BR-6. "Precaution for Removing 12V Bat-</u>	0
5. Check the cont	fusible link (#F). inuity and for short circu it and 60A fusible link (#		s connector terminal 1 of electrically-driven intel-	Ρ
6. Check the cont		iit between harnes	s connector terminal 2 of electrically-driven intel-	
7. Check the 15A 8. Check the con	fuse (#75).	cuit between harr	ness connector terminal 28 of electrically-driven	
Is the inspection re		~ <i>,</i> .		

< DTC/CIRCUIT DIAGNOSIS >

- YES >> Perform trouble diagnosis for 12V battery power supply. Refer to <u>PG-18</u>, "Wiring Diagram Battery Power Supply —".
- NO >> Repair or replace error-detected parts and GO TO 10.

10. PERFORM SELF-DIAGNOSIS (4)

With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- Repeat step 3 two or more times.
 CAUTION: Be sure to wait for 5 seconds or more after turning the power switch OFF.
- 5. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

7. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 8. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 9. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 10. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

11. Turn the power switch ON without depressing the brake pedal.

Never set the vehicle to READY.

- 12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 13. Release brake pedal.
- 14. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A89" detected?

YES >> GO TO 11.

NO >> INSPECTION END

11. CHECK GROUND CIRCUIT

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "<u>Precaution for Removing 12V Bat-</u> <u>tery</u>".
- 4. Disconnect the electrically-driven intelligent brake unit harness connector.
- 5. Check the continuity between electrically-driven intelligent brake unit and ground.

Electrically-driver	n intelligent brake unit		Continuity
Connector	Terminal		Continuity
E34	32	Ground	Existed

Is the inspection result normal?

YES >> GO TO 13.

NO >> Repair or replace error-detected parts and GO TO 12.

12.PERFORM SELF-DIAGNOSIS (5)

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.

< D1	TC/CIRCUIT DIAGNOSIS >	
3.	Connect 12V battery cable to negative terminal. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:	A
4.	Never set the vehicle to READY. Repeat step 3 two or more times. CAUTION:	В
5. 6.	Be sure to wait for 5 seconds or more after turning the power switch OFF. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION:	С
7.	Never operate the vehicle while waiting. Turn the power switch ON without depressing the brake pedal. CAUTION:	D
8. 9. 10.	Never set the vehicle to READY. Start CONSULT and erase self-diagnosis result of "BRAKE". Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION:	E BR
11.	Never operate the vehicle while waiting. Turn the power switch ON without depressing the brake pedal. CAUTION:	G
12. 13. 14.	Never set the vehicle to READY. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more. Release brake pedal. Start CONSULT and perform "BRAKE" self-diagnosis. TC "C1A89" detected?	Н
YE NC	S >> GO TO 13.	I
	/ith CONSULT	J
1. 2. 3.	Connect the electrically-driven intelligent brake unit harness connector. Connect 12V battery cable to negative terminal. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:	K
4.	Never set the vehicle to READY. Repeat step 3 two or more times. CAUTION:	L
5. 6.	Be sure to wait for 5 seconds or more after turning the power switch OFF. Start CONSULT and select "BRAKE" and "DATA MONITOR" according this order. Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER". Refer to <u>BR-33. "Reference</u> <u>Value"</u> .	M
YE NC	>> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-510</u> , "Removal and installation".	Ν
	.PERFORM SELF-DIAGNOSIS (6)	0
1.	/ith CONSULT Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:	D
2.	Never set the vehicle to READY. Repeat step 1 two or more times. CAUTION:	Ρ
3. 4.	Be sure to wait for 5 seconds or more after turning the power switch OFF. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION:	

< DTC/CIRCUIT DIAGNOSIS >

Never operate the vehicle while waiting.

5. Turn the power switch ON without depressing the brake pedal. **CAUTION:**

Never set the vehicle to READY.

- 6. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 7. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

9. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 11. Release brake pedal.
- 12. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A89" detected?

- YES >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-510</u>, "Removal and installation".
- NO >> INSPECTION END

< DTC/CIRCUIT DIAGNOSIS >

C1A8A CONTROL MODULE

DTC	Display item	Malfunction detection condition	Possible causes
C1A8A	CONTROL MODULE-12	A malfunction is detected in the control module of electrically-driven intelligent brake unit. (Abnormal re- lay)	Electrically-driven intelligent brake unit
DTC RE	PRODUCTION PROCE	DURE	
1.PREC	ONDITIONING		
		URE" has been previously conducted, always	turn power switch OFF and
wait at le	ast 10 seconds before con	ducting the next test.	
-	>> GO TO 2.		
2.CHEC	K DTC DETECTION		
	ONSULT		
	TION:	ON without depressing the brake pedal.	
	er set the vehicle to REA eat step 1 two or more time		
CAU	TION:		_
		or more after turning the power switch OFI exit CONSULT, and disconnect CONSULT from	
4. Clos		door), check that the room lamp is OFF, get ou	
Neve	er operate the vehicle wh	ile waiting.	
Neve 5. Turn CAU	er operate the vehicle wh the power switch ON with TION:	ile waiting. out depressing the brake pedal.	
5. Turn CAU Neve	er operate the vehicle wh the power switch ON with TION: er set the vehicle to REA CONSULT and erase self	ile waiting. out depressing the brake pedal. DY. -diagnosis result of "BRAKE".	
5. Turn CAU Neve 5. Start 7. Turn	er operate the vehicle wh the power switch ON with TION: er set the vehicle to REA CONSULT and erase self the power switch OFF to e	ile waiting. out depressing the brake pedal. DY. -diagnosis result of "BRAKE". exit CONSULT, and disconnect CONSULT from	
5. Turn CAU Neve 6. Start 7. Turn 8. Clos 3 min	er operate the vehicle wh the power switch ON with TION: er set the vehicle to REA CONSULT and erase self the power switch OFF to e e all doors (including back nutes or more with all door	ile waiting. out depressing the brake pedal. DY. -diagnosis result of "BRAKE". exit CONSULT, and disconnect CONSULT from door), check that the room lamp is OFF, get ou	
5. Turn CAU Neve 6. Start 7. Turn 8. Clos 3 min CAU Neve	er operate the vehicle whethe power switch ON with TION: For set the vehicle to REA CONSULT and erase self the power switch OFF to e e all doors (including back nutes or more with all door TION: For operate the vehicle whether	ile waiting. out depressing the brake pedal. DY. -diagnosis result of "BRAKE". exit CONSULT, and disconnect CONSULT from door), check that the room lamp is OFF, get ou s closed. ile waiting.	
5. Turn CAU Neve 6. Start 7. Turn 3. Clos 3 min CAU Neve 9. Turn	er operate the vehicle whethe power switch ON with TION: er set the vehicle to REA CONSULT and erase self the power switch OFF to e e all doors (including back nutes or more with all door TION: er operate the vehicle whethe power switch ON with	ile waiting. out depressing the brake pedal. DY. -diagnosis result of "BRAKE". exit CONSULT, and disconnect CONSULT from door), check that the room lamp is OFF, get ou s closed.	
5. Turn CAU Neve 6. Start 7. Turn 3. Clos 3 min CAU Neve 9. Turn CAU Neve	er operate the vehicle wh the power switch ON with TION: er set the vehicle to REA CONSULT and erase self the power switch OFF to e e all doors (including back nutes or more with all door TION: er operate the vehicle wh the power switch ON with TION: er set the vehicle to REA	ile waiting. out depressing the brake pedal. DY. -diagnosis result of "BRAKE". exit CONSULT, and disconnect CONSULT from door), check that the room lamp is OFF, get ou s closed. ile waiting. out depressing the brake pedal. DY.	t of the vehicle, and wait fo
5. Turn CAU Neve 5. Start 7. Turn 3. Clos 3 min CAU Neve 9. Turn CAU Neve 10. Depr	er operate the vehicle wh the power switch ON with TION: er set the vehicle to REA CONSULT and erase self the power switch OFF to e e all doors (including back nutes or more with all door TION: er operate the vehicle wh the power switch ON with TION: er set the vehicle to REA	ile waiting. out depressing the brake pedal. DY. -diagnosis result of "BRAKE". exit CONSULT, and disconnect CONSULT from door), check that the room lamp is OFF, get ou s closed. ile waiting. out depressing the brake pedal.	t of the vehicle, and wait fo
5. Turn CAU Neve 6. Start 7. Turn 8. Clos 3 min CAU Neve 9. Turn CAU Neve 10. Depr 11. Rele 12. Start	er operate the vehicle whethe power switch ON with TION: er set the vehicle to REA CONSULT and erase self the power switch OFF to de e all doors (including back butes or more with all door TION: er operate the vehicle whethe the power switch ON with TION: er set the vehicle to REA ess brake pedal by 100 m ase brake pedal. CONSULT and perform "E	ile waiting. out depressing the brake pedal. DY. -diagnosis result of "BRAKE". exit CONSULT, and disconnect CONSULT from door), check that the room lamp is OFF, get ou s closed. ile waiting. out depressing the brake pedal. DY. m (3.94 in) or more, and hold the position for 5	t of the vehicle, and wait fo
5. Turn CAU Neve 6. Start 7. Turn 8. Clos 3 min CAU Neve 9. Turn CAU Neve 10. Depr 11. Rele 12. Start Is DTC "(er operate the vehicle wh the power switch ON with TION: er set the vehicle to REA CONSULT and erase self the power switch OFF to e e all doors (including back nutes or more with all door TION: er operate the vehicle wh the power switch ON with TION: er set the vehicle to REA ess brake pedal by 100 m ase brake pedal.	ile waiting. out depressing the brake pedal. DY. -diagnosis result of "BRAKE". exit CONSULT, and disconnect CONSULT from door), check that the room lamp is OFF, get ou s closed. ile waiting. out depressing the brake pedal. DY. m (3.94 in) or more, and hold the position for 5 BRAKE" self-diagnosis.	t of the vehicle, and wait fo

I.CHECK 12V BATTERY

1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.

Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 2. 3 minutes or more with all doors closed. **CAUTION:**

А

< DTC/CIRCUIT DIAGNOSIS >

- 3. Check the 12V battery terminal connections. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery" and <u>PG-76</u>, "Work Flow".
- 4. Check the 12V battery. Refer to PG-76, "Work Flow".

Is the inspection result normal?

- YES >> GO TO 2.
- NO >> Repair or replace error-detected parts and GO TO 2.

2.PERFORM SELF-DIAGNOSIS (1)

With CONSULT

- T. Connect 12V battery cable to negative terminal.
- Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 3. Repeat step 2 two or more times.
 - CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 4. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

6. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 7. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 8. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

10. Turn the power switch ON without depressing the brake pedal.

Never set the vehicle to READY.

- 11. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 12. Release brake pedal.
- 13. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A8A" detected?

YES >> GO TO 3.

NO >> INSPECTION END

3. CHECK CONNECTOR TERMINALS

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery".
- 4. Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace error-detected parts and GO TO 4.

4.PERFORM SELF-DIAGNOSIS (2)

With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal.

	TC/CIRCUIT DIA	GNOSIS >			
	CAUTION:				
л	Never set the veh				А
4.	Repeat step 3 two CAUTION:	o or more times.			
		or 5 seconds or mo	ore after turning the	power switch OFF.	_
5.				ect CONSULT from data link connector.	В
6.				amp is OFF, get out of the vehicle, and wait for	
		with all doors close	d.		
	CAUTION:	a wahiala while wai	41m m		С
7.		e vehicle while wai	ting. pressing the brake pe	dal	
1.	CAUTION:		ressing the blace pe		
	Never set the veh	nicle to READY.			D
8.			sis result of "BRAKE	²⁷	
				ect CONSULT from data link connector.	_
10.				amp is OFF, get out of the vehicle, and wait for	E
		with all doors close	d.		
	CAUTION: Never operate th	e vehicle while wai	tina		
11			bressing the brake pe	dal.	BR
	CAUTION:		fooding the state pe		
	Never set the veh				
			in) or more, and hol	d the position for 5 seconds or more.	G
	Release brake pe				
		nd perform "BRAKE	" self-diagnosis.		
<u>Is E</u>	DTC "C1A8A" detec	ted?			Н
	ES >> GO TO 5.				
5.0	CHECK POWER S	WITCH ON POWEF	R SUPPLY		
1.		ery cable to negative			
2.				ect CONSULT from data link connector.	
3.	Close all doors (in	cluding back door),	check that the room I	amp is OFF, get out of the vehicle, and wait for	J
		with all doors close	d.		
	CAUTION:		11		
٨	Never operate the	e vehicle while wai	ting.	or to P.P. 6. "Procedution for Removing 12\/ Pat	K
4.	tery".		galive leminal. Refe	er to <u>BR-6, "Precaution for Removing 12V Bat-</u>	
		ectrically-driven intel	ligent brake unit harn	less connector	
5	Connect 12V batte				
					L
6.				t brake unit harness connector and ground.	L
				t brake unit harness connector and ground.	L
5. 6. 7.		between the electric			L
6.	Check the voltage	between the electric		t brake unit harness connector and ground. Voltage (Approx.)	L
6.	Check the voltage Electrically-driven in	between the electric	cally-driven intelligen 	Voltage	
6. 7.	Check the voltage Electrically-driven in Connector E34	telligent brake unit Terminal 26	cally-driven intelligen — Ground	Voltage (Approx.) 0 V	L M
6. 7.	Check the voltage Electrically-driven in Connector E34 Turn the power sw	telligent brake unit Terminal 26	cally-driven intelligen 	Voltage (Approx.) 0 V	
6. 7.	Check the voltage Electrically-driven in Connector E34	telligent brake unit Terminal 26 vitch ON without dep	cally-driven intelligen — Ground	Voltage (Approx.) 0 V	Ν
6. 7. 8.	Check the voltage	telligent brake unit Terminal 26 vitch ON without dep	cally-driven intelligen — Ground pressing the brake pe	Voltage (Approx.) 0 V	Ν
6. 7. 8.	Check the voltage	telligent brake unit Terminal 26 vitch ON without dep hicle to READY. between the electric	cally-driven intelligen — Ground pressing the brake pe	Voltage (Approx.) 0 V dal.	Ν
6. 7. 8.	Check the voltage	telligent brake unit Terminal 26 vitch ON without dep hicle to READY. between the electric	cally-driven intelligen — Ground pressing the brake pe	Voltage (Approx.) 0 V Idal. t brake unit harness connector and ground.	
6. 7. 8.	Check the voltage	telligent brake unit Terminal 26 vitch ON without dep hicle to READY. between the electric	cally-driven intelligen — Ground pressing the brake pe	Voltage (Approx.) 0 V dal. t brake unit harness connector and ground.	N
6. 7.	Check the voltage	telligent brake unit Terminal 26 vitch ON without dep nicle to READY. between the electric telligent brake unit	cally-driven intelligen — Ground pressing the brake pe	Voltage (Approx.) 0 V Idal. t brake unit harness connector and ground.	N

YES >> GO TO 8. NO >> GO TO 6.

< DTC/CIRCUIT DIAGNOSIS >

6.check power switch on power supply circuit

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 2. 3 minutes or more with all doors closed.
 - **CAUTION:**

Never operate the vehicle while waiting.

- Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery".
- 4. Check the 15A fuse (#62).
- 5. Disconnect IPDM E/R harness connector.
- 6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

Electrically-driven intelligent brake unit		IPDM E/R		Continuity	
Connector	Terminal	Connector	Terminal	Continuity	
E34	26	E15	62	Existed	

7. Check the continuity between electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven in	itelligent brake unit		Continuity	
Connector	Connector Terminal		Continuity	
E34	26	Ground	Not existed	

Is the inspection result normal?

- YES >> Perform trouble diagnosis for power ON power supply. Refer to PG-29, "Wiring Diagram-On Power Supply-".
- NO >> Repair or replace error-detected parts and GO TO 7.

7. PERFORM SELF-DIAGNOSIS (3)

(P)With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect IPDM E/R harness connector.
- 3. Connect 12V battery cable to negative terminal.
- 4. Turn the power switch OFF to ON without depressing the brake pedal. **CAUTION:**

Never set the vehicle to READY.

5. Repeat step 4 two or more times.

CAUTION: Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 6. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 7. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. **CAUTION:**

Never operate the vehicle while waiting. Turn the power switch ON without depressing the brake pedal. 8. CAUTION:

Never set the vehicle to READY.

- 9. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 10. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 11. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. **CAUTION:**

Never operate the vehicle while waiting.

12. Turn the power switch ON without depressing the brake pedal. **CAUTION:**

Never set the vehicle to READY.

- 13. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 14. Release brake pedal.
- 15. Start CONSULT and perform "BRAKE" self-diagnosis.

< D	TC/CIRCUIT DI	AGNOSIS >			
<u>Is E</u>	DTC "C1A8A" det	tected?			
	ES >> GO TO				А
N Q			×/		
0.		TTERY POWER SUPPL			В
1. 2.	Close all doors 3 minutes or mo CAUTION:		heck that the roor	nnect CONSULT from data link connector. n lamp is OFF, get out of the vehicle, and wait for	С
3.	Disconnect 12V			efer to BR-6. "Precaution for Removing 12V Bat-	
٨	tery". Disconnect the	alaatriaally drivan intalli	aant braka unit br	rnoss connoctor	D
4. 5.		electrically-driven intelligatery cable to negative			
6.				ent brake unit harness connector terminals.	Е
	Electrically-driver	n intelligent brake unit	Voltage		
	Connector	Terminal	(Approx.)		BR
		1 – 32			
	E34	2 - 32	10 - 16 V		
		28 – 32			G
7. 8.	CAUTION: Never set the v	switch ON without depr /ehicle to READY. ge between the electric	-	ent brake unit harness connector terminals.	Н
	Electrically-driver	n intelligent brake unit	Voltage	_	
	Connector	Terminal	(Approx.)		
		1 – 32		_	1
	E34	2 - 32	10 – 16 V		0
		28 - 32			
YE		11.	Y CIRCUIT	_	K
1. 2.	Close all doors 3 minutes or mo CAUTION:	(including back door), c ore with all doors closed	heck that the roor	nnect CONSULT from data link connector. n lamp is OFF, get out of the vehicle, and wait for	M
3.	Disconnect 12V tery"			efer to <u>BR-6, "Precaution for Removing 12V Bat-</u>	Ν
4. 5.				s connector terminal 1 of electrically-driven intel-	0
6.	Check the conti ligent brake uni	nuity and for short circu t and 60A fusible link (#	it between harnes	s connector terminal 2 of electrically-driven intel-	
7. 8.	Check the cont			ness connector terminal 28 of electrically-driven	Ρ
		n trouble diagnosis for 1	2V battery power	supply. Refer to <u>PG-18, "Wiring Diagram — Bat-</u>	
N		<u>wer Supply —"</u> . or replace error-detecte	d parts and GO T	O 10.	

NO >> Repair or replace error-detected parts and GO TO 10.

< DTC/CIRCUIT DIAGNOSIS >

10.PERFORM SELF-DIAGNOSIS (4)

With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal. **CAUTION:**

Never set the vehicle to READY.

- 4. Repeat step 3 two or more times.
 - **CAUTION:**

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 5. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. **CAUTION:**

Never operate the vehicle while waiting.

Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- Start CONSULT and erase self-diagnosis result of "BRAKE".
- 9. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 10. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

11. Turn the power switch ON without depressing the brake pedal. **CAUTION:**

Never set the vehicle to READY.

- 12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 13. Release brake pedal.
- Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A8A" detected?

YES >> GO TO 11.

NO >> INSPECTION END

11.CHECK GROUND CIRCUIT

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 2. 3 minutes or more with all doors closed. CAUTION:

Never operate the vehicle while waiting.

- Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Bat-3. tery".
- 4. Disconnect the electrically-driven intelligent brake unit harness connector.
- 5. Check the continuity between electrically-driven intelligent brake unit and ground.

Electrically-driver	n intelligent brake unit		Continuity	
Connector	Connector Terminal		Continuity	
E34	32	Ground	Existed	

Is the inspection result normal?

YES >> GO TO 13.

NO >> Repair or replace error-detected parts and GO TO 12.

12. PERFORM SELF-DIAGNOSIS (5)

- With CONSULT
 Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal. **CAUTION:**



4.	Never set the vehicle to READY. Repeat step 3 two or more times.	А
	CAUTION:	
	Be sure to wait for 5 seconds or more after turning the power switch OFF. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION:	В
7.	Never operate the vehicle while waiting. Turn the power switch ON without depressing the brake pedal. CAUTION:	С
9.	Never set the vehicle to READY. Start CONSULT and erase self-diagnosis result of "BRAKE". Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for	D
11	3 minutes or more with all doors closed. CAUTION: Never operate the vehicle while waiting. Turn the power switch ON without depressing the brake pedal.	E
	CAUTION:	BR
13.	Never set the vehicle to READY. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more. Release brake pedal. Start CONSULT and perform "BRAKE" self-diagnosis.	G
	DTC "C1A8A" detected?	
YE NC	ES >> GO TO 13. D >> INSPECTION END	Η
13	CHECK DATA MONITOR	
	Vith CONSULT	I
1. 2	Connect the electrically-driven intelligent brake unit harness connector.	
	Connect 12V battery cable to negative terminal. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:	J
4.	Never set the vehicle to READY. Repeat step 3 two or more times.	K
	CAUTION: Be sure to wait for 5 seconds or more after turning the power switch OFF.	
	Start CONSULT and select "BRAKE" and "DATA MONITOR" according this order. Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER". Refer to <u>BR-33</u> , "Reference <u>Value</u> ".	L
<u>Is th</u>	ne inspection result normal?	ъл
YE		M
14	.PERFORM SELF-DIAGNOSIS (6)	Ν
\sim	Vith CONSULT	
1.	Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:	0
2	Never set the vehicle to READY.	
Ζ.	Repeat step 1 two or more times. CAUTION: Resure to wait for F seconds or more after turning the power switch OFF	Р
3.	Be sure to wait for 5 seconds or more after turning the power switch OFF. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.	
4.	Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.	
	CAUTION: Never operate the vehicle while waiting.	
5.	Turn the power switch ON without depressing the brake pedal. CAUTION:	

< DTC/CIRCUIT DIAGNOSIS >

< DTC/CIRCUIT DIAGNOSIS >

Never set the vehicle to READY.

- 6. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 7. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

Turn the power switch ON without depressing the brake pedal.
 CAUTION:

Never set the vehicle to READY.

- 10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 11. Release brake pedal.
- 12. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A8A" detected?

- YES >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-510</u>, "Removal and installation".
- NO >> INSPECTION END

< DTC/CIRCUIT DIAGNOSIS >

C1A8B CONTROL MODULE

DTC	Display item	Malfunction detection condition	Possible causes
C1A8B	CONTROL MODULE-13	A malfunction is detected in the control module of electrically-driven intelligent brake unit. (Abnormal CAN communication line)	Electrically-driven intelligent brake unit
TC RE	PRODUCTION PROCE	DURE	
.PREC	ONDITIONING		
		OURE" has been previously conducted, always	s turn power switch OFF and
ait at le	ast 10 seconds before cor	nducting the next test.	
	>> GO TO 2.		
	K DTC DETECTION		
	ONSULT		
. Turn	the power switch OFF to	ON without depressing the brake pedal.	
	TION: er set the vehicle to REA	DY.	
. Repe	eat step 1 two or more time		
	TION:		
Be s		s or more after turning the power switch OF	FF.
. Turn	ure to wait for 5 seconds the power switch OFF to	s or more after turning the power switch OF exit CONSULT, and disconnect CONSULT fror	n data link connector.
. Turn . Clos	ure to wait for 5 seconds the power switch OFF to e all doors (including back	exit CONSULT, and disconnect CONSULT fror door), check that the room lamp is OFF, get o	n data link connector.
. Turn . Clos 3 min CAU	ure to wait for 5 seconds the power switch OFF to e all doors (including back nutes or more with all door TION:	exit CONSULT, and disconnect CONSULT fror door), check that the room lamp is OFF, get o rs closed.	n data link connector.
. Turn . Clos 3 min CAU Neve	ure to wait for 5 seconds the power switch OFF to e all doors (including back nutes or more with all door TION: er operate the vehicle wh	exit CONSULT, and disconnect CONSULT fror door), check that the room lamp is OFF, get o rs closed.	n data link connector.
5. Turn Clos 3 min CAU Nevo 5. Turn CAU	the power switch OFF to e all doors (including back nutes or more with all door TION: er operate the vehicle wh the power switch ON with TION:	exit CONSULT, and disconnect CONSULT from door), check that the room lamp is OFF, get o rs closed. hile waiting. hout depressing the brake pedal.	n data link connector.
. Turn . Clos 3 min CAU Nevo . Turn CAU Nevo	ure to wait for 5 seconds the power switch OFF to e all doors (including back nutes or more with all door TION: er operate the vehicle wh the power switch ON with TION: er set the vehicle to REA	exit CONSULT, and disconnect CONSULT from door), check that the room lamp is OFF, get o rs closed. nile waiting. nout depressing the brake pedal. DY.	n data link connector.
. Turn . Clos 3 min CAU Nevo . Turn CAU Nevo . Start . Turn	the power switch OFF to be all doors (including back nutes or more with all door TION: a operate the vehicle whether the power switch ON with the power switch ON with the power switch ON with TION: a set the vehicle to REA CONSULT and erase self the power switch OFF to be the power switch	exit CONSULT, and disconnect CONSULT from door), check that the room lamp is OFF, get of rs closed. hile waiting. hout depressing the brake pedal. DY. f-diagnosis result of "BRAKE". exit CONSULT, and disconnect CONSULT from	m data link connector. ut of the vehicle, and wait for n data link connector.
 Turn Clos 3 min CAU Neve Turn CAU Neve Start Turn Clos 	the power switch OFF to be all doors (including back nutes or more with all door TION: a operate the vehicle whether the power switch ON with the power switch ON with the power switch ON with TION: a set the vehicle to REA CONSULT and erase self the power switch OFF to be the power switch	exit CONSULT, and disconnect CONSULT from door), check that the room lamp is OFF, get of rs closed. hile waiting. hout depressing the brake pedal. DY. f-diagnosis result of "BRAKE". exit CONSULT, and disconnect CONSULT from door), check that the room lamp is OFF, get of	m data link connector. ut of the vehicle, and wait for n data link connector.
. Turn Clos 3 min CAU Nevo . Turn CAU Nevo . Start . Turn . Clos 3 min CAU	ure to wait for 5 seconds the power switch OFF to e all doors (including back nutes or more with all door TION: er operate the vehicle wh the power switch ON with TION: er set the vehicle to REA CONSULT and erase self the power switch OFF to e all doors (including back nutes or more with all door TION:	exit CONSULT, and disconnect CONSULT from door), check that the room lamp is OFF, get of rs closed. hile waiting. fout depressing the brake pedal. DY. f-diagnosis result of "BRAKE". exit CONSULT, and disconnect CONSULT from door), check that the room lamp is OFF, get of rs closed.	m data link connector. ut of the vehicle, and wait for n data link connector.
. Turn Clos 3 min CAU Nevo . Turn CAU Nevo . Start . Clos 3 min CAU Nevo	ure to wait for 5 seconds the power switch OFF to e all doors (including back nutes or more with all door TION: ar operate the vehicle wh the power switch ON with TION: ar set the vehicle to REA CONSULT and erase self the power switch OFF to e all doors (including back nutes or more with all door TION: ar operate the vehicle wh	exit CONSULT, and disconnect CONSULT from door), check that the room lamp is OFF, get of rs closed. hile waiting. fout depressing the brake pedal. DY. f-diagnosis result of "BRAKE". exit CONSULT, and disconnect CONSULT from door), check that the room lamp is OFF, get of rs closed.	m data link connector. ut of the vehicle, and wait for n data link connector.
 Turn Clos 3 min CAU Nevo 5. Turn CAU Nevo Start Turn Clos 3 min CAU Nevo Turn CAU Nevo Turn CAU 	ure to wait for 5 seconds the power switch OFF to e all doors (including back nutes or more with all door TION: ar operate the vehicle wh the power switch ON with TION: ar set the vehicle to REA CONSULT and erase self the power switch OFF to e all doors (including back nutes or more with all door TION: ar operate the vehicle wh the power switch ON with TION:	exit CONSULT, and disconnect CONSULT from door), check that the room lamp is OFF, get or rs closed. nile waiting. hout depressing the brake pedal. DY. f-diagnosis result of "BRAKE". exit CONSULT, and disconnect CONSULT from door), check that the room lamp is OFF, get or rs closed. nile waiting. hout depressing the brake pedal.	m data link connector. ut of the vehicle, and wait for n data link connector.
 Turn Clos 3 min CAU Nevo Turn CAU Nevo Start Turn Clos 3 min CAU Nevo Turn CAU Nevo Turn CAU Nevo Turn CAU Nevo Nevo 	ure to wait for 5 seconds the power switch OFF to e all doors (including back nutes or more with all door TION: ar operate the vehicle wh the power switch ON with TION: ar set the vehicle to REA CONSULT and erase self the power switch OFF to e all doors (including back nutes or more with all door TION: ar operate the vehicle wh the power switch ON with TION: ar operate the vehicle wh the power switch ON with TION: ar set the vehicle to REA	exit CONSULT, and disconnect CONSULT from door), check that the room lamp is OFF, get or rs closed. nile waiting. hout depressing the brake pedal. DY. f-diagnosis result of "BRAKE". exit CONSULT, and disconnect CONSULT from door), check that the room lamp is OFF, get or rs closed. nile waiting. hout depressing the brake pedal.	m data link connector. ut of the vehicle, and wait for m data link connector. ut of the vehicle, and wait for
. Turn Clos 3 min CAU Nevo . Turn CAU Nevo . Start . Turn . Clos 3 min CAU Nevo 0. Depu 1. Rele	the power switch OFF to be all doors (including back nutes or more with all door TION: ar operate the vehicle with the power switch ON with TION: ar set the vehicle to REA CONSULT and erase self the power switch OFF to be all doors (including back nutes or more with all door TION: ar operate the vehicle to REA CONSULT and erase self the power switch OFF to be all doors (including back nutes or more with all door TION: ar operate the vehicle with all door the power switch OFF to be all doors (including back nutes or more with all door TION: ar operate the vehicle to REA the power switch ON with the power switc	exit CONSULT, and disconnect CONSULT from door), check that the room lamp is OFF, get of rs closed. nile waiting. Hout depressing the brake pedal. DY. f-diagnosis result of "BRAKE". exit CONSULT, and disconnect CONSULT from door), check that the room lamp is OFF, get of rs closed. nile waiting. Hout depressing the brake pedal. DY. In (3.94 in) or more, and hold the position for 5	m data link connector. ut of the vehicle, and wait for m data link connector. ut of the vehicle, and wait for
 Turn Clos 3 min CAU Nevo Turn CAU Nevo Start Turn Clos 3 min CAU Nevo Turn CAU Nevo 1. Rele 2. Start 	ure to wait for 5 seconds the power switch OFF to e all doors (including back nutes or more with all door TION: ar operate the vehicle wh the power switch ON with TION: ar set the vehicle to REA CONSULT and erase self the power switch OFF to e all doors (including back nutes or more with all door TION: ar operate the vehicle wh the power switch ON with TION: ar set the vehicle to REA the power switch ON with TION: ar set the vehicle to REA the power switch ON with TION: ar set the vehicle to REA the power switch ON with TION: ar set the vehicle to REA the power switch ON with TION: ar set the vehicle to REA the power switch ON with TION: ar set the vehicle to REA the power switch ON with TION: ar set the vehicle to REA the power switch ON with TION: ar set the vehicle to REA	exit CONSULT, and disconnect CONSULT from door), check that the room lamp is OFF, get of rs closed. nile waiting. Hout depressing the brake pedal. DY. f-diagnosis result of "BRAKE". exit CONSULT, and disconnect CONSULT from door), check that the room lamp is OFF, get of rs closed. nile waiting. Hout depressing the brake pedal. DY. In (3.94 in) or more, and hold the position for 5	m data link connector. ut of the vehicle, and wait for m data link connector. ut of the vehicle, and wait for
. Turn 3 min CAU Nevo . Turn CAU Nevo . Start . Turn CAU Nevo 0. Depi 1. Rele 2. Start . Start	the power switch OFF to be all doors (including back nutes or more with all door TION: ar operate the vehicle with the power switch ON with TION: ar set the vehicle to REA CONSULT and erase self the power switch OFF to be all doors (including back nutes or more with all door TION: ar operate the vehicle to REA CONSULT and erase self the power switch OFF to be all doors (including back nutes or more with all door TION: ar operate the vehicle with all door the power switch OFF to be all doors (including back nutes or more with all door TION: ar operate the vehicle to REA the power switch ON with the power switc	exit CONSULT, and disconnect CONSULT from door), check that the room lamp is OFF, get of rs closed. nile waiting. Hout depressing the brake pedal. DY. f-diagnosis result of "BRAKE". exit CONSULT, and disconnect CONSULT from door), check that the room lamp is OFF, get of rs closed. nile waiting. Hout depressing the brake pedal. DY. m (3.94 in) or more, and hold the position for S BRAKE" self-diagnosis.	m data link connector. ut of the vehicle, and wait for m data link connector. ut of the vehicle, and wait for
. Turn 3 min CAU Nevo . Turn CAU Nevo . Start . Turn CAU Nevo 0. Depi 1. Rele 2. Start . Start YES	the power switch OFF to a e all doors (including back nutes or more with all door TION: ar operate the vehicle wh the power switch ON with TION: ar set the vehicle to REA CONSULT and erase self the power switch OFF to e all doors (including back nutes or more with all door TION: ar operate the vehicle wh the power switch ON with TION: ar operate the vehicle wh the power switch ON with TION: ar set the vehicle to REA ress brake pedal by 100 m ase brake pedal. CONSULT and perform "If C1A8B" detected?	exit CONSULT, and disconnect CONSULT from door), check that the room lamp is OFF, get of rs closed. nile waiting. Hout depressing the brake pedal. DY. f-diagnosis result of "BRAKE". exit CONSULT, and disconnect CONSULT from door), check that the room lamp is OFF, get of rs closed. nile waiting. Hout depressing the brake pedal. DY. m (3.94 in) or more, and hold the position for S BRAKE" self-diagnosis.	m data link connector. ut of the vehicle, and wait for m data link connector. ut of the vehicle, and wait for

1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.

- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 2. 3 minutes or more with all doors closed.
 - **CAUTION:** Never operate the vehicle while waiting.

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< DTC/CIRCUIT DIAGNOSIS >

- 3. Check the 12V battery terminal connections. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery" and <u>PG-76</u>, "Work Flow".
- 4. Check the 12V battery. Refer to PG-76. "Work Flow".

Is the inspection result normal?

- YES >> GO TO 2.
- NO >> Repair or replace error-detected parts and GO TO 2.

2.PERFORM SELF-DIAGNOSIS (1)

With CONSULT

- T. Connect 12V battery cable to negative terminal.
- Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

3. Repeat step 2 two or more times.

CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 4. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

6. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 7. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 8. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

10. Turn the power switch ON without depressing the brake pedal.

Never set the vehicle to READY.

- 11. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 12. Release brake pedal.
- 13. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A8B" detected?

YES >> GO TO 3.

NO >> INSPECTION END

3. CHECK CONNECTOR TERMINALS

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery".
- 4. Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace error-detected parts and GO TO 4.

4.PERFORM SELF-DIAGNOSIS (2)

With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal.

А								
В								
D								
CAUTION: C Never operate the vehicle while waiting.								
. Turn the power switch ON without depressing the brake pedal. CAUTION:								
D								
Е								
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YES >> GO TO 8. NO >> GO TO 6.

< DTC/CIRCUIT DIAGNOSIS >

6.check power switch on power supply circuit

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 2. 3 minutes or more with all doors closed. **CAUTION:**

Never operate the vehicle while waiting.

- Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery".
- 4. Check the 15A fuse (#62).
- 5. Disconnect IPDM E/R harness connector.
- 6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

Electrically-driven intelligent brake unit		IPDM E/R		Continuity	
Connector	Terminal	Connector	Terminal	Continuity	
E34	26	E15	62	Existed	

7. Check the continuity between electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven in	telligent brake unit		Continuity	
Connector	Connector Terminal		Continuity	
E34	26	Ground	Not existed	

Is the inspection result normal?

- YES >> Perform trouble diagnosis for power ON power supply. Refer to PG-29, "Wiring Diagram-On Power Supply-".
- NO >> Repair or replace error-detected parts and GO TO 7.

7. PERFORM SELF-DIAGNOSIS (3)

(P)With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect IPDM E/R harness connector.
- 3. Connect 12V battery cable to negative terminal.
- 4. Turn the power switch OFF to ON without depressing the brake pedal. **CAUTION:**

Never set the vehicle to READY.

5. Repeat step 4 two or more times.

CAUTION: Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 6. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 7. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. **CAUTION:**

Never operate the vehicle while waiting. Turn the power switch ON without depressing the brake pedal. 8. CAUTION:

Never set the vehicle to READY.

- 9. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 10. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 11. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. **CAUTION:**

Never operate the vehicle while waiting.

12. Turn the power switch ON without depressing the brake pedal. **CAUTION:**

Never set the vehicle to READY.

- 13. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 14. Release brake pedal.
- 15. Start CONSULT and perform "BRAKE" self-diagnosis.

< DTC/CIRCUIT D	IAGNOSIS >			
Is DTC "C1A8B" de	tected?			
YES >> GO TO				А
•		N/		
	TTERY POWER SUPPI			В
2. Close all doors 3 minutes or m CAUTION:		heck that the roor I.	nnect CONSULT from data link connector. n lamp is OFF, get out of the vehicle, and wait for	С
3. Disconnect 12			efer to BR-6, "Precaution for Removing 12V Bat-	
4. Disconnect the	electrically-driven intelli	gent brake unit h	arness connector	D
	attery cable to negative			
6. Check the volta	age between the electric	ally-driven intellig	ent brake unit harness connector terminals.	Е
			_	
	n intelligent brake unit	Voltage (Approx.)		
Connector	Terminal	(Applox.)		BR
504	1 - 32			
E34	2 - 32	10 – 16 V		G
7. Turn the power	28 – 32 switch ON without dep		<u> </u>	0
8. Check the volta		ally-driven intellig	ent brake unit harness connector terminals.	F
	n intelligent brake unit	Voltage		
Connector	Terminal	(Approx.)		
	1 - 32			J
E34	2 - 32	10 – 16 V		
	28 - 32		_	k
Is the inspection re				r
YES >> GO TO NO >> GO TO				
•	TTERY POWER SUPPI	Y CIRCUIT		L
			nnect CONSULT from data link connector.	
2. Close all doors		heck that the roor	n lamp is OFF, get out of the vehicle, and wait for	N
Never operate	the vehicle while wait			
 Disconnect 12 <u>terv</u>. 	v battery cable from neg	gative terminal. R	efer to <u>BR-6</u> , "Precaution for Removing 12V Bat-	ſ
	fusible link (#F).			
			s connector terminal 1 of electrically-driven intel-	(
	it and 60A fusible link (# inuity and for short circu		s connector terminal 2 of electrically-driven intel-	
ligent brake un	it and 60A fusible link (#			_
7. Check the 15A		auit hatwaan har	and approximates terminal 20 of alastrically driven	F
	tinuity and for short cir e unit and 15A fuse (#7१		ness connector terminal 28 of electrically-driven	
Is the inspection real	•			
Power	Supply—".		r supply. Refer to <u>PG-29, "Wiring Diagram—On</u>	
NO >> Repair	or replace error-detecte	d parts and GO T	O 10.	

NO >> Repair or replace error-detected parts and GO TO 10.

< DTC/CIRCUIT DIAGNOSIS >

10.PERFORM SELF-DIAGNOSIS (4)

With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal. **CAUTION:**

Never set the vehicle to READY.

- 4. Repeat step 3 two or more times.
 - **CAUTION:**

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 5. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. **CAUTION:**

Never operate the vehicle while waiting.

Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- Start CONSULT and erase self-diagnosis result of "BRAKE".
- 9. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 10. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

11. Turn the power switch ON without depressing the brake pedal. **CAUTION:**

Never set the vehicle to READY.

- 12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 13. Release brake pedal.
- Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A8B" detected?

YES >> GO TO 11.

NO >> INSPECTION END

11.CHECK GROUND CIRCUIT

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 2. 3 minutes or more with all doors closed. CAUTION:

Never operate the vehicle while waiting.

- Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Bat-3. tery".
- 4. Disconnect the electrically-driven intelligent brake unit harness connector.
- 5. Check the continuity between electrically-driven intelligent brake unit and ground.

Electrically-driver	n intelligent brake unit		Continuity	
Connector	Connector Terminal		Continuity	
E34	32	Ground	Existed	

Is the inspection result normal?

YES >> GO TO 13.

NO >> Repair or replace error-detected parts and GO TO 12.

12. PERFORM SELF-DIAGNOSIS (5)

- With CONSULT
 Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal. **CAUTION:**



< D	TC/CIRCUIT DIAGNOSIS >	
	Never set the vehicle to READY.	
4.	Repeat step 3 two or more times. CAUTION:	А
	Be sure to wait for 5 seconds or more after turning the power switch OFF.	
5.	Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.	В
6.	Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for	D
	3 minutes or more with all doors closed. CAUTION:	
	Never operate the vehicle while waiting.	С
7.	Turn the power switch ON without depressing the brake pedal.	
	CAUTION:	
8.	Never set the vehicle to READY. Start CONSULT and erase self-diagnosis result of "BRAKE".	D
9.	Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.	
10.	Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for	_
	3 minutes or more with all doors closed.	Ε
	Never operate the vehicle while waiting.	_
11.	Turn the power switch ON without depressing the brake pedal.	BR
	CAUTION:	ы
10	Never set the vehicle to READY. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.	
	Release brake pedal.	G
	Start CONSULT and perform "BRAKE" self-diagnosis.	
<u>Is E</u>	DTC "C1A8B" detected?	
	ES >> GO TO 13.	Н
N		
13	CHECK DATA MONITOR	I
ØV	Vith CONSULT	
1.	Connect the electrically-driven intelligent brake unit harness connector.	
2. 3.	Connect 12V battery cable to negative terminal. Turn the power switch OFF to ON without depressing the brake pedal.	J
0.	CAUTION:	
	Never set the vehicle to READY.	
4.	Repeat step 3 two or more times.	K
	Be sure to wait for 5 seconds or more after turning the power switch OFF.	
5.	Start CONSULT and select "BRAKE" and "DATA MONITOR" according this order.	1
6.	Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER". Refer to <u>BR-33, "Reference</u>	
الم ما	<u>Value"</u> .	
	he inspection result normal?	M
N	 S >> GO TO 14. S >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-510, "Removal and installation"</u>. 	
	PERFORM SELF-DIAGNOSIS (6)	
		Ν
(円)V 1.	Vith CONSULT Turn the power switch OFF to ON without depressing the brake pedal.	
1.	CAUTION:	0
	Never set the vehicle to READY.	0
2.	Repeat step 1 two or more times.	
	CAUTION: Be sure to wait for 5 seconds or more after turning the power switch OFF.	Ρ
3.	Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.	
4.	Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for	
	3 minutes or more with all doors closed.	
	CAUTION: Never operate the vehicle while waiting.	
5	Turn the power switch ON without depressing the brake pedal	

5. Turn the power switch ON without depressing the brake pedal. CAUTION:

< DTC/CIRCUIT DIAGNOSIS >

Never set the vehicle to READY.

- 6. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 7. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

Turn the power switch ON without depressing the brake pedal.
 CAUTION:

Never set the vehicle to READY.

- 10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 11. Release brake pedal.
- 12. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A8B" detected?

- YES >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-510</u>, "Removal and installation".
- NO >> INSPECTION END

< DTC/CIRCUIT DIAGNOSIS >

C1A90 CONTROL MODULE

DTC Logic

INFOID:000000010634231

А

DTC	Display item	Malfunction detection condition	Possible causes
C1A90	POWER SUPPLY MODE	Power supply to the electrically-driven intelligent brake unit is switched from 12V battery to the brake power supply backup unit and the warning buzzer is activated.	 Harness or connector Electrically-driven intelligent brake unit
DTC RE	PRODUCTION PROCED	URE	
1.PREC	ONDITIONING		
If "DTC C	ONFIRMATION PROCEDU ast 10 seconds before cond	JRE" has been previously conducted, always	turn power switch OFF and
wait at lea		ucting the next test.	
-	>> GO TO 2.		
2.CHEC	K DTC DETECTION		
With C 1. Turn		N without depressing the brake pedal.	
CAU	TION:		
	r set the vehicle to READ CONSULT and perform "BF		
	C1A90" detected?		
	>> Proceed to <u>BR-281, "Dia</u>	gnosis Procedure".	
	>> INSPECTION END		
Diagnos	sis Procedure		INFOID:00000001063423
1.PERF	ORM SELF-DIAGNOSIS (1)	
With CON		N without depressing the brake pedal.	
CAU	TION:		
	r set the vehicle to READ CONSULT and perform "BF		
	"CRNT" shown in self-diad	5	
	AST")>>GO TO 2.		
YES ("C NO :	RNT")>>GO TO 6. >> INSPECTION END		
•	VIEW FROM THE CUSTO	MER (1)	
		story of 12V battery or 12V battery terminals.	
Is there a	removal history of 12V bat	tery or 12V battery terminals?	
	>> GO TO 3. >> GO TO 6.		
-	VIEW FROM THE CUSTO	MFR (2)	
		ory of the brake system warning lamp (yellow)
	• •	e system warning lamp (vellow)?	<i>)</i> ·
	>> GO TO 6		

YES >> GO TO 6.

NO >> GO TO 4.

4.INTERVIEW FROM THE CUSTOMER (3)

Check to see if the customer has an experience of feeling unusual braking force (brake pedal operation).

< DTC/CIRCUIT DIAGNOSIS >

Does the customer have an experience of feeling unusual braking force?

YES >> GO TO 6. NO >> GO TO 5.

5. PERFORM SELF-DIAGNOSIS (2)

With CONSULT

- Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:
 - Never set the vehicle to READY.
- Repeat step 1 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 3. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 4. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

Never operate the vehicle while waiting.

5. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 6. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 7. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 8. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 - CAUTION:

Never operate the vehicle while waiting.

9. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 11. Release brake pedal.
- 12. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A90" detected?

- YES >> GO TO 6.
- NO >> INSPECTION END [DTC "C1A90" is detected when12V battery terminals are disconnected after turning the power switch OFF with any door open (including back door) or without waiting 3 minutes after closing all doors (including back door).]

6.CHECK 12V BATTERY

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

CAUTION:

Never operate the vehicle while waiting.

- 3. Check the 12V battery terminal connections. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery" and <u>PG-76</u>, "Work Flow".
- 4. Check the 12V battery. Refer to PG-76, "Work Flow".

Is the inspection result normal?

YES >> GO TO 7.

NO >> Repair or replace error-detected parts and GO TO 7.

7. PERFORM SELF-DIAGNOSIS (3)

() With CONSULT

- 1. Connect 12V battery cable to negative terminal.
- 2. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

 Repeat step 2 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

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< DTC/CIRCUIT DIAGNOSIS >	
 Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION: 	A
 Never operate the vehicle while waiting. 6. Turn the power switch ON without depressing the brake pedal. CAUTION: 	В
 Never set the vehicle to READY. 7. Start CONSULT and erase self-diagnosis result of "BRAKE". 8. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. 9. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION: 	C
Never operate the vehicle while waiting. 10. Turn the power switch ON without depressing the brake pedal. CAUTION: Never set the vehicle to READY.	Е
 Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more. Release brake pedal. Start CONSULT and perform "BRAKE" self-diagnosis. 	BR
IS DTC "C1A90" detected? YES >> GO TO 8. NO >> INSPECTION END	G
8. CHECK CONNECTOR TERMINALS	
 Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION: 	H
 Never operate the vehicle while waiting. 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Bat- tery". 	
 Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections. 	J
Is the inspection result normal?	K
YES >> GO TO 9. NO >> Repair or replace error-detected parts and GO TO 9.	
9.PERFORM SELF-DIAGNOSIS (4)	
With CONSULT	L
1. Connect the electrically-driven intelligent brake unit harness connector.	
 Connect 12V battery cable to negative terminal. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION: 	Μ
 Never set the vehicle to READY. 4. Repeat step 3 two or more times. CAUTION: 	Ν
 Be sure to wait for 5 seconds or more after turning the power switch OFF. 5. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. 6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. 	0
 CAUTION: Never operate the vehicle while waiting. 7. Turn the power switch ON without depressing the brake pedal. CAUTION: 	Ρ
 Never set the vehicle to READY. 8. Start CONSULT and erase self-diagnosis result of "BRAKE". 9. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. 10. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. 	

< DTC/CIRCUIT DIAGNOSIS >

CAUTION:

Never operate the vehicle while waiting.

11. Turn the power switch ON without depressing the brake pedal.

CAUTION: Never set the vehicle to READY.

- 12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 13. Release brake pedal.
- 14. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A90" detected?

YES >> GO TO 10.

NO >> INSPECTION END

10. CHECK POWER SWITCH ON POWER SUPPLY

- 1. Connect 12V battery cable to negative terminal.
- 2. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- 4. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6. "Precaution for Removing 12V Bat-</u> tery".
- 5. Disconnect the electrically-driven intelligent brake unit harness connector.
- 6. Connect 12V battery cable to negative terminal.
- 7. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-driver	n intelligent brake unit		Voltage
Connector Terminal			(Approx.)
E34	26	Ground	0 V

Turn the power switch ON without depressing the brake pedal.
 CAUTION:

Never set the vehicle to READY.

9. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven in	telligent brake unit		Voltage
Connector Terminal			(Approx.)
E34	26	Ground	10 – 16 V

Is the inspection result normal?

YES >> GO TO 13.

NO >> GO TO 11.

11. CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.

 Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery".
- 4. Check the 15A fuse (#62).
- 5. Disconnect IPDM E/R harness connector.
- 6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

Electrically-driven intelligent brake unit		IPDM E/R		Continuity	
Connector	Terminal	Connector	Terminal	Continuity	
E34	26	E15	62	Existed	

7. Check the continuity between electrically-driven intelligent brake unit harness connector and ground.

< DTC/CIRCUIT DIAGNOSIS >

Electrically-driven int	elligent brake unit		Continuity	
Connector	Terminal	—	Continuity	
E34	26	Ground	Not existed	
the inspection result	normal?			
<u>Power Sup</u> NO >> Repair or r	oply <u>"</u> . eplace error-detecte		supply. Refer to <u>PG-29.</u> 12.	<u>"Wiring Diagram—On</u>
2.PERFORM SELF	-DIAGNOSIS (5)			
With CONSULT				
	ically-driven intellige R harness connector.		s connector.	
	ry cable to negative			
Turn the power sw	itch OFF to ON with		orake pedal.	
CAUTION:	iala ta DEADV			
Never set the veh Repeat step 4 two				
CAUTION:	or more unico.			
			power switch OFF.	
			ect CONSULT from data lamp is OFF, get out of th	
	with all doors closed		iamp is Of 1, get out of th	
CAUTION:				
	vehicle while wait			
Turn the power sw CAUTION:	itch ON without dep	ressing the brake p	edal.	
Never set the veh	icle to READY.			
	nd erase self-diagnos	sis result of "BRAK	"	
. Turn the power sw	itch OFF to exit CON	NSULT, and disconr	ect CONSULT from data	link connector.
	with all doors closed		lamp is OFF, get out of th	e vehicle, and wait for
CAUTION:		J.		
	e vehicle while wait	ting.		
2. Turn the power sw	itch ON without dep	ressing the brake p	edal.	
CAUTION: Never set the veh	icle to PEAD V			
		in) or more, and ho	ld the position for 5 seco	nds or more.
 Release brake peo 	lal.			
5. Start CONSULT ar	•	self-diagnosis.		
DTC "C1A90" detect				
'ES >> GO TO 13				
3.CHECK 12V BAT	IERY POWER SUP	'PLY		
Close all doors (ind		check that the room	ect CONSULT from data lamp is OFF, get out of th	
Never operate the	e vehicle while wait attery cable from neg		er to <u>BR-6, "Precaution fo</u>	or Removing 12V Bat-
	ctrically-driven intelli	igent brake unit har	ness connector.	
	ry cable to negative		nt brake unit harness con	

< DTC/CIRCUIT DIAGNOSIS >

Electrically-driver	Voltage	
Connector	Connector Terminal	
	1 – 32	
E34	2 – 32	$10-16 \ V$
	28 – 32	

Turn the power switch ON without depressing the brake pedal.
 CAUTION:

Never set the vehicle to READY.

8. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

Electrically-drive	Electrically-driven intelligent brake unit		
Connector	Connector Terminal		
	1 – 32		
E34	2 – 32	$10-16 \ V$	
	28 - 32		

Is the inspection result normal?

YES >> GO TO 16.

NO >> GO TO 14.

14.CHECK 12V BATTERY POWER SUPPLY CIRCUIT

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION: Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, <u>"Precaution for Removing 12V Bat-tery"</u>.
- 4. Check the 60A fusible link (#F).
- 5. Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).
- 6. Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).
- 7. Check the 15A fuse (#75).
- 8. Check the continuity and for short circuit between harness connector terminal 28 of electrically-driven intelligent brake unit and 15A fuse (#75).

Is the inspection result normal?

- YES >> Perform trouble diagnosis for 12V battery power supply. Refer to <u>PG-18. "Wiring Diagram Battery Power Supply —"</u>.
- NO >> Repair or replace error-detected parts and GO TO 15.

15. PERFORM SELF-DIAGNOSIS (6)

(D) With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

4. Repeat step 3 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 5. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

	CIA		ODULE	
< DTC/CIRCUIT DI	AGNOSIS >			
	switch ON without dep	ressing the brake pe	dal.	
CAUTION: Nover set the y	ehicle to READY.			
	and erase self-diagno	sis result of "BRAKE		
9. Turn the power	switch OFF to exit CO	NSULT, and disconne	ect CONSULT from	
			amp is OFF, get out	of the vehicle, and wait for
3 minutes or mo	ore with all doors close	d.		
	the vehicle while wai	ting.		
11. Turn the power	switch ON without dep		dal.	
CAUTION:	abiala ta DEADV			
	rehicle to READY. Dedal by 100 mm (3.94	Lin) or more and hole	d the position for 5 s	econds or more
3. Release brake				
	and perform "BRAKE"	' self-diagnosis.		
<u>s DTC "C1A90" det</u>	ected?			
YES >> GO TO				
NO >> INSPEC				
16.CHECK GROU	IND CIRCUIT			
	switch OFF to exit CO			
			amp is OFF, get out	of the vehicle, and wait for
CAUTION:	ore with all doors close	u.		
Never operate	the vehicle while wai			
	battery cable from ne	gative terminal. Refe	r to <u>BR-6, "Precauti</u>	on for Removing 12V Bat-
<u>tery"</u> . Disconnect the	electrically-driven intel	ligent brake unit harn	ess connector	
	nuity between electrica			nd.
Electrically-driver	intelligent brake unit		Continuity	
Connector	Terminal		Continuity	
E34	32	Ground	Existed	-
s the inspection res	ult normal?			
YES >> GO TO				
· ·	or replace error-detecte	ed parts and GO TO	17.	
1 .PERFORM SE	LF-DIAGNOSIS (7)			
With CONSULT				
. Connect the ele	ctrically-driven intellige		s connector.	
	Ittery cable to negative			
5. Turn the power CAUTION:	switch OFF to ON with	iout depressing the b	rake pedal.	
	ehicle to READY.			
	wo or more times.			
CAUTION:	for E cocondo or ma	re ofter turning the	nower owitch OFF	
	: for 5 seconds or mo switch OFF to exit CO			
				of the vehicle, and wait for
	ore with all doors close	d.	-	
CAUTION: Never operate	the vehicle while wai	ting		
	switch ON without dep		dal.	
CAUTION:				
	ehicle to READY.		,	
	and erase self-diagno switch OFF to exit CO			data link connector
				of the vehicle, and wait for
	ore with all doors close		, got out	

3 minutes or more with all doors closed.



< DTC/CIRCUIT DIAGNOSIS >

CAUTION:

Never operate the vehicle while waiting.

11. Turn the power switch ON without depressing the brake pedal.

CAUTION: Never set the vehicle to READY.

- 12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 13. Release brake pedal.
- 14. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A90" detected?

YES >> GO TO 18.

NO >> INSPECTION END

18.CHECK DATA MONITOR

With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

4. Repeat step 3 two or more times.

CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 5. Start CONSULT and select "BRAKE" and "DATA MONITOR" according this order.
- Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER". Refer to <u>BR-33, "Reference</u> <u>Value"</u>.

Is the inspection result normal?

YES >> GO TO 19.

NO	>> Replace the electrically	y-driven intelligent brake unit.	Refer to BR-510.	"Removal and installation".
----	-----------------------------	----------------------------------	------------------	-----------------------------

19. PERFORM SELF-DIAGNOSIS (8)

(I) With CONSULT

Turn the power switch OFF to ON without depressing the brake pedal.

CAUTION: Never set the vehicle to READY.

2. Repeat step 1 two or more times.

CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 3. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

5. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 6. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 7. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 8. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION: Never operate the vehicle while waiting.

Turn the power switch ON without depressing the brake pedal.
 CAUTION:

Never set the vehicle to READY.

- 10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 11. Release brake pedal.
- 12. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A90" detected?

YES >> GO TO 20.

< DTC/CIRCUIT DIAGNOSIS >	
NO >> INSPECTION END	
20.check BCM System	Α
With CONSULT Perform self-diagnosis for "BCM". Refer to BCS-23, "BCM : CONSULT Function (BCM - BCM)".	
Is any DTC detected?	В
YES >> Check the DTC. Refer to <u>BCS-48, "DTC Index"</u> . GO TO 21. NO >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-510, "Removal and ins</u>	stallation". _C
21.PERFORM SELF-DIAGNOSIS (9)	
With CONSULT	
 Turn the power switch OFF to ON without depressing the brake pedal. CAUTION: 	D
Never set the vehicle to READY.	
2. Repeat step 1 two or more times.	E
CAUTION: Be sure to wait for 5 seconds or more after turning the power switch OFF.	
 Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connect Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, all 3 minutes or more with all doors closed. 	
CAUTION:	
Never operate the vehicle while waiting.	G
 Turn the power switch ON without depressing the brake pedal. CAUTION: 	
Never set the vehicle to READY.	
6. Start CONSULT and erase self-diagnosis result of "BRAKE".	Н
 Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connect Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, at 	
3 minutes or more with all doors closed.	
CAUTION:	
Never operate the vehicle while waiting.	
 Turn the power switch ON without depressing the brake pedal. CAUTION: 	J
Never set the vehicle to READY.	
10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more	
 Release brake pedal. Start CONSULT and perform "BRAKE" self-diagnosis. 	K
Is DTC "C1A90" detected?	
YES >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-510, "Removal and ins</u>	stallation" L
NO >> INSPECTION END	<u>, , , , , , , , , , , , , , , , , , , </u>
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< DTC/CIRCUIT DIAGNOSIS >

C1A91 CONTROL MODULE

DTC Logic

INFOID:000000010634233

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1A91	IGNITION POWER SUPPLY	A power switch ON signal which is input from BCM via CAN communication is input without an input of a power switch ON signal which is directly input to the electrically-driven intelligent brake unit.	 Harness or connector Electrically-driven intelligent brake unit

DTC REPRODUCTION PROCEDURE

1.PRECONDITIONING

If "DTC CONFIRMATION PROCEDURE" has been previously conducted, always turn power switch OFF and wait at least 10 seconds before conducting the next test.

>> GO TO 2.

2. CHECK DTC DETECTION

()With CONSULT

1. Turn the power switch OFF to ON without depressing the brake pedal. **CAUTION:**

Never set the vehicle to READY.

2. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A91" detected?

YES >> Proceed to <u>BR-290, "Diagnosis Procedure"</u>.

NO >> INSPECTION END

Diagnosis Procedure

1.PERFORM SELF-DIAGNOSIS (1)

With CONSULT

1. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

2. Start CONSULT and perform "BRAKE" self-diagnosis.

"PAST" or "CRNT" shown in self-diagnosis results ("C1A91")?

YES ("PAST")>>GO TO 2. YES ("CRNT")>>GO TO 6. NO >> INSPECTION END

2. INTERVIEW FROM THE CUSTOMER (1)

Check to see if there is a removal history of 12V battery or 12V battery terminals.

Is there a removal history of 12V battery or 12V battery terminals?

YES >> GO TO 3.

NO >> GO TO 6.

3. INTERVIEW FROM THE CUSTOMER (2)

Check to see if there is a lighting history of the brake system warning lamp (yellow).

Is there a lighting history of the brake system warning lamp (yellow)?

YES >> GO TO 6.

NO >> GO TO 4.

4.INTERVIEW FROM THE CUSTOMER (3)

Check to see if the customer has an experience of feeling unusual braking force (brake pedal operation).

INFOID:000000010634234

< DTC/CIRCUIT DIAGNOSIS >	
Does the customer have an experience of feeling unusual braking force?	
YES >> GO TO 6. NO >> GO TO 5.	А
5.PERFORM SELF-DIAGNOSIS (2)	_
With CONSULT	В
 Turn the power switch OFF to ON without depressing the brake pedal. CAUTION: 	
Never set the vehicle to READY.	С
2. Repeat step 1 two or more times.	
 CAUTION: Be sure to wait for 5 seconds or more after turning the power switch OFF. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 	D
3 minutes or more with all doors closed.	Е
CAUTION: Never operate the vehicle while waiting.	
5. Turn the power switch ON without depressing the brake pedal.	
CAUTION: Never set the vehicle to READY.	BR
 Start CONSULT and erase self-diagnosis result of "BRAKE". 	
 Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 	G
3 minutes or more with all doors closed.	
CAUTION: Never operate the vehicle while waiting.	Н
9. Turn the power switch ON without depressing the brake pedal.	
CAUTION: Never set the vehicle to READY.	
10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.	
 Release brake pedal. Start CONSULT and perform "BRAKE" self-diagnosis. 	
Is DTC "C1A91" detected?	J
YES >> GO TO 6.	
NO >> INSPECTION END [DTC "C1A91" is detected when12V battery terminals are disconnected after turning the power switch OFF with any door open (including back door) or without waiting 3 min- utes after closing all doors (including back door).]	K
6.CHECK 12V BATTERY	
1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.	L
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for	
3 minutes or more with all doors closed. CAUTION:	M
Never operate the vehicle while waiting.	
 Check the 12V battery terminal connections. Refer to <u>BR-6, "Precaution for Removing 12V Battery"</u> and <u>PG-76, "Work Flow"</u>. 	
4. Check the 12V battery. Refer to <u>PG-76, "Work Flow"</u> .	Ν
Is the inspection result normal?	
YES >> GO TO 7.	0
NO >> Repair or replace error-detected parts and GO TO 7.	
7.PERFORM SELF-DIAGNOSIS (3)	D
With CONSULT Connect 12)/ better/ cable to pagative terminal	Γ
 Connect 12V battery cable to negative terminal. Turn the power switch OFF to ON without depressing the brake pedal. 	
CAUTION:	
Never set the vehicle to READY.3. Repeat step 2 two or more times.	
CAUTION:	
Be sure to wait for 5 seconds or more after turning the power switch OFF.	

< DTC/CIRCUIT DIAGNOSIS >

- 4. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 5. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION: Never operate the vehicle while waiting.

6. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 7. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 8. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

10. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 11. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 12. Release brake pedal.
- 13. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A91" detected?

YES >> GO TO 8.

NO >> INSPECTION END

8.CHECK CONNECTOR TERMINALS

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6, "Precaution for Removing 12V Bat-</u> <u>tery"</u>.
- 4. Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.

Is the inspection result normal?

- YES >> GO TO 9.
- NO >> Repair or replace error-detected parts and GO TO 9.

9. PERFORM SELF-DIAGNOSIS (4)

With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

Repeat step 3 two or more times.
 CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 5. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

7. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 8. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 9. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 10. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.



< D	TC/CIRCUIT DIA	GNOSIS >				
11.	Turn the power sy CAUTION:	ne vehicle while wait witch ON without dep		dal.		А
13.	Release brake pe	edal by 100 mm (3.94 edal.		the position for 5 se	econds or more.	В
		and perform "BRAKE"	' self-diagnosis.			С
	<u>)TC "C1A91" detec</u>					C
N N	ES >> GO TO 1 O >> INSPECT					
10	CHECK POWER	R SWITCH ON POWE	ER SUPPLY			D
1. 2. 3.	Turn the power sy Close all doors (in	tery cable to negative witch OFF to exit COI ncluding back door), o e with all doors closed	NSULT, and disconne check that the room la		ata link connector. of the vehicle, and wait for	E
4.	Never operate th	ne vehicle while wait pattery cable from ne		r to <u>BR-6, "Precautic</u>	on for Removing 12V Bat-	BR
5. 6. 7.	Disconnect the el Connect 12V batt	ectrically-driven intell tery cable to negative e between the electric	terminal.		connector and ground.	G
	Electrically-driven in	ntelligent brake unit		Voltage		Н
	Connector	Terminal	—	(Approx.)		
	E34	26	Ground	0 V		
8. 9.	CAUTION: Never set the ve				connector and ground.	J
	Electrically-driven in	ntelligent brake unit	_	Voltage		Κ
	Connector	Terminal		(Approx.)		
	E34	26	Ground	10 – 16 V		L
YI N		3.	R SUPPLY CIRCUIT			M
1. 2. 3.	Turn the power sy Close all doors (in 3 minutes or more CAUTION: Never operate th Disconnect 12V to	witch OFF to exit COI ncluding back door), o e with all doors closed ne vehicle while wait	NSULT, and disconne check that the room la d. ting.	ct CONSULT from d amp is OFF, get out o	ata link connector. of the vehicle, and wait for on for Removing 12V Bat-	N O
4. 5. 6.		se (#62). I E/R harness connec uity between electrica		prake unit and IPDM	E/R.	Ρ
_	Electrically-driven i	ntelligent brake unit	IPDN	1 E/R	Continuity	
	Connector	Terminal	Connector	Terminal	Continuity	

7. Check the continuity between electrically-driven intelligent brake unit harness connector and ground.

< DTC/CIRCUIT DIAGNOSIS >

Electrically-driven in	Electrically-driven intelligent brake unit		Continuity
Connector	Terminal		Continuity
E34	E34 26		Not existed

Is the inspection result normal?

- YES >> Perform trouble diagnosis for power ON power supply. Refer to <u>PG-29</u>, "Wiring Diagram—On <u>Power Supply</u>—".
- NO >> Repair or replace error-detected parts and GO TO 12.
- 12.PERFORM SELF-DIAGNOSIS (5)

(I) With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect IPDM E/R harness connector.
- 3. Connect 12V battery cable to negative terminal.
- 4. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

5. Repeat step 4 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 6. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 7. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

8. Turn the power switch ON without depressing the brake pedal. **CAUTION:**

Never set the vehicle to READY.

- 9. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 10. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

12. Turn the power switch ON without depressing the brake pedal.

Never set the vehicle to READY.

- 13. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 14. Release brake pedal.
- 15. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A91" detected?

YES >> GO TO 13.

NO >> INSPECTION END

13.CHECK 12V BATTERY POWER SUPPLY

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6, "Precaution for Removing 12V Bat-</u> tery".
- 4. Disconnect the electrically-driven intelligent brake unit harness connector.
- 5. Connect 12V battery cable to negative terminal.
- 6. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

< DTC/CIRCUIT DIAGNOSIS >

Electrically-drive	Voltage	
Connector	Terminal	(Approx.)
	1 – 32	
E34	2 – 32	10 – 16 V
	28 – 32	

7. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

8. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

Electrically-drive	Voltage			
Connector	Terminal	(Approx.)		
	1 – 32			
E34	2 – 32	10 – 16 V		
	28 - 32			

Is the inspection result normal?

YES	>> GO TO 16.

NO >> GO TO 14.

14.CHECK 12V BATTERY POWER SUPPLY CIRCUIT

Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
 Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery".
- 4. Check the 60A fusible link (#F).
- 5. Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).
- Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).
- 7. Check the 15A fuse (#75).
- 8. Check the continuity and for short circuit between harness connector terminal 28 of electrically-driven intelligent brake unit and 15A fuse (#75).

Is the inspection result normal?

- YES >> Perform trouble diagnosis for 12V battery power supply. Refer to <u>PG-18</u>, "Wiring Diagram Battery Power Supply —".
- NO >> Repair or replace error-detected parts and GO TO 15.

15. PERFORM SELF-DIAGNOSIS (6)

With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

 Repeat step 3 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 5. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

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< DTC/CIRCUIT DIAGNOSIS >

7. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 8. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 9. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 10. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

11. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 13. Release brake pedal.
- 14. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A91" detected?

YES >> GO TO 16.

NO >> INSPECTION END

16.CHECK GROUND CIRCUIT

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery".
- 4. Disconnect the electrically-driven intelligent brake unit harness connector.
- 5. Check the continuity between electrically-driven intelligent brake unit and ground.

Electrically-driven intelligent brake unit Connector Terminal			Continuity
		—	Continuity
E34	32	Ground	Existed

Is the inspection result normal?

YES >> GO TO 18.

NO >> Repair or replace error-detected parts and GO TO 17.

17. PERFORM SELF-DIAGNOSIS (7)

With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

4. Repeat step 3 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 5. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

7. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 8. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 9. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 10. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

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< D	TC/CIRCUIT DIAGNOSIS >	
	CAUTION:	
	Never operate the vehicle while waiting.	A
11.	Turn the power switch ON without depressing the brake pedal.	
	CAUTION: Never set the vehicle to READY.	
12	Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.	E
	Release brake pedal.	
	Start CONSULT and perform "BRAKE" self-diagnosis.	
	DTC "C1A91" detected?	(
	ES >> GO TO 18.	
N		
		D
<u> </u>	CHECK DATA MONITOR	
(\square)	Vith CONSULT	
1.	Connect the electrically-driven intelligent brake unit harness connector.	E
2.	Connect 12V battery cable to negative terminal.	
3.	Turn the power switch OFF to ON without depressing the brake pedal.	
	CAUTION:	Bł
٨	Never set the vehicle to READY.	
4.	Repeat step 3 two or more times. CAUTION:	
	Be sure to wait for 5 seconds or more after turning the power switch OFF.	1
5.	Start CONSULT and select "BRAKE" and "DATA MONITOR" according this order.	0
	Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER". Refer to BR-33, "Reference	
•	Value".	
ls t	he inspection result normal?	ŀ
-	ES >> GO TO 19.	
N		
12	PERFORM SELF-DIAGNOSIS (8)	
	Vith CONSULT	
1.	Turn the power switch OFF to ON without depressing the brake pedal.	
	CAUTION:	
_	Never set the vehicle to READY.	
2.	Repeat step 1 two or more times.	ł
	CAUTION:	
2	Be sure to wait for 5 seconds or more after turning the power switch OFF.	
	Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for	
4.	3 minutes or more with all doors closed.	-
	CAUTION:	
	Never operate the vehicle while waiting.	Ν
5.	Turn the power switch ON without depressing the brake pedal.	11
-	CAUTION:	
	Never set the vehicle to READY.	
6.	Start CONSULT and erase self-diagnosis result of "BRAKE".	ľ
7.	Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.	
8.	Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for	
	3 minutes or more with all doors closed.	(
	CAUTION:	
~	Never operate the vehicle while waiting.	
9.	Turn the power switch ON without depressing the brake pedal.	F
	CAUTION:	1
10	Never set the vehicle to READY.	
	Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.	
	Release brake pedal. Start CONSULT and perform "BRAKE" self-diagnosis.	
	DTC "C1A91" detected?	
YE	ES >> GO TO 20.	

< DTC/CIRCUIT DIAGNOSIS >

NO >> INSPECTION END 20.CHECK BCM SYSTEM

With CONSULT

Perform self-diagnosis for "BCM". Refer to BCS-23, "BCM : CONSULT Function (BCM - BCM)".

Is any DTC detected?

YES >> Check the DTC. Refer to <u>BCS-48, "DTC Index"</u>. GO TO 21.

NO >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-510</u>, "Removal and installation".

21.PERFORM SELF-DIAGNOSIS (9)

With CONSULT

Turn the power switch OFF to ON without depressing the brake pedal.
 CAUTION:

Never set the vehicle to READY.

 Repeat step 1 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 3. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

5. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 6. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 7. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

9. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 11. Release brake pedal.
- 12. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A91" detected?

YES >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-510</u>, "Removal and installation".

NO >> INSPECTION END

< DTC/CIRCUIT DIAGNOSIS >

C1A98 BRAKE POWER SUPPLY BACKUP UNIT

DTC Logic

INFOID:000000010634235

А

DTC DETECTION LOGIC В DTC Malfunction detection condition Possible causes Display item A malfunction is detected in the backup power supply · Harness or connector C1A98 BACKUP POWER SUPPLY-2 circuit. (Abnormal relay in the control module of the · Electrically-driven intelligent electrically-driven intelligent brake unit) brake unit D DTC REPRODUCTION PROCEDURE 1.PRECONDITIONING If DTC CONFIRMATION PROCEDURE" has been previously conducted, always turn power switch OFF and Ε wait at least 10 seconds before conducting the next test. BR >> GO TO 2. 2. CHECK DTC DETECTION (P)With CONSULT Turn the power switch OFF to ON without depressing the brake pedal. 1 CAUTION: Never set the vehicle to READY. Н Repeat step 1 two or more times. **CAUTION:** Be sure to wait for 5 seconds or more after turning the power switch OFF. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. 4. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. **CAUTION:** Never operate the vehicle while waiting. 5. Turn the power switch ON without depressing the brake pedal. CAUTION: Never set the vehicle to READY. Κ Start CONSULT and erase self-diagnosis result of "BRAKE". 7. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. 8. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. **CAUTION:** Never operate the vehicle while waiting. 9. Turn the power switch ON without depressing the brake pedal. M **CAUTION:** Never set the vehicle to READY. 10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more. Ν 11. Release brake pedal. 12. Start CONSULT and perform "BRAKE" self-diagnosis. Is DTC "C1A98" detected? YES >> Proceed to <u>BR-299</u>, "Diagnosis Procedure". >> INSPECTION END NO Diagnosis Procedure INFOID:000000010634236 P **1.**CHECK 12V BATTERY

1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.

 Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

< DTC/CIRCUIT DIAGNOSIS >

- 3. Check the 12V battery terminal connections. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery" and <u>PG-76</u>, "Work Flow".
- 4. Check the 12V battery. Refer to PG-76, "Work Flow".

Is the inspection result normal?

- YES >> GO TO 2.
- NO >> Repair or replace error-detected parts and GO TO 2.

2.PERFORM SELF-DIAGNOSIS (1)

With CONSULT

- T. Connect 12V battery cable to negative terminal.
- Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 3. Repeat step 2 two or more times.
 - CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 4. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

6. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 7. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 8. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

10. Turn the power switch ON without depressing the brake pedal.

Never set the vehicle to READY.

- 11. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 12. Release brake pedal.
- 13. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A98" detected?

YES >> GO TO 3.

NO >> INSPECTION END

3. CHECK CONNECTOR TERMINALS

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6. "Precaution for Removing 12V Bat-</u> tery".
- 4. Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.
- 5. Disconnect the brake power supply backup unit harness connector, then check for failures of pin terminals and connections.

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace error-detected parts and GO TO 4.

4.PERFORM SELF-DIAGNOSIS (2)

(I) With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.

< DTC/CIRCUIT DIAGNOSIS >

2.					
		e power supply back		nector.	
•	CAUTION:		out depressing the	Jiake pedal.	
	Never set the ve				
.	Repeat step 4 two	o or more times.			
	CAUTION: Be sure to wait f	or 5 seconds or mo	re after turning the	power switch OFF.	
ò.				ect CONSULT from data link	connector.
' .				lamp is OFF, get out of the ve	hicle, and wait for
	3 minutes or more CAUTION:	e with all doors close	d.		
		e vehicle while wai	tina.		
5.	Turn the power s	witch ON without dep		edal.	
	CAUTION:				
).	Never set the ve	nicie to READY. Ind erase self-diagno	sis result of "BRAK	_ "	
				ect CONSULT from data link	connector.
	Close all doors (in	ncluding back door), o	check that the room	lamp is OFF, get out of the ve	
	3 minutes or more CAUTION:	e with all doors close	d.		
		e vehicle while wai	tina.		
2.	Turn the power s	witch ON without dep		edal.	
	CAUTION:				
3	Never set the ve		in) or more and bo	Id the position for 5 seconds of	or more
	Release brake pe				or more.
		ind perform "BRAKE'	' self-diagnosis.		
s E	TC "C1A98" deteo	<u>cted?</u>			
	S >> GO TO 5				
).(CHECK POWER S	WITCH ON POWER	SUPPLY		
•		e power supply back		nector.	
2. 3.		ery cable to negative		ect CONSULT from data link	connector
•				lamp is OFF, get out of the ve	
	3 minutes or mor	e with all doors close			
	CAUTION:	.	e		
		e vehicle while wai		er to <u>BR-6, "Precaution for Re</u>	emoving 12V Bat-
•	tery".		Sauto torrindi. I tor	on to <u>breat information for the</u>	Chiefing 12 V Dat
	Disconnect the el	ectrically-driven intell		ness connector.	
3.		ery cable to negative		nt brake unit harness connect	or and around
•	CHECK THE VOILAGE		any-unven miemyer		or and ground.
	Electrically-driven in	ntelligent brake unit		Voltage	
	Connector	Terminal	—	(Approx.)	
	E34	26	Ground	0 V	
		26 witch ON without dep		-	

Electrically-driven intelligent brake unit Connector Terminal			Voltage
			(Approx.)
E34	26	Ground	10 – 16 V

< DTC/CIRCUIT DIAGNOSIS >

Is the inspection result normal?

YES >> GO TO 8.

NO >> GO TO 6.

6.CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

- Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery".
- 4. Check the 15A fuse (#62).
- 5. Disconnect IPDM E/R harness connector.
- 6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

Electrically-driven ir	telligent brake unit	IPDI	M E/R	Continuity	
Connector	Terminal	Connector	Terminal	Continuity	
E34	26	E15	62	Existed	

7. Check the continuity between electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven in	telligent brake unit		Continuity	
Connector	Terminal		Continuity	
E34	26	Ground	Not existed	

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to <u>PG-29</u>, "Wiring Diagram—On <u>Power Supply</u>—".

NO >> Repair or replace error-detected parts and GO TO 7.

7. PERFORM SELF-DIAGNOSIS (3)

(I) With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect IPDM E/R harness connector.
- 3. Connect 12V battery cable to negative terminal.
- 4. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

5. Repeat step 4 two or more times.

CAUTION:

- Be sure to wait for 5 seconds or more after turning the power switch OFF.
- 6. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

8. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 9. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 10. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 11. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

12. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

BR-302

< DTC/CIRCUIT DIAGNOSIS >

13. Depress brake p 14. Release brake p		in) or more, and h	old the position for 5 seconds or more.
	and perform "BRAKE"	self-diagnosis.	
s DTC "C1A98" dete	ected?	-	
YES >> GO TO			
NO >> INSPEC			
CHECK 12V BAT	TERY POWER SUPP	LY	
. Close all doors (3 minutes or mo CAUTION:		check that the roor d.	nnect CONSULT from data link connector. n lamp is OFF, get out of the vehicle, and wait for
			efer to BR-6, "Precaution for Removing 12V Bat-
<u>tery"</u> .	-	-	-
	electrically-driven intell ttery cable to negative		irness connector.
			ent brake unit harness connector terminals.
· · · · · ·		, 0	
Electrically-driven	intelligent brake unit	Voltage	-
Connector	Terminal	(Approx.)	
	1 – 32		_
E34	2 – 32	10 – 16 V	
	28 – 32		
Electrically-driven	intelligent brake unit	Voltage	_
Connector	Terminal	(Approx.)	
	1 – 32		_
E34	2 - 32	10 – 16 V	
-	28 - 32		
the inspection res			_
(ES >> GO TO			
NO >> GO TO			
CHECK 12V BAT	TERY POWER SUPP	LY CIRCUIT	
Turn the power s Close all doors (3 minutes or mo CAUTION: Never operate s	switch OFF to exit COI including back door), o re with all doors closed the vehicle while wait	NSULT, and discor check that the roor d. t ing.	nnect CONSULT from data link connector. n lamp is OFF, get out of the vehicle, and wait for
	battery cable from ne	gative terminal. Re	efer to <u>BR-6. "Precaution for Removing 12V Bat-</u>
<u>tery"</u> . Check the 60A f	usible link (#F).		
Check the contir	nuity and for short circu		s connector terminal 1 of electrically-driven intel-
Check the contir	and 60A fusible link (# nuity and for short circu and 60A fusible link (#	uit between harnes	s connector terminal 2 of electrically-driven intel-
Check the 15A f	use (#75).		
	nuity and for short cir unit and 15A fuse (#7		ness connector terminal 28 of electrically-driven
-		<i>.</i>	

Is the inspection result normal?

< DTC/CIRCUIT DIAGNOSIS >

- YES >> Perform trouble diagnosis for 12V battery power supply. Refer to <u>PG-18</u>, "Wiring Diagram Battery Power Supply —".
- NO >> Repair or replace error-detected parts and GO TO 10.

10. PERFORM SELF-DIAGNOSIS (4)

With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- Repeat step 3 two or more times.
 CAUTION: Be sure to wait for 5 seconds or more after turning the power switch OFF.
- 5. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

7. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 8. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 9. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 10. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

11. Turn the power switch ON without depressing the brake pedal.

Never set the vehicle to READY.

- 12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 13. Release brake pedal.
- 14. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A98" detected?

YES >> GO TO 11.

NO >> INSPECTION END

11. CHECK GROUND CIRCUIT

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "<u>Precaution for Removing 12V Bat-</u> <u>tery</u>".
- 4. Disconnect the electrically-driven intelligent brake unit harness connector.
- 5. Check the continuity between electrically-driven intelligent brake unit and ground.

Electrically-driver	n intelligent brake unit		Continuity	
Connector	Terminal		Continuity	
E34	32	Ground	Existed	

Is the inspection result normal?

YES >> GO TO 13.

NO >> Repair or replace error-detected parts and GO TO 12.

12.PERFORM SELF-DIAGNOSIS (5)

With CONSULT

T. Connect the electrically-driven intelligent brake unit harness connector.

< DTC/CIRCUIT DIAGNOSIS >

2. 3.	Connect 12V battery cable to negative terminal. Turn the power switch OFF to ON without depressing the brake pedal.	А
	CAUTION:	1
4.	Never set the vehicle to READY. Repeat step 3 two or more times.	
	CAUTION:	В
5. 6.	Be sure to wait for 5 seconds or more after turning the power switch OFF. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION:	С
7.	Never operate the vehicle while waiting. Turn the power switch ON without depressing the brake pedal. CAUTION:	D
	Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.	E BR
	CAUTION: Never operate the vehicle while waiting.	
11.	Turn the power switch ON without depressing the brake pedal.	_
	CAUTION:	G
13.	Never set the vehicle to READY. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more. Release brake pedal.	Н
	Start CONSULT and perform "BRAKE" self-diagnosis.	
-	DTC "C1A98" detected?	
Y E NO	ES >> GO TO 13. D >> INSPECTION END	
	CHECK DATA MONITOR	
		J
۳ <u>س</u>	Vith CONSULT Connect the electrically-driven intelligent brake unit harness connector.	
2.	Connect 12V battery cable to negative terminal.	
3.	Turn the power switch OFF to ON without depressing the brake pedal.	K
	Never set the vehicle to READY.	
4.	Repeat step 3 two or more times.	L
	Be sure to wait for 5 seconds or more after turning the power switch OFF.	
5. 6.	Start CONSULT and select "BRAKE" and "DATA MONITOR" according this order. Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER". Refer to <u>BR-33</u> , "Reference Value".	M
<u>ls t</u> l	ne inspection result normal?	
	ES >> GO TO 14.	Ν
N	· · · · · · · · · · · · · · · · · · ·	
14	.PERFORM SELF-DIAGNOSIS (6)	
ØV	Vith CONSULT	0
1.	Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:	ſ
2.	Never set the vehicle to READY. Repeat step 1 two or more times. CAUTION:	Ρ
3. 4.	Be sure to wait for 5 seconds or more after turning the power switch OFF. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION:	

< DTC/CIRCUIT DIAGNOSIS >

Never operate the vehicle while waiting.

5. Turn the power switch ON without depressing the brake pedal. **CAUTION:**

Never set the vehicle to READY.

- Start CONSULT and erase self-diagnosis result of "BRAKE".
- Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. 7.
- 8. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION:

Never operate the vehicle while waiting.

9. Turn the power switch ON without depressing the brake pedal. **CAUTION:**

Never set the vehicle to READY.

- 10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 11. Release brake pedal.
- Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A98", "C1A6B", "C1A6C", "C1A6D", "C1AC8" or "C1AD0" detected?

YES (C1A98)>>GO TO 15.

YES (C1A6B)>>Refer to <u>BR-123</u>, "Diagnosis Procedure".

- YES (C1A6C)>>Refer to <u>BR-134</u>, "<u>Diagnosis Procedure</u>". YES (C1A6D)>>Refer to <u>BR-142</u>, "<u>Diagnosis Procedure</u>".

YES (C1AC8)>>Refer to BR-429, "Diagnosis Procedure".

- YES (C1AD0)>>Refer to BR-440, "Diagnosis Procedure".
- >> INSPECTION END NO

15. CHECK CIRCUIT BETWEEN ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT AND BRAKE POWER SUPPLY BACKUP UNIT

- Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. 1.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 2. 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to BR-6, "Precaution for Removing 12V Batterv".
- 4. Disconnect the electrically-driven intelligent brake unit harness connector.
- 5. Check the continuity between electrically-driven intelligent brake unit and ground.

Electrically-driver	n intelligent brake unit		Continuity	
Connector	Terminal			
E34	32	Ground	Existed	

6. Check the continuity between electrically-driven intelligent brake unit and ground.

Electrically-driven intelligent brake unit			Continuity
Connector	Terminal		Continuity
E34	31	Ground	Not existed

7. Disconnect the brake power supply backup unit harness connector.

Check the continuity between electrically-driven intelligent brake unit and brake power supply backup unit. 8

Electrically-driven intelligent brake unit		Brake power supply backup unit		Continuity	
Connector	Terminal	Connector	Terminal	Continuity	
E34	31	B15	1	Existed	

Is the inspection result normal?

YES >> GO TO 16.

NO >> Repair or replace error-detected parts and GO TO 16.

16.CHECK BRAKE POWER SUPPLY BACKUP UNIT GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

Brake power supply backup unit			Continuity	
Connector	Terminal		Continuity	
B15	2	Ground	Existed	
he inspection resul	t normal?			
ES >> GO TO 1				
		ted parts and GO TO	17.	
PERFORM SEL	F-DIAGNOSIS (7)			
With CONSULT				
		gent brake unit harnes		
	e power supply bac ery cable to negativ	kup unit harness con	nector.	
		thout depressing the	brake pedal.	
CAUTION:		J		
Never set the ve				
Repeat step 4 two CAUTION:	o or more times.			
	or 5 seconds or m	ore after turning the	power switch OFF.	
			ect CONSULT from da	
	ncluding back door) e with all doors clos		lamp is OFF, get out o	f the vehicle, and wait for
CAUTION:		eu.		
	ne vehicle while wa	aiting.		
	witch ON without de	pressing the brake p	edal.	
CAUTION: Never set the ve	hicle to PEADV			
		osis result of "BRAK	_"	
Turn the power sv	witch OFF to exit CO	ONSULT, and disconr	ect CONSULT from da	
			lamp is OFF, get out o	f the vehicle, and wait for
3 minutes or more CAUTION:	e with all doors clos	ed.		
	ne vehicle while wa	aiting.		
	witch ON without de	pressing the brake p	edal.	
CAUTION: Never set the ve	hicle to DEADV			
		94 in) or more, and ho	ld the position for 5 se	conds or more.
Release brake pe		,		
	and perform "BRAK	E" self-diagnosis.		
DTC "C1A98" detec				
		en intelligent brake un	it. Refer to <u>BR-510, "R</u>	emoval and installation".
O >> INSPECT	ION END			

Ρ

< DTC/CIRCUIT DIAGNOSIS >

C1A99 BRAKE POWER SUPPLY BACKUP UNIT

DTC Logic

INFOID:000000010634237

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1A99	BACKUP POWER SUPPLY-3	A malfunction is detected in the backup power supply circuit. (Abnormal diode in the control module of the electrically-driven intelligent brake unit)	 Harness or connector Electrically-driven intelligent brake unit

DTC REPRODUCTION PROCEDURE

1.PRECONDITIONING

If DTC CONFIRMATION PROCEDURE" has been previously conducted, always turn power switch OFF and wait at least 10 seconds before conducting the next test.

>> GO TO 2.

2.check dtc detection

With CONSULT

1. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

2. Repeat step 1 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 3. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

5. Turn the power switch ON without depressing the brake pedal. **CAUTION:**

Never set the vehicle to READY.

- 6. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 7. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

 Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 11. Release brake pedal.
- 12. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A99" detected?

- YES >> Proceed to <u>BR-308</u>, "Diagnosis Procedure".
- NO >> INSPECTION END

Diagnosis Procedure

1.CHECK 12V BATTERY

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

INFOID:000000010634238

< DT	C/CIRCUIT DIAGNOSIS >	
	Check the 12V battery terminal connections. Refer to <u>BR-6, "Precaution for Removing 12V Battery"</u> and <u>PG-76, "Work Flow"</u> .	А
	Check the 12V battery. Refer to <u>PG-76, "Work Flow"</u> .	
	e inspection result normal?	
YE		В
NO 2 -		
Ζ.Ρ	ERFORM SELF-DIAGNOSIS (1)	C
®W	ith CONSULT	C
	Connect 12V battery cable to negative terminal.	
	Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:	D
	Never set the vehicle to READY.	
3. I	Repeat step 2 two or more times.	
	CAUTION:	Ε
	Be sure to wait for 5 seconds or more after turning the power switch OFF. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.	
	Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for	
:	3 minutes or more with all doors closed.	BR
	CAUTION:	
	Never operate the vehicle while waiting. Turn the power switch ON without depressing the brake pedal.	0
	CAUTION:	G
	Never set the vehicle to READY.	
	Start CONSULT and erase self-diagnosis result of "BRAKE".	Н
	Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for	
	3 minutes or more with all doors closed.	
	CAUTION:	1
	Never operate the vehicle while waiting.	
	Turn the power switch ON without depressing the brake pedal. CAUTION:	
	Never set the vehicle to READY.	J
	Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.	
	Release brake pedal.	
	Start CONSULT and perform "BRAKE" self-diagnosis.	Κ
	TC "C1A99" detected?	
YE: NO		1
	HECK CONNECTOR TERMINALS	
	Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.	M
	Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.	
	CAUTION:	
	Never operate the vehicle while waiting.	Ν
	Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6, "Precaution for Removing 12V Bat-</u>	
-	<u>tery"</u> . Disconnect the electrically driven intelligent broke unit barness connector, then check for foilures of nin-	
	Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.	0
	Disconnect the brake power supply backup unit harness connector, then check for failures of pin terminals	
	and connections.	
<u>Is the</u>	e inspection result normal?	Ρ
YE		
NO		
4 .P	ERFORM SELF-DIAGNOSIS (2)	

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.

< DTC/CIRCUIT DIAGNOSIS >

- 2. Connect the brake power supply backup unit harness connector.
- 3. Connect 12V battery cable to negative terminal.
- 4. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

5. Repeat step 4 two or more times.

CAUTION: Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 6. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

Turn the power switch ON without depressing the brake pedal.
 CAUTION:

Never set the vehicle to READY.

- 9. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 10. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 11. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

12. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 13. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 14. Release brake pedal.
- 15. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A99" detected?

YES >> GO TO 5.

NO >> INSPECTION END

5.CHECK POWER SWITCH ON POWER SUPPLY

- 1. Connect the brake power supply backup unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- 5. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6. "Precaution for Removing 12V Bat-</u> <u>terv"</u>.
- 6. Disconnect the electrically-driven intelligent brake unit harness connector.
- 7. Connect 12V battery cable to negative terminal.
- 8. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit			Voltage
Connector	Terminal		(Approx.)
E34	26	Ground	0 V

9. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

10. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit			Voltage	
Connector	Terminal		(Approx.)	
E34	26	Ground	10 – 16 V	

< DTC/CIRCUIT DIAGNOSIS >

< D	IC/CIRCUIT DIAC	SNOSIS >				
<u>Is th</u>	ne inspection result	normal?				
YE						А
NC						
6.0	CHECK POWER S	WITCH ON POWER	SUPPLY CIRCUIT			_
1.	Turn the power sw	itch OFF to exit CO	SULT. and disconne	ect CONSULT from d	ata link connector.	В
2.					of the vehicle, and wait for	
		with all doors closed	1.			0
	CAUTION:					С
3.		e vehicle while wait		r to BR-6 "Precautic	on for Removing 12V Bat-	
0.	terv".			i to <u>DIV-0, Trecautic</u>		D
4.	Check the 15A fus	e (#62).				D
5.		E/R harness connec				
6.	Check the continu	ty between electrica	lly-driven intelligent	brake unit and IPDM	E/R.	Е
	Electrically-driven in	telligent brake unit	IPDI	M E/R	Continuity	
	Connector	Terminal	Connector	Terminal	Continuity	BR
	E34	26	E15	62	Existed	
7.	Check the continu	ty between electrica	lly-driven intelligent	brake unit harness co	onnector and ground.	
		-			-	G
	Electrically-driven int	elligent brake unit				
	Connector	Terminal	—	Continuity		
	E34	26	Ground	Not existed		Η
	-	-	Cround			
	e inspection result			werely Defer to DO		
YE	Perform tr <u>Power Sup</u>		power ON power's	upply. Refer to <u>PG-</u>	<u>29, "Wiring Diagram—On</u>	I
N		eplace error-detecte	d parts and GO TO	7.		
_	PERFORM SELF-D	•				1
						0
		in a lle a duite an a' ant a llian a				
1. 2.		ically-driven intellige R harness connector.		s connector.		К
2. 3.		ry cable to negative				
4.		itch OFF to ON with		rake pedal.		
	CAUTION:			-		L
_	Never set the veh					
5.	Repeat step 4 two CAUTION:	or more times.				
		or 5 seconds or mo	re after turning the	power switch OFF.		M
6.				ect CONSULT from d	ata link connector.	
7.	Close all doors (in	cluding back door), c	heck that the room I		of the vehicle, and wait for	
		with all doors closed	1.			Ν
	CAUTION:	e vehicle while wait	ina			
8.		itch ON without dep		dal		
0.	CAUTION:	non on windu dep	cooling the brane pe	dui.		0
	Never set the veh	icle to READY.				
9.		nd erase self-diagnos				
				ect CONSULT from d		Р
11.		with all doors closed		amp is OFF, get out o	of the vehicle, and wait for	
	CAUTION:		4.			
		e vehicle while wait	ing.			
12.	Turn the power sw	itch ON without dep		dal.		
	CAUTION:					
	Never set the veh	IICIE TO READY.				

< DTC/CIRCUIT DIAGNOSIS >

- 13. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 14. Release brake pedal.
- 15. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A99" detected?

YES >> GO TO 8.

NO >> INSPECTION END

8.CHECK 12V BATTERY POWER SUPPLY

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery".
- 4. Disconnect the electrically-driven intelligent brake unit harness connector.
- 5. Connect 12V battery cable to negative terminal.
- 6. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

Electrically-driver	Voltage	
Connector	Terminal	(Approx.)
	1 – 32	
E34	2 – 32	10 – 16 V
	28 – 32	

7. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

8. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

Electrically-drive	Voltage (Approx.)	
Connector Terminal		
	1 – 32	
E34	2 – 32	10 – 16 V
	28 – 32	

Is the inspection result normal?

YES >> GO TO 11.

NO >> GO TO 9.

9.CHECK 12V BATTERY POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.

 Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6. "Precaution for Removing 12V Bat-</u> tery".
- 4. Check the 60A fusible link (#F).
- 5. Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).
- 6. Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).
- 7. Check the 15A fuse (#75).
- 8. Check the continuity and for short circuit between harness connector terminal 28 of electrically-driven intelligent brake unit and 15A fuse (#75).

Is the inspection result normal?

< DTC/CIRCUIT	DIAGNOSIS >			
		12V battery power su	pply. Refer to <u>PG-18, "Wiring Diagram — B</u>	at-
	ower Supply —". r or replace error-detect	ad parts and CO TO	10	
· •	ELF-DIAGNOSIS (4)	eu parts and GO TO	10.	
		ant buoles unit bowses		
	electrically-driven intellige battery cable to negative		s connector.	
	er switch OFF to ON with		rake pedal.	
CAUTION:				
	e vehicle to READY.			
CAUTION:	two or more times.			
	ait for 5 seconds or mo	ore after turning the	power switch OFF.	
			ect CONSULT from data link connector.	_
			amp is OFF, get out of the vehicle, and wait	for
CAUTION:	nore with all doors close	0.		_
	e the vehicle while wai	iting.		B
7. Turn the pow	er switch ON without dep		dal.	
CAUTION:	wahiala ta DEADV			
	e vehicle to READY. LT and erase self-diagno	sis result of "BRAKE	"	
			ect CONSULT from data link connector.	
0. Close all door	s (including back door),	check that the room la	amp is OFF, get out of the vehicle, and wait	for
	nore with all doors close	ed.		
CAUTION: Never operat	e the vehicle while wai	itina		
	er switch ON without dep		dal.	
CAUTION:		5 1		
	e vehicle to READY.			
 Depress brak Release brak 		+ in) or more, and hole	d the position for 5 seconds or more.	
	LT and perform "BRAKE	" self-diagnosis.		
<u>s DTC "C1A99" d</u>	•	U U		
YES >> GO T				
	ECTION END			
11.CHECK GRO	UND CIRCUIT			
		NSULT and disconne	ect CONSULT from data link connector.	
			amp is OFF, get out of the vehicle, and wait	for
3 minutes or	nore with all doors close			
CAUTION:	a tha vahiala while wa	ting		
	e the vehicle while wai 2V battery cable from ne		r to <u>BR-6. "Precaution for Removing 12V B</u>	at-
tery".				
 Disconnect th 	e electrically-driven intel			
5. Check the co	ntinuity between electrica	ally-driven intelligent b	prake unit and ground.	
		1		
Electrically-driv	en intelligent brake unit		Continuity	
Connector	Terminal			
E34	32	Ground	Existed	
s the inspection r	esult normal?			

Is the inspection result normal?

YES >> GO TO 13.

NO >> Repair or replace error-detected parts and GO TO 12.

12.PERFORM SELF-DIAGNOSIS (5)

1. Connect the electrically-driven intelligent brake unit harness connector.

< DTC/CIRCUIT DIAGNOSIS >

- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

4. Repeat step 3 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 5. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

7. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 8. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 9. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 10. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

11. Turn the power switch ON without depressing the brake pedal.

Never set the vehicle to READY.

- 12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 13. Release brake pedal.
- 14. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A99" detected?

YES >> GO TO 13.

NO >> INSPECTION END

13.CHECK DATA MONITOR

() With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

 Repeat step 3 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 5. Start CONSULT and select "BRAKE" and "DATA MONITOR" according this order.
- Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER". Refer to <u>BR-33, "Reference</u> <u>Value"</u>.

Is the inspection result normal?

YES >> GO TO 14.

NO >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-510</u>, "Removal and installation".

14.PERFORM SELF-DIAGNOSIS (6)

(I) With CONSULT

1. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

2. Repeat step 1 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 3. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

< DTC/CIRCUIT DIAGNOSIS >

	the vehicle while wai switch ON without dep		dal.		А
6. Start CONSULT	ehicle to READY. and erase self-diagno				В
 Close all doors 3 minutes or mo 	switch OFF to exit CO (including back door), o ore with all doors close	check that the room la		ata link connector. of the vehicle, and wait for	_
CAUTION: Never operate	the vehicle while wai	tina.			С
9. Turn the power	switch ON without dep	ressing the brake peo	dal.		
CAUTION: Never set the v	ehicle to READY.				D
10. Depress brake	oedal by 100 mm (3.94	in) or more, and hole	the position for 5 se	econds or more.	
11. Release brake p 12. Start CONSULT	edal. and perform "BRAKE'	' self-diagnosis.			E
	1A6B", "C1A6C", "C1A	-	AD0" detected?		
YES (C1A99)>>G0					
YES (C1A6B)>>Re	efer to <u>BR-123, "Diagno</u> efer to <u>BR-134, "Diagno</u>	osis Procedure".			BR
YES (C1A6D)>>Re	efer to BR-142, "Diagno	osis Procedure".			
	efer to <u>BR-429, "Diagno</u> efer to <u>BR-440, "Diagno</u>				G
	TION END	<u>JSIS FIOCEdule</u> .			
15.CHECK CIRC	UIT BETWEEN ELEC	CTRICALLY-DRIVEN	INTELLIGENT BRA	KE UNIT AND BRAKE	Н
POWER SUPPLY B					
	switch OFF to exit CO				
	ore with all doors close		amp is OFF, get out c	of the vehicle, and wait for	
CAUTION:					
	the vehicle while wai battery cable from ne		r to BR-6. "Precautio	n for Removing 12V Bat-	J
<u>tery"</u> .		-			
	electrically-driven intell nuity between electrica			d.	K
	,	,			
Electrically-driven	intelligent brake unit		Continuity		
Connector	Terminal	—	Continuity		L
E34	32	Ground	Existed		
6. Check the conti	nuity between electrica	Illy-driven intelligent b	prake unit and ground	d.	M
	intolligant broke wit				
Electrically-driven	i intelligent brake unit Terminal	_	Continuity		Ν
E34	31	Ground	Not existed		I N
	brake power supply ba				
				oower supply backup unit.	0
Electrically-driver	n intelligent brake unit	Brake power su	pply backup unit	Continuity	Р
Connector	Terminal	Connector	Terminal	Continuity	Г
E34	31	B15	1	Existed	
Is the inspection res	ult normal?				
YES >> GO TO					
	or replace error-detecte				
IU.CHECK BRAK	E POWER SUPPLY B	ACKUP UNIT GROU			

< DTC/CIRCUIT DIAGNOSIS >

Check the continuity between brake power supply backup unit and ground.

Brake power supply backup unit		Continuity	
Connector	Terminal	—	Continuity
B15	2	Ground	Existed

Is the inspection result normal?

YES >> GO TO 17.

NO >> Repair or replace error-detected parts and GO TO 17.

17.PERFORM SELF-DIAGNOSIS (7)

With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect the brake power supply backup unit harness connector.
- 3. Connect 12V battery cable to negative terminal.
- 4. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

5. Repeat step 4 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 6. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 7. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

8. Turn the power switch ON without depressing the brake pedal. **CAUTION:**

Never set the vehicle to READY.

- 9. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 10. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

12. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 13. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 14. Release brake pedal.
- 15. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A99" detected?

- YES >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-510</u>, "Removal and installation".
- NO >> INSPECTION END

< DTC/CIRCUIT DIAGNOSIS >

C1A9A BRAKE POWER SUPPLY BACKUP UNIT

DTC Logic

INFOID:000000010634239

А

DTC	Display item	Malfunction detection condition	Possible causes
C1A9A	BACKUP POWER SUPPLY-4	A malfunction is detected in the backup power supply circuit. (Abnormal initial diagnosis of the control mod- ule of the electrically-driven intelligent brake unit)	 Harness or connector Electrically-driven intelligent brake unit
DTC RE	PRODUCTION PROCED	URE	
1.PREC	ONDITIONING		
		RE" has been previously conducted, always	turn power switch OFF and
walt at le	ast 10 seconds before cond	ucting the next test.	
	>> GO TO 2.		
2. CHEC	K DTC DETECTION		
	ONSULT		
	the power switch OFF to OI TION:	N without depressing the brake pedal.	
Neve	er set the vehicle to READ		
	eat step 1 two or more times TION:		
		or more after turning the power switch OF it CONSULT, and disconnect CONSULT from	
		oor), check that the room lamp is OFF, get ou	
	nutes or more with all doors	closed.	
Neve	er operate the vehicle whil	e waiting.	
	the power switch ON withou	ut depressing the brake pedal.	
Neve	er set the vehicle to READ		
		iagnosis result of "BRAKE". it CONSULT, and disconnect CONSULT from	data link connector.
B. Close	e all doors (including back d	oor), check that the room lamp is OFF, get ou	
	nutes or more with all doors	ciosed.	
	er operate the vehicle while the power switch ON without	e waiting. It depressing the brake pedal.	
CAU	TION:		
	er set the vehicle to READ ess brake pedal by 100 mm	Y. (3.94 in) or more, and hold the position for 5	seconds or more
11. Rele	ase brake pedal.		
	CONSULT and perform "BF C1A9A" detected?	AKE" self-diagnosis.	
	>> Proceed to <u>BR-317, "Dia</u>	anosis Procedure".	
	>> INSPECTION END	<u></u> _	
Diagno	sis Procedure		INFOID:000000010634240
	K 12V BATTERY		

1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.

2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION:

< DTC/CIRCUIT DIAGNOSIS >

- 3. Check the 12V battery terminal connections. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery" and <u>PG-76</u>, "Work Flow".
- 4. Check the 12V battery. Refer to PG-76, "Work Flow".

Is the inspection result normal?

- YES >> GO TO 2.
- NO >> Repair or replace error-detected parts and GO TO 2.

2.PERFORM SELF-DIAGNOSIS (1)

With CONSULT

- 1. Connect 12V battery cable to negative terminal.
- Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

3. Repeat step 2 two or more times.

CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 4. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

6. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 7. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 8. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

10. Turn the power switch ON without depressing the brake pedal.

Never set the vehicle to READY.

- 11. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 12. Release brake pedal.
- 13. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A9A" detected?

YES >> GO TO 3.

NO >> INSPECTION END

3. CHECK CONNECTOR TERMINALS

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6. "Precaution for Removing 12V Bat-</u> tery".
- 4. Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.
- 5. Disconnect the brake power supply backup unit harness connector, then check for failures of pin terminals and connections.

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace error-detected parts and GO TO 4.

4.PERFORM SELF-DIAGNOSIS (2)

(I) With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.

2				
2. 3.	Connect the brake power supply backu Connect 12V battery cable to negative		nector.	
5. 1.	Turn the power switch OFF to ON with		orake pedal.	
	CAUTION:			
5.	Never set the vehicle to READY. Repeat step 4 two or more times.			
	CAUTION:			
	Be sure to wait for 5 seconds or mo			l'als serves store
). ,	Turn the power switch OFF to exit COI Close all doors (including back door), o			
•	3 minutes or more with all doors closed		amp to of 1, got out of t	
	CAUTION:	tin a		
	Never operate the vehicle while wait Turn the power switch ON without dep		edal.	
	CAUTION:	5		
	Never set the vehicle to READY. Start CONSULT and erase self-diagno	sis result of "BDAKE	. n	
). 0.	Turn the power switch OFF to exit COI			link connector.
	Close all doors (including back door), o	check that the room		
	3 minutes or more with all doors closed CAUTION:	d.		
	Never operate the vehicle while wait	ting.		
2.	Turn the power switch ON without dep		edal.	
	CAUTION: Never set the vehicle to READY.			
3.	Depress brake pedal by 100 mm (3.94	in) or more, and ho	ld the position for 5 seco	nds or more.
	Release brake pedal.			
	Start CONSULT and perform "BRAKE"	self-diagnosis.		
	DTC "C1A9A" detected? ES >> GO TO 5.			
N(
	CHECK POWER SWITCH ON POWER	SUPPLY		
	Connect the brake power supply back		ector	
:	Connect 12V battery cable to negative			
5.	Turn the power switch OFF to exit COI			
•	Close all doors (including back door), of 3 minutes or more with all doors closed		amp is OFF, get out of the	he vehicle, and walt for
	CAUTION:	d.		
	Never operate the vehicle while wait			
		dative terminal. Refe	er to <u>BR-6, "Precaution f</u>	
5.	Disconnect 12V battery cable from neg	9		or Removing 12V Bat-
	<u>tery"</u> . Disconnect the electrically-driven intell	•	iess connector.	or Removing 12V Bat-
-	tery". Disconnect the electrically-driven intell Connect 12V battery cable to negative	igent brake unit harr terminal.		·
	tery". Disconnect the electrically-driven intell	igent brake unit harr terminal.		·
-	tery". Disconnect the electrically-driven intell Connect 12V battery cable to negative Check the voltage between the electric	igent brake unit harr terminal.	t brake unit harness cor	·
)_ , ,	tery". Disconnect the electrically-driven intell Connect 12V battery cable to negative	igent brake unit harr terminal.		·
5. 7. 3.	tery". Disconnect the electrically-driven intell Connect 12V battery cable to negative Check the voltage between the electric Electrically-driven intelligent brake unit	igent brake unit harr terminal.	t brake unit harness cor Voltage	·
). 7. 8.	tery".Disconnect the electrically-driven intell Connect 12V battery cable to negative Check the voltage between the electricElectrically-driven intelligent brake unitConnectorTerminalE3426	igent brake unit harr terminal. cally-driven intelliger — Ground	t brake unit harness cor Voltage (Approx.) 0 V	·
6. 7.	tery". Disconnect the electrically-driven intell Connect 12V battery cable to negative Check the voltage between the electric Electrically-driven intelligent brake unit Connector Terminal	igent brake unit harr terminal. cally-driven intelliger — Ground	t brake unit harness cor Voltage (Approx.) 0 V	·

Electrically-driven in	telligent brake unit		Voltage	
Connector	Terminal	_	(Approx.)	
E34	26	Ground	10 – 16 V	

< DTC/CIRCUIT DIAGNOSIS >

Is the inspection result normal?

YES >> GO TO 8.

NO >> GO TO 6.

6.CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

- Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery".
- 4. Check the 15A fuse (#62).
- 5. Disconnect IPDM E/R harness connector.
- 6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

Electrically-driven ir	telligent brake unit	IPDM E/R		- Continuity	
Connector	Terminal	Connector	Terminal	Continuity	
E34	26	E15	62	Existed	

7. Check the continuity between electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit			Continuity
Connector	Terminal		Continuity
E34	26	Ground	Not existed

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to <u>PG-29</u>, "Wiring Diagram—On <u>Power Supply</u>—".

NO >> Repair or replace error-detected parts and GO TO 7.

7. PERFORM SELF-DIAGNOSIS (3)

(I) With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect IPDM E/R harness connector.
- 3. Connect 12V battery cable to negative terminal.
- 4. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

5. Repeat step 4 two or more times.

CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 6. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

8. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 9. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 10. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 11. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

12. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

BR-320

< DTC/CIRCUIT DIAGNOSIS >

CIRCUIT DIA			
 Depress brake per 4. Release brake per 		1 in) or more, and h	old the position for 5 seconds or more.
	and perform "BRAKE	" self-diagnosis.	
DTC "C1A9A" dete	•	0	
(ES >> GO TO 8			
NO >> INSPECT			
CHECK 12V BATT	ERY POWER SUPP	νLΥ	
Close all doors (in		check that the roor	nect CONSULT from data link connector. n lamp is OFF, get out of the vehicle, and wait for
	ne vehicle while wai		
Disconnect 12V t terv".	pattery cable from ne	egative terminal. Re	fer to <u>BR-6</u> , "Precaution for Removing 12V Bat-
	ectrically-driven intel	ligent brake unit ha	rness connector.
	tery cable to negative		
Check the voltage	e between the electri	cally-driven intellige	ent brake unit harness connector terminals.
Fleetricelly, driver is	atallizant broka unit		_
Electrically-driven in Connector	Terminal	Voltage (Approx.)	
Connector	1 – 32	(*******	_
E24		10 16 1/	
E34	2 - 32	10 – 16 V	
	28 – 32		_
		g	ent brake unit harness connector terminals.
Electrically-driven in		Voltage	
Connector	Terminal	(Approx.)	_
	1 – 32	-	
E34	2 – 32	10 – 16 V	
	28 – 32		_
the inspection resul			
/ES >> GO TO 1 NO >> GO TO 9			
CHECK 12V BALL	ERY POWER SUPP		
Close all doors (in 3 minutes or more CAUTION:	ncluding back door), e with all doors close	check that the roor d.	nect CONSULT from data link connector. n lamp is OFF, get out of the vehicle, and wait for
	ne vehicle while wai battery cable from ne		efer to BR-6, "Precaution for Removing 12V Bat-
Check the 60A fu	sible link (#F).		
Check the continu	uity and for short circ		s connector terminal 1 of electrically-driven intel-
Check the continu	and 60A fusible link (a uity and for short circ and 60A fusible link (a	uit between harnes	s connector terminal 2 of electrically-driven intel-
. Check the 15A fu		,	
			less connector terminal 28 of electrically-driven

8. Check the continuity and for short circuit between harness connector terminal 28 of electrically-driven intelligent brake unit and 15A fuse (#75).

Is the inspection result normal?

< DTC/CIRCUIT DIAGNOSIS >

- YES >> Perform trouble diagnosis for 12V battery power supply. Refer to <u>PG-18. "Wiring Diagram Battery Power Supply —</u>".
- NO >> Repair or replace error-detected parts and GO TO 10.

10. PERFORM SELF-DIAGNOSIS (4)

With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- Repeat step 3 two or more times.
 CAUTION: Be sure to wait for 5 seconds or more after turning the power switch OFF.
- 5. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

7. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 8. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 9. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 10. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

11. Turn the power switch ON without depressing the brake pedal.

Never set the vehicle to READY.

- 12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 13. Release brake pedal.
- 14. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A9A" detected?

YES >> GO TO 11.

NO >> INSPECTION END

11. CHECK GROUND CIRCUIT

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "<u>Precaution for Removing 12V Bat-</u> <u>tery</u>".
- 4. Disconnect the electrically-driven intelligent brake unit harness connector.
- 5. Check the continuity between electrically-driven intelligent brake unit and ground.

Electrically-driven intelligent brake unit			Continuity
Connector	Terminal		Continuity
E34	32	Ground	Existed

Is the inspection result normal?

YES >> GO TO 13.

NO >> Repair or replace error-detected parts and GO TO 12.

12.PERFORM SELF-DIAGNOSIS (5)

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.

< DTC/CIRCUIT DIAGNOSIS >

2. 3.	Connect 12V battery cable to negative terminal. Turn the power switch OFF to ON without depressing the brake pedal.	A
	CAUTION: Never set the vehicle to READY.	
4.	Repeat step 3 two or more times.	В
	CAUTION: Be sure to wait for 5 seconds or more after turning the power switch OFF.	
5. 6.	Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.	С
	CAUTION: Never operate the vehicle while waiting.	
7.	Turn the power switch ON without depressing the brake pedal. CAUTION:	D
8	Never set the vehicle to READY. Start CONSULT and erase self-diagnosis result of "BRAKE".	Е
9.	Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.	
10.	Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.	
	CAUTION:	BR
11	Never operate the vehicle while waiting. Turn the power switch ON without depressing the brake pedal.	
	CAUTION:	G
12.	Never set the vehicle to READY. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.	
13.	Release brake pedal.	Н
	Start CONSULT and perform "BRAKE" self-diagnosis. <u>DTC "C1A9A" detected?</u>	
	ES >> GO TO 13.	1
N		1
13	CHECK DATA MONITOR	
	Vith CONSULT Connect the electrically-driven intelligent brake unit harness connector.	J
1. 2.		
3.	Turn the power switch OFF to ON without depressing the brake pedal.	K
	Never set the vehicle to READY.	
4.	Repeat step 3 two or more times. CAUTION:	L
_	Be sure to wait for 5 seconds or more after turning the power switch OFF.	
5. 6.	Start CONSULT and select "BRAKE" and "DATA MONITOR" according this order. Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER". Refer to <u>BR-33</u> , "Reference	M
	Value".	
	he inspection result normal?	Ν
N N	 S >> GO TO 14. S >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-510, "Removal and installation"</u>. 	IN
14	PERFORM SELF-DIAGNOSIS (6)	
	With CONSULT	0
1.	Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:	
2.	Never set the vehicle to READY. Repeat step 1 two or more times.	Ρ
	CAUTION: Be sure to wait for 5 seconds or more after turning the power switch OFF.	
3. 4.	Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION:	

< DTC/CIRCUIT DIAGNOSIS >

Never operate the vehicle while waiting.

5. Turn the power switch ON without depressing the brake pedal. **CAUTION:**

Never set the vehicle to READY.

- Start CONSULT and erase self-diagnosis result of "BRAKE".
- Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. 7.
- 8. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION:

Never operate the vehicle while waiting.

9. Turn the power switch ON without depressing the brake pedal. **CAUTION:**

Never set the vehicle to READY.

- 10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 11. Release brake pedal.
- 12. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A9A", "C1A6B", "C1A6C", "C1A6D", "C1AC8" or "C1AD0" detected?

YES (C1A9A)>>GO TO 15.

YES (C1A6B)>>Refer to <u>BR-123</u>, "Diagnosis Procedure".

- YES (C1A6C)>>Refer to <u>BR-134</u>, "<u>Diagnosis Procedure</u>". YES (C1A6D)>>Refer to <u>BR-142</u>, "<u>Diagnosis Procedure</u>".
- YES (C1AC8)>>Refer to BR-429, "Diagnosis Procedure".
- YES (C1AD0)>>Refer to BR-440, "Diagnosis Procedure".
- >> INSPECTION END NO

15. CHECK CIRCUIT BETWEEN ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT AND BRAKE POWER SUPPLY BACKUP UNIT

- Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. 1.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 2. 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to BR-6, "Precaution for Removing 12V Batterv".
- 4. Disconnect the electrically-driven intelligent brake unit harness connector.
- 5. Check the continuity between electrically-driven intelligent brake unit and ground.

Electrically-driven intelligent brake unit			Continuity
Connector	Terminal	—	Continuity
E34	32	Ground	Existed

6. Check the continuity between electrically-driven intelligent brake unit and ground.

Electrically-driven intelligent brake unit			Continuity
Connector	Terminal	—	Continuity
E34	31	Ground	Not existed

7. Disconnect the brake power supply backup unit harness connector.

Check the continuity between electrically-driven intelligent brake unit and brake power supply backup unit. 8

Electrically-driven in	telligent brake unit	Brake power su	pply backup unit	Continuity
Connector	Terminal	Connector	Terminal	
E34	31	B15	1	Existed

Is the inspection result normal?

YES >> GO TO 16.

NO >> Repair or replace error-detected parts and GO TO 16.

16.CHECK BRAKE POWER SUPPLY BACKUP UNIT GROUND CIRCUIT

C1A9A BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

Brake power su	pply backup unit		Continuity	
Connector	Terminal		Continuity	
B15	2	Ground	Existed	
he inspection resu	It normal?			
ES >> GO TO 1				
-	•	ted parts and GO TO	17.	
.PERFORM SEL	F-DIAGNOSIS (7)			
Vith CONSULT				
Connect the elec		ent brake unit harnes		
		kup unit harness con	nector.	
	tery cable to negativ	e terminal. hout depressing the	orake nedal	
CAUTION:		and a oprocessing the		
Never set the ve				
Repeat step 4 tw	o or more times.			
CAUTION: Be sure to wait	for 5 seconds or m	ore after turning the	power switch OFF.	
			ect CONSULT from da	ta link connector.
Close all doors (i	ncluding back door),	check that the room		the vehicle, and wait for
	e with all doors close	ed.		
CAUTION: Never operate th	ne vehicle while wa	itina		
		pressing the brake p	edal.	
CAUTION:				
	hicle to READY.	ania regult of "DDAK	- 11	
		osis result of "BRAKI NSULT and disconr	₋ . lect CONSULT from da	ta link connector
				the vehicle, and wait for
3 minutes or mor	e with all doors close			·
CAUTION:	oo wahiala while wa	itina		
	ne vehicle while wa witch ON without de	pressing the brake p	edal	
CAUTION:				
Never set the ve				
		4 in) or more, and ho	ld the position for 5 se	conds or more.
Release brake pe	and perform "BRAKE	-" self-diagnosis		
DTC "C1A9A" dete	•			
		n intelligent brake un	t Refer to BR-510 "Re	emoval and installation".
0 >> INSPECT				<u>inevalana inetaliation</u> .

Ρ

< DTC/CIRCUIT DIAGNOSIS >

C1AA0 STROKE SENSOR

DTC Logic

INFOID:000000010634241

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1AA0	STROKE SENSOR-2	 Open circuit is detected in stroke sensor circuit. Short circuit is detected in stroke sensor circuit. Malfunction is detected in stroke sensor circuit. 	 Harness or connector Stroke sensor Electrically-driven intelligent brake unit

DTC REPRODUCTION PROCEDURE

1.PRECONDITIONING

If "DTC CONFIRMATION PROCEDURE" has been previously conducted, always turn power switch OFF and wait at least 10 seconds before conducting the next test.

>> GO TO 2.

2. CHECK DTC DETECTION

()With CONSULT

1. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

2. Repeat step 1 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 3. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

5. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 6. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 7. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 8. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.
9. Turn the power switch ON without depressing the brake pedal.
CAUTION:

Never set the vehicle to READY.

- 10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 11. Release brake pedal.
- 12. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1AA0" detected?

YES >> Proceed to <u>BR-326, "Diagnosis Procedure"</u>.

NO >> INSPECTION END

Diagnosis Procedure

1.CHECK 12V BATTERY

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

BR-326

INFOID:000000010634242

< D	TC/CIRCUIT DIAGNOSIS >	
3.	Never operate the vehicle while waiting. Check the 12V battery terminal connections. Refer to <u>BR-6, "Precaution for Removing 12V Battery"</u> and	А
	<u>PG-76, "Work Flow"</u> . Check the 12V battery. Refer to <u>PG-76, "Work Flow"</u> .	
	ne inspection result normal?	В
YE	S >> GO TO 2.	
NC	>> Repair or replace error-detected parts and GO TO 2.	
2 .F	PERFORM SELF-DIAGNOSIS (1)	С
	/ith CONSULT	
	Connect 12V battery cable to negative terminal.	
	Turn the power switch OFF to ON without depressing the brake pedal.	D
	CAUTION: Never set the vehicle to READY.	
	Repeat step 2 two or more times.	Е
•	CAUTION:	
	Be sure to wait for 5 seconds or more after turning the power switch OFF.	
	Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for	BR
	3 minutes or more with all doors closed.	
	CAUTION:	
	Never operate the vehicle while waiting.	G
	Turn the power switch ON without depressing the brake pedal.	
	CAUTION: Never set the vehicle to READY.	
	Start CONSULT and erase self-diagnosis result of "BRAKE".	Н
	Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.	
	Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for	
	3 minutes or more with all doors closed.	
	CAUTION: Never operate the vehicle while waiting.	
	Turn the power switch ON without depressing the brake pedal.	
	CAUTION:	J
	Never set the vehicle to READY.	
	Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.	Κ
	Release brake pedal. Start CONSULT and perform "BRAKE" self-diagnosis.	r\.
	TC "C1AA0" detected?	
YE		L
NC		
3.0	CHECK CONNECTOR TERMINALS	
1.	Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.	M
	Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for	
	3 minutes or more with all doors closed.	N
	CAUTION:	Ν
	Never operate the vehicle while waiting. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u> , "Precaution for Removing 12V Bat-	
	tery".	0
	Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin	0
	terminals and connections.	
	Disconnect the stroke sensor harness connector, then check for failures of pin terminals and connections.	Р
	ne inspection result normal?	
YE		
4 .F	PERFORM SELF-DIAGNOSIS (2)	

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.

< DTC/CIRCUIT DIAGNOSIS >

- 2. Connect stroke sensor harness connector.
- 3. Connect 12V battery cable to negative terminal.
- 4. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

5. Repeat step 4 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 6. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

8. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 9. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 10. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 11. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

12. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 13. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 14. Release brake pedal.
- 15. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1AA0" detected?

YES >> GO TO 5.

NO >> INSPECTION END

5.CHECK POWER SWITCH ON POWER SUPPLY

- 1. Connect stroke sensor harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- 5. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6. "Precaution for Removing 12V Bat-</u> <u>terv"</u>.
- 6. Disconnect the electrically-driven intelligent brake unit harness connector.
- 7. Connect 12V battery cable to negative terminal.
- 8. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-driver	n intelligent brake unit		Voltage	
Connector Terminal			(Approx.)	
E34	26	Ground	0 V	

9. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

10. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven in	telligent brake unit		Voltage
Connector Terminal			(Approx.)
E34	26	Ground	10 – 16 V

	C1A	A0 STROKE SE	INSOR	
< DTC/CIRCUIT DIAC	SNOSIS >			
Is the inspection result YES >> GO TO 8.	normal?			
NO >> GO TO 6. 6.CHECK POWER SY	WITCH ON POWER	SUPPLY CIRCUIT		
 Close all doors (inc. 3 minutes or more CAUTION: Never operate the 3. Disconnect 12V battery". 	with all doors closed e vehicle while wait attery cable from neg	heck that the room l ing.	amp is OFF, get out	data link connector. t of the vehicle, and wait for tion for Removing 12V Bat-
6. Check the continu	E/R harness connec ity between electrica	lly-driven intelligent l		∕I E/R.
Electrically-driven in	elligent brake unit	IPDM E/R		Continuity
Connector	Terminal	Connector	Terminal	
E34	26	E15	62	Existed
7. Check the continue		lly-driven intelligent l	orake unit harness o	connector and ground.
		—	Continuity	
Connector E34	Terminal 26	Ground	Not existed	-
Is the inspection result	normal?			-
YES >> Perform tr Power Sur	ouble diagnosis for <u>oply—"</u> . eplace error-detecte			<u>-29, "Wiring Diagram—On</u>
 Connect IPDM E/F Connect 12V batte 	ically-driven intellige R harness connector. ery cable to negative ritch OFF to ON with	terminal.		

- Never set the vehicle to READY.
- 5. Repeat step 4 two or more times.

CAUTION:

- Be sure to wait for 5 seconds or more after turning the power switch OFF.
- Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
 Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 - CAUTION:

Never operate the vehicle while waiting.

- Turn the power switch ON without depressing the brake pedal.
 CAUTION:
 Never set the vehicle to PEADX
 - Never set the vehicle to READY.
- 9. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 10. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

12. Turn the power switch ON without depressing the brake pedal.

Never set the vehicle to READY.

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< DTC/CIRCUIT DIAGNOSIS >

13. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.

- 14. Release brake pedal.
- 15. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1AA0" detected?

YES >> GO TO 8.

NO >> INSPECTION END

8.CHECK 12V BATTERY POWER SUPPLY

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery".
- 4. Disconnect the electrically-driven intelligent brake unit harness connector.
- 5. Connect 12V battery cable to negative terminal.
- 6. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

Electrically-drive	Electrically-driven intelligent brake unit				
Connector	Voltage (Approx.)				
	1 – 32				
E34	2 - 32	10 – 16 V			
	28 – 32				

7. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

8. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

Electrically-drive	Voltage (Approx.)	
Connector		
	1 – 32	
E34	2 – 32	10 – 16 V
	28 – 32	

Is the inspection result normal?

YES >> GO TO 11.

NO >> GO TO 9.

9.CHECK 12V BATTERY POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.

 Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6. "Precaution for Removing 12V Bat-tery"</u>.
- 4. Check the 60A fusible link (#F).
- 5. Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).
- 6. Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).
- 7. Check the 15A fuse (#75).
- 8. Check the continuity and for short circuit between harness connector terminal 28 of electrically-driven intelligent brake unit and 15A fuse (#75).

Is the inspection result normal?

	CIRCUIT DIA	GNOSIS >			
YES			2V battery power s	upply. Refer to <u>PG-18, "Wiring Diagram —</u>	Bat-
NO		er Supply —". replace error-detected	harts and GO TO	10	
-	-	F-DIAGNOSIS (4)		10.	
	CONSULT	trically-driven intelligen	nt brake unit harnes	s connector	
		tery cable to negative t			
		witch OFF to ON witho	out depressing the l	orake pedal.	
	UTION:	hicle to READY.			
		o or more times.			
CA	UTION:				
5. Tur 6. Clo	rn the power s ose all doors (i		SULT, and disconn	power switch OFF. ect CONSULT from data link connector. amp is OFF, get out of the vehicle, and wa	ait for
	UTION:		•		1
Ne	ver operate t	he vehicle while waiti	ng.		
	rn the power s	witch ON without depre	essing the brake pe	edal.	
		hicle to READY.			
8. Sta	art CONSULT a	and erase self-diagnos			
				ect CONSULT from data link connector.	it for
		re with all doors closed.		amp is OFF, get out of the vehicle, and wa	alt for
	UTION:		•		
		he vehicle while waiti		4-1	
	rn the power s	witch ON without depre	essing the brake pe	dal.	
		hicle to READY.			
			n) or more, and ho	d the position for 5 seconds or more.	
	lease brake pe	edal. and perform "BRAKE" s	self-diagnosis		
	"C1AA0" dete	•	sen diagnosis.		
YES	>> GO TO 1				
NO	>> INSPEC				
1.cr	HECK GROUN	ND CIRCUIT			
			SULT and discour	ect CONSULT from data link connector.	
2. Clo	ose all doors (i	ncluding back door), ch	neck that the room	amp is OFF, get out of the vehicle, and wa	ait for
3 n	ninutes or mor	e with all doors closed.			
	UTION:	he vehicle while waiti	na		
				er to <u>BR-6, "Precaution for Removing 12V</u>	Bat-
ter	<u>v"</u> .				
		lectrically-driven intellig			
. Ch		uity between electricall	y-unven menigent	Diake unit and ground.	
F	lectrically_driven i	ntelligent brake unit			
	connector	Terminal	—	Continuity	
U	E34	32	Ground	Existed	

NO >> Repair or replace error-detected parts and GO TO 12.

12.PERFORM SELF-DIAGNOSIS (5)

1. Connect the electrically-driven intelligent brake unit harness connector.

< DTC/CIRCUIT DIAGNOSIS >

- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

4. Repeat step 3 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 5. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

7. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 8. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 9. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 10. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

11. Turn the power switch ON without depressing the brake pedal.

Never set the vehicle to READY.

- 12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 13. Release brake pedal.
- 14. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1AA0" detected?

YES >> GO TO 13.

NO >> INSPECTION END

13.CHECK DATA MONITOR

()With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

 Repeat step 3 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 5. Start CONSULT and select "BRAKE", "DATA MONITOR" according this order.
- Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER. Refer to <u>BR-33, "Reference</u> <u>Value"</u>.

Is the inspection result normal?

YES >> GO TO 14.

NO >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-510</u>, "Removal and installation"

14.PERFORM SELF-DIAGNOSIS (6)

With CONSULT

1. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

2. Repeat step 1 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 3. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

< DTC/CIRCUIT DIAGNOSIS >	
 Never operate the vehicle while waiting. 5. Turn the power switch ON without depressing the brake pedal. CAUTION: 	A
 Never set the vehicle to READY. 6. Start CONSULT and erase self-diagnosis result of "BRAKE". 7. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. 	В
 Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION: 	С
 Never operate the vehicle while waiting. 9. Turn the power switch ON without depressing the brake pedal. CAUTION: 	
Never set the vehicle to READY. 10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.	D
 Release brake pedal. Start CONSULT and perform "BRAKE" self-diagnosis. 	E
Is DTC "C1AA0" detected? YES >> GO TO 15. NO >> INSPECTION END	BR
15.stroke sensor 0 point learning (1)	
With CONSULT Perform stroke sensor 0 point learning. Refer to <u>BR-53, "Work Procedure"</u> .	G
Is either "COMPLETED" or "The operation is incomplete. Try again after confirming the operation condition." displayed? "COMPLETED">>GO TO 16.	Н
"The operation is incomplete. Try again after confirming the operation condition.">>GO TO 17. 16. PERFORM SELF-DIAGNOSIS (7)	I
 With CONSULT Turn the power switch OFF to ON without depressing the brake pedal. CAUTION: 	J
 Never set the vehicle to READY. 2. Repeat step 1 two or more times. CAUTION: 	V
 Be sure to wait for 5 seconds or more after turning the power switch OFF. 3. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. 	K
 Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION: 	L
 Never operate the vehicle while waiting. 5. Turn the power switch ON without depressing the brake pedal. CAUTION: 	M
 Never set the vehicle to READY. Start CONSULT and erase self-diagnosis result of "BRAKE". Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. 	Ν
 CAUTION: Never operate the vehicle while waiting. 9. Turn the power switch ON without depressing the brake pedal. 	0
CAUTION: Never set the vehicle to READY.	Ρ
 Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more. Release brake pedal. 	
12. Start CONSULT and perform "BRAKE" self-diagnosis. <u>Is DTC "C1AA0" detected?</u>	
YES >> GO TO 17. NO >> INSPECTION END	

< DTC/CIRCUIT DIAGNOSIS >

17. VISUALLY CHECK STROKE SENSOR

Check the stroke sensor for damage.

Is the inspection result normal?

YES >> GO TO 18.

NO >> Repair or replace error-detected parts and GO TO 21.

18. CHECK STROKE SENSOR INSTALLATION

Check the stroke sensor for looseness and disconnection.

Is the inspection result normal?

- YES >> GO TO 19.
- NO >> Repair or replace error-detected parts and GO TO 21.
- **19.**CHECK BRAKE PEDAL HEIGHT

Check each brake pedal height. Refer to <u>BR-490, "Inspection and Adjustment"</u>.

Is the inspection result normal?

YES >> GO TO 20.

NO >> Adjust each height. Refer to <u>BR-490, "Inspection and Adjustment"</u>. GO TO 21.

20.STROKE SENOR 0 POINT LEARNING (2)

Perform stroke sensor 0 point learning. Refer to BR-53, "Work Procedure".

>> GO TO 21.

21.PERFORM SELF-DIAGNOSIS (8)

With CONSULT

1. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

 Repeat step 1 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 3. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:
 - Never operate the vehicle while waiting.
- 5. Turn the power switch ON without depressing the brake pedal. CAUTION: Never set the vehicle to READY

Never set the vehicle to READY.

- 6. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 7. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 8. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

9. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 11. Release brake pedal.
- 12. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1AA0" detected?

YES >> GO TO 22.

NO >> INSPECTION END

22. CHECK STROKE SENSOR CIRCUIT (1)

^{1.} Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.

< DTC/CIRCUIT DIAGNOSIS >

2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to BR-6, "Precaution for Removing 12V Battery".
- 4. Disconnect the stroke sensor harness connector.
- 5. Disconnect the electrically-driven intelligent brake unit harness connector.
- 6. Check the continuity between stroke sensor harness connector and electrically-driven intelligent brake С unit.

	Continuity	ntelligent brake unit	Electrically-driven in	sensor	Stroke sensor	
	Continuity	Terminal	Connector	Terminal	Connector	
- 6	Existed	18		3		
	Not existed	33	-	3	-	
	Not existed	19		3	-	
	Not existed	35	-	3	-	
	Not existed	18	-	2	-	
	Existed	33	-	2	-	
	Not existed	19	E34	2		
	Not existed	35		2	E36	
	Not existed	18		1	E30	
	Not existed	33	-	1	-	
	Existed	19		1	-	
	Not existed	35		1	-	
	Not existed	18		4	-	
	Not existed	33	-	4	4	
	Not existed	19		4	-	
	Existed	35		4		

YES >> GO TO 23.

NO >> Repair or replace error-detected parts and GO TO 28.

23. CHECK STROKE SENSOR POWER SUPPLY

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- Μ 3. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. **CAUTION:** Ν

Never operate the vehicle while waiting.

4. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

Check the stroke sensor power voltage.

Strok	ke sensor		Voltage	
Connector	Connector Terminal		(Approx.)	
E36	3	Ground	4.75 – 5.25 V	

Is the inspection result normal?

YES >> GO TO 24.

NO >> Repair or replace error-detected parts and GO TO 24. А

В

L

Ο

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< DTC/CIRCUIT DIAGNOSIS >

24. CHECK STROKE SENSOR CIRCUIT (2)

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6. "Precaution for Removing 12V Bat-</u> terv".
- 4. Disconnect stroke sensor harness connector.
- 5. Disconnect the electrically-driven intelligent brake unit harness connector.
- 6. Check the continuity between stroke sensor and ground.

Stroke sensor			Continuity	
Connector	Terminal		Continuity	
E36	4	Ground	Existed	

Is the inspection result normal?

YES >> GO TO 25.

NO >> Repair or replace error-detected parts and GO TO 25.

25. CHECK STROKE SENSOR RESISTANCE

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery".
- 4. Connect stroke sensor harness connector.
- 5. Disconnect the electrically-driven intelligent brake unit harness connector.
- 6. Check the resistance between stroke sensor connector pin terminals.

Electrically-driven intelligent brake unit		Condition	Resistance
Connector	Terminal	Condition	Resistance
E34	33 – 19	Gradually depress	Resistance value increases between 0.1 – 1.33 k Ω , according to the depth of brake depression.
E34	35 – 19	the brake pedal.	Resistance value decreases between 0.1 – 1.33 k Ω , according to the depth of brake depression.

Is the inspection result normal?

YES >> GO TO 28.

NO >> GO TO 26.

26.REPLACE STROKE SENSOR

Replace the stroke sensor. Refer to <u>BR-500</u>, "Removal and Installation".

>> GO TO 27.

27.STROKE SENOR 0 POINT LEARNING (3)

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Perform stroke sensor 0 point learning. Refer to <u>BR-53, "Work Procedure"</u>.

>> GO TO 28.

28. PERFORM SELF-DIAGNOSIS (9)

(I) With CONSULT

T. Connect the electrically-driven intelligent brake unit harness connector.

ע י	
2. 3.	Connect 12V battery cable to negative terminal. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:
	Never set the vehicle to READY.
	Repeat step 3 two or more times.
•	CAUTION:
	Be sure to wait for 5 seconds or more after turning the power switch OFF.
	Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
	Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for
	3 minutes or more with all doors closed.
	CAUTION: Never operate the vehicle while waiting.
	Turn the power switch ON without depressing the brake pedal.
	CAUTION:
	Never set the vehicle to READY.
	Start CONSULT and erase self-diagnosis result of "BRAKE".
	Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
).	Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
	CAUTION:
	Never operate the vehicle while waiting.
	Turn the power switch ON without depressing the brake pedal.
	CAUTION:
	Never set the vehicle to READY.
	Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more. Release brake pedal.
	Start CONSULT and perform "BRAKE" self-diagnosis.
	DTC "C1AA0" detected?
	ES >> GO TO 22.
	O >> INSPECTION END

< DTC/CIRCUIT DIAGNOSIS >

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< DTC/CIRCUIT DIAGNOSIS >

C1AA1 STROKE SENSOR

DTC Logic

INFOID:000000010634243

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1AA1	STROKE SENSOR-3	An internal malfunction is detected in the stroke sen- sor. (With fluctuations in output voltage of the stroke sensor)	 Harness or connector Stroke sensor Electrically-driven intelligent brake unit

DTC REPRODUCTION PROCEDURE

1.PRECONDITIONING

If "DTC CONFIRMATION PROCEDURE" has been previously conducted, always turn power switch OFF and wait at least 10 seconds before conducting the next test.

>> GO TO 2.

2. CHECK DTC DETECTION

()With CONSULT

1. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

2. Repeat step 1 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 3. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

5. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 6. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 7. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 8. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.9. Turn the power switch ON without depressing the brake pedal.

CAUTION: Never set the vehicle to READY.

- 10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 11. Release brake pedal.
- 12. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1AA1" detected?

YES >> Proceed to <u>BR-338</u>, "Diagnosis Procedure".

NO >> INSPECTION END

Diagnosis Procedure

1.CHECK 12V BATTERY

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

INFOID:000000010634244

< D	TC/CIRCUIT DIAGNOSIS >	
3.	Never operate the vehicle while waiting. Check the 12V battery terminal connections. Refer to <u>BR-6</u> , " <u>Precaution for Removing 12V Battery</u> " and <u>PG-76, "Work Flow"</u> .	А
4.		
<u>ls t</u>	he inspection result normal?	В
	ES >> GO TO 2.	
Ζ.	PERFORM SELF-DIAGNOSIS (1)	С
\sim	Vith CONSULT	
1. 2.	Connect 12V battery cable to negative terminal. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:	D
	Never set the vehicle to READY.	
3.	Repeat step 2 two or more times. CAUTION:	Ε
4. 5.	Be sure to wait for 5 seconds or more after turning the power switch OFF.	BR
_	Never operate the vehicle while waiting.	G
6.	Turn the power switch ON without depressing the brake pedal. CAUTION:	
	Never set the vehicle to READY.	
7.		Н
8. 9.	Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for	
•	3 minutes or more with all doors closed.	
	CAUTION: Never operate the vehicle while waiting.	
10.	Turn the power switch ON without depressing the brake pedal.	
	CAUTION:	J
11	Never set the vehicle to READY. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.	
	Release brake pedal.	Κ
13.	Start CONSULT and perform "BRAKE" self-diagnosis.	
	DTC "C1AA1" detected?	
YE	ES >> GO TO 3. D >> INSPECTION END	L
-	CHECK CONNECTOR TERMINALS	
		M
1. 2.	Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for	
۷.	3 minutes or more with all doors closed.	
	CAUTION:	Ν
3.	Never operate the vehicle while waiting. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u> , "Precaution for Removing 12V Bat-	
0.	tery".	0
4.	Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin	
5.	terminals and connections. Disconnect the stroke sensor harness connector, then check for failures of pin terminals and connections.	
<u>ls ti</u>	he inspection result normal?	Ρ
	ES >> GO TO 5.	
N(
4.	PERFORM SELF-DIAGNOSIS (2)	

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.

< DTC/CIRCUIT DIAGNOSIS >

- 2. Connect stroke sensor harness connector.
- 3. Connect 12V battery cable to negative terminal.
- 4. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

5. Repeat step 4 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 6. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

8. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 9. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 10. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 11. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

12. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 13. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 14. Release brake pedal.
- 15. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1AA1" detected?

YES >> GO TO 5.

NO >> INSPECTION END

5.CHECK POWER SWITCH ON POWER SUPPLY

- 1. Connect stroke sensor harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- 5. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6. "Precaution for Removing 12V Bat-</u> <u>terv"</u>.
- 6. Disconnect the electrically-driven intelligent brake unit harness connector.
- 7. Connect 12V battery cable to negative terminal.
- 8. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-driver	Electrically-driven intelligent brake unit		Voltage
Connector Terminal			(Approx.)
E34	26	Ground	0 V

9. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

10. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit			Voltage
Connector Terminal			(Approx.)
E34	26	Ground	10 – 16 V

ls ti	ne inspection result	normal?				
YE	ES >> GO TO 8.					А
N						
0.0	CHECK POWER S	WITCH ON POWER	SUPPLY CIRCUIT			В
1. 2. 3. 4. 5.	Close all doors (in 3 minutes or more CAUTION: Never operate th Disconnect 12V b tery". Check the 15A fus Disconnect IPDM	cluding back door), c with all doors closed e vehicle while wait attery cable from neg se (#62). E/R harness connect	heck that the room l. ing. gative terminal. Refe cor.	er to <u>BR-6, "Precautio</u>	of the vehicle, and wait for <u>n for Removing 12V Bat-</u>	C
6.	Check the continu	ity between electrical	lly-driven intelligent	brake unit and IPDM	E/R.	E
	Electrically-driven in	telligent brake unit	IPD	M E/R	Continuity	
	Connector	Terminal	Connector	Terminal	Continuity	BR
	E34	26	E15	62	Existed	
7.	Check the continu	ity between electrical	ly-driven intelligent	brake unit harness co	nnector and ground.	
						G
	Electrically-driven in	telligent brake unit	_	Continuity		
	Connector	Terminal				Н
	E34	26	Ground	Not existed		
	PERFORM SELF-E Vith CONSULT Connect the electr Connect IPDM E/I	replace error-detecte DIAGNOSIS (3) rically-driven intelliger R harness connector.	nt brake unit harnes			J
3. 4. 5.				orake pedal.		L
6. 7.	Turn the power sw Close all doors (in		ISULT, and disconn heck that the room	ect CONSULT from da	ata link connector. f the vehicle, and wait for	M
8.	Turn the power sw CAUTION:	e vehicle while wait /itch ON without depr		edal.		0
	Turn the power sw Close all doors (in 3 minutes or more CAUTION:	nd erase self-diagnos /itch OFF to exit CON	ISULT, and disconn heck that the room I.	ect CONSULT from da	ata link connector. If the vehicle, and wait for	Ρ
12.		vitch ON without depr		edal.		

< DTC/CIRCUIT DIAGNOSIS >

13. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.

- 14. Release brake pedal.
- 15. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1AA1" detected?

YES >> GO TO 8.

NO >> INSPECTION END

8.CHECK 12V BATTERY POWER SUPPLY

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery".
- 4. Disconnect the electrically-driven intelligent brake unit harness connector.
- 5. Connect 12V battery cable to negative terminal.
- 6. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

Electrically-drive	n intelligent brake unit	Voltaga
Connector	Terminal	Voltage (Approx.)
	1 – 32	
E34	2 - 32	10 – 16 V
	28 – 32	

7. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

8. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

Electrically-drive	n intelligent brake unit	Voltage
Connector Terminal		(Approx.)
	1 – 32	
E34	2 – 32	10 – 16 V
	28 – 32	

Is the inspection result normal?

YES >> GO TO 11.

NO >> GO TO 9.

9.CHECK 12V BATTERY POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.

 Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6. "Precaution for Removing 12V Bat-tery"</u>.
- 4. Check the 60A fusible link (#F).
- 5. Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).
- 6. Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).
- 7. Check the 15A fuse (#75).
- 8. Check the continuity and for short circuit between harness connector terminal 28 of electrically-driven intelligent brake unit and 15A fuse (#75).

Is the inspection result normal?

	C/CIRCUIT DIAC	SNOSIS >			
YES		ouble diagnosis for 1 Supply —".	12V battery power s	upply. Refer to <u>PG-18, "Wiring Diagram –</u>	<u>– Bat-</u>
NO		eplace error-detecte	ed parts and GO TO	10.	
10.F		-DIAGNOSIS (4)	·		
	h CONSULT	,			
		ically-driven intellige	ent brake unit harnes	s connector.	
2. C	onnect 12V batte	ry cable to negative	terminal.		
	urn the power sw AUTION:	itch OFF to ON with	out depressing the l	orake pedal.	
	ever set the ver	icle to READY.			
	epeat step 3 two	or more times.			
	AUTION:	or 5 seconds or mo	re after turning the	power switch OFF.	
				ect CONSULT from data link connector.	
3. C	lose all doors (in	cluding back door), c	check that the room	lamp is OFF, get out of the vehicle, and w	vait for
		with all doors closed	d.		_
	AUTION:	e vehicle while wait	tina		
7. Ti	urn the power sw	itch ON without dep		edal.	
	AUTION:				
	ever set the ver	nicle to READY.	sis result of "BDAK	- 33	
				ect CONSULT from data link connector.	
0. C	lose all doors (in	cluding back door), c	check that the room	lamp is OFF, get out of the vehicle, and w	vait for
		with all doors closed	d.		
	AUTION: ever operate the	e vehicle while wait	tina		
		itch ON without dep		edal.	
	AUTION:		- ·		
	ever set the ver		in) or more and ho	ld the position for 5 seconds or more.	
	elease brake per				
		nd perform "BRAKE"	self-diagnosis.		
s DT(<u>C "C1AA1" detec</u>	ted?			
YES					
NO	>> INSPECTI				
11.0	HECK GROUN) CIRCUIT			
				ect CONSULT from data link connector.	
				lamp is OFF, get out of the vehicle, and w	vait for
	AUTION:	with all doors closed	J.		
Ν	ever operate the	e vehicle while wait			
		attery cable from neg	gative terminal. Ref	er to <u>BR-6, "Precaution for Removing 12</u>	<u>V Bat-</u>
	<u>ry"</u> . isconnect the ele	ctrically-driven intell	igent brake unit bar	uess connector	
				brake unit and ground.	
		-		2	
	Electrically-driven in	elligent brake unit			
	Connector	Terminal	—	Continuity	
	E34	20	Ground		
	L07	32	Ground	Existed	

YES >> GO TO 13. NO >> Repair or replace error-detected parts and GO TO 12.

12.PERFORM SELF-DIAGNOSIS (5)

1. Connect the electrically-driven intelligent brake unit harness connector.

< DTC/CIRCUIT DIAGNOSIS >

- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

4. Repeat step 3 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 5. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

7. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 8. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 9. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 10. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

11. Turn the power switch ON without depressing the brake pedal.

Never set the vehicle to READY.

- 12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 13. Release brake pedal.
- 14. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1AA1" detected?

YES >> GO TO 13.

NO >> INSPECTION END

13.CHECK DATA MONITOR

()With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

 Repeat step 3 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 5. Start CONSULT and select "BRAKE", "DATA MONITOR" according this order.
- Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER. Refer to <u>BR-33, "Reference</u> <u>Value"</u>.

Is the inspection result normal?

YES >> GO TO 14.

NO >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-510</u>, "Removal and installation"

14.PERFORM SELF-DIAGNOSIS (6)

With CONSULT

1. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

2. Repeat step 1 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 3. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

< DTC/CIRCUIT DIAGNOSIS >	
 Never operate the vehicle while waiting. 5. Turn the power switch ON without depressing the brake pedal. CAUTION: 	A
 Never set the vehicle to READY. 6. Start CONSULT and erase self-diagnosis result of "BRAKE". 7. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. 	В
 Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION: 	С
 Never operate the vehicle while waiting. 9. Turn the power switch ON without depressing the brake pedal. CAUTION: 	
Never set the vehicle to READY. 10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.	D
 Release brake pedal. Start CONSULT and perform "BRAKE" self-diagnosis. DTC "C1AA1" detected? 	Е
YES >> GO TO 15.	BR
15.STROKE SENSOR 0 POINT LEARNING (1)	
With CONSULT Perform stroke sensor 0 point learning. Refer to <u>BR-53, "Work Procedure"</u> . <u>Is either "COMPLETED</u> " or "The operation is incomplete. Try again after confirming the operation condition."	G
displayed? "COMPLETED">>GO TO 16.	Н
"The operation is incomplete. Try again after confirming the operation condition.">>GO TO 17. 16. PERFORM SELF-DIAGNOSIS (7)	I
 With CONSULT Turn the power switch OFF to ON without depressing the brake pedal. CAUTION: 	J
 Never set the vehicle to READY. 2. Repeat step 1 two or more times. CAUTION: 	1Z
 Be sure to wait for 5 seconds or more after turning the power switch OFF. 3. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. 	K
 Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION: 	L
 Never operate the vehicle while waiting. 5. Turn the power switch ON without depressing the brake pedal. CAUTION: 	M
 Never set the vehicle to READY. Start CONSULT and erase self-diagnosis result of "BRAKE". Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. 	Ν
 CAUTION: Never operate the vehicle while waiting. 9. Turn the power switch ON without depressing the brake pedal. 	0
CAUTION: Never set the vehicle to READY.	Ρ
 Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more. Release brake pedal. Start CONSULT and perform "BRAKE" self-diagnosis. 	
Is DTC "C1AA1" detected?	
YES >> GO TO 17. NO >> INSPECTION END	

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< DTC/CIRCUIT DIAGNOSIS >

17. VISUALLY CHECK STROKE SENSOR

Check the stroke sensor for damage.

Is the inspection result normal?

YES >> GO TO 18.

NO >> Repair or replace error-detected parts and GO TO 21.

18. CHECK STROKE SENSOR INSTALLATION

Check the stroke sensor for looseness and disconnection.

Is the inspection result normal?

- YES >> GO TO 19.
- NO >> Repair or replace error-detected parts and GO TO 21.
- 19. CHECK BRAKE PEDAL HEIGHT

Check each brake pedal height. Refer to BR-490, "Inspection and Adjustment".

Is the inspection result normal?

YES >> GO TO 20.

>> Adjust each height. Refer to <u>BR-490, "Inspection and Adjustment"</u>. GO TO 21. NO

20.STROKE SENOR 0 POINT LEARNING (2)

Perform stroke sensor 0 point learning. Refer to BR-53, "Work Procedure".

>> GO TO 21.

21.PERFORM SELF-DIAGNOSIS (8)

(P)With CONSULT

Turn the power switch OFF to ON without depressing the brake pedal. 1. **CAUTION:**

Never set the vehicle to READY.

2. Repeat step 1 two or more times. **CAUTION:**

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 3. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 4. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. **CAUTION:**
 - Never operate the vehicle while waiting.
- 5. Turn the power switch ON without depressing the brake pedal. **CAUTION:**

Never set the vehicle to READY.

- 6. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 7. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 8. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

Turn the power switch ON without depressing the brake pedal. 9. CAUTION:

Never set the vehicle to READY.

- 10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 11. Release brake pedal.
- Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1AA1" detected?

YES >> GO TO 22.

NO >> INSPECTION END

22. CHECK STROKE SENSOR CIRCUIT (1)

Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. 1.

< DTC/CIRCUIT DIAGNOSIS >

2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to BR-6, "Precaution for Removing 12V Battery".
- 4. Disconnect the stroke sensor harness connector.
- 5. Disconnect the electrically-driven intelligent brake unit harness connector.
- 6. Check the continuity between stroke sensor harness connector and electrically-driven intelligent brake С unit.

Continuity	ntelligent brake unit	Electrically-driven in	sensor	Stroke s
Continuity	Terminal	Connector	Terminal	Connector
Existed	18		3	
Not existed	33	-	3	-
Not existed	19	-	3	-
Not existed	35	-	3	-
Not existed	18	-	2	-
Existed	33	-	2	-
Not existed	19	-	2	-
Not existed	35	E34	2	E36
Not existed	18	E34	1	E30
Not existed	33	-	1	
Existed	19	-	1	-
Not existed	35		1	-
Not existed	18		4	-
Not existed	33	-	4	
Not existed	19		4	-
Existed	35		4	

YES >> GO TO 23.

NO >> Repair or replace error-detected parts and GO TO 28.

23. CHECK STROKE SENSOR POWER SUPPLY

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- Μ 3. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. **CAUTION:** Ν

Never operate the vehicle while waiting.

4. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

Check the stroke sensor power voltage.

Stroke sensor			Voltage
Connector	Terminal		(Approx.)
E36	3	Ground	4.75 – 5.25 V

Is the inspection result normal?

YES >> GO TO 24.

NO >> Repair or replace error-detected parts and GO TO 24. А

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< DTC/CIRCUIT DIAGNOSIS >

24. CHECK STROKE SENSOR CIRCUIT (2)

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6. "Precaution for Removing 12V Bat-</u> terv".
- 4. Disconnect stroke sensor harness connector.
- 5. Disconnect the electrically-driven intelligent brake unit harness connector.
- 6. Check the continuity between stroke sensor and ground.

Stroke sensor			Continuity
Connector	Terminal		Continuity
E36	4	Ground	Existed

Is the inspection result normal?

YES >> GO TO 25.

NO >> Repair or replace error-detected parts and GO TO 25.

25. CHECK STROKE SENSOR RESISTANCE

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery".
- 4. Connect stroke sensor harness connector.
- 5. Disconnect the electrically-driven intelligent brake unit harness connector.
- 6. Check the resistance between stroke sensor connector pin terminals.

Electrically-driven i	Electrically-driven intelligent brake unit		Resistance
Connector	Terminal	Condition	Resistance
E34	33 – 19	Gradually depress	Resistance value increases between 0.1 – 1.33 k Ω , according to the depth of brake depression.
L04	35 – 19	the brake pedal.	Resistance value decreases between 0.1 – 1.33 k Ω , according to the depth of brake depression.

Is the inspection result normal?

YES >> GO TO 28.

NO >> GO TO 26.

26.REPLACE STROKE SENSOR

Replace the stroke sensor. Refer to <u>BR-500</u>, "Removal and Installation".

>> GO TO 27.

27.STROKE SENOR 0 POINT LEARNING (3)

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- Perform stroke sensor 0 point learning. Refer to <u>BR-53, "Work Procedure"</u>.

>> GO TO 28.

28. PERFORM SELF-DIAGNOSIS (9)

(I) With CONSULT

T. Connect the electrically-driven intelligent brake unit harness connector.

2. Connect 12V battery cable to negative terminal. 3. Turn the power switch OFF to ON without depressing the brake pedal. А **CAUTION:** Never set the vehicle to READY. Repeat step 3 two or more times. В **CAUTION:** Be sure to wait for 5 seconds or more after turning the power switch OFF. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. 6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for С 3 minutes or more with all doors closed. **CAUTION:** Never operate the vehicle while waiting. D 7. Turn the power switch ON without depressing the brake pedal. **CAUTION:** Never set the vehicle to READY. Е Start CONSULT and erase self-diagnosis result of "BRAKE". Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. 10. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. BR CAUTION: Never operate the vehicle while waiting. 11. Turn the power switch ON without depressing the brake pedal. CAUTION: Never set the vehicle to READY. 12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more. 13. Release brake pedal. Н 14. Start CONSULT and perform "BRAKE" self-diagnosis. Is DTC "C1AA1" detected? YES >> GO TO 22. NO >> INSPECTION END Κ L Μ Ν

< DTC/CIRCUIT DIAGNOSIS >

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< DTC/CIRCUIT DIAGNOSIS >

C1AA2 STROKE SENSOR

DTC Logic

INFOID:000000010634245

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1AA2	STROKE SENSOR-4	An internal malfunction is detected in the stroke sen- sor. (Without fluctuations in output voltage of the stroke sensor)	 Harness or connector Stroke sensor Electrically-driven intelligent brake unit

DTC REPRODUCTION PROCEDURE

1.PRECONDITIONING

If "DTC CONFIRMATION PROCEDURE" has been previously conducted, always turn power switch OFF and wait at least 10 seconds before conducting the next test.

>> GO TO 2.

2. CHECK DTC DETECTION

()With CONSULT

1. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

 Repeat step 1 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 3. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

5. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 6. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 7. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 8. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.
9. Turn the power switch ON without depressing the brake pedal.
CAUTION:

Never set the vehicle to READY.

- 10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 11. Release brake pedal.
- 12. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1AA2" detected?

- YES >> Proceed to <u>BR-350, "Diagnosis Procedure"</u>.
- NO >> INSPECTION END

Diagnosis Procedure

1.CHECK 12V BATTERY

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

INFOID:000000010634246

< D	TC/CIRCUIT DIAGNOSIS >	
3.	Never operate the vehicle while waiting. Check the 12V battery terminal connections. Refer to <u>BR-6, "Precaution for Removing 12V Battery"</u> and	А
4.	PG-76, "Work Flow". Check the 12V battery. Refer to PG-76, "Work Flow".	
<u>ls ti</u>	ne inspection result normal?	В
	ES >> GO TO 2.	
۷.۱	PERFORM SELF-DIAGNOSIS (1)	С
ÐV	Vith CONSULT	
1. 2.	Connect 12V battery cable to negative terminal. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:	D
	Never set the vehicle to READY.	
3.	Repeat step 2 two or more times. CAUTION:	Ε
	Be sure to wait for 5 seconds or more after turning the power switch OFF.	
4. 5.	Turn the power switch OFF to exit CONSULT and disconnect CONSULT from data link connector	BR
	Never operate the vehicle while waiting.	G
6.	Turn the power switch ON without depressing the brake pedal. CAUTION:	
	Never set the vehicle to READY.	
7.	Start CONSULT and erase self-diagnosis result of "BRAKE".	Н
8. 9.	Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for	
9.	3 minutes or more with all doors closed.	I
	CAUTION:	
10	Never operate the vehicle while waiting.	
10.	Turn the power switch ON without depressing the brake pedal.	J
	Never set the vehicle to READY.	
	Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.	12
	Release brake pedal. Start CONSULT and perform "BRAKE" self-diagnosis.	Κ
	DTC "C1AA2" detected?	
	ES >> GO TO 3.	L
N		
3.0	CHECK CONNECTOR TERMINALS	
1. 2.	Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.	M
	CAUTION: Never operate the vehicle while waiting.	IN
3.	Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u> , "Precaution for Removing 12V Bat-	
	tery".	0
4.	Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.	
5.	Disconnect the stroke sensor harness connector, then check for failures of pin terminals and connections.	
<u>ls ti</u>	ne inspection result normal?	Ρ
	ES >> GO TO 5.	
N		
4.	PERFORM SELF-DIAGNOSIS (2)	

1. Connect the electrically-driven intelligent brake unit harness connector.

< DTC/CIRCUIT DIAGNOSIS >

- 2. Connect stroke sensor harness connector.
- 3. Connect 12V battery cable to negative terminal.
- 4. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

5. Repeat step 4 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 6. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

8. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 9. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 10. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 11. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

12. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 13. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 14. Release brake pedal.
- 15. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1AA2" detected?

YES >> GO TO 5.

NO >> INSPECTION END

5.CHECK POWER SWITCH ON POWER SUPPLY

- 1. Connect stroke sensor harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- 5. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6. "Precaution for Removing 12V Bat-</u> <u>terv"</u>.
- 6. Disconnect the electrically-driven intelligent brake unit harness connector.
- 7. Connect 12V battery cable to negative terminal.
- 8. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit			Voltage
Connector	Terminal		(Approx.)
E34	26	Ground	0 V

9. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

10. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit			Voltage
Connector	Terminal		(Approx.)
E34	26	Ground	10 – 16 V

		A2 STROKE SE	ENSOR	
DTC/CIRCUIT DIA				
s the inspection resu				
YES >> GO TO 8				
NO >> GO TO 6				
). CHECK POWER S	SWITCH ON POWER	SUPPLY CIRCUIT		
 Close all doors (i 3 minutes or mor CAUTION: Never operate tl Disconnect 12V I tery". Check the 15A fu Disconnect IPDM 	e with all doors closed he vehicle while wait battery cable from neg	heck that the room l l. ing. gative terminal. Refe tor.	amp is OFF, get out er to <u>BR-6. "Precauti</u>	of the vehicle, and wait f on for Removing 12V Ba
	intelligent brake unit	IPD	M E/R	
Electrically-driven i				
Electrically-driven i Connector	Terminal	Connector	Terminal	- Continuity
-		Connector E15	Terminal 62	- Continuity Existed
Connector E34 7. Check the contin	Terminal 26 uity between electrica	E15	62	Existed
Connector E34 7. Check the contin Electrically-driven i	Terminal 26 uity between electrica ntelligent brake unit	E15	62	Existed
Connector E34 7. Check the contin	Terminal 26 uity between electrica	E15	62 brake unit harness c	Existed

wer supply. Refer to PG-29, "Wiring Diagram-On Power Supply—".

NO >> Repair or replace error-detected parts and GO TO 7.

7. PERFORM SELF-DIAGNOSIS (3)

(P)With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- Connect IPDM E/R harness connector.
- 3. Connect 12V battery cable to negative terminal.
- 4. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION: Never set the vehicle to READY.
- 5. Repeat step 4 two or more times.

CAUTION:

- Be sure to wait for 5 seconds or more after turning the power switch OFF.
- Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. **CAUTION:**

Never operate the vehicle while waiting.

8. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- Start CONSULT and erase self-diagnosis result of "BRAKE".
- 10. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 11. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION:

Never operate the vehicle while waiting.

12. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

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< DTC/CIRCUIT DIAGNOSIS >

13. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.

14. Release brake pedal.

15. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1AA2" detected?

YES >> GO TO 8.

NO >> INSPECTION END

8.CHECK 12V BATTERY POWER SUPPLY

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery".
- 4. Disconnect the electrically-driven intelligent brake unit harness connector.
- 5. Connect 12V battery cable to negative terminal.
- 6. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

Electrically-driven intelligent brake unit		Voltaga
Connector	Terminal	Voltage (Approx.)
	1 – 32	
E34	2 - 32	10 – 16 V
	28 – 32	

7. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

8. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

Electrically-driven intelligent brake unit		Voltage
Connector	Terminal	(Approx.)
	1 – 32	
E34	2 – 32	10 – 16 V
	28 – 32	

Is the inspection result normal?

YES >> GO TO 11.

NO >> GO TO 9.

9.CHECK 12V BATTERY POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.

 Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6. "Precaution for Removing 12V Bat-tery"</u>.
- 4. Check the 60A fusible link (#F).
- 5. Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).
- 6. Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).
- 7. Check the 15A fuse (#75).
- 8. Check the continuity and for short circuit between harness connector terminal 28 of electrically-driven intelligent brake unit and 15A fuse (#75).

Is the inspection result normal?

010	/CIRCUIT DIAGNOSIS >			
YES		or 12V battery power s	upply. Refer to <u>PG-18, "Wiring Diagram — Ba</u>	<u>t-</u>
NO	<u>tery Power Supply —"</u> . >> Repair or replace error-dete	atad parts and CO TO	10	
-			10.	
U.PE	ERFORM SELF-DIAGNOSIS (4)			_
	CONSULT			
	nnect the electrically-driven intel nnect 12V battery cable to negat		ss connector.	
	rn the power switch OFF to ON v		orake nedal	
	UTION:	without depressing the i		
	ver set the vehicle to READY.			
	peat step 3 two or more times.			
	NUTION: • sure to wait for 5 seconds or •	more after turning the	nower switch OFF	
			ect CONSULT from data link connector.	
			lamp is OFF, get out of the vehicle, and wait for	or
3 n	ninutes or more with all doors clo		· · · ·	
	UTION:			
	ver operate the vehicle while v rn the power switch ON without c		lehe	
	UTION:	sopressing the blace pe	540I.	1
Ne	ver set the vehicle to READY.			
	art CONSULT and erase self-diag			
			ect CONSULT from data link connector.	
	ninutes or more with all doors clo		lamp is OFF, get out of the vehicle, and wait for)ľ
	UTION:	3cu.		
Ne	ver operate the vehicle while v			
	rn the power switch ON without o	lepressing the brake pe	edal.	
	UTION: over set the vehicle to READY.			
		94 in) or more and ho	ld the position for 5 seconds or more.	
	lease brake pedal.			
	art CONSULT and perform "BRA	<e" self-diagnosis.<="" td=""><td></td><td></td></e">		
DTC	"C1AA2" detected?			
YES	>> GO TO 11.			
10	>> INSPECTION END			
1. CF	HECK GROUND CIRCUIT			
Tur	rn the power switch OFF to exit (CONSULT, and disconn	ect CONSULT from data link connector.	_
Clo	ose all doors (including back door	r), check that the room	lamp is OFF, get out of the vehicle, and wait for	or
	ninutes or more with all doors clo	osed.		
	VUTION: ver operate the vehicle while v	vaiting		
			er to <u>BR-6, "Precaution for Removing 12V Ba</u>	t-
ter				
	sconnect the electrically-driven in			
Ch	eck the continuity between elect	rically-driven intelligent	brake unit and ground.	
	lectrically-driven intelligent brake unit		Continuity	
C	connector Terminal			
	E34 32	Ground	Existed	

NO >> Repair or replace error-detected parts and GO TO 12.

12.PERFORM SELF-DIAGNOSIS (5)

1. Connect the electrically-driven intelligent brake unit harness connector.

< DTC/CIRCUIT DIAGNOSIS >

- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

4. Repeat step 3 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 5. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

7. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 8. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 9. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 10. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

11. Turn the power switch ON without depressing the brake pedal.

Never set the vehicle to READY.

- 12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 13. Release brake pedal.
- 14. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1AA2" detected?

YES >> GO TO 13.

NO >> INSPECTION END

13.CHECK DATA MONITOR

() With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

 Repeat step 3 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 5. Start CONSULT and select "BRAKE", "DATA MONITOR" according this order.
- Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER. Refer to <u>BR-33, "Reference</u> <u>Value"</u>.

Is the inspection result normal?

YES >> GO TO 14.

NO >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-510</u>, "Removal and installation"

14.PERFORM SELF-DIAGNOSIS (6)

With CONSULT

1. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

2. Repeat step 1 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 3. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

< DTC/CIRCUIT DIAGNOSIS >	
 Never operate the vehicle while waiting. 5. Turn the power switch ON without depressing the brake pedal. CAUTION: 	А
 Never set the vehicle to READY. 6. Start CONSULT and erase self-diagnosis result of "BRAKE". 7. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. 	В
 Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION: 	С
 Never operate the vehicle while waiting. 9. Turn the power switch ON without depressing the brake pedal. CAUTION: 	
Never set the vehicle to READY. 10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.	D
 Release brake pedal. Start CONSULT and perform "BRAKE" self-diagnosis. 	Ε
Is DTC "C1AA2" detected? YES >> GO TO 15. NO >> INSPECTION END	BR
15.stroke sensor 0 point learning (1)	
With CONSULT Perform stroke sensor 0 point learning. Refer to <u>BR-53, "Work Procedure"</u> .	G
Is either "COMPLETED" or "The operation is incomplete. Try again after confirming the operation condition." displayed? "COMPLETED">>GO TO 16.	Η
"The operation is incomplete. Try again after confirming the operation condition.">>GO TO 17. 16. PERFORM SELF-DIAGNOSIS (7)	I
 With CONSULT Turn the power switch OFF to ON without depressing the brake pedal. CAUTION: 	J
 Never set the vehicle to READY. 2. Repeat step 1 two or more times. CAUTION: 	1Z
 Be sure to wait for 5 seconds or more after turning the power switch OFF. 3. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. 	K
 Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION: 	L
 Never operate the vehicle while waiting. 5. Turn the power switch ON without depressing the brake pedal. CAUTION: 	M
 Never set the vehicle to READY. Start CONSULT and erase self-diagnosis result of "BRAKE". Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. 	Ν
 CAUTION: Never operate the vehicle while waiting. 9. Turn the power switch ON without depressing the brake pedal. 	0
CAUTION: Never set the vehicle to READY.	Ρ
 Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more. Release brake pedal. 	
12. Start CONSULT and perform "BRAKE" self-diagnosis. <u>Is DTC "C1AA2" detected?</u>	
YES >> GO TO 17. NO >> INSPECTION END	

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< DTC/CIRCUIT DIAGNOSIS >

17. VISUALLY CHECK STROKE SENSOR

Check the stroke sensor for damage.

Is the inspection result normal?

YES >> GO TO 18.

NO >> Repair or replace error-detected parts and GO TO 21.

18. CHECK STROKE SENSOR INSTALLATION

Check the stroke sensor for looseness and disconnection.

Is the inspection result normal?

- YES >> GO TO 19.
- NO >> Repair or replace error-detected parts and GO TO 21.
- 19. CHECK BRAKE PEDAL HEIGHT

Check each brake pedal height. Refer to BR-490, "Inspection and Adjustment".

Is the inspection result normal?

YES >> GO TO 20.

>> Adjust each height. Refer to <u>BR-490, "Inspection and Adjustment"</u>. GO TO 21. NO

20.STROKE SENOR 0 POINT LEARNING (2)

Perform stroke sensor 0 point learning. Refer to BR-53, "Work Procedure".

>> GO TO 21.

21.PERFORM SELF-DIAGNOSIS (8)

(P)With CONSULT

Turn the power switch OFF to ON without depressing the brake pedal. 1. **CAUTION:**

Never set the vehicle to READY.

2. Repeat step 1 two or more times. **CAUTION:**

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 3. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 4. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. **CAUTION:**
 - Never operate the vehicle while waiting.
- 5. Turn the power switch ON without depressing the brake pedal. **CAUTION:**

Never set the vehicle to READY.

- 6. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 7. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 8. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

Turn the power switch ON without depressing the brake pedal. 9. CAUTION:

Never set the vehicle to READY.

- 10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 11. Release brake pedal.
- Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1AA2" detected?

- YES >> GO TO 22.
- NO >> INSPECTION END
- 22. CHECK STROKE SENSOR CIRCUIT (1)

Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. 1.

< DTC/CIRCUIT DIAGNOSIS >

2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to BR-6, "Precaution for Removing 12V Battery".
- 4. Disconnect the stroke sensor harness connector.
- 5. Disconnect the electrically-driven intelligent brake unit harness connector.
- 6. Check the continuity between stroke sensor harness connector and electrically-driven intelligent brake С unit.

	O statistical it	Electrically-driven intelligent brake unit		Stroke sensor	
	Continuity	Terminal	Connector	Terminal	Connector
•	Existed	18		3	
-	Not existed	33	-	3	
	Not existed	19	-	3	-
	Not existed	35	-	3	-
-	Not existed	18	-	2	-
-	Existed	33	-	2	-
	Not existed	19	E34	2	-
	Not existed	35		2	E36
	Not existed	18		1	230
	Not existed	33		1	
-	Existed	19		1	-
-	Not existed	35		1	-
	Not existed	18		4	
	Not existed	33		4	
	Not existed	19	-	4	-
	Existed	35		4	

YES >> GO TO 23.

NO >> Repair or replace error-detected parts and GO TO 28.

23. CHECK STROKE SENSOR POWER SUPPLY

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- Μ 3. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. **CAUTION:** Ν

Never operate the vehicle while waiting.

4. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

Check the stroke sensor power voltage.

Strok	ke sensor		Voltage	
Connector	Terminal		(Approx.)	
E36	3	Ground	4.75 – 5.25 V	

Is the inspection result normal?

YES >> GO TO 24. А

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NO >> Repair or replace error-detected parts and GO TO 24.

< DTC/CIRCUIT DIAGNOSIS >

24. CHECK STROKE SENSOR CIRCUIT (2)

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6. "Precaution for Removing 12V Bat-terv"</u>.
- 4. Disconnect stroke sensor harness connector.
- 5. Disconnect the electrically-driven intelligent brake unit harness connector.
- 6. Check the continuity between stroke sensor and ground.

Strok	ke sensor		Continuity
Connector	Terminal		Continuity
E36	4	Ground	Existed

Is the inspection result normal?

YES >> GO TO 25.

NO >> Repair or replace error-detected parts and GO TO 25.

25. CHECK STROKE SENSOR RESISTANCE

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery".
- 4. Connect stroke sensor harness connector.
- 5. Disconnect the electrically-driven intelligent brake unit harness connector.
- 6. Check the resistance between stroke sensor connector pin terminals.

Electrically-driven i	ntelligent brake unit	Condition	Resistance	
Connector	Terminal	Condition	Resistance	
E34	33 – 19	Gradually depress the brake pedal.	Resistance value increases between 0.1 – 1.33 k Ω , according to the depth of brake depression.	
L04	35 – 19		Resistance value decreases between 0.1 – 1.33 k Ω , according to the depth of brake depression.	

Is the inspection result normal?

YES >> GO TO 28.

NO >> GO TO 26.

26.REPLACE STROKE SENSOR

Replace the stroke sensor. Refer to <u>BR-500</u>, "Removal and Installation".

>> GO TO 27.

27.STROKE SENOR 0 POINT LEARNING (3)

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- Perform stroke sensor 0 point learning. Refer to <u>BR-53, "Work Procedure"</u>.

>> GO TO 28.

28. PERFORM SELF-DIAGNOSIS (9)

(I) With CONSULT

T. Connect the electrically-driven intelligent brake unit harness connector.

		_
2. 3.	Connect 12V battery cable to negative terminal. Turn the power switch OFF to ON without depressing the brake pedal.	А
	CAUTION:	1
	Never set the vehicle to READY.	
4.	Repeat step 3 two or more times.	В
	CAUTION:	D
5	Be sure to wait for 5 seconds or more after turning the power switch OFF. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.	
5. 6.	Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for	С
0.	3 minutes or more with all doors closed.	C
	CAUTION:	
	Never operate the vehicle while waiting.	D
7.	Turn the power switch ON without depressing the brake pedal.	D
	CAUTION:	
-	Never set the vehicle to READY.	_
8.	Start CONSULT and erase self-diagnosis result of "BRAKE".	E
9. 10	Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.	
10.	Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.	
	CAUTION:	BR
	Never operate the vehicle while waiting.	
11.	Turn the power switch ON without depressing the brake pedal.	
	CAUTION:	G
	Never set the vehicle to READY.	
	Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.	
	Release brake pedal.	Н
	Start CONSULT and perform "BRAKE" self-diagnosis.	
	DTC "C1AA2" detected?	
	ES >> GO TO 22.	
N	O >> INSPECTION END	
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< DTC/CIRCUIT DIAGNOSIS >

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< DTC/CIRCUIT DIAGNOSIS >

C1AA3 STROKE SENSOR

DTC Logic

INFOID:000000010634247

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1AA3	STROKE SENSOR-5	 An internal malfunction is detected in the stroke sensor. Poor installation is detected in the stroke sensor. 	 Harness or connector Stroke sensor Electrically-driven intelligent brake unit

DTC REPRODUCTION PROCEDURE

1.PRECONDITIONING

If "DTC CONFIRMATION PROCEDURE" has been previously conducted, always turn power switch OFF and wait at least 10 seconds before conducting the next test.

>> GO TO 2.

2. CHECK DTC DETECTION

()With CONSULT

1. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

2. Repeat step 1 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 3. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

5. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 6. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 7. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 8. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.
9. Turn the power switch ON without depressing the brake pedal.
CAUTION:

Never set the vehicle to READY.

- 10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 11. Release brake pedal.
- 12. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1AA3" detected?

YES >> Proceed to <u>BR-362</u>, "Diagnosis Procedure".

NO >> INSPECTION END

Diagnosis Procedure

1.CHECK 12V BATTERY

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

BR-362

INFOID:000000010634248

< D	TC/CIRCUIT DIAGNOSIS >	
3.		А
4.	<u>PG-76, "Work Flow"</u> . Check the 12V battery. Refer to <u>PG-76, "Work Flow"</u> .	
<u>Is th</u>	ne inspection result normal?	В
YE		
Z .F	PERFORM SELF-DIAGNOSIS (1)	С
ØV	Vith CONSULT	
1. 2.	Connect 12V battery cable to negative terminal. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:	D
	Never set the vehicle to READY.	
3.	Repeat step 2 two or more times.	Ε
	CAUTION: Be sure to wait for 5 seconds or more after turning the power switch OFF.	
	Turn the power switch OFF to exit CONSULT and disconnect CONSULT from data link connector	BR
	Never operate the vehicle while waiting.	G
6.	Turn the power switch ON without depressing the brake pedal.	0
	CAUTION: Never set the vehicle to READY.	
7.		Н
8.	Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.	
9.	Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.	
	CAUTION:	1
	Never operate the vehicle while waiting.	
10.	Turn the power switch ON without depressing the brake pedal.	J
	Never set the vehicle to READY.	
	Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.	
	Release brake pedal.	Κ
	Start CONSULT and perform "BRAKE" self-diagnosis.	
YE	DTC "C1AA3" detected? ES >> GO TO 3.	I
NC		
-	CHECK CONNECTOR TERMINALS	
1.	Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.	M
2.	Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for	
	3 minutes or more with all doors closed.	Ν
	CAUTION: Never operate the vehicle while waiting.	IN
3.	Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6. "Precaution for Removing 12V Bat-</u>	
	tery".	0
4.	Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.	
5.	Disconnect the stroke sensor harness connector, then check for failures of pin terminals and connections.	
<u>Is t</u> h	ne inspection result normal?	Ρ
YE	ES >> GO TO 5.	
NC		
4 .F	PERFORM SELF-DIAGNOSIS (2)	

1. Connect the electrically-driven intelligent brake unit harness connector.

< DTC/CIRCUIT DIAGNOSIS >

- 2. Connect stroke sensor harness connector.
- 3. Connect 12V battery cable to negative terminal.
- 4. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

5. Repeat step 4 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 6. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

8. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 9. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 10. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 11. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

12. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 13. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 14. Release brake pedal.
- 15. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1AA3" detected?

YES >> GO TO 5.

NO >> INSPECTION END

5.CHECK POWER SWITCH ON POWER SUPPLY

- 1. Connect stroke sensor harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- 5. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6. "Precaution for Removing 12V Bat-</u> <u>terv"</u>.
- 6. Disconnect the electrically-driven intelligent brake unit harness connector.
- 7. Connect 12V battery cable to negative terminal.
- 8. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit Connector Terminal			Voltage
			(Approx.)
E34	26	Ground	0 V

9. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

10. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven in	telligent brake unit		Voltage
Connector Terminal			(Approx.)
E34	26	Ground	10 – 16 V

	C1A	A3 STROKE S	ENSOR	
< DTC/CIRCUIT DIA	GNOSIS >			
Is the inspection result YES >> GO TO 8. NO >> GO TO 6. 6.CHECK POWER S				
 Turn the power sv Close all doors (ir 3 minutes or more CAUTION: Never operate th 	vitch OFF to exit COI including back door), o with all doors closed e vehicle while wait wattery cable from ne	NSULT, and disconn check that the room d. t ing.		ata link connector. of the vehicle, and wait for on for Removing 12V Bat-
5. Disconnect IPDM	E/R harness connect		brake unit and IPDM	E/R.
Electrically-driven ir	ntelligent brake unit	IPD	M E/R	Opertionalty
Connector	Terminal	Connector	Terminal	Continuity
E34	26	E15	62	Existed
7. Check the continu	iity between electrica	Ily-driven intelligent	brake unit harness co	onnector and ground.
Electrically-driven in	telligent brake unit	_	Continuity	
Connector	Terminal		Continuity	
E34	26	Ground	Not existed	
Is the inspection resul	t normal?			

YES >> Perform trouble diagnosis for power ON power supply. Refer to PG-29, "Wiring Diagram-On Power Supply—".

- NO >> Repair or replace error-detected parts and GO TO 7.
- 7. PERFORM SELF-DIAGNOSIS (3)

(P)With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- Connect IPDM E/R harness connector.
- 3. Connect 12V battery cable to negative terminal.
- 4. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION: Never set the vehicle to READY.
- 5. Repeat step 4 two or more times.

CAUTION:

- Be sure to wait for 5 seconds or more after turning the power switch OFF.
- Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. **CAUTION:**

Never operate the vehicle while waiting.

8. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- Start CONSULT and erase self-diagnosis result of "BRAKE".
- 10. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 11. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

- Never operate the vehicle while waiting.
- 12. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

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< DTC/CIRCUIT DIAGNOSIS >

13. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.

- 14. Release brake pedal.
- 15. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1AA3" detected?

YES >> GO TO 8.

NO >> INSPECTION END

8.CHECK 12V BATTERY POWER SUPPLY

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery".
- 4. Disconnect the electrically-driven intelligent brake unit harness connector.
- 5. Connect 12V battery cable to negative terminal.
- 6. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

Electrically-drive	Electrically-driven intelligent brake unit		
Connector	Terminal	(Approx.)	
	1 – 32		
E34	2 – 32	$10-16 \ V$	
	28 - 32		

7. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

8. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

Electrically-driver	Voltage (Approx.)	
Connector	Connector Terminal	
	1 – 32	
E34	2 – 32	10 – 16 V
	28 – 32	

Is the inspection result normal?

YES >> GO TO 11.

NO >> GO TO 9.

9.CHECK 12V BATTERY POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.

 Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6. "Precaution for Removing 12V Bat-tery"</u>.
- 4. Check the 60A fusible link (#F).
- 5. Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).
- 6. Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).
- 7. Check the 15A fuse (#75).
- 8. Check the continuity and for short circuit between harness connector terminal 28 of electrically-driven intelligent brake unit and 15A fuse (#75).

Is the inspection result normal?

DTC/0	CIRCUIT DIAGNOSIS >		
YES		for 12V battery power s	upply. Refer to <u>PG-18, "Wiring Diagram — Bat</u> -
NO	<u>tery Power Supply —</u> ". >> Repair or replace error-def	tested parts and CO TO	10
-		-	10.
U.PE	RFORM SELF-DIAGNOSIS (4	.)	
	CONSULT		
	nnect the electrically-driven inte nnect 12V battery cable to nega		s connector.
	n the power switch OFF to ON		orake nedal
	UTION:	without depressing the i	
-	ver set the vehicle to READY.		
	beat step 3 two or more times.		
	UTION: sure to wait for 5 seconds or	more after turning the	nower switch OFF
			ect CONSULT from data link connector.
			lamp is OFF, get out of the vehicle, and wait for
	inutes or more with all doors cl	osed.	· •
	UTION:	weiting	
	ver operate the vehicle while n the power switch ON without		dal
	UTION:	approventy the brane pe	
Nev	ver set the vehicle to READY.		
	rt CONSULT and erase self-dia		
			ect CONSULT from data link connector.
	inutes or more with all doors cl		lamp is OFF, get out of the vehicle, and wait for
	UTION:	0000	
	ver operate the vehicle while		
	n the power switch ON without	depressing the brake pe	edal.
	UTION: /er set the vehicle to READY.		
			ld the position for 5 seconds or more.
3. Rele	ease brake pedal.		
	rt CONSULT and perform "BRA	KE" self-diagnosis.	
DTC '	"C1AA3" detected?		
YES	>> GO TO 11.		
10 1	>> INSPECTION END		
1. CH	IECK GROUND CIRCUIT		
Turi	n the power switch OFF to exit	CONSULT, and disconn	ect CONSULT from data link connector.
			lamp is OFF, get out of the vehicle, and wait for
	inutes or more with all doors cl	osed.	
	UTION: /er operate the vehicle while	waiting	
			er to <u>BR-6</u> , "Precaution for Removing 12V Bat-
tery	<u>/"</u>	0	
	connect the electrically-driven i		
Che	eck the continuity between elec	trically-driven intelligent	brake unit and ground.
	and and a star of the second second		
	ectrically-driven intelligent brake unit		Continuity
Co	onnector Terminal		
		O and a set	
	E34 32	Ground	Existed

NO >> Repair or replace error-detected parts and GO TO 12.

12.PERFORM SELF-DIAGNOSIS (5)

1. Connect the electrically-driven intelligent brake unit harness connector.

< DTC/CIRCUIT DIAGNOSIS >

- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

4. Repeat step 3 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 5. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

7. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 8. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 9. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 10. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

11. Turn the power switch ON without depressing the brake pedal.

Never set the vehicle to READY.

- 12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 13. Release brake pedal.
- 14. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1AA3" detected?

YES >> GO TO 13.

NO >> INSPECTION END

13.CHECK DATA MONITOR

() With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

 Repeat step 3 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 5. Start CONSULT and select "BRAKE", "DATA MONITOR" according this order.
- Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER. Refer to <u>BR-33, "Reference</u> <u>Value"</u>.

Is the inspection result normal?

YES >> GO TO 14.

NO >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-510</u>, "Removal and installation"

14.PERFORM SELF-DIAGNOSIS (6)

With CONSULT

1. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

2. Repeat step 1 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 3. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

< DTC/CIRCUIT DIAGNOSIS >	
Never operate the vehicle while waiting.	٨
 Turn the power switch ON without depressing the brake pedal. CAUTION: 	А
Never set the vehicle to READY.6. Start CONSULT and erase self-diagnosis result of "BRAKE".	_
7. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.	В
8. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.	
CAUTION: Never operate the vehicle while waiting.	С
9. Turn the power switch ON without depressing the brake pedal.	
CAUTION: Never set the vehicle to READY.	D
10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.	
 Release brake pedal. Start CONSULT and perform "BRAKE" self-diagnosis. 	Ε
Is DTC "C1AA3" detected?	
YES >> GO TO 15. NO >> INSPECTION END	BR
15.STROKE SENSOR 0 POINT LEARNING (1)	
	G
Perform stroke sensor 0 point learning. Refer to <u>BR-53, "Work Procedure"</u> .	0
Is either "COMPLETED" or "The operation is incomplete. Try again after confirming the operation condition." displayed?	Н
"COMPLETED">>GO TO 16.	
"The operation is incomplete. Try again after confirming the operation condition.">>GO TO 17.	
16.PERFORM SELF-DIAGNOSIS (7)	I
With CONSULT Turn the power switch OFF to ON without depressing the brake pedal. 	
CAUTION:	J
Never set the vehicle to READY.2. Repeat step 1 two or more times.	
CAUTION: Be sure to wait for 5 seconds or more after turning the power switch OFF.	Κ
3. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.	
 Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. 	L
CAUTION:	
Never operate the vehicle while waiting.5. Turn the power switch ON without depressing the brake pedal.	M
CAUTION: Never set the vehicle to READY.	1 0 1
Start CONSULT and erase self-diagnosis result of "BRAKE".	N.I.
 Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 	Ν
3 minutes or more with all doors closed.	
CAUTION: Never operate the vehicle while waiting.	0
9. Turn the power switch ON without depressing the brake pedal.	
CAUTION: Never set the vehicle to READY.	Ρ
10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.	
 Release brake pedal. Start CONSULT and perform "BRAKE" self-diagnosis. 	
Is DTC "C1AA3" detected?	
YES >> GO TO 17. NO >> INSPECTION END	

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< DTC/CIRCUIT DIAGNOSIS >

17. VISUALLY CHECK STROKE SENSOR

Check the stroke sensor for damage.

Is the inspection result normal?

YES >> GO TO 18.

NO >> Repair or replace error-detected parts and GO TO 21.

18. CHECK STROKE SENSOR INSTALLATION

Check the stroke sensor for looseness and disconnection.

Is the inspection result normal?

- YES >> GO TO 19.
- NO >> Repair or replace error-detected parts and GO TO 21.
- 19. CHECK BRAKE PEDAL HEIGHT

Check each brake pedal height. Refer to BR-490, "Inspection and Adjustment".

Is the inspection result normal?

YES >> GO TO 20.

>> Adjust each height. Refer to <u>BR-490, "Inspection and Adjustment"</u>. GO TO 21. NO

20.STROKE SENOR 0 POINT LEARNING (2)

Perform stroke sensor 0 point learning. Refer to BR-53, "Work Procedure".

>> GO TO 21.

21.PERFORM SELF-DIAGNOSIS (8)

(P)With CONSULT

Turn the power switch OFF to ON without depressing the brake pedal. 1. **CAUTION:**

Never set the vehicle to READY.

2. Repeat step 1 two or more times. **CAUTION:**

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 3. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 4. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. **CAUTION:**
 - Never operate the vehicle while waiting.
- 5. Turn the power switch ON without depressing the brake pedal. **CAUTION:**

Never set the vehicle to READY.

- 6. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 7. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 8. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

Turn the power switch ON without depressing the brake pedal. 9. CAUTION:

Never set the vehicle to READY.

- 10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 11. Release brake pedal.
- Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1AA3" detected?

- YES >> GO TO 22.
- NO >> INSPECTION END
- 22. CHECK STROKE SENSOR CIRCUIT (1)

Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. 1.

< DTC/CIRCUIT DIAGNOSIS >

2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to BR-6, "Precaution for Removing 12V Battery".
- 4. Disconnect the stroke sensor harness connector.
- 5. Disconnect the electrically-driven intelligent brake unit harness connector.
- 6. Check the continuity between stroke sensor harness connector and electrically-driven intelligent brake С unit.

Continuity	ntelligent brake unit	Electrically-driven in	sensor	Stroke sensor	
Continuity	Terminal	Connector	Terminal	Connector	
Existed	18		3		
Not existed	33	-	3	-	
Not existed	19	-	3	-	
Not existed	35	-	3	-	
Not existed	18	-	2	-	
Existed	33	-	2	-	
Not existed	19	E34	2	E36	
Not existed	35		2		
Not existed	18		1		
Not existed	33	-	1		
Existed	19	-	1		
Not existed	35		1		
Not existed	18		4	-	
Not existed	33	-	4	-	
Not existed	19		4	-	
Existed	35		4		

YES >> GO TO 23.

NO >> Repair or replace error-detected parts and GO TO 28.

23. CHECK STROKE SENSOR POWER SUPPLY

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- Μ 3. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. **CAUTION:** Ν

Never operate the vehicle while waiting.

Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

Check the stroke sensor power voltage.

Stroke sensor Connector Terminal			Voltage
			(Approx.)
E36	3	Ground	4.75 – 5.25 V

Is the inspection result normal?

YES >> GO TO 24.

NO >> Repair or replace error-detected parts and GO TO 24. А

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< DTC/CIRCUIT DIAGNOSIS >

24. CHECK STROKE SENSOR CIRCUIT (2)

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6. "Precaution for Removing 12V Bat-</u> terv".
- 4. Disconnect stroke sensor harness connector.
- 5. Disconnect the electrically-driven intelligent brake unit harness connector.
- 6. Check the continuity between stroke sensor and ground.

Stroke sensor		_	Continuity	
Connector	Terminal		Continuity	
E36	4	Ground	Existed	

Is the inspection result normal?

YES >> GO TO 25.

NO >> Repair or replace error-detected parts and GO TO 25.

25. CHECK STROKE SENSOR RESISTANCE

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery".
- 4. Connect stroke sensor harness connector.
- 5. Disconnect the electrically-driven intelligent brake unit harness connector.
- 6. Check the resistance between stroke sensor connector pin terminals.

Electrically-driven intelligent brake unit		Condition	Resistance	
Connector	Terminal	Condition	i tesistance	
E34	33 – 19	Gradually depress	Resistance value increases between 0.1 – 1.33 k Ω , according to the depth of brake depression.	
L34	35 – 19	the brake pedal.	Resistance value decreases between 0.1 – 1.33 k Ω , according to the depth of brake depression.	

Is the inspection result normal?

YES >> GO TO 28.

NO >> GO TO 26.

26.REPLACE STROKE SENSOR

Replace the stroke sensor. Refer to <u>BR-500</u>, "Removal and Installation".

>> GO TO 27.

27.STROKE SENOR 0 POINT LEARNING (3)

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Perform stroke sensor 0 point learning. Refer to <u>BR-53, "Work Procedure"</u>.

>> GO TO 28.

28. PERFORM SELF-DIAGNOSIS (9)

(I) With CONSULT

T. Connect the electrically-driven intelligent brake unit harness connector.

 Connect 12V battery cable to negative terminal. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION: 	A
Never set the vehicle to READY.	
4. Repeat step 3 two or more times.	D
CAUTION:	В
Be sure to wait for 5 seconds or more after turning the power switch OFF.	
 Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and v 	vait for
3 minutes or more with all doors closed.	vait for C
CAUTION:	
Never operate the vehicle while waiting.	D
7. Turn the power switch ON without depressing the brake pedal.	D
CAUTION:	
Never set the vehicle to READY.	Е
 Start CONSULT and erase self-diagnosis result of "BRAKE". Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. 	L_
10. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and v	vait for
3 minutes or more with all doors closed.	BR
CAUTION:	
Never operate the vehicle while waiting.	
 Turn the power switch ON without depressing the brake pedal. CAUTION: 	G
Never set the vehicle to READY.	0
2. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.	
13. Release brake pedal.	Н
Start CONSULT and perform "BRAKE" self-diagnosis.	
s DTC "C1AA3" detected?	
YES >> GO TO 22.	1
NO >> INSPECTION END	
	J
	K
	L
	M
	Ν
	0

< DTC/CIRCUIT DIAGNOSIS >

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< DTC/CIRCUIT DIAGNOSIS >

C1AA9 PRESSURE SENSOR

DTC Logic

INFOID:000000010634249

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1AA9	PRESSURE SENSOR	A malfunction is detected in the master cylinder pres- sure sensor.	 Harness or connector Master cylinder pressure sensor improper installation Master cylinder pressure sensor Electrically-driven intelligent brake unit

DTC REPRODUCTION PROCEDURE

1.PRECONDITIONING

If "DTC CONFIRMATION PROCEDURE" has been previously conducted, always turn power switch OFF and wait at least 10 seconds before conducting the next test.

>> GO TO 2.

2. CHECK DTC DETECTION

() With CONSULT

- 1. Turn the power switch OFF to ON without depressing the brake pedal.
 - Never set the vehicle to READY.
- 2. Repeat step 1 two or more times.

CAUTION: Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 3. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

5. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 6. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 7. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

9. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 11. Release brake pedal.
- 12. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1AA9" detected?

- YES >> Proceed to <u>BR-374, "Diagnosis Procedure"</u>.
- NO >> INSPECTION END

Diagnosis Procedure

1.CHECK 12V BATTERY

1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.

INFOID:000000010634250

< D	TC/CIRCUIT DIAGNOSIS >	
	Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.	A
3.	Never operate the vehicle while waiting. Check the 12V battery terminal connections. Refer to <u>BR-6</u> , " <u>Precaution for Removing 12V Battery</u> " and	В
	<u>PG-76, "Work Flow"</u> . Check the 12V battery. Refer to <u>PG-76, "Work Flow"</u> .	
	ne inspection result normal?	
ΥE		С
NC		
Z. F	PERFORM SELF-DIAGNOSIS (1)	D
	/ith CONSULT	
	Connect 12V battery cable to negative terminal. Turn the power switch OFF to ON without depressing the brake pedal.	_
	CAUTION:	Ε
	Never set the vehicle to READY.	
	Repeat step 2 two or more times.	BR
	Be sure to wait for 5 seconds or more after turning the power switch OFF.	
5.	Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION:	G
	Never operate the vehicle while waiting.	Н
	Turn the power switch ON without depressing the brake pedal. CAUTION:	
7. 8.	Never set the vehicle to READY. Start CONSULT and erase self-diagnosis result of "BRAKE". Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for	I
	3 minutes or more with all doors closed. CAUTION:	J
10.	Never operate the vehicle while waiting. Turn the power switch ON without depressing the brake pedal. CAUTION:	K
	Never set the vehicle to READY.	
	Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.	
12. 13.	Release brake pedal. Start CONSULT and perform "BRAKE" self-diagnosis.	L
	TC "C1AA9" detected?	
YE		M
NC		
3.0	CHECK CONNECTOR TERMINALS	
2.	Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.	Ν
	CAUTION: Never operate the vehicle while waiting	0
3.	Never operate the vehicle while waiting. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6. "Precaution for Removing 12V Bat-</u>	
4.	tery". Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin	Ρ
5.	terminals and connections. Check that there is no malfunction in pin terminals and connection of master cylinder pressure sensor har- ness connector.	
<u>Is th</u>	ne inspection result normal?	
YE		
NC	>> Repair or replace error-detected parts and GO TO 4.	

< DTC/CIRCUIT DIAGNOSIS >

4.PERFORM SELF-DIAGNOSIS (2)

With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- Connect master cylinder pressure sensor harness connector.
- Connect 12V battery cable to negative terminal.
- 4. Turn the power switch OFF to ON without depressing the brake pedal. **CAUTION:**

Never set the vehicle to READY.

5. Repeat step 4 two or more times. **CAUTION:**

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 6. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 7. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. **CAUTION:**

Never operate the vehicle while waiting.

8. Turn the power switch ON without depressing the brake pedal.

CAUTION: Never set the vehicle to READY.

- 9. Erase self-diagnosis result of "BRAKE".
- 10. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 11. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

12. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 13. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 14. Release brake pedal.
- 15. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1AA9" detected?

YES >> GO TO 5.

NO >> INSPECTION END

${f 5}.$ CHECK POWER SWITCH ON POWER SUPPLY

- 1. Connect master cylinder pressure sensor harness connector.
- 2. Connect 12V battery cable to negative terminal.
- Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. 3.
- 4. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. **CAUTION:**

Never operate the vehicle while waiting.

- 5. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery".
- Disconnect the electrically-driven intelligent brake unit harness connector.
- 7. Connect 12V battery cable to negative terminal.
- 8. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit			Voltage
Connector Terminal			(Approx.)
E34	26	Ground	0 V

9. Turn the power switch ON without depressing the brake pedal. **CAUTION:**

Never set the vehicle to READY.

10. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

< DTC/CIRCUIT DIAGNOSIS >

	Electrically-driven ir	ntelligent brake unit		Mallana		А
	Connector	Terminal	—	Voltage (Approx.)		
	E34	26	Ground	10 – 16 V		_
ls t	ne inspection resul	t normal?				В
_	ES >> GO TO 8.					
N						С
6.	CHECK POWER S	WITCH ON POWER	SUPPLY CIRCUIT			
1. 2.	Close all doors (ir 3 minutes or more CAUTION: Never operate th	ncluding back door), c e with all doors closed ne vehicle while wait	heck that the room I I. ing.		f the vehicle, and wait for	D
3.	Disconnect 12V b tery".	battery cable from neg	gative terminal. Refe	er to <u>BR-6, "Precautio</u>	n for Removing 12V Bat-	
4.	Check the 15A fu	se (#62).				
5.	Disconnect IPDM	E/R harness connec				BR
6.	Check the continu	uity between electrica	lly-driven intelligent	brake unit and IPDM	E/R.	
	Electrically-driven ir	ntelligent brake unit	וחסו	M E/R		G
	Connector	Terminal	Connector	Terminal	Continuity	
	E34	26	E15	62	Existed	
7.			а. Ж	brake unit harness co		H
7.	Check the continu		ny-unven miteiligent	Drake unit namess co	nnector and ground.	
	Electrically-driven ir	ntelligent brake unit				1
	Connector	Terminal	—	Continuity		
	E34	26	Ground	Not existed		
ls t	ne inspection resul	t normal?				J
			power ON power s	upply. Refer to PG-2	9, "Wiring Diagram—On	
	Power Su			~		K
	•	replace error-detecte	a parts and GO TO	1.		
1.	PERFORM SELF-I	DIAGNOSIS (3)				
\sim	Vith CONSULT	2				L
1. 2.		rically-driven intellige ylinder pressure sens				
3.		R harness connector.				M
4.		ery cable to negative				
5.	CAUTION:	witch OFF to ON with	out depressing the b	rake pedal.		
	Never set the ve	hicle to READY.				Ν
6.		o or more times.				
	CAUTION: Be sure to wait f	or 5 seconds or mo	re after turning the	power switch OFF.		0
7.	Turn the power sw	witch OFF to exit CON	NSULT, and disconne	ect CONSULT from da		0
8.				amp is OFF, get out o	f the vehicle, and wait for	
	3 minutes or more CAUTION:	e with all doors closed	1.			Ρ
		e vehicle while wait	ing.			
9.		witch ON without dep	ressing the brake pe	dal.		
	CAUTION: Never set the vehicle to READY.					
	10. Start CONSULT and erase self-diagnosis result of "BRAKE".					
11.	Turn the power sw	witch OFF to exit CON	NSULT, and disconne	ect CONSULT from da	ata link connector.	

< DTC/CIRCUIT DIAGNOSIS >

 Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

13. Turn the power switch ON without depressing the brake pedal.

Never set the vehicle to READY.

- 14. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 15. Release brake pedal.
- 16. Start CONSULT and perform "BRAKE" self-diagnosis.
- Is DTC "C1AA9" detected?

YES >> GO TO 8.

NO >> INSPECTION END

8.CHECK 12V BATTERY POWER SUPPLY

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

- Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery".
- 4. Disconnect the electrically-driven intelligent brake unit harness connector.
- 5. Connect 12V battery cable to negative terminal.
- 6. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

Electrically-driven intelligent brake unit		Voltage
Connector	Terminal	(Approx.)
	1 – 32	
E34	2 – 32	10 – 16 V
	28 - 32	

7. Turn the power switch ON without depressing the brake pedal. **CAUTION:**

Never set the vehicle to READY.

8. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

Electrically-driven intelligent brake unit Connector Terminal		Voltage
		(Approx.)
	1 – 32	
E34	2 – 32	10 – 16 V
	28 – 32	

Is the inspection result normal?

YES >> GO TO 11.

NO >> GO TO 9.

9.CHECK 12V BATTERY POWER SUPPLY CIRCUIT

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6. "Precaution for Removing 12V Bat-</u> <u>tery"</u>.
- 4. Check the 60A fusible link (#F).
- 5. Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).

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	Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intel- ligent brake unit and 60A fusible link (#F).	А
	Check the 15A fuse (#75). Check the continuity and for short circuit between harness connector terminal 28 of electrically-driven	
0.	intelligent brake unit and 15A fuse (#75).	В
<u>ls t</u>	he inspection result normal?	
YE	ES >> Perform trouble diagnosis for 12V battery power supply. Refer to <u>PG-18, "Wiring Diagram — Bat-</u>	
N	tery Power Supply —". O >> Repair or replace error-detected parts and GO TO 10.	С
).PERFORM SELF-DIAGNOSIS (4)	
		D
(H)V 1.	With CONSULT Connect the electrically-driven intelligent brake unit harness connector.	D
	Connect 12V battery cable to negative terminal.	
3.	Turn the power switch OFF to ON without depressing the brake pedal.	Ε
	CAUTION: Never set the vehicle to READY.	
4.	Repeat step 3 two or more times.	
	CAUTION:	BR
5	Be sure to wait for 5 seconds or more after turning the power switch OFF.	
э. 6.	Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for	G
0.	3 minutes or more with all doors closed.	G
	CAUTION:	
7	Never operate the vehicle while waiting. Turn the power switch ON without depressing the brake pedal.	Н
1.	CAUTION:	
	Never set the vehicle to READY.	
	Start CONSULT and erase self-diagnosis result of "BRAKE".	
	Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.	
10.	Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.	
	CAUTION:	J
	Never operate the vehicle while waiting.	
11.	Turn the power switch ON without depressing the brake pedal.	K
	Never set the vehicle to READY.	rx.
	Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.	
	Release brake pedal.	L
	Start CONSULT and perform "BRAKE" self-diagnosis.	
	DTC "C1AA9" detected?	
YE N(ES >> GO TO 11. O >> INSPECTION END	\mathbb{N}
	.CHECK GROUND CIRCUIT	
1. 2.	Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for	Ν
۷.	3 minutes or more with all doors closed.	
	CAUTION:	0
~	Never operate the vehicle while waiting.	<u> </u>
3.	Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u> , "Precaution for Removing 12V Battery".	
4.	Disconnect the electrically-driven intelligent brake unit harness connector.	Ρ
5.	Check the continuity between electrically-driven intelligent brake unit and ground.	
	Electrically-driven intelligent brake unit	

_		Three brance and		Continuity	
_	Connector Terminal			Continuity	
_	E34 32		Ground	Existed	

< DTC/CIRCUIT DIAGNOSIS >

Is the inspection result normal?

- YES >> GO TO 13.
- NO >> Repair or replace error-detected parts and GO TO 12.

12.PERFORM SELF-DIAGNOSIS (5)

With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:
- Never set the vehicle to READY.
- Repeat step 3 two or more times.
 CAUTION: Be sure to wait for 5 seconds or more after turning the power switch OFF.
- 5. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

7. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 8. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 9. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

11. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 13. Release brake pedal.
- 14. Start CONSULT and perform "BRAKE" self-diagnosis.
- Is DTC "C1AA9" detected?
- YES >> GO TO 13.
- NO >> INSPECTION END
- **13.**CHECK DATA MONITOR (1)

With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:
- Never set the vehicle to READY.
- 4. Repeat step 3 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 5. Start CONSULT and select "BRAKE" and "DATA MONITOR" according this order.
- Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER". Refer to <u>BR-33</u>, "<u>Reference</u> <u>Value</u>".

Is the inspection result normal?

YES >> GO TO 14.

- NO >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-510. "Removal and installation"</u>.
- **14.**PERFORM SELF-DIAGNOSIS (6)

With CONSULT

Turn the power switch OFF to ON without depressing the brake pedal.

CAUTION: Never set the vehicle to READY.

	C1AA9 PRESSURE SENSOR	
< D	TC/CIRCUIT DIAGNOSIS >	
2.	Repeat step 1 two or more times. CAUTION:	А
_	Be sure to wait for 5 seconds or more after turning the power switch OFF.	
3. 4.	Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for	
4.	3 minutes or more with all doors closed.	В
	CAUTION:	
_	Never operate the vehicle while waiting.	
5.	Turn the power switch ON without depressing the brake pedal. CAUTION:	С
	Never set the vehicle to READY.	
6.	Start CONSULT and erase self-diagnosis result of "BRAKE".	D
7.	Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.	D
8.	Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.	
	CAUTION:	Е
_	Never operate the vehicle while waiting.	
9.	Turn the power switch ON without depressing the brake pedal. CAUTION:	
	Never set the vehicle to READY.	BR
10.	Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.	
	Release brake pedal.	G
	Start CONSULT and perform "BRAKE" self-diagnosis.	G
	DTC "C1AA9" detected?	
N N	ES >> GO TO 15. O >> INSPECTION END	Н
	CHECK MASTER CYLINDER PRESSURE SENSOR INSTALLATION	
1. 2.	Turn the power switch OFF to exit CONSULT. Check the master cylinder pressure sensor for looseness and disconnection. Refer to <u>BR-510</u> , "Exploded	
۷.	View".	
<u>ls t</u>	he inspection result normal?	J
	ES >> GO TO 16.	J
N		
16	PERFORM SELF-DIAGNOSIS (7)	K
	With CONSULT	
1.	Turn the power switch OFF to ON without depressing the brake pedal.	
	CAUTION: Never set the vehicle to READY.	L
2.	Repeat step 1 two or more times.	
۷.	CAUTION:	Μ
-	Be sure to wait for 5 seconds or more after turning the power switch OFF.	IVI
3. 4.	Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for	
ч.	3 minutes or more with all doors closed.	Ν
	CAUTION:	
-	Never operate the vehicle while waiting.	
5.	Turn the power switch ON without depressing the brake pedal. CAUTION:	0
	Never set the vehicle to READY.	
6.	Start CONSULT and erase self-diagnosis result of "BRAKE".	Ρ
7.	Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.	F
8.	Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.	
	CAUTION:	
~	Never operate the vehicle while waiting.	
9.	Turn the power switch ON without depressing the brake pedal. CAUTION:	
	Never set the vehicle to READY.	

< DTC/CIRCUIT DIAGNOSIS >

10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.

11. Release brake pedal.

12. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1AA9" detected?

YES >> GO TO 17.

NO >> INSPECTION END

17. CHECK MASTER CYLINDER PRESSURE SENSOR CIRCUIT

- 1. Turn the power switch OFF to exit CONSULT.
- 2. Disconnect master cylinder pressure sensor harness connector.
- 3. Disconnect the ABS actuator and electric unit (control unit) harness connector.
- Check the continuity between master cylinder pressure sensor harness connector and ABS actuator and electric unit (control unit) harness connector harness connector. Refer to <u>BRC-107</u>, "<u>Diagnosis Procedure</u>".

Is the inspection result normal?

YES >> GO TO 18.

NO >> Repair or replace error-detected parts and GO TO 20.

18. CHECK MASTER CYLINDER PRESSURE SENSOR POWER CIRCUIT

Check the master cylinder pressure sensor power voltage. Refer to BRC-107, "Diagnosis Procedure".

Is the inspection result normal?

- YES >> GO TO 19.
- NO >> Repair or replace error-detected parts and GO TO 20.
- 19. CHECK DATA MONITOR (2)

With CONSULT

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 2. Connect master cylinder pressure sensor harness connector.
- 3. Connect ABS actuator and electric unit (control unit) harness connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- 5. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6. "Precaution for Removing 12V Bat-</u> <u>tery"</u>.
- 6. Connect 12V battery cable to negative terminal.
- 7. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:
 - Never set the vehicle to READY.
- Repeat step 7 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 9. Start CONSULT and select "BRAKE" and "DATA MONITOR" according this order.
- 10. Check the "MASTER CYL PRESSURE". Refer to <u>BR-33, "Reference Value"</u>.

Is the inspection result normal?

YES >> GO TO 20.

NO >> Check the ABS actuator and electric unit (control unit). Refer to <u>BRC-46, "CONSULT Function"</u>.

20.PERFORM SELF-DIAGNOSIS (8)

With CONSULT

- 1. Connect master cylinder pressure sensor harness connector.
- 2. Connect ABS actuator and electric unit (control unit) harness connector.
- 3. Turn the power switch OFF to ON without depressing the brake pedal.

CAUTION: Never set the vehicle to READY.

- 4. Repeat step 3 two or more times.
 - Be sure to wait for 5 seconds or more after turning the power switch OFF.
- 5. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.

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< DTC/CIRCUIT DIAGNOSIS >

< DTC	
3 r	ose all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for ninutes or more with all doors closed. .UTION:
	ver operate the vehicle while waiting.
7. Tu	rn the power switch ON without depressing the brake pedal. UTION:
	ver set the vehicle to READY.
9. Tu 10. Clo	Int CONSULT and erase self-diagnosis result of "BRAKE". In the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. See all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for
	ninutes or more with all doors closed. UTION:
	ver operate the vehicle while waiting.
CA	rn the power switch ON without depressing the brake pedal. UTION:
2. De	ver set the vehicle to READY. press brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more. lease brake pedal.
	Int CONSULT and perform "BRAKE" self-diagnosis.
s DTC	<u>"C1AA9" detected?</u>
YES	>> GO TO 21.
NO	>> INSPECTION END
2 I .C	HECK MASTER CYLINDER PRESSURE SENSOR
2. Ch	and the first of the second
de	eck that the voltage between master cylinder pressure sensor harness connector changes with the oth of pedal depression.
de <u>s the i</u> i	
de <u>s the ii</u> YES	oth of pedal depression. <u>hspection result normal?</u> >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-510, "Removal and installation"</u> .
de <u>s the ii</u> YES	oth of pedal depression. <u>hspection result normal?</u> >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-510, "Removal and installation"</u> .
de <u>s the ii</u> YES	oth of pedal depression. <u>hspection result normal?</u> >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-510, "Removal and installation"</u> .
de <u>s the ii</u> YES	oth of pedal depression. <u>hspection result normal?</u> >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-510, "Removal and installation"</u> .
de <u>s the ii</u> YES	oth of pedal depression. <u>hspection result normal?</u> >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-510, "Removal and installation"</u> .
de <u>s the ii</u> YES	oth of pedal depression. <u>hspection result normal?</u> >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-510, "Removal and installation"</u> .
de <u>s the ii</u> YES	oth of pedal depression. <u>hspection result normal?</u> >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-510, "Removal and installation"</u> .
de <u>s the ii</u> YES	oth of pedal depression. <u>hspection result normal?</u> >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-510, "Removal and installation"</u> .
de <u>the ii</u> ⁄ES	oth of pedal depression. <u>hspection result normal?</u> >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-510, "Removal and installation"</u> .
de <u>the ii</u> YES	oth of pedal depression. <u>hspection result normal?</u> >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-510, "Removal and installation"</u> .
de <u>s the ii</u> YES	oth of pedal depression. <u>hspection result normal?</u> >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-510, "Removal and installation"</u> .

< DTC/CIRCUIT DIAGNOSIS >

C1AB8 MOTOR

DTC Logic

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1AB8	MOTOR-2	 Temperature of motor that is integrated with electrically-driven intelligent brake unit is as shown below. Motor temperature: -50°C (-122°F) ≥ Motor temperature Motor temperature: 115°C (239°F) ≤ Motor temperature A malfunction is detected in the temperature detection circuit of the motor that is integrated with the electrically-driven intelligent brake unit. 	Electrically-driven intelligent brake unit

DTC REPRODUCTION PROCEDURE

1.PRECONDITIONING

If "DTC CONFIRMATION PROCEDURE" has been previously conducted, always turn power switch OFF and wait at least 10 seconds before conducting the next test.

>> GO TO 2.

2. CHECK DTC DETECTION

With CONSULT

 Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

2. Repeat step 1 two or more times.

CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 3. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

 Turn the power switch ON without depressing the brake pedal.
 CAUTION: Never set the vehicle to READY.

Start CONSULT and erase self-diagnosis result of "BRAKE".

- Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 8. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

9. Turn the power switch ON without depressing the brake pedal.

Never set the vehicle to READY.

- 10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 11. Release brake pedal.
- 12. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1AB8" detected?

- YES >> Proceed to <u>BR-385. "Diagnosis Procedure"</u>.
- NO >> INSPECTION END

INFOID:000000010634251

	Ignosis Procedure
1.0	CHECK 12V BATTERY
1. 2.	Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION:
3.	Never operate the vehicle while waiting. Check the 12V battery terminal connections. Refer to <u>BR-6</u> , "Precaution for Removing 12V Battery" and <u>PG-76</u> , "Work Flow".
	Check the 12V battery. Refer to PG-76. "Work Flow".
	ne inspection result normal?
YE NC	
2.F	PERFORM SELF-DIAGNOSIS (1)
ÐV	Vith CONSULT
	Connect 12V battery cable to negative terminal. Turn the power switch OFF to ON without depressing the brake pedal.
	CAUTION:
	Never set the vehicle to READY. Repeat step 2 two or more times.
	CAUTION:
	Be sure to wait for 5 seconds or more after turning the power switch OFF. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
	Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
	CAUTION:
	Never operate the vehicle while waiting. Turn the power switch ON without depressing the brake pedal.
•	CAUTION:
	Never set the vehicle to READY. Start CONSULT and erase self-diagnosis result of "BRAKE".
	Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
_	Never operate the vehicle while waiting.
0.	Turn the power switch ON without depressing the brake pedal.
1.	Never set the vehicle to READY. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
2.	Release brake pedal.
	Start CONSULT and perform "BRAKE" self-diagnosis. ITC "C1AB8" detected?
YE	
NC	
8 .(CHECK CONNECTOR TERMINALS
•	Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION:
	Never operate the vehicle while waiting.
3.	Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u> , <u>"Precaution for Removing 12V Bat-tery"</u> .
ŀ.	Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin

4. Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.

Is the inspection result normal?

< DTC/CIRCUIT DIAGNOSIS >

< DTC/CIRCUIT DIAGNOSIS >

- YES >> GO TO 5.
- NO >> Repair or replace error-detected part and GO TO 4.

4.PERFORM SELF-DIAGNOSIS (2)

With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:
- Never set the vehicle to READY.
- 4. Repeat step 3 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 5. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

7. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 8. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 9. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 10. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

Never operate the vehicle while waiting.

11. Turn the power switch ON without depressing the brake pedal.

Never set the vehicle to READY.

- 12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 13. Release brake pedal.
- 14. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1AB8" detected?

YES >> GO TO 5.

NO >> INSPECTION END

5.CHECK POWER SWITCH ON POWER SUPPLY

- 1. Connect 12V battery cable to negative terminal.
- 2. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- 4. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery".
- 5. Disconnect the electrically-driven intelligent brake unit harness connector.
- 6. Connect 12V battery cable to negative terminal.
- 7. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-driver	n intelligent brake unit		Voltage
Connector	Terminal		(Approx.)
E34	26	Ground	0 V

8. Turn the power switch ON without depressing the brake pedal. **CAUTION:**

Never set the vehicle to READY.

9. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

< DTC/CIRCUIT DIAGNOSIS >

Electrically-driven in	-	_	Voltage	
Connector	Terminal		(Approx.)	
E34	26	Ground	10 – 16 V	
<u>Is the inspection resul</u> YES >> GO TO 8.				
NO >> GO TO 6.				
6.CHECK POWER S	WITCH ON POWER	SUPPLY CIRCUIT		
 Close all doors (ir 3 minutes or more CAUTION: 	ncluding back door), e with all doors close	d.		ata link connector. f the vehicle, and wait for
	e vehicle while wai battery cable from ne		r to BR-6, "Precautio	n for Removing 12V Bat-
 <u>tery"</u>. Check the 15A fus Disconnect IPDM 	se (#62). E/R harness connec	-		
Electrically-driven ir	ntelligent brake unit	IPDN	I E/R	Continuity
Connector	Terminal	Connector	Terminal	Continuity
E34	26	E15	62	Existed
Connector E34	Terminal 26	Ground	Not existed	
Connector	Terminal	—	Continuity	
E34	26	Ground	Not existed	
Power Su	replace error-detecte	power ON power se		<u>29. "Wiring Diagram—On</u>
 Connect IPDM E/ Connect 12V batt 	R harness connector ery cable to negative			
5. Repeat step 4 two CAUTION:	o or more times.			
 Turn the power sv Close all doors (ir 	witch OFF to exit CO		ct CONSULT from d	ata link connector. f the vehicle, and wait for
		ting. ressing the brake pe	dal.	
 Start CONSULT a Turn the power sv Close all doors (in 	nd erase self-diagno witch OFF to exit CO	check that the room la	ect CONSULT from d	ata link connector. of the vehicle, and wait for

< DTC/CIRCUIT DIAGNOSIS >

CAUTION:

Never operate the vehicle while waiting.

12. Turn the power switch ON without depressing the brake pedal.

CAUTION: Never set the vehicle to READY.

- 13. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 14. Release brake pedal.
- 15. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1AB8" detected?

YES >> GO TO 8.

NO >> INSPECTION END

8.CHECK 12V BATTERY POWER SUPPLY

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6, "Precaution for Removing 12V Bat-</u> <u>tery"</u>.
- 4. Disconnect the electrically-driven intelligent brake unit harness connector.
- 5. Connect 12V battery cable to negative terminal.
- 6. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

Electrically-drive	n intelligent brake unit	Voltage
Connector	Terminal	(Approx.)
	1 – 32	
E34	2 – 32	10 – 16 V
	28 - 32	

7. Turn the power switch ON without depressing the brake pedal. **CAUTION:**

Never set the vehicle to READY.

8. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

Electrically-drive	n intelligent brake unit	Voltage
Connector	Terminal	(Approx.)
	1 – 32	
E34	2 – 32	$10-16 \ V$
	28 – 32	

Is the inspection result normal?

YES >> GO TO 11.

NO >> GO TO 9.

9.CHECK 12V BATTERY POWER SUPPLY CIRCUIT

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

Never operate the vehicle while waiting.

- Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery".
- 4. Check the 60A fusible link (#F).
- 5. Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).
- 6. Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).

	Check the 15A fuse (#75). Check the continuity and for short circuit between harness connector terminal 28 of electrically-driven intelligent brake unit and 15A fuse (#75).	A
ls ti	e inspection result normal?	
YE	•	В
N		
10		С
(P)V	/ith CONSULT	
1.	Connect the electrically-driven intelligent brake unit harness connector.	
2.	Connect 12 V battery cable to negative terminal.	D
3.	Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:	
		_
4.	Repeat step 3 two or more times.	Е
	CAUTION:	
	Be sure to wait for 5 seconds or more after turning the power switch OFF.	BR
5.	Turn the power switch OTT to exit CONSOLT, and disconnect CONSOLT from data link connector.	۶R
6.	Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for — 3 minutes or more with all doors closed.	
		\sim
	Never operate the vehicle while waiting.	G
7.	Turn the power switch ON without depressing the brake pedal.	
	CAUTION:	Н
~	never set the vehicle to READ .	
8. 9.	Start CONSULT and erase self-diagnosis result of "BRAKE". Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.	
	Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for	1
10.	3 minutes or more with all doors closed.	1
	CAUTION:	
	Never operate the vehicle while waiting.	J
11.	I urn the power switch ON without depressing the brake pedal.	0
	CAUTION:	
12	Never set the vehicle to READY. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.	Κ
	Release brake pedal.	1.
	Start CONSULT and perform "BRAKE" self-diagnosis.	
ls D	TC "C1AB8" detected?	L
YE		
N		
11	CHECK GROUND CIRCUIT	Μ
1. 2.	Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for	
۷.		Ν
	CAUTION:	
	Never operate the vehicle while waiting.	
3.		0
	<u>tery"</u> .	
4. 5.	Disconnect the electrically-driven intelligent brake unit harness connector. Check the continuity between electrically-driven intelligent brake unit and ground.	
5.	Check the continuity between electrically-unven intelligent blake unit and ground.	Ρ
	Electrically, driven intelligent broke unit	
	Electrically-driven intelligent brake unit Continuity	
	Connector Terminal	

32

< DTC/CIRCUIT DIAGNOSIS >

YES >> GO TO 13.

E34

Ground

Existed

< DTC/CIRCUIT DIAGNOSIS >

NO >> Repair or replace the error-detected parts and GO TO 12.

12.PERFORM SELF-DIAGNOSIS (5)

With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

4. Repeat step 3 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 5. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

7. Turn the power switch ON without depressing the brake pedal.

CAUTION: Never set the vehicle to READY.

- 8. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 9. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 10. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

11. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 13. Release brake pedal.
- 14. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1AB8" detected?

- YES >> GO TO 13.
- NO >> INSPECTION END

13.CHECK DATA MONITOR (1)

With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

4. Repeat step 3 two or more times.

CAUTION: Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 5. Start CONSULT and select "BRAKE", "DATA MONITOR" according this order.
- 6. Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER". Refer to <u>BR-33</u>, "Reference <u>Value"</u>.

Is the inspection result normal?

YES >> GO TO 14.

NO >> Replace the electrically-driven intelligent brake unit. Refer to BR-510, "Removal and installation".

14.PERFORM SELF-DIAGNOSIS (6)

With CONSULT

Turn the power switch OFF to ON without depressing the brake pedal.

Never set the vehicle to READY.

 Repeat step 1 two or more times. CAUTION:

< D	TC/CIRCUIT DIAGNOSIS >	
3. 4.	Be sure to wait for 5 seconds or more after turning the power switch OFF. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.	А
	CAUTION: Never operate the vehicle while waiting.	В
5.	Turn the power switch ON without depressing the brake pedal.	
	Never set the vehicle to READY.	С
	Start CONSULT and erase self-diagnosis result of "BRAKE". Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION:	D
9.	Never operate the vehicle while waiting. Turn the power switch ON without depressing the brake pedal. CAUTION:	E
11.	Never set the vehicle to READY. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more. Release brake pedal. Start CONSULT and perform "BRAKE" self-diagnosis.	BR
	DTC "C1AB8" detected?	G
YE N(ES >> GO TO 15. O >> INSPECTION END	0
	CHECK DATA MONITOR (2)	Н
	With CONSULT	
1.	Turn the power switch OFF to ON without depressing the brake pedal. CAUTION: Never set the vehicle to READY.	I
2.	Repeat step 1 two or more times. CAUTION:	
	Be sure to wait for 5 seconds or more after turning the power switch OFF. Start CONSULT and select "BRAKE", "DATA MONITOR" according this order. Check the "MOTOR TEMPERATURE". Refer to <u>BR-33, "Reference Value"</u> .	J
<u>"M</u>	DTOR TEMPERATURE" is 125 °C (257 °F) or more?	K
N		L
	CHECK MOTOR ROOM	_
	eck for any locations of abnormal heating around the electrically-driven intelligent brake unit.	M
	ES >> Perform diagnosis of the heated locations, and wait for the temperature to fall. GO TO 17.	IVI
17	PERFORM SELF-DIAGNOSIS (7)	Ν
\sim	With CONSULT	
1.	Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:	0
2.	Never set the vehicle to READY. Repeat step 1 two or more times.	
	CAUTION:	Ρ
3. 4.	Be sure to wait for 5 seconds or more after turning the power switch OFF. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION: Never operate the vehicle while waiting.	

5. Turn the power switch ON without depressing the brake pedal.

< DTC/CIRCUIT DIAGNOSIS >

CAUTION:

Never set the vehicle to READY.

- 6. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 7. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

9. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 11. Release brake pedal.
- 12. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1AB8" detected?

- YES >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-510</u>, "Removal and installation".
- NO >> INSPECTION END

< DTC/CIRCUIT DIAGNOSIS >

C1AB9 MOTOR

DTC Logic

INFOID:000000010634253

А

В

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1AB9	MOTOR-3	The occurrence of malfunction in the motor (resolver) of the electrically-driven intelligent brake unit.	Electrically-driven intelligent brake unit
C REI	PRODUCTION PROCED	DURE	
PREC	ONDITIONING		
	ONFIRMATION PROCED ast 10 seconds before cond	URE" has been previously conducted, always ducting the next test.	turn power switch OFF and
	>> GO TO 2.		
CHEC	K DTC DETECTION		
Turn	ONSULT the power switch OFF to C TION:	N without depressing the brake pedal.	
Repe CAU	er set the vehicle to READ eat step 1 two or more time TION:	S.	
Turn Close 3 min	the power switch OFF to e	or more after turning the power switch OFI xit CONSULT, and disconnect CONSULT from door), check that the room lamp is OFF, get ou s closed.	data link connector.
Turn	r operate the vehicle whi the power switch ON withc TION:	le waiting. out depressing the brake pedal.	
Start Turn Close	the power switch OFF to e all doors (including back of	diagnosis result of "BRAKE". xit CONSULT, and disconnect CONSULT from door), check that the room lamp is OFF, get ou	
<mark>CAU</mark> Neve	nutes or more with all doors TION: r operate the vehicle whi	le waiting.	
CAU	the power switch ON withc TION: r set the vehicle to REAE	out depressing the brake pedal.	
. Relea	ess brake pedal by 100 mn ase brake pedal. CONSULT and perform "B	n (3.94 in) or more, and hold the position for 5 RAKE" self-diagnosis.	seconds or more.
	C1AB9" detected?		
	Proceed to <u>BR-393, "Dia</u> >> INSPECTION END	agnosis Procedure".	
agnos	sis Procedure		INFOID:000000010634254
-	K 12V BATTERY		
		xit CONSULT, and disconnect CONSULT from	data link connector

- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. **CAUTION:**

Never operate the vehicle while waiting.

< DTC/CIRCUIT DIAGNOSIS >

- Check the 12V battery terminal connections. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery" and <u>PG-76</u>, "Work Flow".
- 4. Check the 12V battery. Refer to PG-76, "Work Flow".

Is the inspection result normal?

- YES >> GO TO 2.
- NO >> Repair or replace error-detected part and GO TO 2.

2.PERFORM SELF-DIAGNOSIS (1)

With CONSULT

- 1. Connect 12V battery cable to negative terminal.
- 2. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 3. Repeat step 2 two or more times.
 - CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 4. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

6. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 7. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 8. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

10. Turn the power switch ON without depressing the brake pedal.

Never set the vehicle to READY.

- 11. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 12. Release brake pedal.
- 13. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1AB9" detected?

YES >> GO TO 3.

NO >> INSPECTION END

3.CHECK CONNECTOR TERMINALS

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery".
- 4. Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace error-detected part and GO TO 4.

4.PERFORM SELF-DIAGNOSIS (2)

With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal.

C					
	AUTION:	vehicle to DEADY			
		vehicle to READY. wo or more times.			
С	AUTION:				
5. T	urn the power	t for 5 seconds or mo switch OFF to exit CON (including back door), of	NSULT, and disconr	ect CONSULT from da	ata link connector. f the vehicle, and wait for
		ore with all doors closed			
	AUTION:		_		
		the vehicle while wait switch ON without dep		dal	
	AUTION:	Switch ON without dep	ressing the blake p	sudi.	
Ν	lever set the v	vehicle to READY.			
		F and erase self-diagno			to Patricia and the
		switch OFF to exit CON			f the vehicle, and wait for
3		ore with all doors closed		amp is Of 1, get out o	
		the vehicle while wait			
	urn the power	switch ON without dep	ressing the brake pe	edal.	
		vehicle to READY.			
2. D	epress brake	pedal by 100 mm (3.94	in) or more, and ho	ld the position for 5 se	conds or more.
	Release brake				
		۲ and perform "BRAKE"	self-diagnosis.		
	<u>C "C1AB9" de</u>				
YES NO					
NO.	>> INSPE	CTION END			
_		CTION END SWITCH ON POWER	SUPPLY		
5 .CH		R SWITCH ON POWER			
5.CH	HECK POWER	R SWITCH ON POWER	terminal.	ect CONSULT from da	ata link connector.
5. CH	HECK POWER Connect 12V ba Turn the power Close all doors minutes or mo	R SWITCH ON POWER attery cable to negative switch OFF to exit CON	terminal. NSULT, and disconr check that the room		ata link connector. f the vehicle, and wait for
D .CH	HECK POWER Connect 12V ba Turn the power Close all doors minutes or mo CAUTION:	R SWITCH ON POWER attery cable to negative switch OFF to exit CON (including back door), core with all doors closed	terminal. NSULT, and disconr check that the room d.		
D.CH . C . T . C . 3 C . N	HECK POWER Connect 12V ba Turn the power Close all doors minutes or mo CAUTION: Iever operate	R SWITCH ON POWER attery cable to negative switch OFF to exit CON (including back door), c ore with all doors closed the vehicle while wait	terminal. NSULT, and disconr check that the room d. ti ng.	lamp is OFF, get out o	
• C⊢ • C • T • C • C • C • C • C • C • C • C • C • C	HECK POWER Connect 12V ba Furn the power Close all doors minutes or mo CAUTION: Iever operate Disconnect 12V Ery.	R SWITCH ON POWER attery cable to negative switch OFF to exit CON (including back door), core with all doors closed the vehicle while wait / battery cable from neg	terminal. NSULT, and disconr check that the room d. t ing. gative terminal. Ref	lamp is OFF, get out o er to <u>BR-6, "Precautio</u>	f the vehicle, and wait for
. CF . C . T . C . 3 C . D . D	HECK POWER Connect 12V ba Furn the power Close all doors minutes or mo CAUTION: Iever operate Disconnect 12V Ery". Disconnect the	R SWITCH ON POWER attery cable to negative switch OFF to exit CON (including back door), core with all doors closed the vehicle while wait / battery cable from neg electrically-driven intell	terminal. NSULT, and disconr check that the room d. t ing. gative terminal. Ref igent brake unit har	lamp is OFF, get out o er to <u>BR-6, "Precautio</u>	f the vehicle, and wait for
. CF . T . C . T . C . C . C . C . D . D . C	HECK POWER Connect 12V ba Furn the power Close all doors minutes or mo CAUTION: Iever operate Disconnect 12V Disconnect the Connect 12V ba	R SWITCH ON POWER attery cable to negative switch OFF to exit CON (including back door), core with all doors closed the vehicle while wait / battery cable from negative electrically-driven intell attery cable to negative	terminal. NSULT, and disconr check that the room d. t ing. gative terminal. Ref igent brake unit har terminal.	lamp is OFF, get out o er to <u>BR-6, "Precaution</u> ness connector.	f the vehicle, and wait for <u>n for Removing 12V Bat-</u>
. CF . T . C . T . C . C . C . C . D . D . C	HECK POWER Connect 12V ba Furn the power Close all doors minutes or mo CAUTION: Iever operate Disconnect 12V Disconnect the Connect 12V ba	R SWITCH ON POWER attery cable to negative switch OFF to exit CON (including back door), core with all doors closed the vehicle while wait / battery cable from neg electrically-driven intell	terminal. NSULT, and disconr check that the room d. t ing. gative terminal. Ref igent brake unit har terminal.	lamp is OFF, get out o er to <u>BR-6, "Precaution</u> ness connector.	f the vehicle, and wait for <u>n for Removing 12V Bat-</u>
. CF . T . C . C . C . C . C . C	HECK POWER Connect 12V ba Furn the power Close all doors minutes or mo CAUTION: Iever operate Disconnect 12V Disconnect the Connect 12V ba Check the volta	R SWITCH ON POWER attery cable to negative switch OFF to exit CON (including back door), core with all doors closed the vehicle while wait / battery cable from negative electrically-driven intell attery cable to negative	terminal. NSULT, and disconr check that the room d. t ing. gative terminal. Ref igent brake unit har terminal.	lamp is OFF, get out o er to <u>BR-6, "Precaution</u> ness connector. nt brake unit harness c	f the vehicle, and wait for <u>n for Removing 12V Bat-</u>
. C⊢ . T . C . T . C . C . C . D . D . C	HECK POWER Connect 12V ba Furn the power Close all doors minutes or mo CAUTION: Iever operate Disconnect 12V Disconnect the Connect 12V ba Check the volta	R SWITCH ON POWER attery cable to negative switch OFF to exit CON (including back door), of ore with all doors closed the vehicle while wait / battery cable from neg electrically-driven intell attery cable to negative oge between the electric	terminal. NSULT, and disconr check that the room d. t ing. gative terminal. Ref igent brake unit har terminal.	lamp is OFF, get out o er to <u>BR-6, "Precaution</u> ness connector.	f the vehicle, and wait for <u>n for Removing 12V Bat-</u>
. CH . C . T . C . C . C . D . D . D	HECK POWER Connect 12V ba Furn the power Close all doors minutes or ma CAUTION: Iever operate Disconnect 12V Disconnect 12V ba Connect 12V ba Check the volta	R SWITCH ON POWER attery cable to negative switch OFF to exit CON (including back door), core with all doors closed the vehicle while wait / battery cable from negative electrically-driven intell attery cable to negative age between the electric	terminal. NSULT, and disconr check that the room d. t ing. gative terminal. Ref igent brake unit har terminal.	lamp is OFF, get out o er to <u>BR-6, "Precaution</u> ness connector. nt brake unit harness c Voltage	f the vehicle, and wait for <u>n for Removing 12V Bat-</u>
. C⊢ . T . C . T . C . C . C . D . D . C . C	HECK POWER Connect 12V back Furn the power Close all doors minutes or mack CAUTION: Iever operate Disconnect 12V Disconnect 12V back Connect 12V back Check the volta	R SWITCH ON POWER attery cable to negative switch OFF to exit CON (including back door), core with all doors closed the vehicle while wait / battery cable from negative electrically-driven intell attery cable to negative age between the electric n intelligent brake unit Terminal	terminal. NSULT, and disconr check that the room d. ti ng. gative terminal. Ref igent brake unit har terminal. cally-driven intelliger — Ground	lamp is OFF, get out o er to <u>BR-6, "Precaution</u> ness connector. nt brake unit harness c Voltage (Approx.) 0 V	f the vehicle, and wait for <u>n for Removing 12V Bat-</u>
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. C⊢ . C . T . C . C . C . D . D . D . D . D . D . D . C . T . C . C . T . C . C . T . C . C . D . D . D . D . D . D . D . D	HECK POWER Connect 12V ba Jurn the power Close all doors minutes or mo AUTION: Jever operate Disconnect 12V Disconnect the Connect 12V ba Check the volta Electrically-driver Connector E34 Turn the power CAUTION: Jever set the volta	R SWITCH ON POWER attery cable to negative switch OFF to exit CON (including back door), core with all doors closed the vehicle while wait / battery cable from negative ge between the electric n intelligent brake unit Terminal 26 switch ON without dep	terminal. NSULT, and disconr check that the room d. ting. gative terminal. Ref igent brake unit har terminal. cally-driven intelliger Ground ressing the brake pe	lamp is OFF, get out o er to <u>BR-6, "Precaution</u> ness connector. In brake unit harness c Voltage (Approx.) 0 V edal.	f the vehicle, and wait for <u>n for Removing 12V Bat-</u> onnector and ground.
. C⊢ . T . C . T . C . C . C . D . C . C . C . C . C . C . C . C . C . C	HECK POWER Connect 12V ba Jurn the power Close all doors minutes or ma CAUTION: Iever operate Disconnect 12V Ery". Disconnect the Connect 12V ba Check the volta Electrically-driver Connector E34 Turn the power CAUTION: Iever set the volta	R SWITCH ON POWER attery cable to negative switch OFF to exit CON (including back door), c ore with all doors closed the vehicle while wait / battery cable from neg electrically-driven intell attery cable to negative age between the electric n intelligent brake unit Terminal 26 switch ON without dep vehicle to READY. age between the electric	terminal. NSULT, and disconr check that the room d. ting. gative terminal. Ref igent brake unit har terminal. cally-driven intelliger Ground ressing the brake pe	lamp is OFF, get out o er to <u>BR-6, "Precaution</u> ness connector. It brake unit harness c Voltage (Approx.) 0 V edal.	f the vehicle, and wait for <u>n for Removing 12V Bat-</u> onnector and ground.
D.CH . C . T . C . T . C . T . C . T . C . C . T . C T . C 	HECK POWER Connect 12V back Furn the power Close all doors of minutes or model CAUTION: Iever operate Disconnect 12V Disconnect 12V back Connect 12V back Check the volta Electrically-driver Connector E34 Furn the power CAUTION: Iever set the volta Electrically-driver	R SWITCH ON POWER attery cable to negative switch OFF to exit CON (including back door), c ore with all doors closed the vehicle while wait / battery cable from neg electrically-driven intell attery cable to negative age between the electric n intelligent brake unit 26 switch ON without dep vehicle to READY. age between the electric	terminal. NSULT, and disconr check that the room d. ting. gative terminal. Ref igent brake unit har terminal. cally-driven intelliger Ground ressing the brake pe	lamp is OFF, get out o er to <u>BR-6, "Precaution</u> ness connector. It brake unit harness c Voltage (Approx.) 0 V edal.	f the vehicle, and wait for <u>n for Removing 12V Bat-</u> onnector and ground.
D.CH I. C 2. T 3. C 3. C N 4. D 5. D 5. C 7. C 3. T 0. C	HECK POWER Connect 12V ba Jurn the power Close all doors minutes or ma CAUTION: Iever operate Disconnect 12V Ery". Disconnect the Connect 12V ba Check the volta Electrically-driver Connector E34 Turn the power CAUTION: Iever set the volta	R SWITCH ON POWER attery cable to negative switch OFF to exit CON (including back door), c ore with all doors closed the vehicle while wait / battery cable from neg electrically-driven intell attery cable to negative age between the electric n intelligent brake unit Terminal 26 switch ON without dep vehicle to READY. age between the electric	terminal. NSULT, and disconr check that the room d. ting. gative terminal. Ref igent brake unit har terminal. cally-driven intelliger Ground ressing the brake pe	lamp is OFF, get out o er to <u>BR-6, "Precaution</u> ness connector. It brake unit harness c Voltage (Approx.) 0 V edal.	f the vehicle, and wait for <u>n for Removing 12V Bat-</u> onnector and ground.

YES >> GO TO 8. NO >> GO TO 6.

< DTC/CIRCUIT DIAGNOSIS >

< DTC/CIRCUIT DIAGNOSIS >

6.CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6. "Precaution for Removing 12V Bat-</u> <u>tery"</u>.
- 4. Check the 15A fuse (#62).
- 5. Disconnect IPDM E/R harness connector.
- 6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

Electrically-driven intelligent brake unit		IPDM E/R		Continuity
Connector	Terminal	Connector	Terminal	Continuity
E34	26	E15	62	Existed

7. Check the continuity between electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit			Continuity
Connector	Terminal		Continuity
E34	26	Ground	Not existed

Is the inspection result normal?

- YES >> Perform trouble diagnosis for power ON power supply. Refer to <u>PG-29</u>, "Wiring Diagram—On <u>Power Supply—</u>".
- NO >> Repair or replace error-detected part and GO TO 7.

7. PERFORM SELF-DIAGNOSIS (3)

With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect IPDM E/R harness connector.
- 3. Connect 12V battery cable to negative terminal.
- 4. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

 Repeat step 4 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 6. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

Turn the power switch ON without depressing the brake pedal.
 CAUTION:

Never set the vehicle to READY.

- 9. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 10. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

12. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 13. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 14. Release brake pedal.
- 15. Start CONSULT and perform "BRAKE" self-diagnosis.

DTC/CIRCUIT DI	AGNOSIS >		
DTC "C1AB9" det			
′ES >> GO TO			
	TION END		
CHECK 12V BAT	TERY POWER SUPPL	Y	
Close all doors 3 minutes or mo CAUTION:		heck that the roor I.	nnect CONSULT from data link connector. n lamp is OFF, get out of the vehicle, and wait for
Disconnect 12V			efer to BR-6. "Precaution for Removing 12V Bat-
<u>tery"</u> . Disconnect the	electrically-driven intelli	aant braka unit b	rnoss connector
	attery cable to negative		
			ent brake unit harness connector terminals.
			_
-	intelligent brake unit	Voltage	
Connector	Terminal	(Approx.)	
F	1 – 32		
E34	2 – 32	10 – 16 V	
	28 – 32		
	ge between the electric	ally-driven intellig	ent brake unit harness connector terminals.
Connector	Terminal	(Approx.)	
	1 – 32		—
E34	2 – 32	10 – 16 V	
	28 – 32		
the inspection res	ult normal?		_
/ES >> GO TO	11.		
10 >> GO TO			
CHECK 12V BAT	TERY POWER SUPPL	Y CIRCUIT	
Close all doors 3 minutes or mo CAUTION:	(including back door), c ore with all doors closed	heck that the roor I.	nnect CONSULT from data link connector. n lamp is OFF, get out of the vehicle, and wait for
	the vehicle while wait		for to DD C. "Drocenties for Demoving 401/ D.(
Disconnect 12V terv".	ballery caple from neg	jauve terminal. R	efer to BR-6. "Precaution for Removing 12V Bat-
Check the 60A			
			s connector terminal 1 of electrically-driven intel-
	and 60A fusible link (# nuity and for short circu		s connector terminal 2 of electrically-driven intel-
ligent brake unit	and 60A fusible link (#		
Check the 15A			and appropriate torminal OD of the third build and
	unuity and for short cire unit and 15A fuse (#75		ness connector terminal 28 of electrically-driven
the inspection res	•	,	
YES >> Perform		2V battery power	supply. Refer to PG-18, "Wiring Diagram — Bat-
NO >> Repair of	or replace the error-dete	ected parts and G	O TO 10.

NO >> Repair or replace the error-detected parts and GO TO 10.

< DTC/CIRCUIT DIAGNOSIS >

10.PERFORM SELF-DIAGNOSIS (4)

With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal. **CAUTION:**

Never set the vehicle to READY.

- 4. Repeat step 3 two or more times.
 - **CAUTION:**

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 5. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. **CAUTION:**

Never operate the vehicle while waiting.

Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- Start CONSULT and erase self-diagnosis result of "BRAKE".
- 9. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 10. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

11. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 13. Release brake pedal.
- Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1AB9" detected?

YES >> GO TO 4.

NO >> INSPECTION END

11.CHECK GROUND CIRCUIT

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 2. 3 minutes or more with all doors closed. CAUTION:

Never operate the vehicle while waiting.

- Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Bat-3. tery".
- Disconnect the electrically-driven intelligent brake unit harness connector.
- 5. Check the continuity between electrically-driven intelligent brake unit and ground.

Electrically-driven intelligent brake unit			Continuity
Connector	Terminal		Continuity
E34	32	Ground	Existed

Is the inspection result normal?

YES >> GO TO 13.

NO >> Repair or replace the error-detected parts and GO TO 12.

12. PERFORM SELF-DIAGNOSIS (5)

- With CONSULT
 Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal. **CAUTION:**



< DTC/CIRCUIT DIAGNOSIS >

Never set the	vehicle to READY.

4.	Repeat step 3 two or more times.	Δ
4.	CAUTION:	А
	Be sure to wait for 5 seconds or more after turning the power switch OFF.	
5.	Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.	В
6.	Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.	
	CAUTION:	
	Never operate the vehicle while waiting.	С
7.	Turn the power switch ON without depressing the brake pedal.	
	CAUTION:	
o	Never set the vehicle to READY.	D
8. 9.	Start CONSULT and erase self-diagnosis result of "BRAKE". Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.	
	Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for	
	3 minutes or more with all doors closed.	Е
	CAUTION:	
11	Never operate the vehicle while waiting. Turn the power switch ON without depressing the brake pedal.	
	CAUTION:	BR
	Never set the vehicle to READY.	
	Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.	
	Release brake pedal.	G
	Start CONSULT and perform "BRAKE" self-diagnosis.	
	OTC "C1AB9" detected?	Н
YE N(ES >> GO TO 13. D >> INSPECTION END	
	CHECK DATA MONITOR (1)	
ØV	Vith CONSULT	
1.	Connect the electrically-driven intelligent brake unit harness connector.	
2. 3.	Connect 12V battery cable to negative terminal. Turn the power switch OFF to ON without depressing the brake pedal.	J
5.	CAUTION:	
	Never set the vehicle to READY.	
4.	Repeat step 3 two or more times.	Κ
	CAUTION: Be sure to wait for 5 accords or more offer turning the newer switch OEE	
5.	Be sure to wait for 5 seconds or more after turning the power switch OFF. Start CONSULT and select "BRAKE", "DATA MONITOR" according this order.	
6.	Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER". Refer to <u>BR-33</u> , "Reference	L
	Value".	
<u>ls t</u>	ne inspection result normal?	в. Л
YE	ES >> GO TO 14.	M
N		
14	PERFORM SELF-DIAGNOSIS (6)	Ν
	Vith CONSULT	14
1.	Turn the power switch OFF to ON without depressing the brake pedal.	
	CAUTION:	0
_	Never set the vehicle to READY.	
2.	Repeat step 1 two or more times.	
	CAUTION: Be sure to wait for 5 seconds or more after turning the power switch OFF.	Ρ
3.	Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.	
4.	Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for	
	3 minutes or more with all doors closed.	
	CAUTION: Never exercts the vehicle while weiting	
5.	Never operate the vehicle while waiting. Turn the power switch ON without depressing the brake pedal.	
υ.	CAUTION:	

< DTC/CIRCUIT DIAGNOSIS >

Never set the vehicle to READY.

- 6. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 7. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

9. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 11. Release brake pedal.
- 12. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1AB9" detected?

- YES >> GO TO 15.
- NO >> INSPECTION END

15. CHECK DATA MONITOR (2)

With CONSULT

Turn the power switch OFF to ON without depressing the brake pedal.

CAUTION: Never set the vehicle to READY.

Repeat step 1 two or more times.
 CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 3. Start CONSULT and select "BRAKE", "DATA MONITOR" according this order.
- 4. Check the "MOTOR TEMPERATURE". Refer to <u>BR-33, "Reference Value"</u>.

<u>"MOTOR TEMPERATURE" is 125 °C (257 °F) or more?</u>

- YES >> GO TO 16.
- NO >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-510</u>, "Removal and installation".

16.CHECK MOTOR ROOM

Check for any locations of abnormal heating around the electrically-driven intelligent brake unit.

Are there any heated locations?

- YES >> Perform diagnosis of the heated locations, and wait for the temperature to fall. GO TO 17.
- NO >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-510, "Removal and installation"</u>.
- 17.PERFORM SELF-DIAGNOSIS (7)

With CONSULT

 Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

2. Repeat step 1 two or more times.

CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 3. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

5. Turn the power switch ON without depressing the brake pedal.

CAUTION:

Never set the vehicle to READY.

- 6. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 7. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 8. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

< DT(C/CIRCUIT DIAGNOSIS >	
C N	Furn the power switch ON without depressing the brake pedal. CAUTION: Never set the vehicle to READY. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.	А
11. R 12. S	Release brake pedal. Start CONSULT and perform "BRAKE" self-diagnosis. <u>C "C1AB9" detected?</u>	В
YES NO		С
		D
		E

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< DTC/CIRCUIT DIAGNOSIS >

C1ABA MOTOR

DTC Logic

INFOID:000000010634255

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1ABA	MOTOR-4	The occurrence of malfunction in the motor (resolver position) of the electrically-driven intelligent brake unit.	Electrically-driven intelligent brake unit

DTC REPRODUCTION PROCEDURE

1.PRECONDITIONING

If "DTC CONFIRMATION PROCEDURE" has been previously conducted, always turn power switch OFF and wait at least 10 seconds before conducting the next test.

>> GO TO 2.

2. CHECK DTC DETECTION

With CONSULT

 Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

2. Repeat step 1 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 3. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

5. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 6. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 7. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

9. Turn the power switch ON without depressing the brake pedal.

Never set the vehicle to READY.

- 10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 11. Release brake pedal.
- 12. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1ABA" detected?

- YES >> Proceed to <u>BR-402</u>, "Diagnosis Procedure".
- NO >> INSPECTION END

Diagnosis Procedure

1.CHECK 12V BATTERY

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

Never operate the vehicle while waiting.

INFOID:000000010634256

< D	TC/CIRCUIT DIAGNOSIS >	
3.	Check the 12V battery terminal connections. Refer to <u>BR-6</u> , "Precaution for Removing 12V Battery" and <u>PG-76</u> , "Work Flow".	А
4.	, , , , , , , , , , , , , , , , , , ,	
	he inspection result normal?	_
YI N(ES >> GO TO 2. O >> Repair or replace error-detected part and GO TO 2.	В
	PERFORM SELF-DIAGNOSIS (1)	
		С
(I)\ 1.	With CONSULT Connect 12V battery cable to negative terminal.	
	Turn the power switch OFF to ON without depressing the brake pedal.	
	CAUTION:	D
3.	Never set the vehicle to READY. Repeat step 2 two or more times.	
	CAUTION:	Е
٨	Be sure to wait for 5 seconds or more after turning the power switch OFF.	
	Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for	
	3 minutes or more with all doors closed.	BR
	CAUTION:	
6.	Never operate the vehicle while waiting. Turn the power switch ON without depressing the brake pedal.	G
	CAUTION:	0
7.	Never set the vehicle to READY. Start CONSULT and erase self-diagnosis result of "BRAKE".	
	Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.	Н
9.	Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for	
	3 minutes or more with all doors closed. CAUTION:	
	Never operate the vehicle while waiting.	I
10.	Turn the power switch ON without depressing the brake pedal.	
	CAUTION: Never set the vehicle to READY.	J
11.	Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.	
	Release brake pedal.	
	Start CONSULT and perform "BRAKE" self-diagnosis.	Κ
	DTC "C1ABA" detected? ES >> GO TO 3.	
N		L
-	CHECK CONNECTOR TERMINALS	
1.	Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.	
2.	Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for	M
	3 minutes or more with all doors closed.	
	CAUTION: Never operate the vehicle while waiting.	Ν
3.	Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u> , "Precaution for Removing 12V Bat-	
	tery".	
4.	Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.	0
	he inspection result normal?	
YE	ES >> GO TO 5. O >> Repair or replace error-detected part and GO TO 4.	Ρ
	PERFORM SELF-DIAGNOSIS (2)	
(B) 1.	Vith CONSULT Connect the electrically-driven intelligent brake unit harness connector.	

- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal.

< DTC/CIRCUIT DIAGNOSIS >

CAUTION:

Never set the vehicle to READY.

- 4. Repeat step 3 two or more times.
 - CAUTION: Be sure to wait for 5 seconds or more after turning the power switch OFF.
- 5. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

7. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 8. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 9. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

11. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 13. Release brake pedal.
- 14. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1ABA" detected?

YES >> GO TO 5.

NO >> INSPECTION END

5. CHECK POWER SWITCH ON POWER SUPPLY

- 1. Connect 12V battery cable to negative terminal.
- 2. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 3. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

- 4. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, <u>"Precaution for Removing 12V Bat-tery"</u>.
- 5. Disconnect the electrically-driven intelligent brake unit harness connector.
- 6. Connect 12V battery cable to negative terminal.
- 7. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-drive	n intelligent brake unit		Voltage
Connector	Terminal	_	(Approx.)
E34	26	Ground	0 V

8. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

9. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven in	telligent brake unit		Voltage
Connector	Terminal		(Approx.)
E34	26	Ground	10 – 16 V

Is the inspection result normal?

YES >> GO TO 8. NO >> GO TO 6.

< DTC/CIRCUIT DIAGNOSIS >

6.CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6. "Precaution for Removing 12V Bat-</u> tery".
- 4. Check the 15A fuse (#62).
- 5. Disconnect IPDM E/R harness connector.
- 6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

Electrically-driven in	itelligent brake unit	IPDN	/I E/R	Continuity
Connector	Terminal	Connector	Terminal	Continuity
E34	26	E15	62	Existed

7. Check the continuity between electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit			Continuity
Connector	Terminal		Continuity
E34	26	Ground	Not existed

Is the inspection result normal?

- YES >> Perform trouble diagnosis for power ON power supply. Refer to <u>PG-29</u>, "Wiring Diagram—On ^H <u>Power Supply—</u>".
- NO >> Repair or replace error-detected part and GO TO 7.

7.PERFORM SELF-DIAGNOSIS (3)

With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect IPDM E/R harness connector.
- 3. Connect 12V battery cable to negative terminal.
- 4. Turn the power switch OFF to ON without depressing the brake pedal.

CAUTION: Never set the vehicle to READY.

Repeat step 4 two or more times.
 CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 6. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

CAUTION:

 Never operate the vehicle while waiting.

 8. Turn the power switch ON without depressing the brake pedal.

CAUTION: Never set the vehicle to READY.

- 9. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 10. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

12. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 13. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 14. Release brake pedal.
- 15. Start CONSULT and perform "BRAKE" self-diagnosis.

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< DTC/CIRCUIT DIAGNOSIS >

Is DTC "C1ABA" detected?

YES >> GO TO 8.

NO >> INSPECTION END

8. CHECK 12V BATTERY POWER SUPPLY

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery".
- 4. Disconnect the electrically-driven intelligent brake unit harness connector.
- 5. Connect 12V battery cable to negative terminal.
- 6. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

Electrically-driver	Voltage	
Connector	Terminal	(Approx.)
	1 – 32	
E34	2 – 32	10 – 16 V
	28 – 32	

7. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

8. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

Electrically-drive	Electrically-driven intelligent brake unit		
Connector	Terminal	(Approx.)	
	1 – 32		
E34	2 - 32	10 – 16 V	
	28 - 32		

Is the inspection result normal?

YES >> GO TO 11.

NO >> GO TO 9.

9.CHECK 12V BATTERY POWER SUPPLY CIRCUIT

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6. "Precaution for Removing 12V Bat-</u> tery".
- 4. Check the 60A fusible link (#F).
- 5. Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).
- 6. Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).
- 7. Check the 15A fuse (#75).
- 8. Check the continuity and for short circuit between harness connector terminal 28 of electrically-driven intelligent brake unit and 15A fuse (#75).

Is the inspection result normal?

- YES >> Perform trouble diagnosis for 12V battery power supply. Refer to <u>PG-18</u>, "Wiring Diagram Battery Power Supply —".
- NO >> Repair or replace the error-detected parts and GO TO 10.

< DTC/CIRCUIT DIAGNOSIS >

10. PERFORM SELF-DIAGNOSIS (4)

(E)V	Vith CONSULI					
1.		ectrically-driven intellige	ent brake unit harnes	s connector.		
2.	Connect 12V ba	attery cable to negative	e terminal.			В
3.		switch OFF to ON with	out depressing the b	rake pedal.		D
	CAUTION:					
		vehicle to READY.				0
4.		two or more times.				С
	CAUTION:	t fou F coccudo ou uno	we offer truncher the			
5		it for 5 seconds or mo			lata link connector	
5. 6.		switch OFF to exit CO			of the vehicle, and wait for	D
0.		ore with all doors close		amp is OFF, get out	of the vehicle, and wait for	
	CAUTION:		u.			
		the vehicle while wai	tina			Е
7		switch ON without dep		dal		
	CAUTION:		rocomy the brane pe			
		vehicle to READY.				BR
8.		F and erase self-diagno	sis result of "BRAKE	"		DI
		switch OFF to exit CO			lata link connector.	
10.	Close all doors	(including back door),	check that the room I	amp is OFF, get out	of the vehicle, and wait for	
		ore with all doors close	d.			G
	CAUTION:					
		the vehicle while wai				
11.		switch ON without dep	pressing the brake pe	dal.		Н
	CAUTION:					
4.0		vehicle to READY.				
		pedal by 100 mm (3.94	in) or more, and hol	d the position for 5 s	econds or more.	
	Release brake		" colf diagnosia			
		F and perform "BRAKE	sell-ulagnosis.			
	DTC "C1ABA" de					J
	ES >> GO TO					0
N		CTION END				
11	.CHECK GROU	JND CIRCUIT				12
			NOULT and discours		lata link connector	Κ
		switch OFF to exit CO				
2.		ore with all doors close		amp is OFF, get out	of the vehicle, and wait for	
	CAUTION:		u.			L
		the vehicle while wai	tina			
3.				r to BR-6 "Precauti	on for Removing 12V Bat-	
0.	tery".		guire terminan rere			M
4.		electrically-driven intel	ligent brake unit harn	ess connector.		
5.		inuity between electrica			d.	
				Ŭ		Ν
	Flectrically_driver	n intelligent brake unit				1 1
		_		Continuity		
	Connector	Terminal				\cap
	E34	32	Ground	Existed		0
ls t	ne inspection res	sult normal?				

YES >> GO TO 13.

NO >> Repair or replace the error-detected parts and GO TO 12.

12. PERFORM SELF-DIAGNOSIS (5)

- With CONSULT
 Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal. **CAUTION:**



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< DTC/CIRCUIT DIAGNOSIS >

Never set the vehicle to READY.

4. Repeat step 3 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 5. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

7. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 8. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 9. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 10. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

11. Turn the power switch ON without depressing the brake pedal.

Never set the vehicle to READY.

- 12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 13. Release brake pedal.
- 14. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1ABA" detected?

YES >> GO TO 13.

NO >> INSPECTION END

13.CHECK DATA MONITOR (1)

() With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

4. Repeat step 3 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 5. Start CONSULT and select "BRAKE", "DATA MONITOR" according this order.
- Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER". Refer to <u>BR-33, "Reference</u> <u>Value"</u>.

Is the inspection result normal?

YES >> GO TO 14.

NO >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-510</u>, "Removal and installation".

14.PERFORM SELF-DIAGNOSIS (6)

With CONSULT

1. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

2. Repeat step 1 two or more times. CAUTION: Be sure to wait for 5 seconds or

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 3. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 4. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

5. Turn the power switch ON without depressing the brake pedal. **CAUTION:**

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< DTC/CIRCUIT DIAGNOSIS >

Never set the vehicle to READY.	-
 Start CONSULT and erase self-diagnosis result of "BRAKE". Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. 	Α.
CAUTION:	В
Never operate the vehicle while waiting.9. Turn the power switch ON without depressing the brake pedal.	
CAUTION: Never set the vehicle to READY.	С
10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.	
 Release brake pedal. Start CONSULT and perform "BRAKE" self-diagnosis. 	D
Is DTC "C1ABA" detected?	
YES >> GO TO 15.	E
NO >> INSPECTION END 15 CHECK DATA MONITOD (2)	
15. CHECK DATA MONITOR (2)	BR
With CONSULT Turn the power switch OFF to ON without depressing the brake pedal. 	
CAUTION:	
Never set the vehicle to READY.2. Repeat step 1 two or more times.	G
CAUTION: Be sure to wait for 5 seconds or more after turning the power switch OFF.	
Start CONSULT and select "BRAKE", "DATA MONITOR" according this order.	Н
4. Check the "MOTOR TEMPERATURE". Refer to <u>BR-33. "Reference Value"</u> .	
<u>"MOTOR TEMPERATURE" is 125 °C (257 °F) or more?</u> YES >> GO TO 16.	I
NO >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-510</u> , " <u>Removal and installation</u> ".	
16.CHECK MOTOR ROOM	J
Check for any locations of abnormal heating around the electrically-driven intelligent brake unit.	
<u>Are there any heated locations?</u> YES >> Perform diagnosis of the heated locations, and wait for the temperature to fall, GO TO 17.	K
NO >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-510</u> , "Removal and installation".	n
17. PERFORM SELF-DIAGNOSIS (7)	
 Turn the power switch OFF to ON without depressing the brake pedal. CAUTION: 	
Never set the vehicle to READY.	M
2. Repeat step 1 two or more times. CAUTION:	
Be sure to wait for 5 seconds or more after turning the power switch OFF.	Ν
 Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 	•
3 minutes or more with all doors closed.	0
Never operate the vehicle while waiting.	
5. Turn the power switch ON without depressing the brake pedal.	_
CAUTION: Never set the vehicle to READY.	Ρ
Start CONSULT and erase self-diagnosis result of "BRAKE".	
 Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 	•
3 minutes or more with all doors closed.	
CAUTION:	

Never operate the vehicle while waiting.

< DTC/CIRCUIT DIAGNOSIS >

9. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 11. Release brake pedal.
- 12. Start CONSULT and perform "BRAKE" self-diagnosis.
- Is DTC "C1ABA" detected?
- YES >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-510, "Removal and installation"</u>.
- NO >> INSPECTION END

< DTC/CIRCUIT DIAGNOSIS >

C1AC0 CONTROL MODULE

DTC Logic

INFOID:000000010634257

DTC DETECTION LOGIC

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E	Э

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DTC	Display item	Malfunction detection condition	Possible causes	
C1AC0	CONTROL MODULE TEMP-2	 Temperature signal of control module that is integrated with electrically-driven intelligent brake unit is as shown below. Control module temperature signal: -50°C (-122°F) ≥ Control module temperature signal Control module temperature signal: 150°C (302°F) ≤ Control module temperature signal A malfunction is detected in the temperature detection circuit of the control module that is integrated with the electrically-driven intelligent brake unit. 	 Harness or connector Electrically-driven intelligent brake unit 	
DTC REI	PRODUCTION PROCEDU	RE		В
1.PREC	ONDITIONING			
If "DTC C		E" has been previously conducted, always the next test.	turn power switch OFF and	(
•	>> GO TO 2.			
Z .CHEC	K DTC DETECTION			
		without depressing the broke nodel		
	TION:	without depressing the brake pedal.		
	r set the vehicle to READY.			
	at step 1 two or more times.			
Be s	ure to wait for 5 seconds or	more after turning the power switch OF		
		CONSULT, and disconnect CONSULT from or), check that the room lamp is OFF, get ou		
	utes or more with all doors cl			
	TION:	141.0		
	r operate the vehicle while the power switch ON without			
CAU	TION:			
	r set the vehicle to READY. CONSULT and erase self-dia	anosis result of "BRAKE"		
		CONSULT, and disconnect CONSULT from	n data link connector.	
8. Close	e all doors (including back doo	or), check that the room lamp is OFF, get ou		
	utes or more with all doors clo TION:	osed.		
	r operate the vehicle while	waiting.		
	the power switch ON without	depressing the brake pedal.		
	TION: r set the vehicle to READY.			
10. Depre	ess brake pedal by 100 mm (3	3.94 in) or more, and hold the position for 5	seconds or more.	
	ase brake pedal. CONSULT and perform "BRA	KE" solf diagnosis		
	CONSOLT and perform BRA	INE SEII-UIAYIIUSIS.		

- YES >> Proceed to <u>BR-412</u>, "Diagnosis Procedure".
- NO >> INSPECTION END

< DTC/CIRCUIT DIAGNOSIS >

Diagnosis Procedure

INFOID:000000010634258

1.CHECK 12V BATTERY

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

- 3. Check the 12V battery terminal connections. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery" and <u>PG-76</u>, "Work Flow".
- 4. Check the 12V battery. Refer to PG-76, "Work Flow".

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace error-detected parts and GO TO 2.

2.PERFORM SELF-DIAGNOSIS (1)

With CONSULT

- 1. Connect 12V battery cable to negative terminal.
- Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

3. Repeat step 2 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 4. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

6. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 7. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 8. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

10. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 11. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 12. Release brake pedal.
- 13. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1AC0" detected?

YES >> GO TO 3.

NO >> INSPECTION END

3.CHECK CONNECTOR TERMINALS

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery".
- 4. Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.

Is the inspection result normal?

< DTC/CIRCUIT DIAGNOSIS > YES >> GO TO 5. NO >> Repair or replace error-detected parts and GO TO 4. 4.PERFORM SELF-DIAGNOSIS (2) (2) (2) (2) (2) (2) (2) (2) (2) (3) (3) (4) (4) (5) (5) (6) (7)<	A
NO >> Repair or replace error-detected parts and GO TO 4. 4.PERFORM SELF-DIAGNOSIS (2) With CONSULT 1. Connect the electrically-driven intelligent brake unit harness connector. 2. Connect 12V battery cable to negative terminal.	А
 4.PERFORM SELF-DIAGNOSIS (2) With CONSULT Connect the electrically-driven intelligent brake unit harness connector. Connect 12V battery cable to negative terminal. 	
 With CONSULT Connect the electrically-driven intelligent brake unit harness connector. Connect 12V battery cable to negative terminal. 	
 Connect the electrically-driven intelligent brake unit harness connector. Connect 12V battery cable to negative terminal. 	
2. Connect 12V battery cable to negative terminal.	В
3. Turn the power switch OFF to ON without depressing the brake pedal.	С
CAUTION: Never set the vehicle to READY.	C
4. Repeat step 3 two or more times.	
CAUTION:	D
Be sure to wait for 5 seconds or more after turning the power switch OFF.	
 Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait 	for
3 minutes or more with all doors closed.	E
CAUTION:	
Never operate the vehicle while waiting.7. Turn the power switch ON without depressing the brake pedal.	DD
CAUTION:	BR
Never set the vehicle to READY.	
8. Start CONSULT and erase self-diagnosis result of "BRAKE".	G
 Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait 	-
3 minutes or more with all doors closed.	
CAUTION:	Н
Never operate the vehicle while waiting.	
 Turn the power switch ON without depressing the brake pedal. CAUTION: 	
Never set the vehicle to READY.	
12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.	
 Release brake pedal. Start CONSULT and perform "BRAKE" self-diagnosis. 	J
Is DTC "C1AC0" detected?	0
YES >> GO TO 5.	
NO >> INSPECTION END	K
5. CHECK POWER SWITCH ON POWER SUPPLY	
Connect 12V battery cable to negative terminal.	
 Connect 12V battery cable to negative terminal. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. 	L
3. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait	for
3 minutes or more with all doors closed.	M
CAUTION: Never operate the vehicle while waiting.	IVI
 Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6, "Precaution for Removing 12V E</u> 	<u>Bat-</u>
tery".	N
 Disconnect the electrically-driven intelligent brake unit harness connector. Connect 12V batteny cable to negative terminal. 	
 Connect 12V battery cable to negative terminal. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground. 	
	0
Electrically-driven intelligent brake unit Voltage	
Connector Terminal (Approx.)	Р
E34 26 Ground 0 V	P
8. Turn the power switch ON without depressing the brake pedal.	

8. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

9. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

< DTC/CIRCUIT DIAGNOSIS >

Electrically-driven intelligent brake unit			Voltage	
Connector	Terminal		(Approx.)	
E34	26	Ground	10 – 16 V	

Is the inspection result normal?

YES >> GO TO 8.

NO >> GO TO 6.

 ${f 6}.$ CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

- Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery".
- 4. Check the 15A fuse (#62).
- 5. Disconnect IPDM E/R harness connector.
- 6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

Electrically-driven in	telligent brake unit	IPDI	M E/R	Continuity
Connector	Terminal	Connector	Terminal	Continuity
E34	26	E15	62	Existed

7. Check the continuity between electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit			Continuity	
Connector	Terminal		Continuity	
E34	26	Ground	Not existed	

Is the inspection result normal?

- YES >> Perform trouble diagnosis for power ON power supply. Refer to <u>PG-29</u>, "Wiring Diagram—On <u>Power Supply</u>—".
- NO >> Repair or replace error-detected parts and GO TO 7.

7. PERFORM SELF-DIAGNOSIS (3)

With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect IPDM E/R harness connector.
- 3. Connect 12V battery cable to negative terminal.
- 4. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

 Repeat step 4 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 6. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

8. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 9. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 10. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 11. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

< D	TC/CIRCUIT D	IAGNOSIS >	o contine E		
	CAUTION:				
		the vehicle while wait			А
12.		switch ON without dep	ressing the brake	pedal.	
	CAUTION:	vehicle to READY.			
13.			in) or more, and h	hold the position for 5 seconds or more.	В
	Release brake		in) or more, and r		
15.	Start CONSULT	and perform "BRAKE"	self-diagnosis.		
<u>Is E</u>	<u> 0TC "C1AC0" de</u>	tected?			С
	ES >> GO TO				
N		CTION END			
8.	CHECK 12V BA	ITERY POWER SUPPI	Y		D
1.				nnect CONSULT from data link connector.	
2.				n lamp is OFF, get out of the vehicle, and wait for	Е
	3 minutes or mo	ore with all doors closed	1.		
		the vehicle while wait	ina		
3.				efer to BR-6, "Precaution for Removing 12V Bat-	BR
	<u>tery"</u> .		-		
4.		electrically-driven intelli		arness connector.	
5. 6.		attery cable to negative		ent brake unit harness connector terminals.	G
0.			any-unven menge	ent blake unit namess connector terminals.	
	Electrically-driver	n intelligent brake unit	<u>хи и</u>	_	
	-	-	Voltage (Approx.)		Н
	Connector	Terminal	(//pp/ox.)		
		1 – 32			
	E34	2 – 32	10 – 16 V		I
		28 – 32			
7.		switch ON without dep	ressing the brake	pedal.	J
	CAUTION:	which to DEADY			
8.		vehicle to READY.	ally-driven intellio	ent brake unit harness connector terminals.	
0.					Κ
	Electrically-driver	n intelligent brake unit	Valtana	_	
	-	Terminal	Voltage (Approx.)		
	Connector		(/ ())		L
		1 – 32			
	E34	2 – 32	10 – 16 V		
		28 – 32			M
ls t	he inspection res	sult normal?			
YE	ES >> GO TO	11.			
N	0 >> GO TO	9.			Ν
9.	CHECK 12V BAT	ITERY POWER SUPPI	Y CIRCUIT		
1.				nnect CONSULT from data link connector.	\circ
1. 2.				n lamp is OFF, get out of the vehicle, and wait for	0
<u> </u>		ore with all doors closed			
	CAUTION:				Р
-		the vehicle while wait			٢
3.		battery cable from neg	gative terminal. Re	efer to <u>BR-6, "Precaution for Removing 12V Bat-</u>	
4.	tery". Check the 60A	fusible link (#F).			
4. 5.			iit between harnes	s connector terminal 1 of electrically-driven intel-	
-		t and 60A fusible link (#			

Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).

< DTC/CIRCUIT DIAGNOSIS >

- 7. Check the 15A fuse (#75).
- 8. Check the continuity and for short circuit between harness connector terminal 28 of electrically-driven intelligent brake unit and 15A fuse (#75).

Is the inspection result normal?

- YES >> Perform trouble diagnosis for 12V battery power supply. Refer to <u>PG-18</u>, "Wiring Diagram Battery Power Supply —".
- NO >> Repair or replace error-detected parts and GO TO 10.

10.PERFORM SELF-DIAGNOSIS (4)

(B) With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

4. Repeat step 3 two or more times.

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 5. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

7. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 8. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 9. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 10. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

11. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 13. Release brake pedal.
- 14. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1AC0" detected?

YES >> GO TO 11.

NO >> INSPECTION END

11.CHECK GROUND CIRCUIT

1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.

2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION: Never operate the vehicle while waiting.

- Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "<u>Precaution for Removing 12V Bat-tery</u>".
- 4. Disconnect the electrically-driven intelligent brake unit harness connector.
- 5. Check the continuity between electrically-driven intelligent brake unit and ground.

Electrically-driven intelligent brake unit			Continuity
Connector	Terminal		Continuity
E34	32	Ground	Existed

Is the inspection result normal?

YES >> GO TO 13.

< DTC/CIRCUIT DIAGNOSIS >	
NO >> Repair or replace error-detected parts and GO TO 12.	
12.perform self-diagnosis (5)	А
With CONSULT	
 Connect the electrically-driven intelligent brake unit harness connector. Connect 12V battery cable to negative terminal. 	В
Turn the power switch OFF to ON without depressing the brake pedal.	
CAUTION:	0
Never set the vehicle to READY.4. Repeat step 3 two or more times.	С
CAUTION:	
Be sure to wait for 5 seconds or more after turning the power switch OFF.	D
 Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 	
3 minutes or more with all doors closed.	
CAUTION:	E
Never operate the vehicle while waiting.	
 Turn the power switch ON without depressing the brake pedal. CAUTION: 	DD
Never set the vehicle to READY.	BR
8. Start CONSULT and erase self-diagnosis result of "BRAKE".	
 Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 	G
3 minutes or more with all doors closed.	
CAUTION:	
Never operate the vehicle while waiting.	Н
 Turn the power switch ON without depressing the brake pedal. CAUTION: 	
Never set the vehicle to READY.	
12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.	I
13. Release brake pedal.	
 Start CONSULT and perform "BRAKE" self-diagnosis. <u>Is DTC "C1AC0" detected?</u> 	J
YES >> GO TO 13.	
NO >> INSPECTION END	
13.CHECK DATA MONITOR (1)	Κ
 With CONSULT Connect the electrically-driven intelligent brake unit harness connector. 	
 Connect 12V battery cable to negative terminal. 	L
Turn the power switch OFF to ON without depressing the brake pedal.	
CAUTION: Never set the vehicle to READY.	Μ
4. Repeat step 3 two or more times.	
CAUTION:	
Be sure to wait for 5 seconds or more after turning the power switch OFF.	Ν
 Start CONSULT and select "BRAKE" and "DATA MONITOR" according this order. Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER". Refer to <u>BR-33</u>, "Reference 	
Value".	
Is the inspection result normal?	0
YES >> GO TO 14.	
NO >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-510, "Removal and installation"</u> .	Р
14.PERFORM SELF-DIAGNOSIS (6)	I
With CONSULT	
1. Turn the power switch OFF to ON without depressing the brake pedal.	
CAUTION: Nover set the vehicle to READY	
Never set the vehicle to READY.	

2. Repeat step 1 two or more times. CAUTION:

< DTC/CIRCUIT DIAGNOSIS >

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 3. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 4. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION: Never operate the vehicle while waiting.

5. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 6. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 7. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 8. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 - CAUTION:

Never operate the vehicle while waiting.

9. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 11. Release brake pedal.
- 12. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1AC0" detected?

- YES >> GO TO 15.
- NO >> INSPECTION END

15. CHECK DATA MONITOR (2)

() With CONSULT

 Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

 Repeat step 1 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 3. Start CONSULT and select "BRAKE" and "DATA MONITOR" according this order.
- 4. Check the "CONTROL MODULE TEMP". Refer to <u>BR-33, "Reference Value"</u>.

<u>"CONTROL MODULE TEMP" is 150 °C (302 °F) or more?</u>

- YES >> GO TO 16.
- NO >> INSPECTION END

16.CHECK MOTOR ROOM

Check for any locations of abnormal heating around the electrically-driven intelligent brake unit.

Are there any heated locations?

- YES >> Perform diagnosis of the heated locations, and wait for the temperature to fall. GO TO 17.
- NO >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-510</u>, "Removal and installation"

17.PERFORM SELF-DIAGNOSIS (7)

(D) With CONSULT

Turn the power switch OFF to ON without depressing the brake pedal.

Never set the vehicle to READY.

 Repeat step 1 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 3. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 4. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

5. Turn the power switch ON without depressing the brake pedal.

CAUTION: Never set the vehicle to READY. А 6. Start CONSULT and erase self-diagnosis result of "BRAKE". 7. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. 8. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for В 3 minutes or more with all doors closed. CAUTION: Never operate the vehicle while waiting. 9. Turn the power switch ON without depressing the brake pedal. CAUTION: Never set the vehicle to READY. 10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more. D 11. Release brake pedal. 12. Start CONSULT and perform "BRAKE" self-diagnosis. Is DTC "C1AC0" detected? Ε YES >> Replace the electrically-driven intelligent brake unit. Refer to BR-510, "Removal and installation". NO >> INSPECTION END BR Н J Κ

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C1AC1 CONTROL MODULE

DTC Logic

INFOID:000000010634259

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1AC1	CONTROL MODULE TEMP-3	 Temperature of control module that is integrated with electrically-driven intelligent brake unit is as shown below. Control module temperature: -50°C (-122°F) ≥ Control module temperature Control module temperature: 150°C (302°F) ≤ Control module temperature A malfunction is detected in the temperature detection circuit of the control module that is integrated with the electrically-driven intelligent brake unit. 	 Harness or connector Electrically-driven intelligent brake unit

DTC REPRODUCTION PROCEDURE

1.PRECONDITIONING

If "DTC CONFIRMATION PROCEDURE" has been previously conducted, always turn power switch OFF and wait at least 10 seconds before conducting the next test.

>> GO TO 2.

2. CHECK DTC DETECTION

(I) With CONSULT

1. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

2. Repeat step 1 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 3. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 4. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.
5. Turn the power switch ON without depressing the brake pedal.
CAUTION:

Never set the vehicle to READY.

- 6. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 7. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 8. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

9. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 11. Release brake pedal.
- 12. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1AC1" detected?

- YES >> Proceed to <u>BR-421, "Diagnosis Procedure"</u>.
- NO >> INSPECTION END

< DTC/CIRCUIT DIAGNOSIS > **Diagnosis** Procedure INFOID:000000010634260 А 1.CHECK 12V BATTERY 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. 2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. **CAUTION:** Never operate the vehicle while waiting. Check the 12V battery terminal connections. Refer to <u>BR-6</u>, "Precaution for <u>Removing 12V Battery</u>" and PG-76, "Work Flow". Check the 12V battery. Refer to <u>PG-76, "Work Flow"</u>. D Is the inspection result normal? YES >> GO TO 2. NO >> Repair or replace error-detected parts and GO TO 2. Е 2. PERFORM SELF-DIAGNOSIS (1) (P)With CONSULT BR 1. Connect 12V battery cable to negative terminal. Turn the power switch OFF to ON without depressing the brake pedal. **CAUTION:** Never set the vehicle to READY. Repeat step 2 two or more times. **CAUTION:** Be sure to wait for 5 seconds or more after turning the power switch OFF. Н Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. 5. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION: Never operate the vehicle while waiting. Turn the power switch ON without depressing the brake pedal. CAUTION: Never set the vehicle to READY. Start CONSULT and erase self-diagnosis result of "BRAKE". 8. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. 9. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for Κ 3 minutes or more with all doors closed. **CAUTION:** Never operate the vehicle while waiting. L 10. Turn the power switch ON without depressing the brake pedal. CAUTION: Never set the vehicle to READY. 11. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more. M 12. Release brake pedal. 13. Start CONSULT and perform "BRAKE" self-diagnosis. Is DTC "C1AC1" detected? Ν YES >> GO TO 3. NO >> INSPECTION END 3.check connector terminals Ο Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. 1. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for Ρ 3 minutes or more with all doors closed. CAUTION: Never operate the vehicle while waiting. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery".

4. Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.

Is the inspection result normal?

< DTC/CIRCUIT DIAGNOSIS >

- YES >> GO TO 5.
- NO >> Repair or replace error-detected parts and GO TO 4.

4.PERFORM SELF-DIAGNOSIS (2)

(P)With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal. **CAUTION:**
- Never set the vehicle to READY.
- 4. Repeat step 3 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. 5.
- 6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

7. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 8. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 9. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 10. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. **CAUTION:**

Never operate the vehicle while waiting.

11. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 13. Release brake pedal.
- 14. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1AC1" detected?

YES >> GO TO 5.

NO >> INSPECTION END

${f 5}$. Check power switch on power supply

- 1. Connect 12V battery cable to negative terminal.
- Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. 2.
- 3. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. **CAUTION:**

Never operate the vehicle while waiting.

- 4. Disconnect 12V battery cable from negative terminal. Refer to BR-6, "Precaution for Removing 12V Battery".
- Disconnect the electrically-driven intelligent brake unit harness connector.
- 6. Connect 12V battery cable to negative terminal.
- 7. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-driver	Electrically-driven intelligent brake unit		rically-driven intelligent brake unit		Voltage
Connector			(Approx.)		
E34	26	Ground	0 V		

8. Turn the power switch ON without depressing the brake pedal. **CAUTION:**

Never set the vehicle to READY.

Check the voltage between the electrically-driven intelligent brake unit harness connector and ground. 9

< DTC/CIRCUIT DIAGNOSIS >

	ntelligent brake unit			
Connector	Terminal	_	Voltage (Approx.)	
E34	26	Ground	10 – 16 V	
s the inspection resu	-			
YES >> GO TO 8				
NO >> GO TO 6				
CHECK POWER	SWITCH ON POWER	SUPPLY CIRCUIT		
. Close all doors (i 3 minutes or mor CAUTION:	e with all doors close	check that the room I d.		lata link connector. of the vehicle, and wait for
	he vehicle while wai t battery cable from ne		r to BR-6 "Precautio	on for Removing 12V Bat-
. Check the 15A fu		-		
	uity between electrica		brake unit and IPDM	E/R.
	,	,		
Electrically-driven	intelligent brake unit	IPDI	M E/R	Continuity
Connector	Terminal	Connector	Terminal	Continuity
E34	26	E15	62	Existed
. Check the contin	uity between electrica	Illy-driven intelligent	brake unit harness co	onnector and ground.
Electrically-driven	ntelligent brake unit		Continuity	
Connector	Terminal		Continuity	
Connector E34	Terminal 26	Ground	Not existed	
E34	26	Ground		
E34 <u>s the inspection resu</u> YES >> Perform	26 I <u>lt normal?</u> trouble diagnosis for		Not existed	<u>29. "Wiring Diagram—On</u>
E34 <u>s the inspection resu</u> YES >> Perform <u>Power State</u>	26 I <u>lt normal?</u> trouble diagnosis for upply—".	power ON power s	Not existed	<u>29. "Wiring Diagram—On</u>
E34 <u>s the inspection resu</u> YES >> Perform <u>Power Si</u> NO >> Repair of	26 I <u>lt normal?</u> trouble diagnosis for <u>upply—</u> ". r replace error-detecte	power ON power s	Not existed	<u>29. "Wiring Diagram—On</u>
E34 <u>s the inspection resu</u> YES >> Perform <u>Power State</u>	26 I <u>lt normal?</u> trouble diagnosis for <u>upply—</u> ". r replace error-detecte	power ON power s	Not existed	<u>29. "Wiring Diagram—On</u>
E34 <u>S the inspection resu</u> YES >> Perform <u>Power Si</u> NO >> Repair of PERFORM SELF- With CONSULT	26 I <u>lt normal?</u> trouble diagnosis for upply—". r replace error-detecte DIAGNOSIS (3)	power ON power s	Not existed upply. Refer to <u>PG-</u> 7.	29. "Wiring Diagram—On
E34 Sthe inspection resume YES >> Perform Power Si NO >> Repair of PERFORM SELF- With CONSULT Connect the elect	26 I <u>It normal?</u> trouble diagnosis for <u>upply—</u> ". r replace error-detecte DIAGNOSIS (3) trically-driven intellige	power ON power s ed parts and GO TO ent brake unit harnes	Not existed upply. Refer to <u>PG-</u> 7.	<u>29. "Wiring Diagram—On</u>
E34 the inspection resurves YES >> Perform <u>Power SP</u> NO >> Repair of PERFORM SELF- With CONSULT Connect the elect Connect IPDM E Connect 12V bat	26 <u>It normal?</u> trouble diagnosis for <u>upply—</u> ". r replace error-detecte DIAGNOSIS (3) trically-driven intellige /R harness connector tery cable to negative	power ON power s ed parts and GO TO ent brake unit harnes terminal.	Not existed upply. Refer to <u>PG-</u> 7. s connector.	29. "Wiring Diagram—On
E34 the inspection resurves YES >> Perform <u>Power Single</u> NO >> Repair of PERFORM SELF- With CONSULT Connect the elect Connect IPDM E Connect 12V bat Turn the power s	26 <u>It normal?</u> trouble diagnosis for <u>upply—</u> ". r replace error-detecte DIAGNOSIS (3) trically-driven intellige /R harness connector	power ON power s ed parts and GO TO ent brake unit harnes terminal.	Not existed upply. Refer to <u>PG-</u> 7. s connector.	29, "Wiring Diagram—On
E34 Sthe inspection resurves YES >> Perform <u>Power Single</u> NO >> Repair of PERFORM SELF- With CONSULT Connect the elect Connect IPDM E Connect 12V bat Turn the power single CAUTION:	26 <u>It normal?</u> trouble diagnosis for <u>upply—</u> ". r replace error-detecte DIAGNOSIS (3) trically-driven intellige /R harness connector tery cable to negative witch OFF to ON with	power ON power s ed parts and GO TO ent brake unit harnes terminal.	Not existed upply. Refer to <u>PG-</u> 7. s connector.	29. "Wiring Diagram—On
E34 Sthe inspection resurves YES >> Perform <u>Power Si</u> NO >> Repair of PERFORM SELF- With CONSULT . Connect the elect . Connect IPDM E . Connect 12V bat . Turn the power si CAUTION:	26 <u>It normal?</u> trouble diagnosis for <u>upply—</u> ". r replace error-detecte DIAGNOSIS (3) trically-driven intellige /R harness connector tery cable to negative witch OFF to ON with chicle to READY .	power ON power s ed parts and GO TO ent brake unit harnes terminal.	Not existed upply. Refer to <u>PG-</u> 7. s connector.	29. "Wiring Diagram—On
E34 the inspection resurverse YES >> Perform Power Si NO >> Repair of PERFORM SELF- With CONSULT Connect the elect Connect IPDM E Connect 12V bat Turn the power si CAUTION: Repeat step 4 tw CAUTION: Be sure to wait	26 <u>It normal?</u> trouble diagnosis for <u>upply—</u> ". r replace error-detected DIAGNOSIS (3) etrically-driven intelliged /R harness connector tery cable to negative witch OFF to ON with chicle to READY. to or more times. for 5 seconds or mo	power ON power s ed parts and GO TO ent brake unit harnes terminal. out depressing the b	Not existed upply. Refer to PG-2 7. s connector. rake pedal. power switch OFF.	
E34 the inspection resurver YES >> Perform Power SP NO >> Repair of PERFORM SELF- With CONSULT Connect the elect Connect IPDM E Connect 12V batt Turn the power set Repeat step 4 tw CAUTION: Be sure to wait Turn the power set	26 <u>It normal?</u> trouble diagnosis for <u>upply—</u> ". r replace error-detected DIAGNOSIS (3) trically-driven intelliged /R harness connector tery cable to negative witch OFF to ON with chicle to READY. to or more times. for 5 seconds or mo witch OFF to exit COI	power ON power s ed parts and GO TO ent brake unit harnes terminal. out depressing the b re after turning the NSULT, and disconne	Not existed upply. Refer to <u>PG-</u> 7. s connector. rake pedal. power switch OFF. ect CONSULT from d	lata link connector.
E34 the inspection resurver YES >> Perform Power Si NO >> Repair of PERFORM SELF- With CONSULT Connect the elect Connect IPDM E Connect 12V bat Turn the power si CAUTION: Never set the ver Repeat step 4 tw CAUTION: Be sure to wait Turn the power si Close all doors (i	26 <u>It normal?</u> trouble diagnosis for <u>upply—</u> ". r replace error-detected DIAGNOSIS (3) trically-driven intelliged /R harness connector tery cable to negative witch OFF to ON with chicle to READY. to or more times. for 5 seconds or mo witch OFF to exit COI	power ON power s ed parts and GO TO ent brake unit harnes terminal. out depressing the b re after turning the NSULT, and disconne- check that the room I	Not existed upply. Refer to <u>PG-</u> 7. s connector. rake pedal. power switch OFF. ect CONSULT from d	
E34 South the inspection result YES >> Perform Power Second PERFORM SELF- With CONSULT Connect the elect Connect IPDM E Connect 12V bat Turn the power set CAUTION: Never set the ver Repeat step 4 two CAUTION: Be sure to wait Turn the power s CAUTION: Be sure to wait Close all doors (i 3 minutes or mor CAUTION:	26 <u>It normal?</u> trouble diagnosis for <u>upply—</u> ". r replace error-detecte DIAGNOSIS (3) trically-driven intellige /R harness connector tery cable to negative witch OFF to ON with chicle to READY. to or more times. for 5 seconds or mo witch OFF to exit COI ncluding back door), or re with all doors closed	power ON power s ed parts and GO TO ent brake unit harnes terminal. out depressing the b re after turning the NSULT, and disconne check that the room I d.	Not existed upply. Refer to <u>PG-</u> 7. s connector. rake pedal. power switch OFF. ect CONSULT from d	lata link connector.
E34 Southe inspection result Power Silver Set	26 <u>It normal?</u> trouble diagnosis for <u>upply—</u> ". r replace error-detecter DIAGNOSIS (3) trically-driven intelliger /R harness connector tery cable to negativer witch OFF to ON with chicle to READY. to or more times. for 5 seconds or mo witch OFF to exit COI ncluding back door), or re with all doors closer he vehicle while wait	power ON power s ed parts and GO TO ent brake unit harnes terminal. out depressing the b NSULT, and disconne check that the room I d.	Not existed upply. Refer to PG- 7. s connector. rake pedal. power switch OFF. ect CONSULT from d amp is OFF, get out d	lata link connector.
E34 Source the inspection result Power Sile POWER Selform POWER Selform PERFORM SELF- With CONSULT Connect the elect Connect IPDM E Connect 12V bat Turn the power set CAUTION: Never set the ver Repeat step 4 tw CAUTION: Be sure to wait Turn the power s Close all doors (i 3 minutes or mor CAUTION: Never operate the ver CAUTION: CAUTION: CAUTION: CAUTION: Never operate the ver CAUTION: CA	26 <u>It normal?</u> trouble diagnosis for <u>upply—</u> ". r replace error-detecte DIAGNOSIS (3) trically-driven intellige /R harness connector tery cable to negative witch OFF to ON with chicle to READY. to or more times. for 5 seconds or mo witch OFF to exit COI ncluding back door), or re with all doors closed	power ON power s ed parts and GO TO ent brake unit harnes terminal. out depressing the b NSULT, and disconne check that the room I d.	Not existed upply. Refer to PG- 7. s connector. rake pedal. power switch OFF. ect CONSULT from d amp is OFF, get out d	lata link connector.
E34 S the inspection resurves of the inspection resurves of the inspection resurves of the re	26 <u>It normal?</u> trouble diagnosis for <u>upply—"</u> . r replace error-detecte DIAGNOSIS (3) trically-driven intellige /R harness connector tery cable to negative witch OFF to negative witch OFF to ON with chicle to READY. ro or more times. for 5 seconds or mo witch OFF to exit COI ncluding back door), or re with all doors closed he vehicle while wait witch ON without dep chicle to READY.	power ON power s ed parts and GO TO ent brake unit harnes terminal. out depressing the b re after turning the NSULT, and disconne check that the room I d. ting. ressing the brake pe	Not existed upply. Refer to PG- 7. s connector. rake pedal. power switch OFF. ect CONSULT from d amp is OFF, get out o	lata link connector.
E34 S the inspection resu POWER SELF- NO >> Repair of PERFORM SELF- With CONSULT Connect the elect Connect IPDM E Connect 12V bat Turn the power s CAUTION: Never set the ver CAUTION: Be sure to wait Turn the power s Close all doors (i 3 minutes or mor CAUTION: Never operate the Never set the ver Start CONSULT	26 <u>It normal?</u> trouble diagnosis for <u>upply—"</u> . r replace error-detecter DIAGNOSIS (3) trically-driven intelliger /R harness connector tery cable to negativer witch OFF to negativer witch OFF to ON with chicle to READY. ro or more times. for 5 seconds or mo witch OFF to exit COI ncluding back door), or re with all doors closer he vehicle while wait witch ON without dep	power ON power s ed parts and GO TO ent brake unit harnes terminal. out depressing the b NSULT, and disconne check that the room I d. ting. ressing the brake pe sis result of "BRAKE	Not existed upply. Refer to PG-2 7. s connector. rake pedal. power switch OFF. ect CONSULT from d amp is OFF, get out o dal.	lata link connector. of the vehicle, and wait for
E34 S the inspection resurves of the inspection resurves of the inspection resurves of the re	26 <u>It normal?</u> trouble diagnosis for <u>upply—</u> ". r replace error-detecter DIAGNOSIS (3) trically-driven intelliger /R harness connector tery cable to negativer witch OFF to ON with chicle to READY. to or more times. for 5 seconds or mo witch OFF to exit COI ncluding back door), or re with all doors closer he vehicle while wait	power ON power s ed parts and GO TO ent brake unit harnes terminal. out depressing the b NSULT, and disconne check that the room I d.	Not existed upply. Refer to PG- 7. s connector. rake pedal. power switch OFF. ect CONSULT from d amp is OFF, get out d	lata link connector.



< DTC/CIRCUIT DIAGNOSIS >

CAUTION:

Never operate the vehicle while waiting.

12. Turn the power switch ON without depressing the brake pedal.

CAUTION: Never set the vehicle to READY.

- 13. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 14. Release brake pedal.
- 15. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1AC1" detected?

YES >> GO TO 8.

NO >> INSPECTION END

8.CHECK 12V BATTERY POWER SUPPLY

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery".
- 4. Disconnect the electrically-driven intelligent brake unit harness connector.
- 5. Connect 12V battery cable to negative terminal.
- 6. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

Electrically-drive	Electrically-driven intelligent brake unit		
Connector	Terminal	(Approx.)	
	1 – 32		
E34	2 – 32	10 – 16 V	
	28 - 32		

7. Turn the power switch ON without depressing the brake pedal. **CAUTION:**

Never set the vehicle to READY.

8. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

Electrically-driven intelligent brake unit		Voltage	
Connector	Terminal	(Approx.)	
	1 – 32		
E34	2 – 32	10 – 16 V	
	28 - 32		

Is the inspection result normal?

YES >> GO TO 11.

NO >> GO TO 9.

9.CHECK 12V BATTERY POWER SUPPLY CIRCUIT

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

- Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery".
- 4. Check the 60A fusible link (#F).
- 5. Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).
- 6. Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).

< D	C/CIRCUIT DIAGNOSIS >	
8.	Check the 15A fuse (#75). Check the continuity and for short circuit between harness connector terminal 28 of electrically-driven intelligent brake unit and 15A fuse (#75).	А
<u>ls t</u> Ye	 <u>e inspection result normal?</u> S >> Perform trouble diagnosis for 12V battery power supply. Refer to <u>PG-18, "Wiring Diagram — Battery Power Supply —</u>". 	В
N		
10	PERFORM SELF-DIAGNOSIS (4)	С
	/ith CONSULT	
1.	Connect the electrically-driven intelligent brake unit harness connector.	
2.	Connect 12V battery cable to negative terminal.	D
3.	Turn the power switch OFF to ON without depressing the brake pedal.	
	CAUTION: Never set the vehicle to READY.	_
4.	Repeat step 3 two or more times.	E
	CAUTION:	
5. 6.	Be sure to wait for 5 seconds or more after turning the power switch OFF. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for	BR
	3 minutes or more with all doors closed. CAUTION:	0
	Never operate the vehicle while waiting.	G
7.	Turn the power switch ON without depressing the brake pedal.	
	CAUTION:	Н
8	Never set the vehicle to READY. Start CONSULT and erase self-diagnosis result of "BRAKE".	
9.	Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION:	I
	Never operate the vehicle while waiting.	
11.	Turn the power switch ON without depressing the brake pedal. CAUTION:	J
40	Never set the vehicle to READY.	IZ.
	Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more. Release brake pedal.	Κ
	Start CONSULT and perform "BRAKE" self-diagnosis.	
	TC "C1AC1" detected?	L
YE	S >> GO TO 11.	
N		
11	CHECK GROUND CIRCUIT	M
1.	Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.	
2.	Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION:	Ν
3.	Never operate the vehicle while waiting. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6, "Precaution for Removing 12V Bat-terv"</u> .	0
4.	Disconnect the electrically-driven intelligent brake unit harness connector.	
5.	Check the continuity between electrically-driven intelligent brake unit and ground.	Р
		Г
	Electrically-driven intelligent brake unit Continuity	
	Connector Terminal	

Is the inspection result normal?

32

YES >> GO TO 13.

E34

Ground

Existed

< DTC/CIRCUIT DIAGNOSIS >

NO >> Repair or replace error-detected parts and GO TO 12.

12.PERFORM SELF-DIAGNOSIS (5)

With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

4. Repeat step 3 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 5. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

7. Turn the power switch ON without depressing the brake pedal.

CAUTION: Never set the vehicle to READY.

- 8. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 9. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 10. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

11. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 13. Release brake pedal.
- 14. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1AC1" detected?

- YES >> GO TO 13.
- NO >> INSPECTION END

13.CHECK DATA MONITOR (1)

With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

4. Repeat step 3 two or more times.

CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 5. Start CONSULT and select "BRAKE" and "DATA MONITOR" according this order.
- Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER". Refer to <u>BR-33, "Reference</u> <u>Value"</u>.

Is the inspection result normal?

YES >> GO TO 14.

NO >> Replace the electrically-driven intelligent brake unit. Refer to BR-510, "Removal and installation".

14.PERFORM SELF-DIAGNOSIS (6)

With CONSULT

Turn the power switch OFF to ON without depressing the brake pedal.

Never set the vehicle to READY.

 Repeat step 1 two or more times. CAUTION:

< D	TC/CIRCUIT DIAGNOSIS >	
3. 4.	Be sure to wait for 5 seconds or more after turning the power switch OFF. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION:	A
5.	Never operate the vehicle while waiting. Turn the power switch ON without depressing the brake pedal.	В
0.	CAUTION:	
6.	Never set the vehicle to READY. Start CONSULT and erase self-diagnosis result of "BRAKE".	С
	Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION:	D
9.	Never operate the vehicle while waiting. Turn the power switch ON without depressing the brake pedal. CAUTION:	Ε
11.	Never set the vehicle to READY. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more. Release brake pedal.	BR
	Start CONSULT and perform "BRAKE" self-diagnosis. DTC "C1AC1" detected?	
	ES >> GO TO 15.	G
15	CHECK DATA MONITOR (2)	Н
	Vith CONSULT	
1.	Turn the power switch OFF to ON without depressing the brake pedal.	I
	Never set the vehicle to READY.	I
2.	Repeat step 1 two or more times. CAUTION:	
3. 4.	Be sure to wait for 5 seconds or more after turning the power switch OFF. Start CONSULT and select "BRAKE" and "DATA MONITOR" according this order. Check the "CONTROL MODULE TEMP". Refer to <u>BR-33</u> , "Reference Value".	J
	DNTROL MODULE TEMP" is 150 °C (302 °F) or more?	Κ
N		
16	CHECK MOTOR ROOM	L
	eck for any locations of abnormal heating around the electrically-driven intelligent brake unit.	
-	there any heated locations?	M
N		
	PERFORM SELF-DIAGNOSIS (7)	Ν
(-)V 1.	Vith CONSULT Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:	0
2.	Never set the vehicle to READY. Repeat step 1 two or more times. CAUTION:	Р
3. 4.	Be sure to wait for 5 seconds or more after turning the power switch OFF. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION:	
5.	Never operate the vehicle while waiting. Turn the power switch ON without depressing the brake pedal.	

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CAUTION:

Never set the vehicle to READY.

- 6. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 7. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

9. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 11. Release brake pedal.
- 12. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1AC1" detected?

- YES >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-510</u>, "Removal and installation".
- NO >> INSPECTION END

< DTC/CIRCUIT DIAGNOSIS >

C1AC8 BRAKE POWER SUPPLY BACKUP UNIT

DTC Logic

INFOID:0000000010634261

А

В

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes	
	Display item			С
C1AC8	POWER SUPPLY BACKUP UNIT-2	A malfunction is detected in the internal circuit of the brake power supply backup unit.	 Fuse Brake power supply backup unit 	
			Electrically-driven intelligent brake unit	D
DTC RE	PRODUCTION PROCED	URE		Е
1.PREC	ONDITIONING			
	CONFIRMATION PROCED	JRE" has been previously conducted, always flucting the next test.	turn power switch OFF and B	BR
-	>> GO TO 2.		(G
	K DTC DETECTION			
1. Turn	ONSULT the power switch OFF to O TION:	N without depressing the brake pedal.	I	Н
Neve	er set the vehicle to READ eat step 1 two or more times			
CAU	TION:			
		or more after turning the power switch OFF kit CONSULT, and disconnect CONSULT from		
4. Closo 3 mir		loor), check that the room lamp is OFF, get ou		J
Neve 5. Turn	er operate the vehicle whi	le waiting. ut depressing the brake pedal.		K
Neve	er set the vehicle to READ			1
		diagnosis result of "BRAKE". kit CONSULT, and disconnect CONSULT from	data link connector.	L
8. Closo 3 mir	e all doors (including back on nutes or more with all doors	loor), check that the room lamp is OFF, get out	t of the vehicle, and wait for	M
	TION: er operate the vehicle whi	le waiting.		
9. Turn	the power switch ON witho	ut depressing the brake pedal.		Ν
	TION: er set the vehicle to READ	Y.		
		n (3.94 in) or more, and hold the position for 5		
	ase brake pedal. CONSULT and perform "Bl	RAKE" self-diagnosis.		0
<u>ls DTC "(</u>	C1AC8" detected?	-		
	> Proceed to <u>BR-429, "Dia</u> >> INSPECTION END	agnosis Procedure".		Ρ
Diagno	sis Procedure		INFOID:000000010634262	
1 .CHEC	K 12V BATTERY			

1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.

< DTC/CIRCUIT DIAGNOSIS >

 Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- 3. Check the 12V battery terminal connections. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery" and <u>PG-76</u>, "Work Flow".
- 4. Check the 12V battery. Refer to <u>PG-76, "Work Flow"</u>.
- Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace error-detected parts and GO TO 2.

2. PERFORM SELF-DIAGNOSIS (1)

With CONSULT

- T. Connect 12V battery cable to negative terminal.
- 2. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

3. Repeat step 2 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 4. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 5. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

Never operate the vehicle while waiting.

6. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 7. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 8. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

10. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 11. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 12. Release brake pedal.
- 13. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1AC8" detected?

YES >> GO TO 3.

NO >> INSPECTION END

3. CHECK CONNECTOR TERMINALS

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery".
- 4. Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.
- 5. Disconnect the brake power supply backup unit harness connector, then check for failures of pin terminals and connections.

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace error-detected parts and GO TO 4.

BR-430

< DTC/CIRCUIT DIAGNOSIS >

٨

4. pe	RFORM SELF	-DIAGNOSIS (2)				
Wit	h CONSULT					
		ctrically-driven intellige				
		ke power supply back		ector.		
		attery cable to negative switch OFF to ON with		rako nodal		
	AUTION:		iout depressing the b	rake peudi.		
		vehicle to READY.				
. F		wo or more times.				
		t for 5 seconds or mo	ore after turning the	power switch OFF.		
		switch OFF to exit CO				
				amp is OFF, get out of	the vehicle, and wait for	
		ore with all doors close	d.			
	AUTION:					
		the vehicle while wai		4.4		
		switch ON without dep	pressing the brake pe	dal.		
	AUTION:	vehicle to READY.				
		and erase self-diagno	seis result of "BDAKE	9		
		switch OFF to exit CO			ta link connector	
					the vehicle, and wait for	
		ore with all doors close				
	AUTION:					
		the vehicle while wai	ting.			
		switch ON without dep		dal.		
С	AUTION:					
		vehicle to READY.				
		pedal by 100 mm (3.94	in) or more, and hole	d the position for 5 se	conds or more.	
	elease brake		" colf diamagic			
		and perform "BRAKE	self-diagnosis.			
DT	C "C1AC8" de	tected?				
'ES						
10		CTION END				
.CH	IECK POWER	SWITCH ON POWER	R SUPPLY			
		ake power supply back		ector.		
		attery cable to negative				
		switch OFF to exit CO				
				amp is OFF, get out of	the vehicle, and wait for	
	AUTION:	ore with all doors close	0.			
		the vehicle while wai	tina			
				r to BR-6 "Precaution	for Removing 12V Bat-	
	ery".		gaure terminal. INCIC		To Removing 121 Dat	
		electrically-driven intel	ligent brake unit harn	ess connector.		
		attery cable to negative				
		ge between the electri		brake unit harness c	onnector and ground.	
		-	, ,		U U	
	Electrically-driver	n intelligent brake unit		Voltage		
	Connector	Terminal	1 –	(Approx.)		
	504					
	E34	26	Ground	0 V		

9. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

10. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

< DTC/CIRCUIT DIAGNOSIS >

Electrically-driven intelligent brake unit Connector Terminal			Voltage
			(Approx.)
E34	26	Ground	10 – 16 V

Is the inspection result normal?

YES >> GO TO 8.

NO >> GO TO 6.

 ${f 6}.$ CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 - **CAUTION:**

Never operate the vehicle while waiting.

- Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery".
- 4. Check the 15A fuse (#62).
- 5. Disconnect IPDM E/R harness connector.
- 6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

Electrically-driven intelligent brake unit		IPDM E/R		Continuity	
Connector	Terminal	Connector Terminal		Continuity	
E34	26	E15	62	Existed	

7. Check the continuity between electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit			Continuity
Connector	Terminal	—	Continuity
E34	26	Ground	Not existed

Is the inspection result normal?

- YES >> Perform trouble diagnosis for power ON power supply. Refer to <u>PG-29</u>, "Wiring Diagram—On <u>Power Supply</u>—".
- NO >> Repair or replace error-detected parts and GO TO 7.

7. PERFORM SELF-DIAGNOSIS (3)

With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect IPDM E/R harness connector.
- 3. Connect 12V battery cable to negative terminal.
- 4. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

 Repeat step 4 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 6. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

8. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 9. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 10. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 11. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

< DTC/CIRCUIT DI	AGNOSIS >			
CAUTION:				
	the vehicle while wai			А
12. Turn the power CAUTION:	switch ON without dep	ressing the brake	pedal.	
	vehicle to READY.			
		in) or more, and h	hold the position for 5 seconds or more.	В
14. Release brake				
	and perform "BRAKE'	' self-diagnosis.		0
Is DTC "C1AC8" de				С
YES >> GO TO				
-	CTION END			D
Ö. CHECK 12V BAT	ITERY POWER SUPP	LY		D
2. Close all doors 3 minutes or mo CAUTION:		check that the roor d.	nnect CONSULT from data link connector. n lamp is OFF, get out of the vehicle, and wait for	E
			efer to BR-6, "Precaution for Removing 12V Bat-	BR
4. Disconnect the	electrically-driven intell		arness connector.	
	attery cable to negative			G
6. Check the volta	ge between the electric	cally-driven intellig	ent brake unit harness connector terminals.	
Electrically driver	n intelligent brake unit		—	
Connector	Terminal	Voltage (Approx.)		Н
Connector		(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	_	
	1 – 32			1
E34	2 – 32	10 – 16 V		1
	28 – 32			
	switch ON without dep	ressing the brake	pedal.	J
CAUTION:	vehicle to READY.			
		cally-driven intellio	ent brake unit harness connector terminals.	
	ge between the electric		sht brake unit harness connector terminals.	Κ
Electrically-driver	n intelligent brake unit	Voltaga	—	
Connector	Terminal	Voltage (Approx.)		
CONNECTOR	1 – 32	(FF)		L
E34	2 – 32	10 – 16 V		в. 4
	28 – 32		_	M
Is the inspection res	ult normal?			
YES >> GO TO NO >> GO TO				Ν
9.CHECK 12V BAT	ITERY POWER SUPP	LY CIRCUIT		
			nnect CONSULT from data link connector.	~
2. Close all doors		check that the roor	n lamp is OFF, get out of the vehicle, and wait for	0
CAUTION:		u.		-
Never operate	the vehicle while wait	tina.		Ρ

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, <u>"Precaution for Removing 12V Bat-tery"</u>.
- 4. Check the 60A fusible link (#F).
- 5. Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).
- 6. Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).

< DTC/CIRCUIT DIAGNOSIS >

- 7. Check the 15A fuse (#75).
- 8. Check the continuity and for short circuit between harness connector terminal 28 of electrically-driven intelligent brake unit and 15A fuse (#75).

Is the inspection result normal?

- YES >> Perform trouble diagnosis for 12V battery power supply. Refer to <u>PG-18</u>, "Wiring Diagram Battery Power Supply —".
- NO >> Repair or replace error-detected parts and GO TO 10.

10.PERFORM SELF-DIAGNOSIS (4)

(B) With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

4. Repeat step 3 two or more times.

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 5. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

7. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 8. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 9. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 10. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

11. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 13. Release brake pedal.
- 14. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1AC8" detected?

YES >> GO TO 11.

NO >> INSPECTION END

11.CHECK GROUND CIRCUIT

1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.

2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION: Never operate the vehicle while waiting.

- Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6, "Precaution for Removing 12V Bat-tery"</u>.
- 4. Disconnect the electrically-driven intelligent brake unit harness connector.
- 5. Check the continuity between electrically-driven intelligent brake unit and ground.

Electrically-driver	n intelligent brake unit		Continuity
Connector	Terminal		Continuity
E34	32	Ground	Existed

Is the inspection result normal?

YES >> GO TO 13.

< DTC/CIRCUIT DIAGNOSIS >	
NO >> Repair or replace error-detected parts and GO TO 12.	_
12.PERFORM SELF-DIAGNOSIS (5)	
With CONSULT	-
1. Connect the electrically-driven intelligent brake unit harness connector.	
 Connect 12V battery cable to negative terminal. Turn the power switch OFF to ON without depressing the brake pedal. 	
CAUTION:	
Never set the vehicle to READY.	
 Repeat step 3 two or more times. 	
CAUTION: Be sure to wait for 5 seconds or more offer turning the newer switch OEE	
Be sure to wait for 5 seconds or more after turning the power switch OFF. 5. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.	
Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait fo	r
3 minutes or more with all doors closed.	
CAUTION:	
Never operate the vehicle while waiting. 7. Turn the power switch ON without depressing the brake pedal.	ſ
CAUTION:	
Never set the vehicle to READY.	
. Start CONSULT and erase self-diagnosis result of "BRAKE".	
 Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait fo 	r
3 minutes or more with all doors closed.	I
CAUTION:	
Never operate the vehicle while waiting.	
 Turn the power switch ON without depressing the brake pedal. CAUTION: 	
CAUTION: Never set the vehicle to READY.	
2. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.	
3. Release brake pedal.	
4. Start CONSULT and perform "BRAKE" self-diagnosis.	
SDTC "C1AC8" detected?	
YES >> GO TO 13. NO >> INSPECTION END	
3. CHECK DATA MONITOR (1)	_
With CONSULT	
. Connect the electrically-driven intelligent brake unit harness connector.	
 Connect 12V battery cable to negative terminal. Turn the power switch OFF to ON without depressing the brake pedal. 	
CAUTION:	
Never set the vehicle to READY.	
. Repeat step 3 two or more times.	
CAUTION: Be sure to wait for 5 seconds or more after turning the power switch OEE	
Be sure to wait for 5 seconds or more after turning the power switch OFF. 5. Start CONSULT and select "BRAKE", "DATE MONITOR" according this order.	
 Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER". Refer to <u>BR-33, "Reference</u>" 	2
<u>Value"</u> .	-
the inspection result normal?	
YES >> GO TO 14.	
NO >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-510, "Removal and installation"</u> .	
4.PERFORM SELF-DIAGNOSIS (6)	
Image: Antipage of the second seco	-
I. Turn the power switch OFF to ON without depressing the brake pedal.	
CAUTION:	
Never set the vehicle to READY.	
2. Repeat step 1 two or more times.	

2. Repeat step 1 two or more times. CAUTION:

< DTC/CIRCUIT DIAGNOSIS >

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 3. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 4. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION: Never operate the vehicle while waiting.

Turn the power switch ON without depressing the brake pedal.
 CAUTION:

Never set the vehicle to READY.

- 6. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 7. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 8. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 - CAUTION:

Never operate the vehicle while waiting.

9. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 11. Release brake pedal.
- 12. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1AC8" detected?

- YES >> GO TO 15.
- NO >> INSPECTION END

15. CHECK DATA MONITOR (2)

()With CONSULT

 Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

 Repeat step 1 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 3. Start CONSULT and select "BRAKE", "DATE MONITOR" according this order.
- 4. Check the "BACKUP UINT DIAG RESULT". Refer to <u>BR-33, "Reference Value"</u>.

What was the displayed data monitor result?

"NORMAL">>INSPECTION END

- "ERR1">> GO TO 16.
- "ERR2">> GO TO 16.

"ERR3">> Replace the brake power supply backup unit. Refer to <u>BR-513. "Removal and Installation"</u>.

- "ERR4">> Replace the brake power supply backup unit. Refer to <u>BR-513, "Removal and Installation"</u>.
- "ERR5">> Replace the brake power supply backup unit. Refer to <u>BR-513, "Removal and Installation"</u>.

"ERR6">> Replace the brake power supply backup unit. Refer to <u>BR-513, "Removal and Installation"</u>.

"ERR7" >> GO TO 16.

"ERR8">> GO TO 16.

"ERR9">> Replace the brake power supply backup unit. Refer to <u>BR-513. "Removal and Installation"</u>. "ERR10">>Replace the brake power supply backup unit. Refer to <u>BR-513, "Removal and Installation"</u>.

"ERR11">>Replace the brake power supply backup unit. Refer to <u>BR-513, "Removal and Installation"</u>. " "ERR12">>GO TO 16.

"ERR13">>Replace the brake power supply backup unit. Refer to <u>BR-513, "Removal and Installation"</u>. "ERR14">>Replace the brake power supply backup unit. Refer to <u>BR-513, "Removal and Installation"</u>. "ERR15">>GO TO 16.

16.CHECK BRAKE POWER SUPPLY BACKUP UNIT CIRCUIT

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

< DTC/CIRCUIT DIAGNOSIS >

- 3. Disconnect 12V battery cable from negative terminal. Refer to BR-6, "Precaution for Removing 12V Battery".
- 4. Disconnect the electrically-driven intelligent brake unit harness connector.
- Disconnect the brake power supply backup unit harness connector.
 Check the continuity between electrically-driven intelligent brake unit and brake power supply backup unit.

	lectrically-driven intelligent brake unit Brake power supply backup unit		lectrically-driven intelligent brake unit		ipply backup unit	Continuitu
Connector	Terminal	Connector	Terminal	- Continuity		
			1	Existed		
504	04	D45	4	Not existed		
E34	31	B15	5	Not existed		
			6	Not existed		
Check the continu	iity between brake po	ower supply backup u	unit and ground.	<u> </u>		
Brake power sup	polv backup unit					
Connector	Terminal	—	Continuity			
B15	1	Ground	Not existed			
e inspection resul	t normal?					
Connect 12V batt	POWER SUPPLY BA ery cable to negative between brake powe	terminal.				
Brake power sup	pply backup unit		Voltage			
Connector	Terminal	—	(Approx.)			
B15	6	Ground	9 – 16 V			
CAUTION:	high to DEADV					
Never set the ve	e between brake pow	er supply backup un	_			
Never set the vel Check the voltage	e between brake pow	er supply backup uni —	it and ground. Voltage (Approx.)			
Never set the vel Check the voltage Brake power sup	e between brake pow	er supply backup uni — Ground	Voltage			
Never set the vel Check the voltage Brake power sup Connector B15 the inspection resul ES >> GO TO 18 O >> GO TO 18	e between brake powe pply backup unit Terminal 6 t normal? 9.	Ground	Voltage (Approx.) 9 – 16 V	T		
Never set the vel Check the voltage Brake power sup Connector B15 he inspection resul ES >> GO TO 18 O >> GO TO 18 CHECK BRAKE Turn the power sw Close all doors (in 3 minutes or more CAUTION:	e between brake powe pply backup unit Terminal 6 t normal? 3. POWER SUPPLY BA witch OFF to exit CON poluding back door), c e with all doors closed	Ground Ground ACKUP UNIT POWE NSULT, and disconne sheck that the room Is	Voltage (Approx.) 9 – 16 V R SUPPLY CIRCUIT			
Never set the vel Check the voltage Brake power sup Connector B15 he inspection resul ES >> GO TO 18 O >> GO TO 18 CHECK BRAKE Turn the power sw Close all doors (ir 3 minutes or more CAUTION: Never operate th Check the 15A fus Disconnect 12V b tery".	e between brake powe pply backup unit Terminal 6 t normal? 9. 3. POWER SUPPLY BA witch OFF to exit COM including back door), co e with all doors closed e vehicle while wait se (#82). pattery cable from neg uity and for short circ	Ground Ground ACKUP UNIT POWE NSULT, and disconne sheck that the room la check that the room la d. ing. gative terminal. Refe	Voltage (Approx.) 9 – 16 V R SUPPLY CIRCUIT ect CONSULT from c amp is OFF, get out of amp is OFF, get out of	lata link connector.		

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В

< DTC/CIRCUIT DIAGNOSIS >

NO >> Perform trouble diagnosis for 12V battery power supply. Refer to <u>PG-18</u>, "Wiring Diagram — Battery Power Supply —".

19. CHECK BRAKE POWER SUPPLY BACKUP UNIT COMMUNICATION CIRCUIT

1. Check the continuity between electrically-driven intelligent brake unit and brake power supply backup unit.

Electrically-driven intelligent brake unit		Brake power supply backup unit		Continuity	
Connector	Terminal	Connector	Terminal	Continuity	
	37	-	1	Not existed	
F24			4	Not existed	
E34			B15	5	Existed
			6	Not existed	

2. Check the continuity between brake power supply backup unit and ground.

Brake power	supply backup unit		Continuity
Connector	Terminal		Continuity
B15	5	Ground	Not existed

Is the inspection result normal?

YES >> GO TO 20.

NO >> Repair or replace error-detected parts. GO TO 20.

 $20. {\sf check brake power supply backup unit wake up circuit}$

1. Check the continuity between electrically-driven intelligent brake unit and brake power supply backup unit.

Electrically-driven intelligent brake unit		Brake power supply backup unit		Continuity		
Connector	Terminal	Connector	Terminal	Continuity		
	22			1	1	Not existed
E34		B15	4	Existed		
E34			5	Not existed		
			6	Not existed		

2. Check the continuity between brake power supply backup unit and ground.

Brake power	supply backup unit		Continuity
Connector	Terminal		Continuity
B15	4	Ground	Not existed

Is the inspection result normal?

YES >> Replace the brake power supply backup unit. Refer to <u>BR-513, "Removal and Installation"</u>.

NO >> Repair or replace error-detected parts.

< DTC/CIRCUIT DIAGNOSIS >

C1AD0 BRAKE POWER SUPPLY BACKUP UNIT

DTC Logic

INFOID:000000010634263

DTC DETECTION LOGIC

		٦
	-	5
1	-	

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DTC	Display item	Malfunction detection condition	Possible causes	
C1AD0	POWER SUPPLY BACKUP UNIT VOLT-2	 An internal malfunction (overvoltage) is detected in the brake power supply backup unit. Power voltage of brake power supply backup unit is as shown below. Power voltage of brake power supply backup unit: 9 V ≥ Power voltage of brake power supply backup unit. Power voltage of brake power supply backup unit. Power voltage of brake power supply backup unit: 16 V ≤ Power voltage of brake power supply backup unit. 	 Harness or connector Fuse Brake power supply backup unit Electrically-driven intelligent brake unit 12V battery is low 	[
DTC REPRODUCTION PROCEDURE				

Н

If "DTC CONFIRMATION PROCEDURE" has been previously conducted, always turn power switch OFF and	0
wait at least 10 seconds before conducting the next test.	G

>> GO TO 2.

2. CHECK DTC DETECTION

(P)V	Vith CONSULT	
1.	Turn the power switch OFF to ON without depressing the brake pedal.	
	CAUTION:	
	Never set the vehicle to READY.	
2.	Repeat step 1 two or more times.	J
	CAUTION:	
	Be sure to wait for 5 seconds or more after turning the power switch OFF.	
	Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.	
4.	Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for	Κ
	3 minutes or more with all doors closed.	
	CAUTION:	
_	Never operate the vehicle while waiting.	L
5.	Turn the power switch ON without depressing the brake pedal.	
	CAUTION:	
•	Never set the vehicle to READY.	M
	Start CONSULT and erase self-diagnosis result of "BRAKE".	
	Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.	
8.	Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for	
	3 minutes or more with all doors closed.	Ν
	CAUTION:	
0	Never operate the vehicle while waiting.	
9.	Turn the power switch ON without depressing the brake pedal.	0
	Never set the vehicle to READY.	
10	Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.	
	Release brake pedal.	Р
	Start CONSULT and perform "BRAKE" self-diagnosis.	1
	ITC "C1AD0" detected?	
YE	S >> Proceed to <u>BR-440, "Diagnosis Procedure"</u> .	

NO >> INSPECTION END

< DTC/CIRCUIT DIAGNOSIS >

Diagnosis Procedure

INFOID:000000010634264

1.CHECK 12V BATTERY

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

- Check the 12V battery terminal connections. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery" and <u>PG-76</u>, "Work Flow".
- 4. Check the 12V battery. Refer to PG-76, "Work Flow".

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace error-detected parts and GO TO 2.

2.PERFORM SELF-DIAGNOSIS (1)

With CONSULT

- 1. Connect 12V battery cable to negative terminal.
- Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

3. Repeat step 2 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 4. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

6. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 7. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 8. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

10. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 11. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 12. Release brake pedal.
- 13. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1AD0" detected?

YES >> GO TO 3.

NO >> INSPECTION END

3.CHECK CONNECTOR TERMINALS

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery".
- 4. Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.

< DTC/CIRCUIT DIAGNOSIS >

5.	Disconnect the brake power supply backup unit harness connector, then check for fai and connections.	ures of pin terminals
<u>ls t</u>	he inspection result normal?	
YI	ES >> GO TO 5.	
N	O >> Repair or replace error-detected parts and GO TO 4.	
4.	PERFORM SELF-DIAGNOSIS (2)	
	With CONSULT	
1.	Connect the electrically-driven intelligent brake unit harness connector.	
2.	Connect the brake power supply backup unit harness connector.	
3.	Connect 12V battery cable to negative terminal.	
4.	Turn the power switch OFF to ON without depressing the brake pedal.	
	CAUTION: Never set the vehicle to READY.	
5.	Repeat step 4 two or more times.	
	CAUTION:	
	Be sure to wait for 5 seconds or more after turning the power switch OFF.	_
6.	Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data li	
7.	Close all doors (including back door), check that the room lamp is OFF, get out of the	vehicle, and wait for
	3 minutes or more with all doors closed. CAUTION:	
	Never operate the vehicle while waiting.	
8.	Turn the power switch ON without depressing the brake pedal.	
	CAUTION:	
-	Never set the vehicle to READY.	
9.	0	
	Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data li Close all doors (including back door), check that the room lamp is OFF, get out of the	
	3 minutes or more with all doors closed.	vernole, and wait for
	CAUTION:	
	Never operate the vehicle while waiting.	
12.	Turn the power switch ON without depressing the brake pedal.	
	CAUTION: Never set the vehicle to READY.	
13	Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 second	s or more
	Release brake pedal.	
	Start CONSULT and perform "BRAKE" self-diagnosis.	
ls [DTC "C1AD0" detected?	
YI	ES >> GO TO 5.	
N	O >> INSPECTION END	
5.	CHECK POWER SWITCH ON POWER SUPPLY	
1. 2.	Connect the brake power supply backup unit harness connector. Connect 12V battery cable to negative terminal.	
2. 3.	Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data li	nk connector
4.	Close all doors (including back door), check that the room lamp is OFF, get out of the	
	3 minutes or more with all doors closed.	
	CAUTION:	
~	Never operate the vehicle while waiting.	Demoving (0) (Det
5.	Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6. "Precaution for</u> terv".	Removing IZV Bat-
6.	Disconnect the electrically-driven intelligent brake unit harness connector.	
7.	Connect 12V battery cable to negative terminal.	
8.	Check the voltage between the electrically-driven intelligent brake unit harness conne	ector and ground.
	Electrically-driven intelligent brake unit Voltage	
	Connector Terminal (Approx.)	

Connector	Connector Terminal		(Approx.)
E34	26	Ground	0 V

< DTC/CIRCUIT DIAGNOSIS >

9. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

10. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven in	telligent brake unit		Voltage
Connector	Connector Terminal		(Approx.)
E34	26	Ground	10 – 16 V

Is the inspection result normal?

YES >> GO TO 8.

NO >> GO TO 6.

6.CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

- Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery".
- 4. Check the 15A fuse (#62).
- 5. Disconnect IPDM E/R harness connector.
- 6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

Electrically-driven intelligent brake unit		IPDM E/R		Continuity	
Connector	Terminal	Connector	Terminal	Continuity	
E34	26	E15	62	Existed	

7. Check the continuity between electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven in	Electrically-driven intelligent brake unit		Continuity	
Connector			Continuity	
E34	26	Ground	Not existed	

Is the inspection result normal?

- YES >> Perform trouble diagnosis for power ON power supply. Refer to <u>PG-29</u>, "Wiring Diagram—On <u>Power Supply</u>—".
- NO >> Repair or replace error-detected parts and GO TO 7.

7. PERFORM SELF-DIAGNOSIS (3)

()With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect the IPDM E/R harness connector.
- 3. Connect 12V battery cable to negative terminal.
- 4. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

5. Repeat step 4 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 6. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 7. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

8. Turn the power switch ON without depressing the brake pedal. **CAUTION:**

Never set the vehicle to READY.

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< DTC/CIRCUIT DIAGNOSIS >

 Start CONSULT 	- and aroog calf diagna		(F"
	and erase self-diagno		
			nect CONSULT from data link connector.
	(including back door), (ore with all doors close		n lamp is OFF, get out of the vehicle, and wait for
CAUTION:		u.	
	the vehicle while wai	ting.	
2. Turn the power	switch ON without dep		pedal.
CAUTION:			
	vehicle to READY.	lin) or more and h	old the position for 5 seconds or more.
4. Release brake		Fill) of more, and i	
	and perform "BRAKE	" self-diagnosis.	
<u>s DTC "C1AD0" de</u>	•	C C	
YES >> GO TO			
	CTION END		
CHECK 12V BA	ITERY POWER SUPP	ΊY	
. Turn the power . Close all doors	switch OFF to exit CO	NSULI, and discor	nnect CONSULT from data link connector. n lamp is OFF, get out of the vehicle, and wait for
	ore with all doors close		in lamp is Of 1, get out of the vehicle, and wait for
CAUTION:		G.	
	the vehicle while wai	ting.	
	/ battery cable from ne	gative terminal. Re	efer to BR-6. "Precaution for Removing 12V Bat-
tond			
<u>tery"</u> .			
. Disconnect the	electrically-driven intell		irness connector.
. Disconnect the . Connect 12V ba	attery cable to negative	e terminal.	
. Disconnect the . Connect 12V ba	attery cable to negative	e terminal.	ent brake unit harness connector terminals.
Disconnect the Connect 12V ba Check the volta	attery cable to negative ge between the electric	e terminal. cally-driven intellig	
Electrically-driver	attery cable to negative ge between the electric	e terminal. cally-driven intellig Voltage	
Disconnect the Connect 12V ba Check the volta	attery cable to negative ge between the electric n intelligent brake unit Terminal	e terminal. cally-driven intellig	
Electrically-driver	attery cable to negative ge between the electric	e terminal. cally-driven intellig Voltage	
Electrically-driver	attery cable to negative ge between the electric n intelligent brake unit Terminal	e terminal. cally-driven intellig Voltage	
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Electrically-driver	attery cable to negative ge between the electric n intelligent brake unit Terminal 1 – 32 2 – 32 28 – 32	e terminal. cally-driven intellig Voltage (Approx.) 10 – 16 V	ent brake unit harness connector terminals.
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Disconnect the Connect 12V ba Check the volta Electrically-driver Connector E34 Turn the power CAUTION: Never set the v Check the volta Electrically-driver Connector	attery cable to negative ige between the electric in intelligent brake unit Terminal 1 - 32 2 - 32 28 - 32 switch ON without dep vehicle to READY. ige between the electric in intelligent brake unit Terminal 1 - 32	e terminal. cally-driven intellig Voltage (Approx.) 10 – 16 V pressing the brake cally-driven intellig Voltage (Approx.)	ent brake unit harness connector terminals.
Disconnect the Connect 12V ba Check the volta Electrically-driver Connector E34 Turn the power CAUTION: Never set the v Check the volta Electrically-driver Connector E34	attery cable to negative ige between the electric in intelligent brake unit Terminal 1 - 32 2 - 32 28 - 32 switch ON without dep vehicle to READY. ige between the electric in intelligent brake unit Terminal 1 - 32 2 - 32 28 - 32	e terminal. cally-driven intellig Voltage (Approx.) 10 – 16 V pressing the brake cally-driven intellig Voltage (Approx.)	ent brake unit harness connector terminals.
 Disconnect the Connect 12V base Check the volta Electrically-driver Connector E34 Turn the power CAUTION: Never set the volta Electrically-driver Check the volta Electrically-driver Connector E34 	attery cable to negative ige between the electric in intelligent brake unit Terminal 1 - 32 2 - 32 28 - 32 switch ON without dep vehicle to READY. ige between the electric in intelligent brake unit Terminal 1 - 32 2 - 32 28 - 32 sult normal?	e terminal. cally-driven intellig Voltage (Approx.) 10 – 16 V pressing the brake cally-driven intellig Voltage (Approx.)	ent brake unit harness connector terminals.
Disconnect the Connect 12V back Check the volta Electrically-driver Connector E34 Turn the power CAUTION: Never set the volta Electrically-driver Connector E34 Electrically-driver Connector E34	attery cable to negative ige between the electric in intelligent brake unit Terminal 1 - 32 2 - 32 28 - 32 switch ON without dep vehicle to READY. ige between the electric in intelligent brake unit Terminal 1 - 32 2 - 32 28 - 32 sult normal? 11.	e terminal. cally-driven intellig Voltage (Approx.) 10 – 16 V pressing the brake cally-driven intellig Voltage (Approx.)	ent brake unit harness connector terminals.
 Disconnect the Connect 12V base Check the volta Electrically-driver Connector E34 Turn the power CAUTION: Never set the volta Electrically-driver Connector Electrically-driver Connector Electrically-driver Connector E34 Electrically-driver Connector E34 	attery cable to negative ige between the electric in intelligent brake unit Terminal 1 - 32 2 - 32 28 - 32 switch ON without dep vehicle to READY. ige between the electric in intelligent brake unit Terminal 1 - 32 2 - 32 28 - 32 sult normal? 11.	e terminal. cally-driven intellig Voltage (Approx.) 10 – 16 V pressing the brake cally-driven intellig Voltage (Approx.) 10 – 16 V	ent brake unit harness connector terminals.

- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 - CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6. "Precaution for Removing 12V Bat-</u> <u>tery"</u>.
- 4. Check the 60A fusible link (#F).

< DTC/CIRCUIT DIAGNOSIS >

- 5. Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).
- 6. Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).
- 7. Check the 15A fuse (#75).
- 8. Check the continuity and for short circuit between harness connector terminal 28 of electrically-driven intelligent brake unit and 15A fuse (#75).

Is the inspection result normal?

- YES >> Perform trouble diagnosis for 12V battery power supply. Refer to <u>PG-18. "Wiring Diagram Bat-</u> tery Power Supply —".
- NO >> Repair or replace error-detected parts and GO TO 10.

10.PERFORM SELF-DIAGNOSIS (4)

() With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

4. Repeat step 3 two or more times.

CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 5. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

7. Turn the power switch ON without depressing the brake pedal. **CAUTION:**

Never set the vehicle to READY.

- 8. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 9. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 10. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

11. Turn the power switch ON without depressing the brake pedal.

Never set the vehicle to READY.

- 12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 13. Release brake pedal.
- 14. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1AD0" detected?

YES >> GO TO 11.

NO >> INSPECTION END

11. CHECK GROUND CIRCUIT

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery".
- 4. Disconnect the electrically-driven intelligent brake unit harness connector.
- 5. Check the continuity between electrically-driven intelligent brake unit and ground.

< DTC/CIRCUIT DIAGNOSIS >

Electrically-driver	n intelligent brake unit			Å
Connector	Terminal	—	Continuity	
E34	E34 32		Existed	r
Is the inspection res	sult normal?			E
YES >> GO TO				
	or replace error-detecte	ed parts and GO TO	12.	(
IZ.PERFORM SE	ELF-DIAGNOSIS (5)			
With CONSULT				Г
	ectrically-driven intellige attery cable to negative		s connector.	L.
3. Turn the power	switch OFF to ON with		rake pedal.	
CAUTION: Never set the y	vehicle to READY.			E
4. Repeat step 3 t	wo or more times.			_
CAUTION:	t far E accordo ar ma	vo oftov tuvning the	nower owitch OFF	B
	t for 5 seconds or mo switch OFF to exit CON			ata link connector.
6. Close all doors	(including back door), o	check that the room I	amp is OFF, get out o	f the vehicle, and wait for
3 minutes or mo	ore with all doors closed	d.		(
Never operate	the vehicle while wait			
7. Turn the power CAUTION:	switch ON without dep	ressing the brake pe	dal.	ŀ
	vehicle to READY.			
	and erase self-diagno			
	switch OFF to exit CON (including back door)			Ita link connector. f the vehicle, and wait for
3 minutes or mo	ore with all doors closed		amp lo or r, got out o	
CAUTION:	the vehicle while wait	ina		
	switch ON without dep		dal.	
CAUTION:		. .		ł
	vehicle to READY. pedal by 100 mm (3.94	in) or more and hol	d the position for 5 se	
13. Release brake	pedal.			
	and perform "BRAKE"	self-diagnosis.		l
Is DTC "C1AD0" de YES >> GO TO				
	TION END			Ν
13.CHECK DATA	MONITOR			
With CONSULT				
1. Connect the ele	ectrically-driven intellige		s connector.	ľ
	attery cable to negative switch OFF to ON with		rako podal	
CAUTION:			iake peual.	(
	vehicle to READY.			
4. Repeat step 3 t CAUTION:	wo or more times.			
Be sure to wai	t for 5 seconds or mo			F
 Start CONSULT Check the "MO" 	and select "BRAKE", "	DATE MONITOR" a	CCORDING this order.	fer to BR-33, "Reference
Value".	ION I OWEN OUFFLI		ODOLLI OVVLN. Ke	IGI TO DIV-00, INCICICINE
Is the inspection res	sult normal?			
YES >> GO TO		· · · · · · · · · · · · · · · · · · ·		
NO >> Replace	e the electrically-driven	intelligent brake unit	. Refer to <u>BR-510, "Re</u>	emoval and installation".

Revision: June 2014

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< DTC/CIRCUIT DIAGNOSIS >

14.PERFORM SELF-DIAGNOSIS (6)

With CONSULT

- Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:
 - Never set the vehicle to READY.
- Repeat step 1 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 3. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

 Turn the power switch ON without depressing the brake pedal. CAUTION: Never set the vehicle to READX

Never set the vehicle to READY.

- 6. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 7. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

9. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 11. Release brake pedal.
- 12. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1AD0" detected?

YES >> GO TO 15.

NO >> INSPECTION END

15. CHECK BRAKE POWER SUPPLY BACKUP UNIT POWER SUPPLY

- 1. Connect 12V battery cable to negative terminal.
- 2. Check the voltage between brake power supply backup unit and ground.

Brake power supply backup unit			Voltage
Connector	Terminal		(Approx.)
B15	6	Ground	9 – 16 V

3. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

4. Check the voltage between brake power supply backup unit and ground.

Brake power	Brake power supply backup unit		Voltage
Connector	Terminal		(Approx.)
B15	6	Ground	9 – 16 V

Is the inspection result normal?

```
YES >> Replace the brake power supply backup unit. Refer to <u>BR-513</u>, "<u>Removal and Installation</u>".
NO >> GO TO 16.
```

16. CHECK BRAKE POWER SUPPLY BACKUP UNIT POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.

 Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

< DTC/CIRCUIT DIAGNOSIS >

Never operate the vehicle while waiting.

- Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Bat-<u>tery"</u>.
- 4. Check the 15A fusible link (#82).
- Check the continuity and for short circuit between harness connector terminal 6 of brake power supply backup unit and 15A fuse (#82).

Is the inspection result normal?

- YES >> Replace the brake power supply backup unit. Refer to <u>BR-513</u>, "Removal and Installation".
- NO (9 V or less)>>Perform trouble diagnosis for 12V battery power supply. Refer to <u>PG-18</u>, "Wiring Diagram <u>Battery Power Supply</u>".
- NO (16 V or more)>>Perform diagnosis for the PDM (Power Delivery Module). Refer to <u>VC-28</u>, <u>"CONSULT</u> <u>Function"</u>.

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< DTC/CIRCUIT DIAGNOSIS >

U1000 CAN COMM CIRCUIT

Description

INFOID:000000010634265

CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped onto a vehicle, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN-H line, CAN-L line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.

DTC Logic

INFOID:000000010634266

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
U1000	CAN COMM CIRCUIT	Electrically-driven intelligent brake unit did not receive / transmit the CAN communication signal for 2 sec- onds or more.	CAN communication system mal- function

DTC REPRODUCTION PROCEDURE

1.PRECONDITIONING

If "DTC CONFIRMATION PROCEDURE" has been previously conducted, always turn power switch OFF and wait at least 10 seconds before conducting the next test.

>> GO TO 2.

2. CHECK DTC DETECTION

With CONSULT

1. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

 Repeat step 1 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 3. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

5. Turn the power switch ON without depressing the brake pedal. **CAUTION:**

Never set the vehicle to READY.

- 6. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 7. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

9. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 11. Release brake pedal.
- 12. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "U1000" detected?

- YES >> Proceed to <u>BR-449</u>, "Diagnosis Procedure".
- NO >> INSPECTION END

< DTC/CIRCUIT DIAGNOSIS >		
Diagnosis Procedure	INFOID:000000010634267	Δ
Proceed to LAN-17. "Trouble Diagnosis Flow Chart".		~
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< DTC/CIRCUIT DIAGNOSIS >

U1010 CONTROL UNIT (CAN)

Description

INFOID:000000010634268

CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped onto a vehicle, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN-H line, CAN-L line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.

DTC Logic

INFOID:000000010634269

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
U1010	CONTROL UNIT (CAN)	A malfunction is detected at initial diagnosis of CAN controller of electrically-driven intelligent brake unit.	Electrically-driven intelligent brake unit

DTC REPRODUCTION PROCEDURE

1.PRECONDITIONING

If "DTC CONFIRMATION PROCEDURE" has been previously conducted, always turn power switch OFF and wait at least 10 seconds before conducting the next test.

>> GO TO 2.

2. CHECK DTC DETECTION

With CONSULT

 Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

 Repeat step 1 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 3. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 4. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

5. Turn the power switch ON without depressing the brake pedal. **CAUTION:**

Never set the vehicle to READY.

- 6. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 7. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

9. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 11. Release brake pedal.
- 12. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "U1010" detected?

YES >> Proceed to <u>BR-451, "Diagnosis Procedure"</u>.

NO >> INSPECTION END

U1010 CONTROL UNIT (CAN)

< DTC/CIRCUIT DIAGNOSIS >

Diagnosis Procedure A 1.CHECK SELF-DIAGNOSIS RESULTS A Check for failures in the pin terminals and connections of the electrically-driven intelligent brake unit harness connector. B Is the inspection result normal? YES >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-510, "Removal and installation"</u>. C

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< DTC/CIRCUIT DIAGNOSIS >

U1510 ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) COMMU-NICATION

DTC Logic

INFOID:000000010634271

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
U1510	BRAKE CONTROL COMMUNI- CATION	Signals from brake communications line [*] are not sent or received continuously for 4 seconds or more.	 Harness or connector Electrically-driven intelligent brake unit ABS actuator and electric unit (control unit)

*: CAN communications line between electrically-driven intelligent brake unit and ABS actuator control unit

DTC REPRODUCTION PROCEDURE

1.PRECONDITIONING

If "DTC CONFIRMATION PROCEDURE" has been previously conducted, always turn power switch OFF and wait at least 10 seconds before conducting the next test.

>> GO TO 2.

2. CHECK DTC DETECTION

With CONSULT

Turn the power switch OFF to ON without depressing the brake pedal.
 CAUTION:

Never set the vehicle to READY.

2. Repeat step 1 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 3. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 4. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 - **CAUTION:**

Never operate the vehicle while waiting.

5. Turn the power switch ON without depressing the brake pedal. **CAUTION:**

Never set the vehicle to READY.

- 6. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 7. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

9. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 11. Release brake pedal.
- 12. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "U1510" detected?

- YES >> Proceed to <u>BR-452</u>, "Diagnosis Procedure".
- NO >> INSPECTION END

Diagnosis Procedure

1.CHECK 12V BATTERY

INFOID:000000010634272

- < DTC/CIRCUIT DIAGNOSIS > Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. 1. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 2. А 3 minutes or more with all doors closed. CAUTION: Never operate the vehicle while waiting. В Check the 12V battery terminal connections. Refer to BR-6, "Precaution for Removing 12V Battery" and PG-76. "Work Flow". Check the 12V battery. Refer to <u>PG-76, "Work Flow"</u>. Is the inspection result normal? YES >> GO TO 2. NO >> Repair or replace error-detected parts and GO TO 2. D 2. PERFORM SELF-DIAGNOSIS (1) (P)With CONSULT Connect 12V battery cable to negative terminal. Ε 2. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION: Never set the vehicle to READY. BR Repeat step 2 two or more times. **CAUTION:** Be sure to wait for 5 seconds or more after turning the power switch OFF. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. 5. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION: Н Never operate the vehicle while waiting. Turn the power switch ON without depressing the brake pedal. CAUTION: Never set the vehicle to READY. 7. Start CONSULT and erase self-diagnosis result of "BRAKE". 8. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. 9. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for J 3 minutes or more with all doors closed. **CAUTION:** Never operate the vehicle while waiting. 10. Turn the power switch ON without depressing the brake pedal. Κ CAUTION: Never set the vehicle to READY. 11. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more. 12. Release brake pedal. 13. Start CONSULT and perform "BRAKE" self-diagnosis. Is DTC "U1510" detected? M YES >> GO TO 3. NO >> INSPECTION END 3.CHECK CONNECTOR TERMINALS Ν 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 2. 3 minutes or more with all doors closed. **CAUTION:** Never operate the vehicle while waiting. 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Bat-P terv".
- Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace error-detected parts and GO TO 4.

4.PERFORM SELF-DIAGNOSIS (2)

< DTC/CIRCUIT DIAGNOSIS >

(I) With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:
 - Never set the vehicle to READY.
- Repeat step 3 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 5. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

7. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 8. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 9. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 10. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

11. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 13. Release brake pedal.
- 14. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "U1510" detected?

- YES >> GO TO 5.
- NO >> INSPECTION END

5.CHECK POWER SWITCH ON POWER SUPPLY

- 1. Connect 12V battery cable to negative terminal.
- 2. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery".
- 5. Disconnect the electrically-driven intelligent brake unit harness connector.
- 6. Connect 12V battery cable to negative terminal.
- 7. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-driver	n intelligent brake unit		Voltage
Connector Terminal			(Approx.)
E34	26	Ground	0 V

Turn the power switch ON without depressing the brake pedal.
 CAUTION:

Never set the vehicle to READY.

9. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven in	telligent brake unit		Voltage
Connector Terminal			(Approx.)
E34	26	Ground	10 – 16 V

< DTC/CIRCUIT DIAGNOSIS >

	IC/CIRCUIT DIA					
	ne inspection result	<u>normal?</u>				
YE						A
NC C						
0.0	CHECK POWER S	WITCH ON POWER	SUPPLY CIRCUIT			D
1. 2.	Close all doors (in 3 minutes or more CAUTION:	with all doors closed	heck that the room l I.		ata link connector. of the vehicle, and wait for	С
3.		e vehicle while wait attery cable from neg		r to <u>BR-6, "Precautic</u>	on for Removing 12V Bat-	D
4. 5. 6.	Check the 15A fus Disconnect IPDM	se (#62). E/R harness connec ity between electrica		orake unit and IPDM	E/R.	E
	Electrically-driven in	telligent brake unit	IPDI	M E/R	Continuity	
	Connector	Terminal	Connector	Terminal	Continuity	BR
	E34	26	E15	62	Existed	
7.	Check the continu	ity between electrica	lly-driven intelligent l	brake unit harness co	onnector and ground.	G
	Electrically-driven in	telligent brake unit		0 // //		
	Connector	Terminal	—	Continuity		ш
	E34	26	Ground	Not existed		Н
ls th	ne inspection result	normal?				
YE	•	ouble diagnosis for	power ON power s	upply. Refer to <u>PG-2</u>	29, "Wiring Diagram—On	I
NC		replace error-detecte	d parts and GO TO	7.		
7.6	PERFORM SELF-D	•				J
						0
(円)V 1.	Vith CONSULT	rically-driven intellige	nt brake unit harnes	s connector		
2.		R harness connector.				Κ
3.		ery cable to negative				
4.	CAUTION:	vitch OFF to ON with	out depressing the b	rake pedal.		
	Never set the ver	nicle to READY.				L
5.	Repeat step 4 two					
	CAUTION:	-				M
6.		or 5 seconds or mo /itch OFF to exit CON			ata link connector	1 1 1
7.					of the vehicle, and wait for	
	3 minutes or more	with all doors closed		1 / 0	,	Ν
	CAUTION:		•			
8.		e vehicle while wait /itch ON without dep		leh		
0.	CAUTION:		essing the blace pe	uai.		0
	Never set the veh					
		nd erase self-diagnos			ata Kalu ang ang atau	_
		vitch OFF to exit CON			ata link connector.	Р
11.		with all doors closed		amp is Or r, get out t	or the vehicle, and wait IUI	
	CAUTION:					
40		e vehicle while wait		I		
12.	CAUTION:	vitch ON without dep	ressing the brake pe	ual.		
	Never set the veh	nicle to READY.				
	-					

< DTC/CIRCUIT DIAGNOSIS >

13. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.

14. Release brake pedal.

15. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "U1510" detected?

YES >> GO TO 8.

NO >> INSPECTION END

8.CHECK 12V BATTERY POWER SUPPLY

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery".
- 4. Disconnect the electrically-driven intelligent brake unit harness connector.
- 5. Connect 12V battery cable to negative terminal.
- 6. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

Electrically-drive	en intelligent brake unit Voltage					
Connector	Terminal	Voltage (Approx.)				
	1 – 32					
E34	2 - 32	10 – 16 V				
	28 – 32					

7. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

8. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

Electrically-drive	Voltage	
Connector	Terminal	(Approx.)
	1 – 32	
E34	2 – 32	$10-16 \ V$
	28 – 32	

Is the inspection result normal?

YES >> GO TO 11.

NO >> GO TO 9.

9.CHECK 12V BATTERY POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.

 Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6. "Precaution for Removing 12V Bat-tery"</u>.
- 4. Check the 60A fusible link (#F).
- 5. Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).
- 6. Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).
- 7. Check the 15A fuse (#75).
- 8. Check the continuity and for short circuit between harness connector terminal 28 of electrically-driven intelligent brake unit and 15A fuse (#75).

Is the inspection result normal?

< DTC/CIRCUIT DIAGNOSIS >

ΥE			2V battery power s	upply. Refer to <u>PG-18, "Wiring Diagram</u>	<u>— Bat-</u>
10		<u>er Supply —"</u> . ⁻ replace error-detected	d parts and GO TO	10.	
_	•	F-DIAGNOSIS (4)			
V	/ith CONSULT	trically-driven intelliger	nt brake unit harnes	s connector	
		tery cable to negative			
	Turn the power sy	witch OFF to ON witho		orake pedal.	
	CAUTION:	hists to DEADV			
	Never set the ve Repeat step 3 two				
	CAUTION:				
		for 5 seconds or mor			
				ect CONSULT from data link connector lamp is OFF, get out of the vehicle, and	
		e with all doors closed		iamp is Orit, get out of the vehicle, and	wait 101
	CAUTION:		-		
	Never operate th	ne vehicle while waiti	ing.		
	Turn the power sy CAUTION:	witch ON without depr	essing the brake pe	2021.	
	Never set the ve	hicle to READY.			
	Start CONSULT a	and erase self-diagnos			
				ect CONSULT from data link connector	
		ncluding back door), cl e with all doors closed		lamp is OFF, get out of the vehicle, and	wait for
	CAUTION:				
	Never operate th	ne vehicle while waiti			
		witch ON without depr	essing the brake pe	edal.	
	CAUTION: Never set the ve	hicle to READY			
	Depress brake pe	edal by 100 mm (3.94	in) or more, and ho	ld the position for 5 seconds or more.	
	Release brake pe		a alf all a sur s a la		
		and perform "BRAKE"	seit-alagnosis.		
	TC "U1510" detec				
	S >> GO TO 1 >> INSPECT				
ı.	.CHECK GROUN	-			
				ect CONSULT from data link connector	
		ncluding back door), cl e with all doors closed		lamp is OFF, get out of the vehicle, and	walt for
	CAUTION:				
		ne vehicle while waiti			
		pattery cable from neg	ative terminal. Ref	er to <u>BR-6, "Precaution for Removing 1</u>	<u>2V Bat-</u>
	tery". Disconnect the el	lectrically-driven intellig	gent brake unit har	ness connector.	
				brake unit and ground.	
			-		
	Electrically-driven in	ntelligent brake unit		Continuity	
	Connector	Terminal	—	Continuity	
-	Connector	Terrinida			

NO >> Repair or replace error-detected parts and GO TO 12.

12.PERFORM SELF-DIAGNOSIS (5)

() With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.

< DTC/CIRCUIT DIAGNOSIS >

- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

4. Repeat step 3 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 5. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

7. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 8. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 9. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 10. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

11. Turn the power switch ON without depressing the brake pedal.

Never set the vehicle to READY.

- 12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 13. Release brake pedal.
- 14. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "U1510" detected?

YES >> GO TO 13.

NO >> INSPECTION END

13.CHECK DATA MONITOR

() With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

 Repeat step 3 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 5. Start CONSULT and select "BRAKE" and "DATA MONITOR" according this order.
- Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER". Refer to <u>BR-33, "Reference</u> <u>Value"</u>.

Is the inspection result normal?

YES >> GO TO 14.

NO >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-510, "Removal and installation"</u>.

14.PERFORM SELF-DIAGNOSIS (6)

With CONSULT

1. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

2. Repeat step 1 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 3. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

< DTC/CIRCUIT DIAGNOSIS >

Never operate the vehicle while waiting.	_
5. Turn the power switch ON without depressing the brake pedal.	A
CAUTION:	
Never set the vehicle to READY.	
 Start CONSULT and erase self-diagnosis result of "BRAKE". Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. 	E
 Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 	۱r
3 minutes or more with all doors closed.	//
CAUTION:	C
Never operate the vehicle while waiting.	
9. Turn the power switch ON without depressing the brake pedal.	
CAUTION:	Г
Never set the vehicle to READY.	L
10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.	
11. Release brake pedal.	Е
12. Start CONSULT and perform "BRAKE" self-diagnosis.	
Is DTC "U1510" detected?	_
YES >> GO TO 15.	
NO >> INSPECTION END	BF
15.PERFORM SELF-DIAGNOSIS OF ABS ACTUATOR AND CONTROL UNIT	
Start CONSULT and perform self-diagnosis for "ABS". Refer to BRC-46, "CONSULT Function".	(-
Is DTC "U110D" detected?	
YES >> Perform diagnosis. Refer to <u>BRC-134, "Diagnosis Procedure"</u> .	
NO >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-510, "Removal and installation"</u>	. -
	1

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< DTC/CIRCUIT DIAGNOSIS >

U1511 BRAKE POWER SUPPLY BACKUP UNIT COMMUNICATION

DTC Logic

INFOID:000000010634273

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
U1511	POWER SUPPLY BACKUP UNIT COMM	Signals from power backup communications line [*] are not sent or received continuously for 4 seconds or more.	 Harness or connector Electrically-driven intelligent brake unit Brake power supply backup unit

*: CAN communications line between electrically-driven intelligent brake unit and brake power supply backup unit.

DTC REPRODUCTION PROCEDURE

1.PRECONDITIONING

If "DTC CONFIRMATION PROCEDURE" has been previously conducted, always turn power switch OFF and wait at least 10 seconds before conducting the next test.

>> GO TO 2.

2. CHECK DTC DETECTION

(I) With CONSULT

1. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

2. Repeat step 1 two or more times.

CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 3. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 4. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

5. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 6. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 7. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 8. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION: Never operate the vehicle while waiting.

Turn the power switch ON without depressing the brake pedal.
 CAUTION:

Never set the vehicle to READY.

- 10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 11. Release brake pedal.
- 12. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "U1511" detected?

- YES >> Proceed to <u>BR-460</u>, "Diagnosis Procedure".
- NO >> INSPECTION END

Diagnosis Procedure

1.CHECK 12V BATTERY

1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.

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< DTC/CIRCUIT DIAGNOSIS >

2.	Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION:	А
3.	Never operate the vehicle while waiting. Check the 12V battery terminal connections. Refer to <u>BR-6</u> , "Precaution for Removing 12V Battery" and <u>PG-76</u> , "Work Flow".	В
4.	Check the 12V battery. Refer to <u>PG-76, "Work Flow"</u> .	
	ne inspection result normal?	
	ES >> GO TO 2.	С
N		
	PERFORM SELF-DIAGNOSIS (1)	D
	Vith CONSULT Connect 12V battery cable to negative terminal.	
	Turn the power switch OFF to ON without depressing the brake pedal.	Е
	CAUTION:	
_	Never set the vehicle to READY.	
3.	Repeat step 2 two or more times.	BR
	Be sure to wait for 5 seconds or more after turning the power switch OFF.	
4. 5.	Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.	G
	Never operate the vehicle while waiting.	Н
6.	Turn the power switch ON without depressing the brake pedal.	11
	CAUTION: Never set the vehicle to READY.	
7.	Start CONSULT and erase self-diagnosis result of "BRAKE".	1
	Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.	
9.	Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for	
	3 minutes or more with all doors closed.	J
	CAUTION: Never operate the vehicle while waiting.	
10.	Turn the power switch ON without depressing the brake pedal.	
	CAUTION:	K
	Never set the vehicle to READY.	
	Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.	
	Release brake pedal.	L
	Start CONSULT and perform "BRAKE" self-diagnosis.	
	DTC "U1511" detected?	
	ES >> GO TO 3. D >> INSPECTION END	M
-	CHECK CONNECTOR TERMINALS	
	Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.	Ν
2.	Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.	
	CAUTION:	0
	Never operate the vehicle while waiting.	0
3.	Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u> , "Precaution for Removing 12V Battery".	
4.	Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.	Ρ
5.	Disconnect the brake power supply backup unit harness connector, then check for failures of pin terminals	
	and connections.	
<u>ls t</u>	ne inspection result normal?	
YE	ES >> GO TO 5.	
N	>> Repair or replace error-detected parts and GO TO 4.	

< DTC/CIRCUIT DIAGNOSIS >

4.PERFORM SELF-DIAGNOSIS (2)

With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect the brake power supply backup unit harness connector.
- 3. Connect 12V battery cable to negative terminal.
- 4. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

5. Repeat step 4 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 6. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

8. Turn the power switch ON without depressing the brake pedal.

CAUTION: Never set the vehicle to READY.

- 9. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 10. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 11. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

12. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 13. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 14. Release brake pedal.
- 15. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "U1511" detected?

YES >> GO TO 5.

NO >> INSPECTION END

5.CHECK POWER SWITCH ON POWER SUPPLY

- 1. Connect 12V battery cable to negative terminal.
- 2. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 3. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

- 4. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6. "Precaution for Removing 12V Bat-</u> tery".
- 5. Disconnect the electrically-driven intelligent brake unit harness connector.
- 6. Connect 12V battery cable to negative terminal.
- 7. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-driver	n intelligent brake unit		Voltage
Connector Terminal			(Approx.)
E34	26	Ground	0 V

8. Turn the power switch ON without depressing the brake pedal. **CAUTION:**

Never set the vehicle to READY.

9. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

< DTC/CIRCUIT DIAGNOSIS >

Electrically driven in	tallizant broka unit			
Electrically-driven in Connector	Terminal	—	Voltage (Approx.)	
E34	26	Ground	10 – 16 V	
Is the inspection result	-	Ground	10 – 10 v	
YES >> GO TO 8.				
NO >> GO TO 6.				
CHECK POWER S	WITCH ON POWER	SUPPLY CIRCUIT		
 Close all doors (in 3 minutes or more CAUTION: 	vitch OFF to exit CON including back door), c with all doors closed e vehicle while wait	heck that the room la I.		ata link connector. of the vehicle, and wait for
 Disconnect 12V b <u>tery"</u>. Check the 15A fus Disconnect IPDM 	attery cable from neg	gative terminal. Refe tor.		on for Removing 12V Bat- E/R.
Electrically-driven ir	ntelligent brake unit	IPDN	1 E/R	
Connector	Terminal	Connector	Terminal	Continuity
E34	26	E15	62	Existed
E34	26	Ground	Not existed	
NO >> Repair or 7.PERFORM SELF-E	rouble diagnosis for <u>pply—"</u> . replace error-detecte			29. "Wiring Diagram—On
 Connect IPDM E/I Connect 12V batte 	rically-driven intellige R harness connector. ery cable to negative	terminal.		
CAUTION:	vitch OFF to ON with	but depressing the bi	ake pedal.	
 Never set the vel Repeat step 4 two CAUTION: 				
 Turn the power sv Close all doors (in 	or 5 seconds or more vitch OFF to exit CON including back door), c with all doors closed	NSULT, and disconne heck that the room la	ct CONSULT from d	lata link connector. of the vehicle, and wait for
Never operate th	e vehicle while wait vitch ON without depr		dal.	
Never set the vel 9. Start CONSULT a 10. Turn the power sv 11. Close all doors (in	nd erase self-diagnos vitch OFF to exit CON	NSULT, and disconne heck that the room la	ct CONSULT from d	lata link connector. of the vehicle, and wait for



< DTC/CIRCUIT DIAGNOSIS >

CAUTION:

Never operate the vehicle while waiting.

12. Turn the power switch ON without depressing the brake pedal.

CAUTION: Never set the vehicle to READY.

- 13. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 14. Release brake pedal.
- 15. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "U1511" detected?

YES >> GO TO 8.

NO >> INSPECTION END

8.CHECK 12V BATTERY POWER SUPPLY

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6, "Precaution for Removing 12V Bat-</u><u>terv"</u>.
- 4. Disconnect the electrically-driven intelligent brake unit harness connector.
- 5. Connect 12V battery cable to negative terminal.
- 6. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

Electrically-driven intelligent brake unit		Voltage
Connector	Terminal	(Approx.)
	1 – 32	
E34	2 – 32	10 – 16 V
	28 – 32	

7. Turn the power switch ON without depressing the brake pedal. **CAUTION:**

Never set the vehicle to READY.

8. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

Electrically-driven intelligent brake unit		Voltage
Connector	Terminal	(Approx.)
	1 – 32	
E34	2 – 32	10 - 16 V
	28 - 32	

Is the inspection result normal?

YES >> GO TO 11.

NO >> GO TO 9.

9.CHECK 12V BATTERY POWER SUPPLY CIRCUIT

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

- Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery".
- 4. Check the 60A fusible link (#F).
- 5. Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).
- 6. Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).

< DTC/CIRCUIT DIAGNOSIS >

	heck the 15A fuse (#75). heck the continuity and for short circuit between harness connector terminal 28 of electrically-driven telligent brake unit and 15A fuse (#75).	А
<u>Is th</u>	inspection result normal?	
YE	>> Perform trouble diagnosis for 12V battery power supply. Refer to <u>PG-18, "Wiring Diagram — Bat-tery Power Supply —"</u> .	В
NC	>> Repair or replace error-detected parts and GO TO 10.	
10	PERFORM SELF-DIAGNOSIS (4)	С
	n CONSULT	
	onnect the electrically-driven intelligent brake unit harness connector.	D
	onnect 12V battery cable to negative terminal. Irn the power switch OFF to ON without depressing the brake pedal.	D
3.	AUTION:	
		Е
4.	epeat step 3 two or more times.	
	AUTION:	
-	e sure to wait for 5 seconds or more after turning the power switch OFF.	3R
	urn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. lose all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for	
0.	minutes or more with all doors closed.	
		G
	ever operate the vehicle while waiting.	0
7.	Irn the power switch ON without depressing the brake pedal.	
	AUTION: ever set the vehicle to READY.	Н
8	art CONSULT and erase self-diagnosis result of "BRAKE".	
	In the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.	
10.	ose all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for	
	minutes or more with all doors closed.	
	AUTION:	
11	ever operate the vehicle while waiting. Jrn the power switch ON without depressing the brake pedal.	J
	AUTION:	
	ever set the vehicle to READY.	
		Κ
	art CONSULT and perform "BRAKE" self-diagnosis.	
	C "U1511" detected?	L
YE	>> GO TO 11.	
	>> INSPECTION END	
11	HECK GROUND CIRCUIT	Μ
1.	In the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.	
2.	ose all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for	
		Ν
	AUTION:	
3.	ever operate the vehicle while waiting. sconnect 12V battery cable from negative terminal. Refer to <u>BR-6, "Precaution for Removing 12V Bat-</u>	\sim
. .		0
4.	sconnect the electrically-driven intelligent brake unit harness connector.	
5.	heck the continuity between electrically-driven intelligent brake unit and ground.	Р
		E.
	Electrically-driven intelligent brake unit Continuity	
	Connector Terminal Continuity	

Is the inspection result normal?

32

YES >> GO TO 13.

E34

Ground

Existed

< DTC/CIRCUIT DIAGNOSIS >

NO >> Repair or replace error-detected parts and GO TO 12.

12.PERFORM SELF-DIAGNOSIS (5)

(B) With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

4. Repeat step 3 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 5. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

7. Turn the power switch ON without depressing the brake pedal.

CAUTION: Never set the vehicle to READY.

- 8. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 9. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 10. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

11. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 13. Release brake pedal.
- 14. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "U1511" detected?

- YES >> GO TO 13.
- NO >> INSPECTION END

13.CHECK DATA MONITOR (1)

With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

 Repeat step 3 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 5. Start CONSULT and select "BRAKE", "DATE MONITOR" according this order.
- Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER". Refer to <u>BR-33, "Reference</u> <u>Value"</u>.

Is the inspection result normal?

YES >> GO TO 14.

NO >> Replace the electrically-driven intelligent brake unit. Refer to BR-510, "Removal and installation".

14.PERFORM SELF-DIAGNOSIS (6)

() With CONSULT

1. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

 Repeat step 1 two or more times. CAUTION:

< DTC/CIRCUIT DIAGNOSIS >

	De euro te urolt f					
3. 4	 Be sure to wait for 5 seconds or more after turning the power switch OFF. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 					А
	3 minutes or more	e with all doors closed				
	CAUTION:	a vahiala while wait	ina			В
5.		e vehicle while wait vitch ON without dep		dal.		
-	CAUTION:		J			
6.	Never set the vel	h icle to READY. nd erase self-diagnos	sis result of "PDAKE	,		С
7.		vitch OFF to exit CON			ata link connector.	
8.				amp is OFF, get out c	of the vehicle, and wait for	D
	3 minutes or more CAUTION:	e with all doors closed).			
		e vehicle while wait	ing.			
9.		vitch ON without dep	ressing the brake pe	dal.		E
	CAUTION: Never set the vel	hicle to READY.				
	Depress brake pe	dal by 100 mm (3.94	in) or more, and hole	d the position for 5 se	econds or more.	BR
	Release brake pe	dal. nd perform "BRAKE"	self-diagnosis			
	DTC "U1511" detect		Sell-diagnosis.			
	YES >> GO TO 15.					G
N		-				
15	15. CHECK BRAKE POWER SUPPLY BACKUP UNIT CIRCUIT					Н
1.	Turn the power sv	vitch OFF to exit CON	NSULT, and disconne	ect CONSULT from d		
2.	 Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. 					
	CAUTION:					I
•		e vehicle while wait				
3.	Disconnect 12V b tery".	lattery cable from neg	gative terminal. Refe	r to <u>BR-6, "Precautic</u>	on for Removing 12V Bat-	J
4.	Disconnect the ele	ectrically-driven intelli				
5.		ake power supply ba			a war aunaly baakun unit	17
6.	Check the continu	inty between electrical	ny-ariven intelligent t	frake unit and brake p	power supply backup unit.	K
	Electrically-driven ir	ntelligent brake unit	Brake power su	pply backup unit		
	Connector	Terminal	Connector	Terminal	Continuity	L
		31		1	Existed	
		31		4	Not existed	Μ
		31		5	Not existed	IVI
		22		1	Not existed	
	E34	22	B15	4	Existed	Ν
		22		5	Not existed	
		37		1	Not existed	
						0

7. Check the continuity between electrically-driven intelligent brake unit and ground.

37

37

4

5

Not existed

Existed

Ρ

< DTC/CIRCUIT DIAGNOSIS >

Electrically-driven intelligent brake unit			Continuity
Connector	Terminal		Continuity
	31	Ground	Not existed
E34	22		Not existed
	37	Giouna	Not existed
	32		Existed

Is the inspection result normal?

YES >> GO TO 16.

NO >> Repair or replace error-detected parts.

16. CHECK BRAKE POWER SUPPLY BACKUP UNIT POWER SUPPLY

- 1. Connect 12V battery cable to negative terminal.
- 2. Check the voltage between the brake power supply backup unit harness connector and ground.

Brake power supply backup unit			Voltage
Connector	Terminal		(Approx.)
B15	6	Ground	10 – 16 V

3. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

4. Check the voltage between the brake power supply backup unit harness connector and ground.

Brake power supply backup unit			Voltage
Connector	Terminal		(Approx.)
B15	6	Ground	10 – 16 V

Is the inspection result normal?

YES >> GO TO 18.

NO >> GO TO 17.

17. CHECK BRAKE POWER SUPPLY BACKUP UNIT POWER SUPPLY CIRCUIT

- 1. Turn the power switch OFF to exit CONSULT.
- 2. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, <u>"Precaution for Removing 12V Bat-tery"</u>.
- 3. Check the 15A fuse (#82).
- 4. Check the continuity and for short circuit between harness connector terminal 6 of brake power supply backup unit and 15A fuse (#82).

Is the inspection result normal?

YES >> GO TO 18.

NO >> Perform trouble diagnosis for 12V battery power supply. Refer to <u>PG-18, "Wiring Diagram — Bat-</u> tery Power Supply —".

18.PERFORM SELF-DIAGNOSIS (7)

With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect the brake power supply backup unit harness connector.
- 3. Connect 12V battery cable to negative terminal.
- 4. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

5. Repeat step 4 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

6. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.

U1511 BRAKE POWER SUPPLY BACKUP UNIT COMMUNICATION

< DTC/CIRCUIT DIAGNOSIS >

< DTC/C	IRCUIT DIAGNOSIS >
3 mi	e all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for nutes or more with all doors closed.
	ITION:
	er operate the vehicle while waiting.
	the power switch ON without depressing the brake pedal.
	er set the vehicle to READY.
	CONSULT and erase self-diagnosis result of "BRAKE".
	the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
	e all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for
	nutes or more with all doors closed.
	e r operate the vehicle while waiting. the power switch ON without depressing the brake pedal.
	Ine power switch ON without depressing the brake pedal.
	er set the vehicle to READY.
	ress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
	ase brake pedal.
	CONSULT and perform "BRAKE" self-diagnosis.
	U1511" detected?
	>> GO TO 19.
	>> INSPECTION END
19. RE	PLACE BRAKE POWER SUPPLY BACKUP UNIT
	CONSULT
	ace the brake power supply backup unit. Refer to <u>BR-513, "Removal and Installation"</u> .
	nect the electrically-driven intelligent brake unit harness connector.
	nect 12V battery cable to negative terminal.
	the power switch OFF to ON without depressing the brake pedal.
	TION:
	er set the vehicle to READY.
	eat step 4 two or more times.
	ITION:
Be s	ure to wait for 5 seconds or more after turning the power switch OFF.
	the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
	e all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for
	nutes or more with all doors closed.
	ITION:
	er operate the vehicle while waiting.
	the power switch ON without depressing the brake pedal.
	ITION:
	er set the vehicle to READY.
	CONSULT and erase self-diagnosis result of "BRAKE".
	the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
	e all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for
	nutes or more with all doors closed.
	ITION:
	er operate the vehicle while waiting.
	the power switch ON without depressing the brake pedal.
	ITION:
	er set the vehicle to READY.
	ress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
	ase brake pedal.
15. Start	CONSULT and perform "BRAKE" self-diagnosis.
<u>ls DTC</u> "I	U1511" detected?
	>> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-510, "Removal and installation"</u> .
	>> INSPECTION END

< DTC/CIRCUIT DIAGNOSIS >

POWER SUPPLY AND GROUND CIRCUIT

Diagnosis Procedure

INFOID:000000010634275

1.CHECK POWER OF ELECTRICALLY-DRIVEN BRAKE UNIT WHEN POWER SWITCH IS ON

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6. "Precaution for Removing 12V Bat-</u> tery".
- 4. Disconnect the electrically-driven intelligent brake unit harness connector.
- 5. Connect 12V battery cable to negative terminal.
- 6. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit			Voltage
Connector	Terminal		(Approx.)
E34	26	Ground	0 V

7. Turn the power switch ON without depressing the brake pedal. **CAUTION:**

Never set the vehicle to READY.

8. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit Connector Terminal			Voltage
			(Approx.)
E34	26	Ground	10 – 16 V

Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 2.

2. CHECK POWER CIRCUIT OF ELECTRICALLY-DRIVEN BRAKE UNIT WHEN POWER SWITCH IS ON

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6. "Precaution for Removing 12V Bat-</u> <u>tery"</u>.
- 4. Check the 15A fuse (#62).
- 5. Disconnect IPDM E/R harness connector.
- 6. Check the continuity between electrically-driven intelligent brake unit harness connector and IPDM E/R harness connector.

Connector Terminal Connector Terminal	Continuity
E34 26 E15 62 E	Existed

7. Check the continuity between electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit		_	Continuity
Connector	Terminal		
E34 26		Ground	Not existed

< DTC/CIRCUIT DIAGNOSIS >

Is the inspection result normal?

- YES >> Perform trouble diagnosis for power ON power supply. Refer to <u>PG-29</u>, "Wiring Diagram—On <u>A</u> <u>Power Supply—</u>".
- NO >> Repair or replace error-detected parts.

3.CHECK 12V BATTERY POWER SUPPLY OF ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT

- 1. Turn the power switch OFF to exit CONSULT.
- 2. Connect 12V battery cable to negative terminal.

3. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit		_	Voltage (Approx.)
Connector	Terminal		(Applox.)
	1		
E34	2	Ground	10 – 16 V
	28		

4. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

5. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

•	n intelligent brake nit		Voltage (Approx.)	
Connector	Terminal		(Applox.)	
	1			
E34	2	Ground	$10-16 \ V$	
_	28			

Is the inspection result normal?

YES >> GO TO 5.

NO >> GO TO 4.

4.CHECK 12V BATTERY POWER SUPPLY CIRCUIT OF ELECTRICALLY-DRIVEN INTELLIGENT BRAKE K

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 - CAUTION:

Never operate the vehicle while waiting.

- Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery".
- 4. Check the 60A fusible link (#F).
- Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).
- 6. Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).
- 7. Check the 15A fuse (#75).
- 8. Check the continuity and for short circuit between harness connector terminal 28 of electrically-driven intelligent brake unit and 15A fuse (#75).

Is the inspection result normal?

- YES >> Perform trouble diagnosis for 12V battery power supply. Refer to <u>PG-18</u>, "Wiring Diagram Battery Power Supply —".
- NO >> Repair or replace error-detected parts.

5.CHECK 12V BATTERY POWER SUPPLY OF BRAKE POWER SUPPLY BACKUP UNIT

1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.

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< DTC/CIRCUIT DIAGNOSIS >

 Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, <u>"Precaution for Removing 12V Bat-terv"</u>.
- 4. Disconnect brake power supply backup unit harness connector.
- 5. Connect 12V battery cable to negative terminal.
- 6. Check the voltage between brake power supply backup unit harness connector and ground.

Brake power su	pply backup unit		Voltage
Connector	nnector Terminal		(Approx.)
B15	6	Ground	10 – 16 V

7. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

8. Check the voltage between brake power supply backup unit harness connector and ground.

Brake power su	pply backup unit		Voltage
Connector	Terminal		(Approx.)
B15	6	Ground	10 – 16 V

Is the inspection result normal?

YES >> GO TO 7.

NO >> GO TO 6.

6.CHECK 12V BATTERY POWER CIRCUIT OF BRAKE POWER SUPPLY BACKUP UNIT

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery".
- 4. Check the 15A fuse (#82).
- 5. Check the continuity and for short circuit between harness connector terminal 6 of brake power supply backup unit and 15A fuse (#82).

Is the inspection result normal?

- YES >> Perform trouble diagnosis for 12V battery power supply. Refer to <u>PG-18, "Wiring Diagram Bat-</u> tery Power Supply —".
- NO >> Repair or replace error-detected parts.

7. CHECK ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT GROUND

Check the continuity between electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit			Continuity	
Connector	Terminal	*		
E34	32	Ground	Existed	

Is the inspection result normal?

YES >> GO TO 8.

NO >> Repair or replace error-detected parts.

old B.CHECK BRAKE POWER SUPPLY BACKUP UNIT GROUND

Check the continuity between brake power supply backup unit harness connector and ground.

BR-472

< DTC/CIRCUIT DIAGNOSIS >

Brake power sup			Continuity	
Connector	Terminal			
B15	2	Ground	Existed	
the inspection resu				
	r replace error-dete	ected parts.		
CHECK TERMINA	4L			
	n the pin terminals	and connectior	s of the electrically-dri	iven intelligent brake unit harness
connector. Check that there is	no malfunction in	pin terminal and	connection of IPDM	E/R harness connector.
Check for failures of	of pin terminals and	connections ir	brake power supply b	backup unit harness connector.
the inspection resu				
YES >> INSPEC NO >> Repair o	TION END	acted parts		

< DTC/CIRCUIT DIAGNOSIS >

WARNING BUZZER

Diagnosis Procedure

INFOID:000000010634276

1. CHECK POWER AND GROUND CIRCUITS OF ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT

Perform diagnosis of electrically-driven intelligent brake unit power and ground circuits. <u>BR-470, "Diagnosis</u> <u>Procedure"</u>.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace error-detected parts.

2. CHECK WARNING BUZZER CIRCUIT

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6. "Precaution for Removing 12V Bat-</u> <u>tery"</u>.
- 4. Disconnect the electrically-driven intelligent brake unit harness connector.
- 5. Disconnect buzzer harness connector.
- 6. Check the continuity between electrically-driven intelligent brake unit and warning buzzer.

Electrically-driven intelligent brake unit		Warning buzzer		Continuity
Connector	Terminal	Connector	Terminal	-
E34	36	M13	1	Existed
	20		1	Not existed
	36		2	Not existed
	20		2	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace error-detected parts.

3.CHECK WARNING BUZZER

Check the warning buzzer. Refer to BR-474, "Component Inspection".

Is the inspection result normal?

- YES >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-510</u>, "Removal and installation".
- NO >> Replace the warning buzzer. Refer to <u>BR-515. "Removal and Installation"</u>.

Component Inspection

INFOID:000000010634277

1.CHECK WARNING BUZZER

1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.

 Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery".
- 4. Disconnect buzzer harness connector.
- 5. Apply voltage of 12V between warning buzzer connector terminals 1 and 2.

WARNING BUZZER

< DTC/CIRCUIT DIAGNOSIS >

Voltage applied Sound Voltage not applied No sound Is the inspection result normal? YES >> INSPECTION END NO >> Replace the warning buzzer. Refer to BR-515, "Removal and Installation"	(Condition	Warning buzzer
Is the inspection result normal? YES >> INSPECTION END	Voltage	applied	Sound
YES >> INSPECTION END	Voltage	not applied	No sound
	Is the in	nspection resi	ult normal?
NO >> Replace the warning buzzer. Refer to <u>BR-515. "Removal and Installation"</u>	YES		
	NO	>> Replace	the warning buzzer

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< DTC/CIRCUIT DIAGNOSIS >

BRAKE WARNING LAMP

Component Function Check

INFOID:000000010634278

1.CHECK BRAKE WARNING LAMP FUNCTION (1)

Check that brake warning lamp turns ON for approximately several second after power switch is turned ON. CAUTION:

Never set the vehicle to READY.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Refer to <u>BR-476. "Diagnosis Procedure"</u>.

2.CHECK BRAKE SYSTEM WARNING LAMP FUNCTION (2)

Check that brake warning lamp in combination meter turns ON/OFF when parking brake is operated. **NOTE:**

Brake warning lamp turns ON when parking brake is operated (when parking brake switch is ON).

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check parking brake system. Refer to <u>BRC-142</u>, "Diagnosis Procedure".

3.CHECK BRAKE WARNING LAMP FUNCTION (2)

Check that brake warning lamp in combination meter turns ON or OFF when brake fluid level switch is operated while brake fluid level in reservoir tank is at the specified level. **NOTE:**

Brake warning lamp turns ON when brake fluid is less than the specified level (when brake fluid level switch is ON).

Is the inspection result normal?

YES >> INSPECTION END

NO >> Check the brake fluid level switch system. Refer to <u>BRC-115, "Diagnosis Procedure"</u>.

Diagnosis Procedure

INFOID:000000010634279

1. CHECK POWER AND GROUND CIRCUITS OF ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT

Perform diagnosis of electrically-driven intelligent brake unit power and ground circuits. Refer to <u>BR-470</u>, "<u>Diagnosis Procedure</u>".

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace error-detected parts.

2. PERFORM SELF-DIAGNOSIS

With CONSULT

Start CONSULT and perform "BRAKE" and "ABS" self-diagnosis.

Is malfunction detected?

YES >> Check the error-detected system.

"BRAKE": Refer to <u>BR-29</u>, "CONSULT Function".

"ABS": Refer to <u>BRC-46, "CONSULT Function"</u>.

NO >> GO TO 3.

3.CHECK THAT BRAKE WARNING LAMP TURNS ON

Check the combination meter. Refer to MWI-49, "CONSULT Function (METER/M&A)".

Is the inspection result normal?

YES >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-510</u>, "Removal and installation".

NO >> Replace combination meter. Refer to <u>MWI-102</u>, "Removal and Installation".

BRAKE SYSTEM WARNING LAMP

< DTC/CIRCUIT DIAGNOSIS >	
BRAKE SYSTEM WARNING LAMP	А
Component Function Check	A
1. CHECK BRAKE SYSTEM WARNING LAMP FUNCTION	В
Check that brake system warning lamp turns ON for approximately several second after power switch is	
turned ON. CAUTION:	С
Never set the vehicle to READY. Is the inspection result normal?	
YES >> INSPECTION END NO >> Proceed to <u>BR-477, "Diagnosis Procedure"</u> .	D
Diagnosis Procedure	F
1. CHECK POWER AND GROUND CIRCUITS OF ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT	E
Perform diagnosis of electrically-driven intelligent brake unit power and ground circuits. <u>BR-470</u> , "Diagnosis <u>Procedure"</u> .	BR
<u>Is the inspection result normal?</u> YES >> GO TO 2.	
NO >> Repair or replace error-detected parts.	G
2.PERFORM SELF-DIAGNOSIS	
With CONSULT Start CONSULT and perform "BRAKE" and "ABS" self-diagnosis.	Η
Is a malfunction detected?	
YES >> Check the error-detected system. • "BRAKE": Refer to <u>BR-38</u> , " <u>DTC Index</u> ". • "APC": Defer to <u>PDC 40</u> , " <u>CONSULT Function</u> "	I
 "ABS": Refer to <u>BRC-46, "CONSULT Function"</u>. NO >> GO TO 3. 	J
3. CHECK BRAKE SYSTEM WARNING LAMP ILLUMINATION	
Check the combination meter. Refer to <u>MWI-49, "CONSULT Function (METER/M&A)"</u> .	К
<u>Is the inspection result normal?</u> YES >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-510</u> , " <u>Removal and installation</u> ".	
NO >> Replace combination meter. Refer to <u>MWI-102</u> , " <u>Removal and Installation</u> ".	L
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NOISE, VIBRATION AND HARSHNESS (NVH) TROUBLESHOOTING

< SYMPTOM DIAGNOSIS >

SYMPTOM DIAGNOSIS

NOISE, VIBRATION AND HARSHNESS (NVH) TROUBLESHOOTING

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FAX-6

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Reference page	<u>v to tina</u>	the cause of the sympto	BR-496, BR-498	BR-496, BR-498 sss	A. 101 BR-521 BR-521 BR-521	BR-496, BR-498	BR-496, BR-498 de	BR-496, BR-498	BR-496, BR-498 a	<u>BR-496, BR-498</u>	<u>BR-496, BR-498</u>	<u>BR-496, BR-498</u>	<u>FAX-6, RAX-5</u>	<u>FSU-9, RSU-5</u>	<u>WT-42</u>	
Possible cause and SUSPECTED PARTS		Pads - damaged	Pads - uneven wear	Shims damaged	Rotor imbalance	Rotor damage	Rotor runout	Rotor deformation	Rotor deflection	Rotor rust	Rotor thickness variation	AXLE	SUSPENSION	ROAD WHEEL AND TIRE		
		Noise	×	×	×								×	×	×	
Symptom BR.	AKE	Shake				×							×	×	×	
		Shimmy, Shudder				×	×	×	×	×	×	×	×	×	×	

Revision: June 2014

UNEXPECTED BRAKE PEDAL REACTION

< SYMPTOM DIAGNOSIS >

< SYMPTOM DIAGNOSIS > UNEXPECTED BRAKE PEDAL REACTION	
Description	A
A malfunction of brake pedal feel (height or others) is detected when the brake pedal is depressed.	В
Diagnosis Procedure	D
1.CHECK AXLE	С
 Check that there is no significant looseness of axle. Front axle: Refer to <u>FAX-7, "Inspection"</u>. Rear axle: Refer to <u>RAX-6, "Inspection"</u>. 	D
<u>Is the inspection result normal?</u> YES >> GO TO 2. NO >> Repair or replace error-detected parts.	E
2. CHECK DISC ROTOR	_
 Check the disc rotor runout. Front: Refer to <u>BR-496, "DISC ROTOR : Inspection and Adjustment"</u>. Rear: Refer to <u>BR-498, "DISC ROTOR : Inspection and Adjustment"</u>. <u>Is the inspection result normal?</u> YES >> GO TO 3. 	BR G
NO >> Grind disc rotor.	
3.CHECK BRAKE FLUID LEAKAGE	Н
Check the brake fluid leakage. Front: Refer to <u>BR-506, "FRONT : Inspection"</u>. Rear: Refer to <u>BR-509, "REAR : Inspection"</u>. 	I
Is the inspection result normal?	
YES >> GO TO 4. NO >> Repair or replace error-detected parts.	J
4.CHECK BRAKE PEDAL	
Check the brake pedal items. Refer to <u>BR-490, "Inspection and Adjustment"</u> . Is the inspection result normal?	K
YES >> GO TO 5. NO >> Adjust the brake pedal items. Refer to <u>BR-490. "Inspection and Adjustment"</u> . 5. CHECK BRAKING FORCE	L
Check the braking force.	
Is the inspection result normal?	M
YES >> GO TO 6. NO >> Check each component of brake system.	
6. CHECK BRAKE PERFORMANCE	Ν
Disconnect ABS actuator and electric unit (control unit) connector so that ABS does not operate. Check that brake force is normal in this condition. Connect harness connectors after checking.	С
Is the inspection result normal? YES >> Normal	
NO >> Check each component of brake system.	Ρ

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THE BRAKING DISTANCE IS LONG

Description

Brake stopping distance is long when ABS function is operated.

Diagnosis Procedure

INFOID:000000010634286

INFOID:000000010634285

CAUTION:

Brake stopping distance on slippery road like rough road, gravel road, or snowy road may become longer when ABS is operated than when ABS is not operated.

1.CHECK 12V BATTERY

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
- CAUTION: Never operate the vehicle while waiting.
- Check the 12V battery terminal connections. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery" and <u>PG-76</u>, "Work Flow".
- 4. Check the 12V battery. Refer to PG-76, "Work Flow".

Is the inspection result normal?

- YES >> GO TO 2.
- NO >> Repair or replace error-detected parts and GO TO 2.

2. PERFORM SELF-DIAGNOSIS (1)

With CONSULT

- 1. Connect 12V battery cable to negative terminal.
- 2. Turn the power switch OFF to ON without depressing the brake pedal.

CAUTION: Never set the vehicle to READY.

- 3. Repeat step 2 two or more times.
- CAUTION: Be sure to wait for 5 seconds or more after turning the power switch OFF.

Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.

- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 - CAUTION:

Never operate the vehicle while waiting.

6. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 7. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 8. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

10. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 11. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 12. Release brake pedal.
- 13. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC detected?

- YES >> Check the DTC. Refer to <u>BR-38, "DTC Index"</u>. GO TO 3.
- NO >> INSPECTION END

3.CHECK CONNECTOR TERMINALS

1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.

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< SYMPTOM DIAGNOSIS > 2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION: Never operate the vehicle while waiting. 3. Disconnect 12V battery cable from negative terminal. Refer to BR-6, "Precaution for Removing 12V Battery". Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections. Is the inspection result normal? YES >> GO TO 5. NO >> Repair or replace error-detected parts and GO TO 4. **4.**PERFORM SELF-DIAGNOSIS (2) (P)With CONSULT 1. Connect the electrically-driven intelligent brake unit harness connector. Connect 12V battery cable to negative terminal. 3. Turn the power switch OFF to ON without depressing the brake pedal. **CAUTION:** Never set the vehicle to READY. 4. Repeat step 3 two or more times. **CAUTION:** Be sure to wait for 5 seconds or more after turning the power switch OFF. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. 6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION: Never operate the vehicle while waiting. 7. Turn the power switch ON without depressing the brake pedal. CAUTION: Never set the vehicle to READY. 8. Start CONSULT and erase self-diagnosis result of "BRAKE". Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. 10. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION: Never operate the vehicle while waiting. 11. Turn the power switch ON without depressing the brake pedal. CAUTION: Never set the vehicle to READY. 12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more. 13. Release brake pedal. 14. Start CONSULT and perform "BRAKE" self-diagnosis. Is any DTC detected? YES >> Check the DTC. Refer to BR-38, "DTC Index". GO TO 5. NO >> INSPECTION END 5.CHECK POWER SWITCH ON POWER SUPPLY 1. Connect 12V battery cable to negative terminal. 2. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. 3. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. CAUTION:

Never operate the vehicle while waiting.

- 4. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6. "Precaution for Removing 12V Bat-</u> <u>tery"</u>.
- 5. Disconnect the electrically-driven intelligent brake unit harness connector.
- 6. Connect 12V battery cable to negative terminal.
- 7. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

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< SYMPTOM DIAGNOSIS >

Electrically-driver	n intelligent brake unit		Voltage
Connector	Connector Terminal		(Approx.)
E34	26	Ground	0 V

8. Turn the power switch ON without depressing the brake pedal.

CAUTION:

Never set the vehicle to READY.

9. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven in	telligent brake unit		Voltage
Connector	Connector Terminal		(Approx.)
E34	26	Ground	10 – 16 V

Is the inspection result normal?

YES >> GO TO 8.

NO >> GO TO 6.

6.CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.

 Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, "Precaution for Removing 12V Battery".
- 4. Check the 15A fuse (#62).
- 5. Disconnect IPDM E/R harness connector.
- 6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

Electrically-driven ir	ntelligent brake unit	IPDN	Continuity	
Connector	Terminal	Connector	Terminal	Continuity
E34	26	E15	62	Existed

7. Check the continuity between electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven in	telligent brake unit		Continuity
Connector	Terminal		Continuity
E34	26	Ground	Not existed

Is the inspection result normal?

- YES >> Perform trouble diagnosis for power ON power supply. Refer to <u>PG-29</u>, "Wiring Diagram—On <u>Power Supply—</u>".
- NO >> Repair or replace error-detected parts and GO TO 7.

7. PERFORM SELF-DIAGNOSIS (3)

(I) With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect IPDM E/R harness connector.
- 3. Connect 12V battery cable to negative terminal.
- Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

5. Repeat step 4 two or more times. CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

6. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.

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7.	Close all doors (including back door)	check that the room lamp is OFF, get out of the vehicle, and wait	for
		re with all doors closed		
		the vehicle while wait	ting	
5.			bressing the brake pedal.	
		ehicle to READY.		
).		and erase self-diagno		
			NSULT, and disconnect CONSULT from data link connector. check that the room lamp is OFF, get out of the vehicle, and wait	for
١.		re with all doors closed		
	CAUTION:		-	
		the vehicle while wait		
2.		switch ON without dep	pressing the brake pedal.	
	CAUTION:	ehicle to READY.		
3			in) or more, and hold the position for 5 seconds or more.	
	Release brake p			
		and perform "BRAKE"	" self-diagnosis.	
s a	ny DTC detected	?		
YE	ES >> Check t	ne DTC. Refer to <u>B</u> R-3	38, "DTC Index". GO TO 8.	
N				
3.	CHECK 12V BAT	TERY POWER SUPPI	LY	
			NSULT, and disconnect CONSULT from data link connector.	
	Turn the new or		NSULT AND DISCONDECT CONSULT TOOD DATA TOK CONDECTOR	
				c
	Close all doors (including back door), o	check that the room lamp is OFF, get out of the vehicle, and wait	for
	Close all doors (3 minutes or mo		check that the room lamp is OFF, get out of the vehicle, and wait	for
	Close all doors (3 minutes or mo CAUTION:	including back door), or re with all doors closed	check that the room lamp is OFF, get out of the vehicle, and wait d.	for
	Close all doors (3 minutes or mo CAUTION: Never operate	including back door), c re with all doors closed the vehicle while wait	check that the room lamp is OFF, get out of the vehicle, and wait d. ting.	
2.	Close all doors (3 minutes or mo CAUTION: Never operate	including back door), c re with all doors closed the vehicle while wait	check that the room lamp is OFF, get out of the vehicle, and wait d.	
	Close all doors (3 minutes or mo CAUTION: Never operate to Disconnect 12V tery". Disconnect the o	including back door), c re with all doors closed the vehicle while wait battery cable from neg electrically-driven intell	check that the room lamp is OFF, get out of the vehicle, and wait d. ting. gative terminal. Refer to <u>BR-6, "Precaution for Removing 12V P</u> ligent brake unit harness connector.	
•	Close all doors (3 minutes or mo CAUTION: Never operate of Disconnect 12V tery". Disconnect the of Connect 12V ba	including back door), c re with all doors closed the vehicle while wait battery cable from neg electrically-driven intell ttery cable to negative	check that the room lamp is OFF, get out of the vehicle, and wait d. ting. gative terminal. Refer to <u>BR-6. "Precaution for Removing 12V E</u> ligent brake unit harness connector.	
	Close all doors (3 minutes or mo CAUTION: Never operate of Disconnect 12V tery". Disconnect the of Connect 12V ba	including back door), c re with all doors closed the vehicle while wait battery cable from neg electrically-driven intell ttery cable to negative	check that the room lamp is OFF, get out of the vehicle, and wait d. ting. gative terminal. Refer to <u>BR-6, "Precaution for Removing 12V P</u> ligent brake unit harness connector.	
•	Close all doors (3 minutes or mo CAUTION: Never operate of Disconnect 12V tery". Disconnect the of Connect 12V ba Check the voltage	including back door), c re with all doors closed the vehicle while wait battery cable from neg electrically-driven intell ttery cable to negative	check that the room lamp is OFF, get out of the vehicle, and wait d. ting. gative terminal. Refer to <u>BR-6. "Precaution for Removing 12V E</u> ligent brake unit harness connector.	
	Close all doors (3 minutes or mo CAUTION: Never operate of Disconnect 12V tery". Disconnect the of Connect 12V ba Check the voltage	including back door), of re with all doors closed the vehicle while wait battery cable from neg electrically-driven intell ttery cable to negative ge between the electric	check that the room lamp is OFF, get out of the vehicle, and wait d. ting. gative terminal. Refer to <u>BR-6. "Precaution for Removing 12V E</u> ligent brake unit harness connector. e terminal. cally-driven intelligent brake unit harness connector terminals.	
•	Close all doors (3 minutes or mo CAUTION: Never operate of Disconnect 12V tery". Disconnect the of Connect 12V ba Check the voltage Electrically-driven	including back door), of re with all doors closed the vehicle while wait battery cable from neg electrically-driven intell ttery cable to negative ge between the electric intelligent brake unit	check that the room lamp is OFF, get out of the vehicle, and wait d. ting. gative terminal. Refer to <u>BR-6. "Precaution for Removing 12V E</u> ligent brake unit harness connector. e terminal. cally-driven intelligent brake unit harness connector terminals.	
•	Close all doors (3 minutes or mo CAUTION: Never operate of Disconnect 12V tery". Disconnect the of Connect 12V ba Check the voltage Electrically-driven Connector	including back door), c re with all doors closed the vehicle while wait battery cable from neg electrically-driven intell ttery cable to negative ge between the electric intelligent brake unit Terminal 1 – 32	check that the room lamp is OFF, get out of the vehicle, and wait d. ting. gative terminal. Refer to <u>BR-6, "Precaution for Removing 12V E</u> ligent brake unit harness connector. terminal. cally-driven intelligent brake unit harness connector terminals. Voltage (Approx.)	
•	Close all doors (3 minutes or mo CAUTION: Never operate of Disconnect 12V tery". Disconnect the of Connect 12V ba Check the voltage Electrically-driven	including back door), of re with all doors closed the vehicle while wait battery cable from neg- electrically-driven intell ttery cable to negative ge between the electric intelligent brake unit Terminal 1 - 32 2 - 32	check that the room lamp is OFF, get out of the vehicle, and wait d. ting. gative terminal. Refer to <u>BR-6. "Precaution for Removing 12V E</u> ligent brake unit harness connector. e terminal. cally-driven intelligent brake unit harness connector terminals.	
-	Close all doors (3 minutes or mo CAUTION: Never operate of Disconnect 12V tery". Disconnect the of Connect 12V ba Check the voltag Electrically-driven Connector E34	including back door), of re with all doors closed the vehicle while wait battery cable from neg- electrically-driven intell ttery cable to negative ge between the electric intelligent brake unit Terminal 1 - 32 2 - 32 28 - 32	check that the room lamp is OFF, get out of the vehicle, and wait d. ting. gative terminal. Refer to <u>BR-6</u> , <u>"Precaution for Removing 12V E</u> ligent brake unit harness connector. terminal. cally-driven intelligent brake unit harness connector terminals. Voltage (Approx.) 10 – 16 V	
. 2. 3. 5. 5. 5.	Close all doors (3 minutes or mo CAUTION: Never operate of Disconnect 12V tery". Disconnect the of Connect 12V ba Check the voltage Electrically-driven Connector E34 Turn the power	including back door), of re with all doors closed the vehicle while wait battery cable from neg- electrically-driven intell ttery cable to negative ge between the electric intelligent brake unit Terminal 1 - 32 2 - 32 28 - 32	check that the room lamp is OFF, get out of the vehicle, and wait d. ting. gative terminal. Refer to <u>BR-6, "Precaution for Removing 12V E</u> ligent brake unit harness connector. terminal. cally-driven intelligent brake unit harness connector terminals. Voltage (Approx.)	
)	Close all doors (3 minutes or mo CAUTION: Never operate of Disconnect 12V tery". Disconnect the of Connect 12V ba Check the voltage Electrically-driven Connector E34 Turn the power of CAUTION:	including back door), of re with all doors closed the vehicle while wait battery cable from neg- electrically-driven intell ttery cable to negative ge between the electric intelligent brake unit Terminal 1 - 32 2 - 32 28 - 32 switch ON without depart	check that the room lamp is OFF, get out of the vehicle, and wait d. ting. gative terminal. Refer to <u>BR-6</u> , <u>"Precaution for Removing 12V E</u> ligent brake unit harness connector. terminal. cally-driven intelligent brake unit harness connector terminals. Voltage (Approx.) 10 – 16 V	
	Close all doors (3 minutes or mo CAUTION: Never operate of Disconnect 12V tery". Disconnect the of Connect 12V ba Check the voltage Electrically-driven Connector E34 Turn the power of CAUTION: Never set the v	including back door), of re with all doors closed the vehicle while wait battery cable from neg- electrically-driven intell ttery cable to negative ge between the electric intelligent brake unit 1 - 32 2 - 32 28 - 32 switch ON without dep ehicle to READY.	check that the room lamp is OFF, get out of the vehicle, and wait d. ting. gative terminal. Refer to <u>BR-6</u> , "Precaution for Removing 12V E ligent brake unit harness connector. e terminal. cally-driven intelligent brake unit harness connector terminals. Voltage (Approx.) 10 - 16 V pressing the brake pedal.	
	Close all doors (3 minutes or mo CAUTION: Never operate of Disconnect 12V tery". Disconnect the of Connect 12V ba Check the voltage Electrically-driven Connector E34 Turn the power of CAUTION: Never set the v	including back door), of re with all doors closed the vehicle while wait battery cable from neg- electrically-driven intell ttery cable to negative ge between the electric intelligent brake unit 1 - 32 2 - 32 28 - 32 switch ON without dep ehicle to READY.	check that the room lamp is OFF, get out of the vehicle, and wait d. ting. gative terminal. Refer to <u>BR-6</u> , <u>"Precaution for Removing 12V E</u> ligent brake unit harness connector. terminal. cally-driven intelligent brake unit harness connector terminals. Voltage (Approx.) 10 – 16 V	
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- - - -	Close all doors (3 minutes or mo CAUTION: Never operate of Disconnect 12V tery". Disconnect the of Connect 12V ba Check the voltage Electrically-driven Connector E34 Turn the power of CAUTION: Never set the vo Check the voltage Electrically-driven	including back door), of re with all doors closed the vehicle while wait battery cable from neg- electrically-driven intell ttery cable to negative ge between the electric intelligent brake unit 1 - 32 2 - 32 28 - 32 switch ON without dep ehicle to READY. ge between the electric intelligent brake unit	check that the room lamp is OFF, get out of the vehicle, and wait d. ting. Igative terminal. Refer to <u>BR-6. "Precaution for Removing 12V E</u> ligent brake unit harness connector. e terminal. cally-driven intelligent brake unit harness connector terminals. Voltage (Approx.) 10 – 16 V pressing the brake pedal. cally-driven intelligent brake unit harness connector terminals.	
- - -	Close all doors (3 minutes or mo CAUTION: Never operate of Disconnect 12V tery". Disconnect the of Connect 12V ba Check the voltage Electrically-driven Connector E34 Turn the power of CAUTION: Never set the v Check the voltage	including back door), of re with all doors closed the vehicle while wait battery cable from neg- electrically-driven intell ttery cable to negative ge between the electric intelligent brake unit 1 - 32 2 - 32 28 - 32 switch ON without dep ehicle to READY. ge between the electric intelligent brake unit Terminal	check that the room lamp is OFF, get out of the vehicle, and wait d. ting. gative terminal. Refer to <u>BR-6. "Precaution for Removing 12V E</u> ligent brake unit harness connector. terminal. cally-driven intelligent brake unit harness connector terminals. Voltage (Approx.) 10 – 16 V pressing the brake pedal. cally-driven intelligent brake unit harness connector terminals.	
	Close all doors (3 minutes or mo CAUTION: Never operate of Disconnect 12V tery". Disconnect the of Connect 12V ba Check the voltage Electrically-driven Connector E34 Turn the power of CAUTION: Never set the voltage Electrically-driven Check the voltage	including back door), or re with all doors closed the vehicle while wait battery cable from neg- electrically-driven intell ttery cable to negative ge between the electric intelligent brake unit 1 - 32 2 - 32 28 - 32 switch ON without depre- ehicle to READY. ge between the electric intelligent brake unit 1 - 32 2 - 32 28 - 32	check that the room lamp is OFF, get out of the vehicle, and wait d. ting. agative terminal. Refer to <u>BR-6. "Precaution for Removing 12V E</u> ligent brake unit harness connector. e terminal. cally-driven intelligent brake unit harness connector terminals. Voltage (Approx.) 10 – 16 V pressing the brake pedal. cally-driven intelligent brake unit harness connector terminals.	
-	Close all doors (3 minutes or mo CAUTION: Never operate of Disconnect 12V tery". Disconnect the of Connect 12V ba Check the voltage Electrically-driven Connector E34 Turn the power of CAUTION: Never set the vo Check the voltage Electrically-driven	including back door), of re with all doors closed the vehicle while wait battery cable from neg- electrically-driven intell ttery cable to negative ge between the electric intelligent brake unit 1 - 32 2 - 32 28 - 32 switch ON without dep ehicle to READY. ge between the electric intelligent brake unit Terminal	check that the room lamp is OFF, get out of the vehicle, and wait d. ting. Igative terminal. Refer to <u>BR-6. "Precaution for Removing 12V E</u> ligent brake unit harness connector. e terminal. cally-driven intelligent brake unit harness connector terminals. Voltage (Approx.) 10 – 16 V pressing the brake pedal. cally-driven intelligent brake unit harness connector terminals.	

NO >> GO TO 9.

9. CHECK 12V BATTERY POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.

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 Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6</u>, <u>"Precaution for Removing 12V Bat-tery"</u>.
- 4. Check the 60A fusible link (#F).
- 5. Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).
- Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).
- 7. Check the 15A fuse (#75).
- 8. Check the continuity and for short circuit between harness connector terminal 28 of electrically-driven intelligent brake unit and 15A fuse (#75).

Is the inspection result normal?

- YES >> Perform trouble diagnosis for 12V battery power supply. Refer to <u>PG-18</u>, "Wiring <u>Diagram Battery Power Supply —</u>".
- NO >> Repair or replace error-detected parts and GO TO 10.

10.PERFORM SELF-DIAGNOSIS (4)

With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- 3. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

4. Repeat step 3 two or more times.

CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 5. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

7. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 8. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 9. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 10. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

11. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 13. Release brake pedal.
- 14. Start CONSULT and perform "BRAKE" self-diagnosis.

Is any DTC detected?

YES >> Check the DTC. Refer to <u>BR-38, "DTC Index"</u>. GO TO 11.

NO >> INSPECTION END

11.CHECK GROUND CIRCUIT

- 1. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:

Never operate the vehicle while waiting.

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- Disconnect 12V battery cable from negative terminal. Refer to <u>BR-6. "Precaution for Removing 12V Battery"</u>.
 Disconnect the electrically-driven intelligent brake unit harness connector.
- Check the continuity between electrically-driven intelligent brake unit and ground.

	ntelligent brake unit	_	Continuity	
Connector	Terminal			
E34	32	Ground	Existed	
the inspection resul				
ES >> GO TO 1 O >> Repair or	 replace error-detecte 	d parts and CO TO	12	
	•	a parts and GO TO	12.	
2.PERFORM SEL	F-DIAGNUSIS (5)			
With CONSULT	trically driven intellige	nt braka unit barnas	no connector	
	trically-driven intellige ery cable to negative			ſ
Turn the power sy	witch OFF to ON with		orake pedal.	
CAUTION: Never set the ve	hicle to READY			
Repeat step 3 two				
CAUTION:				
	for 5 seconds or mole witch OFE to exit CON		ect CONSULT from data link connector.	
			lamp is OFF, get out of the vehicle, and wait f	or
	e with all doors closed	1.		
CAUTION: Never operate th	ne vehicle while wait	ina		
Turn the power s	witch ON without depr		edal.	
CAUTION:	histo to DEADY			
Never set the ve Start CONSULT a	and erase self-diagnos	sis result of "BRAKE	- "	
Turn the power sy	witch OFF to exit CON	SULT, and disconn	ect CONSULT from data link connector.	
	ncluding back door), c e with all doors closed		lamp is OFF, get out of the vehicle, and wait f	or
CAUTION:		1.		
Never operate the	ne vehicle while wait			
. Turn the power sy CAUTION:	witch ON without depr	essing the brake pe	edal.	
Never set the ve	hicle to READY.			
		in) or more, and ho	Id the position for 5 seconds or more.	
. Release brake pe	and perform "BRAKE"	self-diagnosis		
any DTC detected?	•	sell alagricolo.		
-	e DTC. Refer to <u>BR-3</u>	8, "DTC Index". GO	TO 13.	
IO >> INSPECT	-			
3. CHECK DATA M	IONITOR			
With CONSULT				
	trically-driven intellige		s connector.	
	ery cable to negative witch OFF to ON with		orake pedal	
CAUTION:				
Never set the ve				
Repeat step 3 two CAUTION:	o or more times.			
Be sure to wait f	or 5 seconds or mo			
			R" according this order. IODULE POWER". Refer to <u>BR-33, "Referen</u> e	

 Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER". Refer to <u>BR-33, "Reference</u> <u>Value"</u>. А

< SYMPTOM DIAGNOSIS >

Is the inspection result normal?

YES >> GO TO 14.

NO >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-510, "Removal and installation"</u>.

14.PERFORM SELF-DIAGNOSIS (6)

With CONSULT

- Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:
 - Never set the vehicle to READY.
- 2. Repeat step 1 two or more times.
 - CAUTION:

Be sure to wait for 5 seconds or more after turning the power switch OFF.

- 3. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Never operate the vehicle while waiting.

5. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

- 6. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 7. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- 8. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
- CAUTION:
- Never operate the vehicle while waiting.9. Turn the power switch ON without depressing the brake pedal.
- CAUTION:
- **Never set the vehicle to READY.** 10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 11. Release brake pedal.
- 12. Start CONSULT and perform "BRAKE" self-diagnosis.

Is any DTC detected?

- YES >> Check the DTC. Refer to <u>BR-38, "DTC Index"</u>.
- NO >> GO TO 15.

15. CHECK BRAKING FORCE

Check the braking force.

Is the inspection result normal?

YES >> GO TO 16.

NO >> Check each component of brake system.

16.CHECK BRAKE PERFORMANCE

1. Turn the power switch OFF to exit CONSULT.

- 2. Disconnect ABS actuator control unit harness connector so that ABS does not operate. Check the brake stopping distance in this condition.
- 3. Connect harness connectors after checking.

Is the inspection result normal?

- YES >> Normal
- NO >> Check each component of brake system.

VEHICLE JERKS DURING < SYMPTOM DIAGNOSIS > VEHICLE JERKS DURING Description The vehicle jerks when VDC function, TCS function, ABS function, EBD function, brake limited slip differential (BLSD) function or brake assist function operates. Diagnosis Procedure **1.**CHECK SYMPTOM Check the whether or not the vehicle jerks when VDC function, TCS function, ABS function, EBD function, brake limited slip differential (BLSD) function or brake assist function operates. Is the inspection result normal? YFS >> Normal NO >> GO TO 2. 2.PERFORM SELF-DIAGNOSIS (P)With CONSULT Turn the power switch OFF to ON without depressing the brake pedal. 1. **CAUTION:** Never set the vehicle to READY. Repeat step 1 two or more times. **CAUTION:** Be sure to wait for 5 seconds or more after turning the power switch OFF. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. 3. 4. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. **CAUTION:** Never operate the vehicle while waiting. 5. Turn the power switch ON without depressing the brake pedal. CAUTION: Never set the vehicle to READY. Start CONSULT and erase self-diagnosis result of "BRAKE". Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. 7. 8. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. **CAUTION:** Never operate the vehicle while waiting. 9. Turn the power switch ON without depressing the brake pedal. CAUTION: Never set the vehicle to READY. 10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more. 11. Release brake pedal. 12. Start CONSULT and perform "BRAKE" self-diagnosis. Is any DTC detected?

- YES >> Check the DTC. Refer to BR-38, "DTC Index".
- >> Perform symptom diagnosis for VDC function, TCS function, ABS function, EBD function, brake NO limited slip differential (BLSD) function, or brake assist function. Refer to BRC-155, "Diagnosis Procedure". GO TO 3.

3.CHECK CONNECTOR

With CONSULT

- Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. 1.
- 2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. **CAUTION:**

Never operate the vehicle while waiting.

3. Disconnect 12V battery cable from negative terminal. Refer to BR-6, "Precaution for Removing 12V Battery".

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VEHICLE JERKS DURING

< SYMPTOM DIAGNOSIS >

- 4. Disconnect electrically-driven intelligent brake unit harness connector.
- 5. Disconnect ABS actuator and electric unit (control unit) harness connector.
- 6. Check the connector terminal for deformation, disconnection, or looseness.
- 7. Connect electrically-driven intelligent brake unit harness connector.
- 8. Connect ABS actuator and electric unit (control unit) harness connector.
- 9. Connect harness connector, start CONSULT and perform self-diagnosis for "BRAKE" again.

Is the inspection result normal?

YES >> GO TO 4.

NO >> Poor connection of connector terminal. Repair or replace connector terminal.

4.CHECK VCM SELF DIAGNOSIS RESULT ITEMS

With CONSULT

Start CONSULT and perform self-diagnosis for "EV/HEV". Refer to EVC-73, "CONSULT Function".

Is any DTC detected?

- YES >> Check the DTC. Refer to EVC-103, "DTC Index".
- NO >> Replace ABS actuator and electric unit (control unit). Refer to <u>BRC-164</u>, "<u>Removal and Installa-</u> tion".

< SYMPTOM DIAGNOSIS >

NORMAL OPERATING CONDITION

Description

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Symptom	Result	
The brake pedal may move during braking.		
When the brake pedal is depressed while the power switch is OFF, an operating sound may occur or the pedal stroke may feel short.		
There may be an operating noise or the brake pedal may move after the brake pedal is op- erated.	This occurs when the electrically-driven intelligent brake unit is operating normally and is not a malfunction.	
An operating noise may occur when the power switch is turned OFF (system stop sound).		
The brake pedal may move when ABS is activated immediately after the READY state of the vehicle.		
After turning the power switch OFF and waiting for a few minutes in the car (with all doors		
closed and brake pedal not depressed), the electrically-driven intelligent brake unit goes into sleep mode. If the brake pedal is depressed after the unit goes into sleep mode, the brake pedal operation may be felt awkward or the depth of pedal depression insufficient for a little while.	This is not a malfunction. Depress the brake pedal fully.	

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< PERIODIC MAINTENANCE >

PERIODIC MAINTENANCE BRAKE PEDAL

Inspection and Adjustment

INSPECTION

Brake Pedal Height Check the height from the dash lower panel ① to the top face of the brake pedal (H1), using Tool.

> Brake pedal : Refer to <u>BR-530, "Brake Pedal"</u>. height (H1)

Tool number : — (J-46532)

CAUTION:

Perform with the floor trim pulled up.

Stop Lamp Switch and Brake Pedal Position Switch

Check the clearance (C) between brake pedal lever 1 and the threaded end of stop lamp switch and brake pedal position switch 2.

(C) : Refer to <u>BR-530, "Brake Pedal"</u>.

CAUTION:

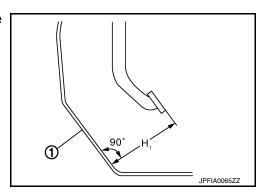
The stop lamp must turn OFF when the brake pedal is released. NOTE:

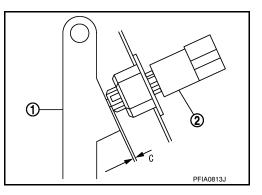
When checking the clearance between the brake pedal lever and threaded end of stop lamp switch and brake pedal position switch, check with the brake pedal (pad) pulled gently toward you.

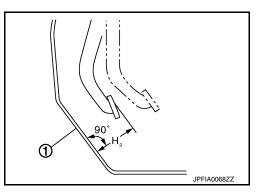
Pedal Height When Depressed

Check the height from the dash lower panel ① to the top face of the brake pedal (H₂) when depressing the brake pedal with a force of 196 N (20 kg, 44 lb) while the vehicle is in READY state.

Depressed brake pedal height (H2)	: Refer to <u>BR-530, "Brake Ped-</u> <u>al"</u> .
Brake pedal full stroke	: Refer to <u>BR-530, "Brake Ped-</u> <u>al"</u> .
Brake pedal play	: Refer to <u>BR-530, "Brake Ped-</u> <u>al"</u> .







CAUTION:

Perform with the floor trim pulled up.

ADJUSTMENT

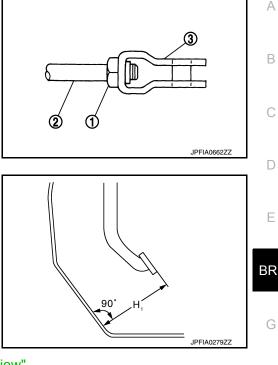
Brake Pedal Height

- 1. Remove the instrument lower panel LH. Refer to <u>IP-17, "Removal and Installation"</u>.
- 2. Disconnect the harness connectors from the stop lamp switch and brake pedal position switch.
- 3. Rotate the stop lamp switch and brake pedal position switch counterclockwise by 45° to loosen them.

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< PERIODIC MAINTENANCE >

- 4. Loosen the input rod lock nut ①.
- Rotate the input rod ②.
 CAUTION: The threaded part of the input rod end must project to the inside of the clevis ③.



Adjust the brake pedal to the specified height (H1).

Brake pedal : Refer to <u>BR-530, "Brake Pedal"</u>. height (H1)

- Tighten the lock nut to the specified torque. <u>BR-510, "Exploded View"</u>.
 - 8. After adjusting the brake pedal height, adjust the clearance between the stopper rubber and threaded end of stop lamp switch and brake pedal position switch.
 - Perform stroke sensor 0 point learning when the brake pedal assembly is removed and installed, or replaced. Refer to <u>BR-53</u>, "Work Procedure".

Stop Lamp Switch and Brake Pedal Position Switch

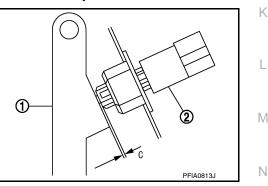
- 1. Remove the instrument lower panel LH. Refer to IP-17. "Removal and Installation".
- 2. Disconnect the harness connectors from the stop lamp switch and brake pedal position switch.
- 3. Rotate the stop lamp switch and brake pedal position switch counterclockwise by 45° to loosen them.
- 4. With the brake pedal (pad) pulled gently toward you, press in until the threaded end of stop lamp switch and brake pedal position switch 2 contacts the brake pedal lever 1. Under those conditions, rotate 45° to the right to fasten it in place. CAUTION:
 - Clearance (C) between the brake pedal lever and threaded end of stop lamp switch and brake pedal position switch must be the specified value.

(C) : Refer to <u>BR-530, "Brake Pedal"</u>.

- The stop lamp must turn OFF when the brake pedal is released.
- Perform stroke sensor 0 point learning when the brake pedal assembly is removed and installed, or replaced. Refer to <u>BR-53</u>, "Work Procedure".

Pedal Height When Depressed

1. Perform air bleeding. <u>BR-494, "Bleeding Brake System"</u>.



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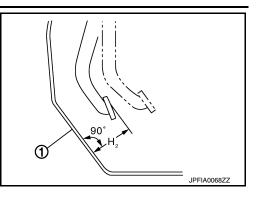
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2. Check the height from the dash lower panel ① to the top face of the brake pedal (H2) when depressing the brake pedal with a force of 196 N (20 kg, 44 lb) while the vehicle is in READY state.

Depressed brake pedal height (H2)	: <mark>Refer to <u>BR-530, "Brake Ped-</u> <u>al"</u>.</mark>
Brake pedal full stroke	: Refer to <u>BR-530, "Brake Ped-</u> <u>al"</u> .
Brake pedal play	: Refer to <u>BR-530, "Brake Ped-</u> <u>al"</u> .



CAUTION:

Perform with the floor trim pulled up.

- 3. Adjust the brake pedal height, and the clearance with the stop lamp switch and brake pedal position switch.
- 4. Perform stroke sensor 0 point learning when the brake pedal assembly is removed and installed, or replaced. Refer to <u>BR-53</u>, "Work Procedure".

BRAKE FLUID

< PERIODIC MAINTENANCE > BRAKE FLUID

Inspection

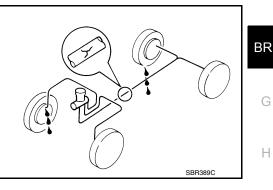
CHECK BRAKE FLUID LEVEL

- Check that the brake fluid level in the reservoir tank is within the standard (between MAX MIN lines).
- Visually check around the reservoir tank for brake fluid leakage.
- If the brake fluid level is extremely low (below the MIN line), check the amount of brake fluid and check for brake fluid leaks in the brake system.
- Check for dirt or other foreign material inside the reservoir tank, and check that no oil other than the designated brake fluid has entered the system.

BRAKE PIPING

- 1. Check for cracking and damage to brake piping (tubes and hoses). If any abnormality is found, replace the pipe.
- With the vehicle in READY state, depress the brake pedal with a force of 785 N (80 kg) and hold down the pedal for approximately 5 seconds. Check for any brake fluid leakage.
 CAUTION:

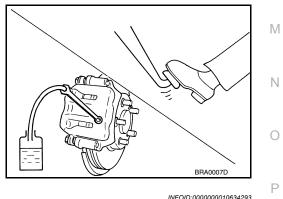
If brake fluid leakage has occurred, retighten all parts to the specified torque. If any abnormalities are found, replace the part.



Draining

CAUTION:

- Never allow brake fluid to contact the body or other painted surfaces. Brake fluid may damage paint. If it contacts a painted surface, wipe it off immediately and wash with water. However avoid washing brake components with water.
- Before performing work, turn the power switch OFF to exit CONSULT. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. Disconnect the electrically-driven intelligent brake unit, the ABS actuator control unit harness connector or disconnect the 12V battery cable from the negative terminal. Refer to <u>BR-6, "Precaution for Removing 12V Battery"</u>.
- Never operate the vehicle and CONSULT while waiting.
- If brake fluid contacts the disc rotor or brake caliper assembly, wipe it off immediately.
- 1. Connect a vinyl tube to air bleeder.
- 2. Depress the brake pedal and loosen the air bleeder to gradually discharge brake fluid.



Refilling

CAUTION:

If brake fluid contacts the disc rotor or brake caliper assembly, wipe it off immediately.

- 1. Make sure that there is no foreign material in the reservoir tank, and refill with new brake fluid. CAUTION:
 - Never reuse drained brake fluid.
 - Never allow any oils other than the designated brake fluid to enter the system.

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BRAKE FLUID

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- 2. Loosen the air bleeder, slowly depress the brake pedal to the full stroke, and then release the pedal. Repeat this operation at intervals of 2 or 3 seconds until all of the brake fluid is discharged. Then close the air bleeder with the brake pedal depressed. Repeat the same work on each wheel.
- 3. Perform air bleeding. <u>BR-494, "Bleeding Brake System"</u>.

Bleeding Brake System

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CAUTION:

- Turn the power switch without depressing the brake pedal when performing the procedure.
- Monitor the brake fluid level in the reservoir tank while performing the air bleeding.
- Never allow brake fluid to contact the body or other painted surfaces. Brake fluid may damage paint. If it contacts a painted surface, wipe it off immediately and wash with water. However avoid washing brake components with water.
- If brake fluid contacts the disc rotor or brake caliper assembly, wipe it off immediately.
- 1. Make sure that there is no foreign material in the reservoir tank, and refill with new brake fluid. **CAUTION:**
 - Never reuse drained brake fluid.
 - Never allow any oils other than the designated brake fluid to enter the system.
- 2. Connect a vinyl tube to the front (RH) brake caliper bleeder valve.
- 3. Fully depress the brake pedal 4 to 5 times.
- 4. Loosen the air bleeder and bleed air with the brake pedal depressed, then quickly tighten the bleeder valve.
- 5. Repeat steps 2 to 3 until all of the air is out of the brake line.
- 6. Tighten the air bleeder to the specified torque.
 - Front disc brake: Refer to <u>BR-518, "BRAKE CALIPER ASSEMBLY : Exploded View"</u>.
 Rear disc brake: Refer to <u>BR-525, "BRAKE CALIPER ASSEMBLY : Exploded View"</u>.
- 7. Perform steps 2 to 6. Occasionally fill with the brake fluid in order to keep it in the reservoir tank to at least half of the MAX line. Bleed air in the following order: front (RH) \rightarrow front (LH) \rightarrow rear (RH) \rightarrow rear (LH).
- 8. Check that the brake fluid level in the reservoir tank is within the specified range after air bleeding.
- 9. Check the brake pedal items, and adjust if any are not within the standard values. Refer to <u>BR-490</u>, <u>"Inspection and Adjustment"</u>.

ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT

< PERIODIC MAINTENANCE >

ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT

Inspection

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Brake fluid leakage

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Check for brake fluid leakage from	the brake tube connections	and the electrically-driven	intelligent brake unit.

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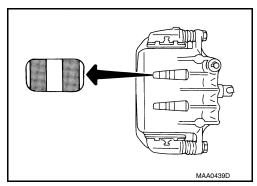
FRONT DISC BRAKE BRAKE PAD

BRAKE PAD : Inspection and Adjustment

Brake pad wear inspection

Check the brake pad thickness from the inspection hole in the cylinder body. Use a scale to check if necessary.

Wear limit: Refer to BR-531, "Front DiscthicknessBrake".



ADJUSTMENT

If the brake pad is ground or replaced, or if there is an abnormal feel to the braking force, follow the procedure below and perform break-in work.

CAUTION:

- Because the brake effectiveness is reduced, pay sufficient attention to the vehicle speed.
- Perform checks on a safe road and be careful of the traffic conditions.
- 1. Drive on straight and flat roads.
- 2. Stop the vehicle by depressing the brake pedal to generate braking force that stops the vehicle in 3 to 5 seconds.
- 3. Cool the brakes.
- 4. Repeat steps 1 to 3 until the abnormal feel in braking force disappears.

DISC ROTOR

DISC ROTOR : Inspection and Adjustment

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Visual inspection

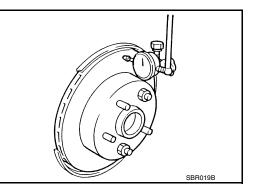
Check surface of the disc rotor for uneven wear, cracks, and serious damage. Replace if necessary. Refer to FAX-9, "Removal and Installation".

RUNOUT INSPECTION

- 1. Use the wheel nuts and fasten the disc rotor to the wheel hub assembly (minimum 2 positions).
- 2. Check axial end play of wheel hub assembly. FAX-7, "Inspection".
- 3. Check runout using a dial indicator [at 10 mm (0.39 in) from outer edge of disc rotor].

Maximum runout: Refer to BR-531, "Front Disc(vehicle stopped)Brake".

- 4. If runout is outside the specified value, find the minimum runout point by shifting mounting positions of the disc rotor and wheel hub by one hole.
- If runout is outside the specified value after performing the above operation, refinish disc rotor using Tool. CAUTION:
 - Perform grinding of disc rotor if disc rotor thickness is 0.3 mm (0.012 in) or more above the wear limit thickness.
 - Replace disc rotor if disc rotor thickness is less than 0.3 mm (0.012 in) above the wear limit thickness. Refer to <u>FAX-9, "Removal and Installation"</u>.



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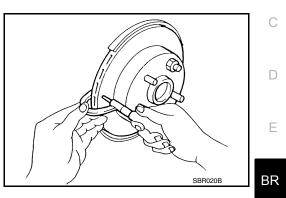
Wear limit : Refer to <u>BR-531, "Front Disc Brake"</u>. thickness

Tool number : 38-PFM92 (—)

THICKNESS INSPECTION

Check thickness of the disc rotor using a micrometer. Replace disc rotor if thickness is under the wear limit. <u>FAX-9. "Removal and Installation"</u>.

Wear limit: Refer to BR-531, "Front DiscthicknessBrake".



ADJUSTMENT

If the brake pad is ground or replaced, or if there is an abnormal feel to the braking force, follow the procedure below and perform break-in work.

CAUTION:

· Because the brake effectiveness is reduced, pay sufficient attention to the vehicle speed.

	Perform checks on a safe road and be careful of the traffic conditions.	Н
1.	Drive on straight and flat roads.	
2.	Stop the vehicle by depressing the brake pedal to generate braking force that stops the vehicle in 3 to 5 seconds.	I
3.	Cool the brakes.	
4.	Repeat steps 1 to 3 until the abnormal feel in braking force disappears.	
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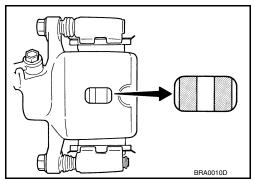
REAR DISC BRAKE BRAKE PAD

BRAKE PAD : Inspection and Adjustment

Brake pad wear inspection

Check the brake pad thickness from the inspection hole in the cylinder body. Use a scale to check it if necessary.

Wear limit : Refer to <u>BR-531, "Rear Disc Brake"</u>. thickness



ADJUSTMENT

If the brake pad is ground or replaced, or if there is an abnormal feel to the braking force, follow the procedure below and perform break-in work.

CAUTION:

- Because the brake effectiveness is reduced, pay sufficient attention to the vehicle speed.
- Perform checks on a safe road and be careful of the traffic conditions.
- 1. Drive on straight and flat roads.
- 2. Stop the vehicle by depressing the brake pedal to generate braking force that stops the vehicle in 3 to 5 seconds.
- 3. Cool the brakes.
- 4. Repeat steps 1 to 3 until the abnormal feel in braking force disappears.

DISC ROTOR

DISC ROTOR : Inspection and Adjustment

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Visual inspection

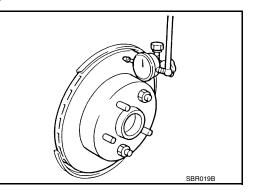
Check surface of the disc rotor for uneven wear, cracks, and serious damage. Replace if necessary. Refer to RAX-7, "Removal and Installation".

RUNOUT INSPECTION

- 1. Use the wheel nuts and fasten the disc rotor to the wheel hub assembly (minimum 2 positions).
- 2. Check axial end play of wheel hub assembly. RAX-6. "Inspection".
- 3. Check runout using a dial indicator [at 10 mm (0.39 in) from outer edge of disc rotor].

Maximum runout (ve-
hicle stopped): Refer to <u>BR-531, "Rear Disc</u>
Brake".

- 4. If runout is outside the specified value, find the minimum runout point by shifting mounting positions of the disc rotor and wheel hub by one hole.
- If runout is outside the specified value after performing the above operation, refinish disc rotor using Tool. CAUTION:
 - Perform grinding of disc rotor if disc rotor thickness is 0.3 mm (0.012 in) or more above the wear limit thickness.
 - Replace disc rotor if disc rotor thickness is less than 0.3 mm (0.012 in) above the wear limit thickness. Refer to <u>RAX-7, "Removal and Installation"</u>.



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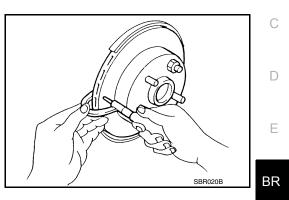
Wear limit : Refer to <u>BR-531, "Rear Disc Brake"</u>. thickness

Tool number : 38-PFM92 (—)

THICKNESS INSPECTION

Check thickness of the disc rotor using a micrometer. Replace disc rotor if thickness is under the wear limit. Refer to <u>RAX-7, "Removal and Installation"</u>.

Wear limit : Refer to <u>BR-531, "Rear Disc Brake"</u>. thickness



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ADJUSTMENT

If the brake pad is ground or replaced, or if there is an abnormal feel to the braking force, follow the procedure below and perform break-in work.

CAUTION:

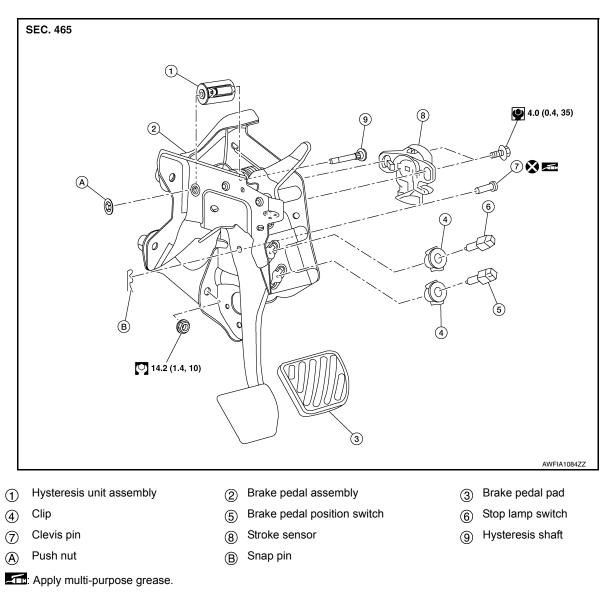
· Because the brake effectiveness is reduced, pay sufficient attention to the vehicle speed.

	Perform checks on a safe road and be careful of the traffic conditions.	Н
1.	Drive on straight and flat roads.	
2.	Stop the vehicle by depressing the brake pedal to generate braking force that stops the vehicle in 3 to 5 seconds.	I
3.	Cool the brakes.	
4.	Repeat steps 1 to 3 until the abnormal feel in braking force disappears.	
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< REMOVAL AND INSTALLATION > REMOVAL AND INSTALLATION BRAKE PEDAL

Exploded View

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Removal and Installation

REMOVAL

CAUTION:

Prevent impact on brake pedal assembly. To prevent damage to the parts, do not drop brake pedal assembly.

- 1. Remove instrument lower panel LH. Refer to IP-17. "Removal and Installation".
- 2. Disconnect the harness connectors from stop lamp switch and brake pedal position switch.
- 3. Disconnect the harness connector from the stroke sensor.

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< REMOVAL AND INSTALLATION >

Rotate the stop lamp switch and the brake pedal position switch
 ① counter clockwise to remove.

- 5. Remove snap pin ① and clevis pin ② from clevis ③ of electrically-driven intelligent brake.
- 6. Disconnect the harness connector from the accelerator pedal.
- 7. Slide the steering column assembly downward. Refer to <u>ST-35,</u> <u>"Removal and Installation"</u>.
- 8. Remove the brake pedal assembly. **CAUTION:**
 - To prevent damage to the parts, hold the electricallydriven intelligent brake unit so as not to drop out or contact them other parts.
 - Do not allow the stroke of brake pedal after removal.
 - If the brake pedal is displaced, move it by 100 mm (3.94 in) to check that the hysteresis unit assembly moves in conjunction with brake pedal. If a malfunction exists, replace hysteresis unit assembly.
- 9. Remove hysteresis unit assembly from brake pedal assembly. CAUTION:

Do not drop hysteresis unit assembly.

10. Remove the stroke sensor from brake pedal assembly. CAUTION:

Do not drop stroke sensor.

- 11. Remove accelerator pedal from brake pedal assembly. Refer to ACC-4, "Removal and Installation".
- 12. Perform inspection after removal. Refer to BR-501, "Inspection and Adjustment".

INSTALLATION

Note the following, and install in the reverse order of removal.

- Do not allow the stroke of brake pedal.
- **CAUTION:**

If the brake pedal is displaced, move it by 100 mm (3.94 in) to check that the hysteresis unit assembly moves in conjunction with brake pedal. If a malfunction exists, replace hysteresis unit assembly. \square

- Brake pedal assembly must be replaced after an impact.
- Apply the multi-purpose grease to the clevis pin and the mating faces. (Not necessary if grease has been already applied)

CAUTION:

Do not reuse the clevis pin.

NOTE:

The clevis pin may be inserted in either direction.

- Perform stroke sensor 0 point learning when brake pedal assembly removed and installed, or replaced. Refer to <u>BR-53</u>, "Work Procedure".
- Perform stroke sensor 0 point learning when stroke sensor removed and installed, or replaced. Refer to <u>BR-53</u>, "Work Procedure".
- · Perform adjustment after installation. Refer to BR-501, "Inspection and Adjustment".

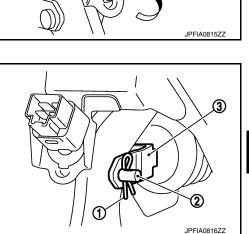
Inspection and Adjustment

INSPECTION AFTER REMOVAL

• Check the brake pedal assembly for bend, damage, and cracks on the welded parts. If any is found, replace brake pedal assembly.

BR-501

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< REMOVAL AND INSTALLATION >

• Move it by 100 mm (3.94 in) to check that the hysteresis unit assembly moves in conjunction with brake pedal. If a malfunction exists, replace hysteresis unit assembly.

ADJUSTMENT AFTER INSTALLATION

- Adjust each item of brake pedal after installing the brake pedal assembly to the vehicle. Refer to <u>BR-490</u>, <u>"Inspection and Adjustment"</u>.
- Perform the release position learning of the accelerator pedal. Refer to EVC-135, "Work Procedure".

< REMOVAL AND INSTALLATION >

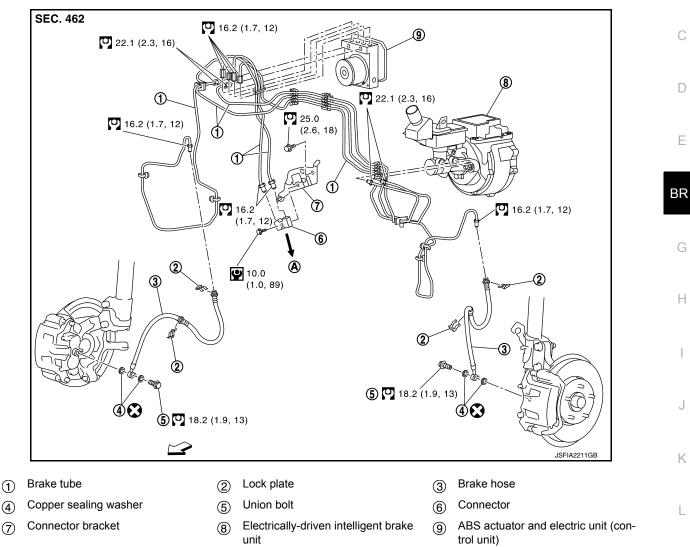
BRAKE PIPING FRONT

INFOID:000000010634303

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FRONT : Exploded View



(A)To rear brake tube

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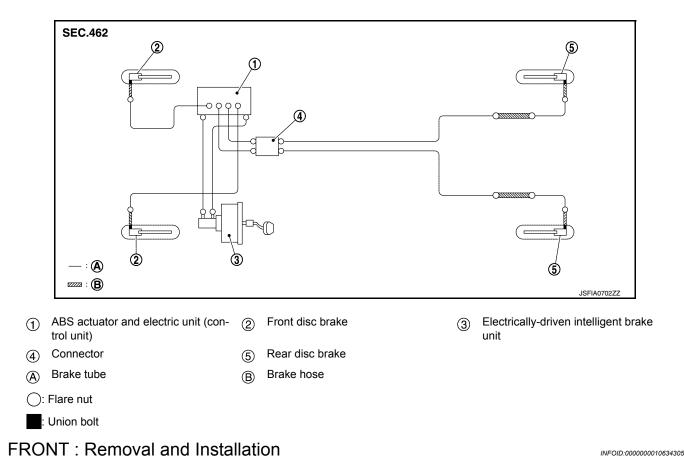
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BRAKE PIPING

< REMOVAL AND INSTALLATION >

FRONT : Hydraulic Piping



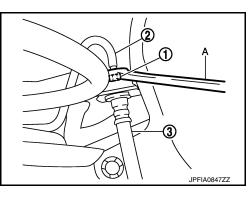
REMOVAL

CAUTION:

- Do not spill or splash brake fluid on painted surfaces. Brake fluid may seriously damage paint. Wipe it off immediately and wash with water if it gets on a painted surface. For brake component parts, do not wash them with water.
- Do not depress brake pedal. While removing the brake hose or brake tube. If this is not complied with, brake fluid may splash.
- If the brake fluid or grease adheres to the disc rotor, quickly wipe it off. NOTE:

When removing components such as hoses, tubes/lines, etc., cap or plug openings to prevent fluid from spilling.

- 1. Remove wheel and tire using power tool. Refer to WT-45, "Removal and Installation".
- 2. Drain brake fluid. Refer to <u>BR-493, "Draining"</u>.
- Loosen the flare nut ① with a flare nut wrench (A) and separate the brake tube ② from the brake hose ③.
 CAUTION:
 - Do not scratch the flare nut and the brake tube.
 - Do not bend sharply, twist or strongly pull out the brake hoses and tubes.
 - To prevent the inclusion of foreign matter, cover open end of brake tubes and hoses when disconnecting to prevent entrance of dirt.



< REMOVAL AND INSTALLATION >

- 4. Remove the union bolt ① and copper sealing washers ②, and remove the brake hose ③ from the brake caliper assembly.
- 5. Remove the lock plate ④ and remove the brake hose.

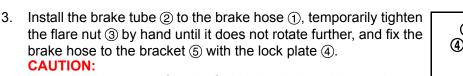
INSTALLATION

CAUTION:

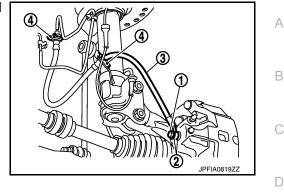
- Do not spill or splash brake fluid on painted surfaces. Brake fluid may seriously damage paint. Wipe it off immediately and wash with water if it gets on a painted surface. For brake component parts, do not wash them with water.
- Do not depress brake pedal. While removing the brake hose or brake tube. If this is not complied with, brake fluid may splash.
- If the brake fluid or grease adheres to the disc rotor, quickly wipe it off.
- Assemble the union bolt ① and the copper sealing washers ② to the brake hose.
 CAUTION:

Do not reuse copper sealing washers.

2. Align the brake hose pin (A) with the brake caliper assembly projection (B), and tighten the union bolt to the specified torque.



To prevent leakage of brake fluid, check that all brake hoses and brake tubes are not twisted and bent.



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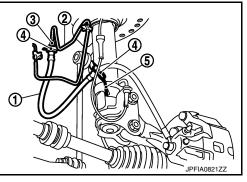
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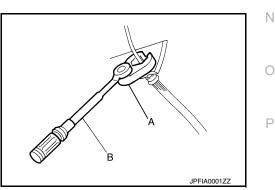
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4. Tighten the flare nut to the specified torque with a crowfoot (A) and torque wrench (B). CAUTION:

Do not scratch the flare nut and the brake tube.

- Refill with new brake fluid and perform the air bleeding. Refer to <u>BR-494, "Bleeding Brake System"</u>. CAUTION: Do not reuse drained brake fluid.
- Install wheel and tire. Refer to <u>WT-45, "Removal and Installa-</u> tion".
- 7. Perform inspection after installation. Refer to <u>BR-506. "FRONT :</u> <u>Inspection"</u>.



< REMOVAL AND INSTALLATION >

FRONT : Inspection

INSPECTION AFTER INSTALLATION

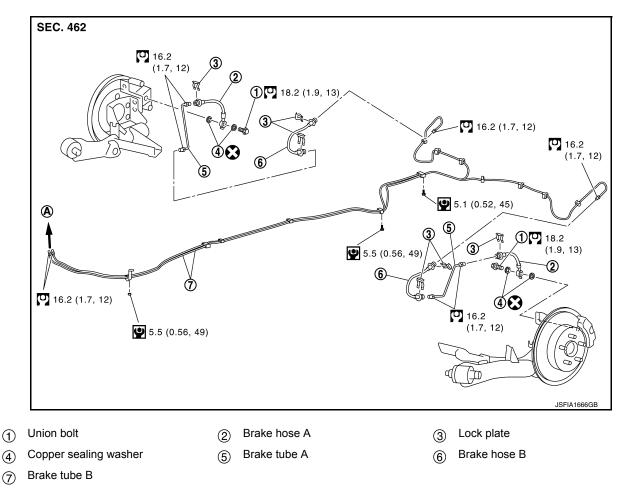
- 1. Check the brake hoses and tubes for the following: no scratches; no twist and deformation; no interference with other components when steering the steering wheel; no looseness at connections.
- Depress the brake pedal with a force of 785 N (80 kg, 176 lb) and hold down the pedal for approximately 5 seconds with set the vehicle to READY. Check for any fluid leakage.
 CAUTION:

Retighten the applicable connection to the specified torque and repair any abnormal (damaged, worn or deformed) part if any brake fluid leakage is present.

REAR

REAR : Exploded View

INFOID:000000010634307



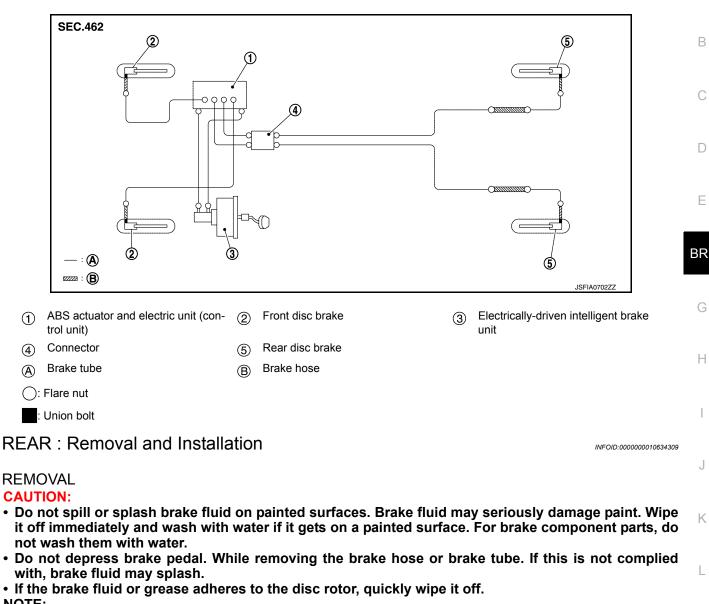
(A) To connector

< REMOVAL AND INSTALLATION >

REAR : Hydraulic Piping

INFOID:000000010634308

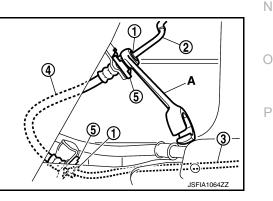
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NOTE:

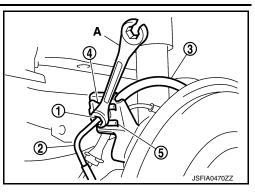
When removing components such as hoses, tubes/lines, etc., cap or plug openings to prevent fluid from spill- $_{\rm M}$ ing.

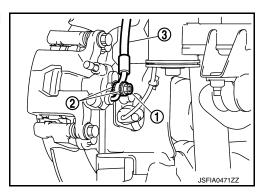
- 1. Remove wheel and tire using power tool. Refer to WT-45, "Removal and Installation".
- 2. Drain brake fluid. Refer to <u>BR-493</u>, "Draining".
- Loosen the flare nut ① with a flare nut wrench (A) and separate the brake tube B ② and brake tube A ③ from the hose B ④. CAUTION:
 - Do not scratch the flare nut and the brake tube.
 - Do not bend sharply, twist or strongly pull out the brake hoses and tubes.
 - To prevent the inclusion of foreign matter, cover open end of brake tubes and hoses when disconnecting to prevent entrance of dirt.
- 4. Remove the lock plate (5) and remove the brake hose B.



< REMOVAL AND INSTALLATION >

- Loosen the flare nut ① with a flare nut wrench (A) and separate the brake tube A ② from the hose A ③.
 CAUTION:
 - Do not scratch the flare nut and the brake tube.
 - Do not bend sharply, twist or strongly pull out the brake hoses and tubes.
 - To prevent the inclusion of foreign matter, cover open end of brake tubes and hoses when disconnecting to prevent entrance of dirt.
- 6. Remove the lock plate ④, and remove brake hose A from brake hose bracket ⑤.
- 7. Remove the union bolt ① and copper sealing washers ②, and remove the brake hose A ③ from the brake caliper assembly.





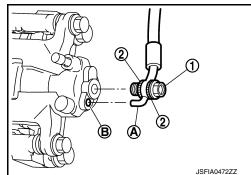
INSTALLATION

CAUTION:

- Do not spill or splash brake fluid on painted surfaces. Brake fluid may seriously damage paint. Wipe it off immediately and wash with water if it gets on a painted surface. For brake component parts, do not wash them with water.
- Do not depress brake pedal. While removing the brake hose or brake tube. If this is not complied with, brake fluid may splash.
- If the brake fluid or grease adheres to the disc rotor, quickly wipe it off.
- 1. Assemble the union bolt ① and the copper sealing washers ② to the brake hose A. CAUTION:

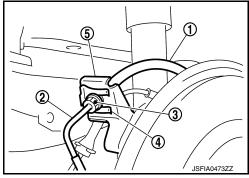
Do not reuse the copper sealing washers.

2. Align the brake hose B L-pin (A) with the brake caliper assembly hole (B), and tighten the union bolt to the specified torque.



Install the brake tube A ② to the brake hose A ①, temporarily tighten the flare nut ③ by hand until it does not rotate further, and fix the brake hose A to the brake hose bracket ⑤ with the lock plate ④.
 CAUTION:

To prevent leakage of brake fluid, check that all brake hoses and brake tubes are not twisted and bent.



< REMOVAL AND INSTALLATION >

Tighten the flare nut to the specified torque with a crowfoot (A) and torque wrench (B).
 CAUTION:
 Do not scratch the flare nut and the brake tube.

Install the brake tube B (2) and brake tube A (3) to the brake hose B (4), temporarily tighten the flare nut (1) by hand until it does not rotate further, and fix the brake hose B to the bracket with the lock plate (5).

CAUTION:

To prevent leakage of brake fluid, check that all brake hoses and brake tubes are not twisted and bent.

 Tighten the flare nut to the specified torque with a crowfoot (A) and torque wrench (B).
 CAUTION:

Do not scratch the flare nut and the brake tube.

 Refill with new brake fluid and perform the air bleeding. Refer to <u>BR-494, "Bleeding Brake System"</u>. CAUTION: Do not revise drained brake fluid.

Do not reuse drained brake fluid.

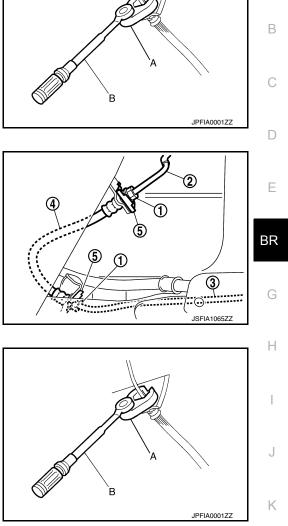
- 8. Install wheel and tire. Refer to <u>WT-45, "Removal and Installa-</u> tion".
- Perform inspection after installation. Refer to <u>BR-509</u>, "<u>REAR</u>: <u>Inspection</u>".

REAR : Inspection

INSPECTION AFTER INSTALLATION

- Check the brake hoses and tubes for the following: no scratches; no twist and deformation; no looseness at connections.
- Depress the brake pedal with a force of 785 N (80 kg, 176 lb) and hold down the pedal for approximately 5 seconds with set the vehicle to READY. Check for any fluid leakage.
 CAUTION:

Retighten the applicable connection to the specified torque and repair any abnormal (damaged, worn or deformed) part if any brake fluid leakage is present.



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ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT

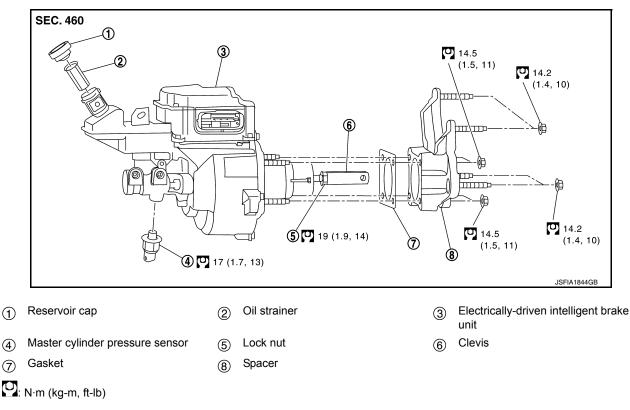
< REMOVAL AND INSTALLATION >

ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT

Exploded View

INFOID:000000010634311

INFOID:000000010634312



Removal and installation

REMOVAL

CAUTION:

- Do not disassemble the electrically-driven intelligent brake unit.
- Do not spill or splash brake fluid on painted surfaces. Brake fluid may seriously damage paint. Wipe it off immediately and wash with water if it gets on a painted surface. For brake component parts, do not wash them with water.
- Do not depress brake pedal. While removing the brake tube. If this is not complied with, brake fluid may splash.

NOTÉ:

When removing components such as hoses, tubes/lines, etc., cap or plug openings to prevent fluid from spilling.

- 1. Perform inspection before removal. Refer to <u>BR-512, "Inspection and Adjustment"</u>.
- 2. Turn the power switch OFF to exit CONSULT.
- Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
 CAUTION:

Do not operate the vehicle and CONSULT while waiting.

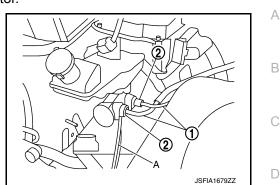
- 4. Remove 12V battery. Refer to PG-82, "Removal and Installation".
- 5. Move the fuse box.
- 6. Drain brake fluid. Refer to <u>BR-493, "Draining"</u>.
- 7. Remove cowl top cover. Refer to EXT-19, "Removal and Installation".
- 8. Remove wiper drive assembly. Refer to WW-55, "Removal and Installation".
- 9. Remove cowl top extension. Refer to EXT-19, "Removal and Installation".
- 10. Disconnect the brake fluid level switch harness connector.

ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT

< REMOVAL AND INSTALLATION >

- 11. Disconnect the master cylinder pressure sensor harness connector.
- 12. Separate the brake tube (1) from electrically-driven intelligent brake unit with a flare nut wrench (A). CAUTION:

Do not scratch the flare nut (2) and the brake tube.



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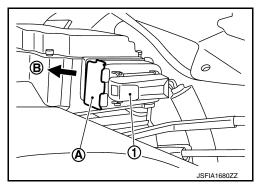
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13. Remove snap pin (1) and clevis pin (2). Refer to BR-500. "Removal and Installation".

- 14. Disconnect electrically-driven intelligent brake unit harness connector, follow the procedure described below.
- a. Pull the lever (A) of electrically-driven intelligent brake unit harness connector (1) in the direction (B).



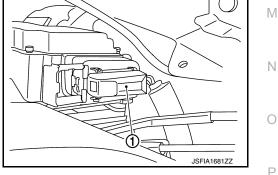
- Disconnect electrically-driven intelligent brake unit harness connector (1).
- 15. Remove nuts on electrically-driven intelligent brake unit and brake pedal assembly. **CAUTION:**

To prevent damage to the parts, hold the electrically-driven intelligent brake unit so as to avoid dropping out.

- 16. Remove electrically-driven intelligent brake unit. CAUTION: Do not deform or bend the brake tubes.
- 17. Remove master cylinder pressure sensor.
- 18. Remove spacer and gasket from electrically-driven intelligent brake unit.
- Perform inspection after removal. Refer to <u>BR-512</u>, "Inspection and Adjustment".

INSTALLATION

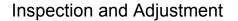
Note the following, and install in the reverse order of removal. CAUTION:



ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT

< REMOVAL AND INSTALLATION >

- Do not spill or splash brake fluid on painted surfaces. Brake fluid may seriously damage paint. Wipe it off immediately and wash with water if it gets on a painted surface. For brake component parts, do not wash them with water.
- Do not depress brake pedal. While removing the brake tube. If this is not complied with, brake fluid may splash.
- Be careful not to damage electrically-driven intelligent brake unit stud bolt threads. If electricallydriven intelligent brake unit is tilted during installation, the dash panel may damage the threads.
- Do not deform or bend the brake tubes when installing the electrically-driven intelligent brake unit.
- Do not reuse the clevis pin.
- Temporarily tighten the flare nut of brake tube to the electrically-driven intelligent brake unit by hand. Then tighten it to the specified torque with a crowfoot and torque wrench.
- After installing the electrically-driven intelligent brake unit harness connector ①, move the lever ④ in the direction ⑧ to secure the locking.
- Perform the air bleeding. Refer to <u>BR-494. "Bleeding Brake System"</u>.
- Check each item of brake pedal. Adjust it if the measurement value is not the standard. Refer to <u>BR-490</u>, "Inspection and Adjustment".
- Perform stroke sensor 0 point learning when electrically-driven intelligent brake unit is removed and installed, or replaced. Refer to <u>BR-53, "Work Procedure"</u>.



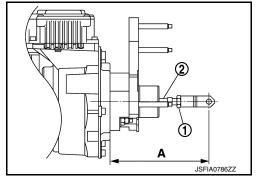
INSPECTION BEFORE REMOVAL

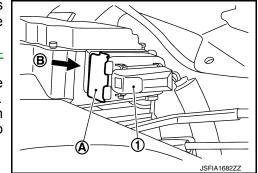
Check the brake fluid level switch. Refer to BRC-118, "Component Inspection".

INSPECTION AFTER REMOVAL

Input Rod Length Inspection

- 1. Loosen the lock nut ① and adjust the input rod ② to the specified length (A).
 - A : Refer to <u>BR-531</u>, "Electrically-driven Intelligent <u>Brake Unit"</u>.
- 2. Tighten the lock nut to the specified torque.





INFOID:000000010634313

BRAKE POWER SUPPLY BACKUP UNIT

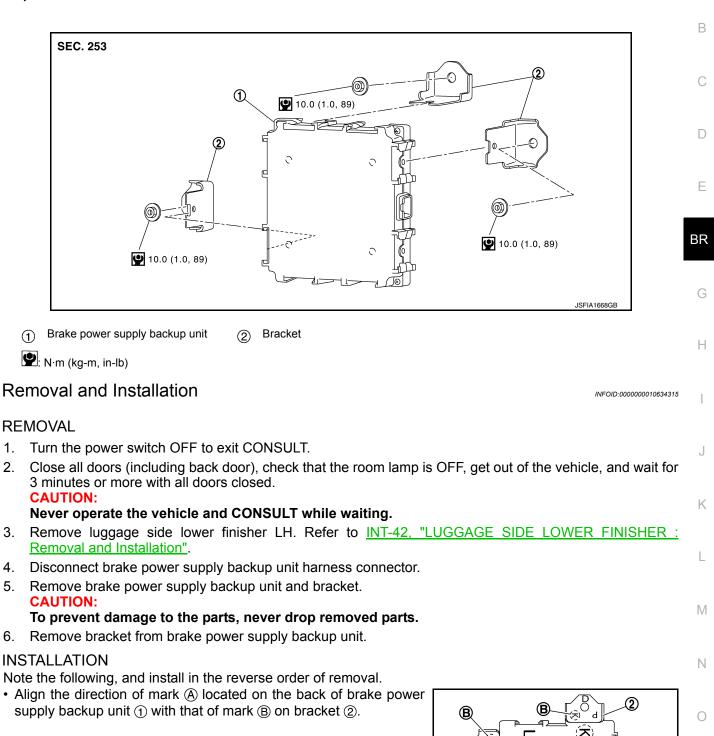
< REMOVAL AND INSTALLATION >

BRAKE POWER SUPPLY BACKUP UNIT

Exploded View



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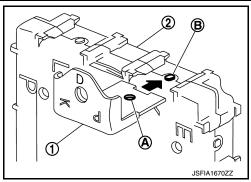
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BRAKE POWER SUPPLY BACKUP UNIT

< REMOVAL AND INSTALLATION >

• To install bracket ① to brake power supply backup unit ②, securely insert the bracket until protrusion ③ of the brake power supply unit protrudes from lock hole ④ of the bracket.



< REMOVAL AND INSTALLATION >

WARNING BUZZER

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Re	moval and Installation	INFOID:000000010634316	A
RE	MOVAL		В
1.	Remove glove box cover assembly. Refer to <u>IP-17, "Removal and Installation"</u> .		
2.	Disconnect warning buzzer harness connector.		
3.	Remove warning buzzer.		С
INS	STALLATION		
Ins	tall in the reverse order of removal.		D

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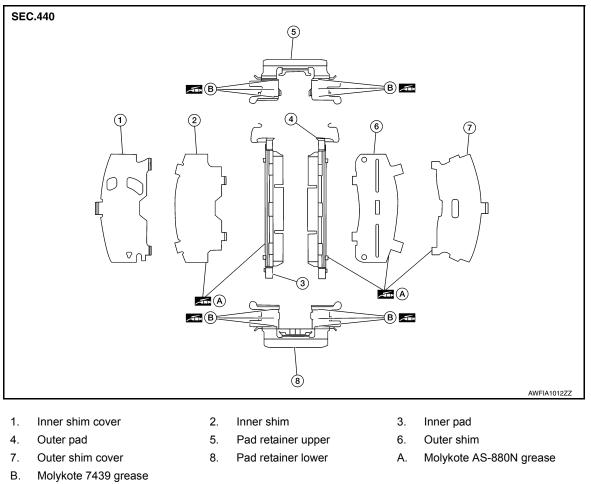
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< REMOVAL AND INSTALLATION >

FRONT DISC BRAKE BRAKE PAD

BRAKE PAD : Exploded View

INFOID:000000010634317



NOTE:

LH shown, RH similar

BRAKE PAD : Removal and Installation

INFOID:000000010634318

WARNING:

Clean dust on brake calipers and brake pads with a vacuum dust collector to minimize the hazard of airborne particles or other materials.

CAUTION:

- While removing brake caliper, do not depress brake pedal because piston will pop out.
- It is not necessary to remove bolts from torque member and brake hose except for disassembly or replacement of brake caliper assembly. In this case, hang brake caliper with a wire so as not to stretch brake hose.
- Do not damage piston boot.
- Keep brake rotor and brake pads free from brake fluid and grease.
- Burnish the brake pads and disc brake rotor mutually contacting surfaces after refinishing or replacing disc brake rotors, after replacing brake pads, or if a soft pedal occurs at very low mileage. Refer to <u>BR-496, "BRAKE PAD : Inspection and Adjustment"</u>.

REMOVAL

- 1. Partially drain brake fluid from the master cylinder. Refer to <u>BR-493</u>, "Draining".
- 2. Remove the front wheel and tire using power tool. Refer to WT-45, "Removal and Installation".

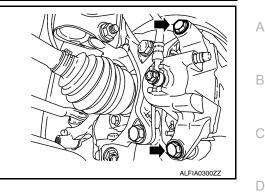
BR-516

FRONT DISC BRAKE

< REMOVAL AND INSTALLATION >

3. Remove upper and lower sliding pin bolts. Refer to BR-518. "BRAKE CALIPER ASSEMBLY : Exploded View". NOTE:

Note the pin orientation during removal. The lower sliding pin contains a bushing.

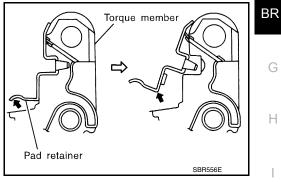


Remove the brake caliper from the torgue member. Leaving the brake hose attached, reposition the brake caliper aside with wire. CAUTION:

Do not twist or stretch brake hose.

- Remove the brake pads, shims, and shim covers from the torgue member.
- Remove the brake pad retainers from the torque member. CAUTION:

When removing the brake pad retainers from the torque member, lift it in the direction indicated by the arrow as shown so that it does not deform.



INSTALLATION

Installation is in the reverse order of removal.

 Apply Molykote AS-880N grease or equivalent between the outer brake pad, outer shim cover and outer shim and between the inner shim and inner brake pad. Install outer shim and outer shim cover to outer brake pad. Install inner shim and inner shim cover to inner brake pad.

CAUTION:

- The inner shim cover (LH) (1) is different than the inner shim cover (RH) (2). Install the inner shim covers in the correct position.
- Replace brake pad shims and covers as a set if any corrosion or damage exists.
- Apply Molykote 7439 grease or equivalent between brake pad retainers and brake pad ends. Install brake pad retainers and brake pads to torque member.

CAUTION:

- Make sure the brake pad retainers are fastened properly to the torque member.
- Replace brake pad retainers if damage exists.
- Press the piston into the cylinder bore of the caliper using a suitable tool.
- Check brake fluid level and refill as necessary. Refer to <u>BR-493</u>, "Inspection".
- Burnish contact surface between brake pads and disc brake rotors. Refer to <u>BR-496</u>, "<u>BRAKE PAD</u>: Inspection and Adjustment".

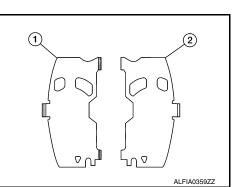
BRAKE PAD : Inspection

INSPECTION AFTER REMOVAL

- Replace the shims and the shim covers if rust is excessively attached.
- Eliminate rust on the pad retainers and the torgue member. Replace them if rust is excessively attached.

INSPECTION AFTER INSTALLATION

Check a drag of front disc brake. If any drag is found, follow the procedure described below.



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BR-517

FRONT DISC BRAKE

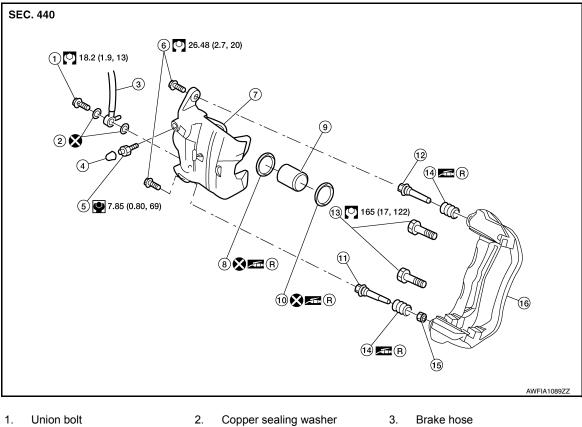
< REMOVAL AND INSTALLATION >

- 1. Remove brake pads. Refer to BR-516, "BRAKE PAD : Removal and Installation".
- Press the piston. Refer to <u>BR-516</u>, "<u>BRAKE PAD</u> : <u>Removal and Installation</u>".
- Install brake pads. Refer to BR-516, "BRAKE PAD : Removal and Installation".
- 4. Securely depress the brake pedal several times.
- 5. Check a drag of front disc brake again. If any drag is found, disassemble the cylinder body and replace if necessary. Refer to BR-520, "BRAKE CALIPER ASSEMBLY : Disassembly and Assembly"
- Burnish contact surfaces brake pads and disc rotor after refinishing or replacing brake pads, or if a soft pedal occurs at very low mileage. Refer to <u>BR-496, "BRAKE PAD : Inspection and Adjustment"</u>.

BRAKE CALIPER ASSEMBLY

BRAKE CALIPER ASSEMBLY : Exploded View

INFOID:000000010634320



- 4.
 - Cap
- 7. Brake caliper
- 10. Piston boot
- Torque member bolt 13. Torque member 16.
- Sliding pin boot Rubber grease R.

Bleeder valve

Piston seal

11. Lower sliding pin

- 6. Sliding pin bolt
- 9. Piston
- 12. Upper sliding pin
- 15. Lower sliding pin bushing

NOTE:

RH side caliper shown, LH side caliper similar.

BRAKE CALIPER ASSEMBLY : Removal and Installation

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INFOID:000000010634321

WARNING:

Clean dust on brake calipers and brake pads with a vacuum dust collector to minimize the hazard of airborne particles or other materials.

CAUTION:

- While removing brake caliper, do not depress the brake pedal because the piston will pop out.
- · Do not damage piston boot.
- Keep disc brake rotor free from brake fluid.
- Refill the brake reservoir with new brake fluid "DOT 3".

< REMOVAL AND INSTALLATION >

• Do not reuse drained brake fluid.

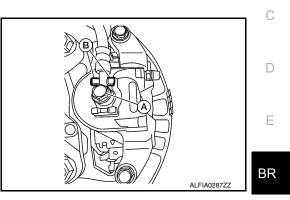
NOTE:

When removing components such as hoses, tubes/lines, etc., cap or plug openings to prevent fluid from spilling.

REMOVAL

- 1. Remove front wheel and tire using power tool. Refer to <u>WT-45, "Removal and Installation"</u>.
- 2. Remove reservoir cap.
- Remove union bolt (A) and then remove brake hose from brake caliper assembly. Discard the copper sealing washers.
 Protrusions (B)
 CAUTION:

Do not reuse copper sealing washers.



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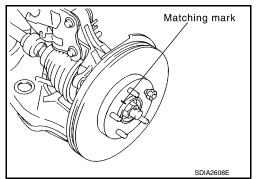
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- Remove the upper and lower sliding pin bolts.
 NOTE:
 Note the sliding pin orientation during removal. The lower sliding pin contains a bushing.
- 5. Remove the brake caliper from the torque member.
- 6. Remove the brake pads and shims from the torque member.
- Remove torque member bolts and the torque member.
 NOTE:
 Torque member bolt atula may differ between flange bolt and b

Torque member bolt style may differ between flange bolt and bolt with washer.

8. Remove disc brake rotor. If reusing the disc brake rotor apply matching marks as shown.

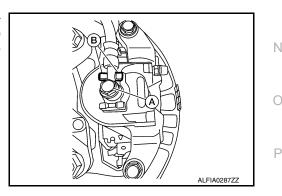


INSTALLATION

Installation is in the reverse order of removal.

Install brake hose to brake caliper assembly with new copper sealing washers. Align the brake hose tab between the protrusions (B) on the brake caliper assembly as shown. Tighten union bolt (A) to the specified torque. Refer to <u>BR-503</u>, "FRONT : Exploded View".
 CAUTION:

Do not reuse copper sealing washers.



- Refill with new brake fluid and bleed air from the brake hydraulic system. Refer to <u>BR-494</u>, "<u>Bleeding Brake</u> <u>System</u>".
- Perform inspection after installation. Refer to <u>BR-521, "BRAKE CALIPER ASSEMBLY : Inspection"</u>.

FRONT DISC BRAKE

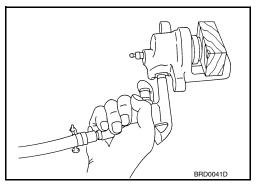
< REMOVAL AND INSTALLATION >

BRAKE CALIPER ASSEMBLY : Disassembly and Assembly

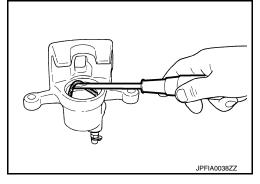
DISASSEMBLY

 Place a wooden block in the brake caliper as shown, and blow air into the union bolt hole to remove the piston and piston boot.
 WARNING:

Do not get fingers caught between the piston and wooden block.



- Remove the piston seal from the brake caliper using a suitable tool. Discard the piston seal.
 CAUTION:
 - Be careful not to damage the cylinder inner wall.
 - Do not reuse the piston seal.

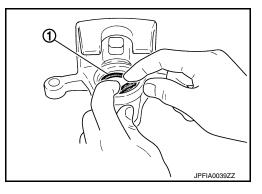


ASSEMBLY CAUTION: Use NISSAN Rubber Grease during assembly.

1. Apply rubber grease to new piston seal (1), and install on brake caliper.

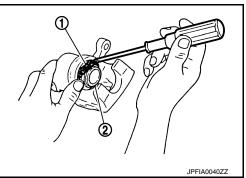
CAUTION:

Do not reuse piston seal.



Apply rubber grease to new piston boot (1). Cover the piston (2) end with new piston boot, and then install cylinder side lip on new piston boot securely into a groove on brake caliper.
 CAUTION:

Do not reuse piston boot.

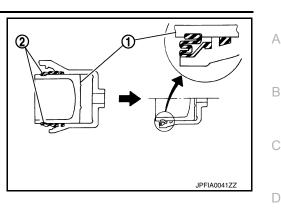


FRONT DISC BRAKE

< REMOVAL AND INSTALLATION >

 Push piston (1) into brake caliper by hand and push piston boot (2) piston side lip into the piston groove.
 CAUTION:

Press the piston evenly and vary the pressing point to prevent cylinder inner wall from being rubbed.



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BRAKE CALIPER ASSEMBLY : Inspection

INSPECTION AFTER DISASSEMBLY

Check the following items and replace if necessary.

Cylinder Body

Check the inner wall of the cylinder for rust, wear, cracks or damage.

Always clean with new brake fluid. Never clean with mineral oil such as gasoline and light oil.

Torque Member

Check the torque member for rust, wear, cracks or damage.

Pistons

Check the surface of the piston for rust, wear, cracks or damage.

CAUTION:

To prevent damage to the parts, piston sliding surface is plated. Never polish with sandpaper.

Sliding Pin, Sliding Pin Boot and Bushing

Check the sliding pins, sliding boots and bushing for rust, wear, cracks or damage.

INSPECTION AFTER INSTALLATION

- Check a drag of front disc brake. If any drag is found, follow the procedure described below.
- 1. Remove brake pads. Refer to BR-516, "BRAKE PAD : Removal and Installation".
- 2. Press the piston. Refer to <u>BR-516</u>, "BRAKE PAD : Removal and Installation".
- 3. Install brake pads. Refer to <u>BR-516, "BRAKE PAD : Removal and Installation"</u>.
- 4. Securely depress the brake pedal several times.
- Check a drag of front disc brake again. If any drag is found, disassemble the cylinder body and replace if necessary. Refer to <u>BR-520, "BRAKE CALIPER ASSEMBLY : Disassembly and Assembly"</u>.
- Burnish contact surface between disc rotor and brake pads after refinishing or replacing disc rotor, or if a soft pedal occurs at very low mileage. Refer to <u>BR-496</u>, "<u>DISC ROTOR</u>: <u>Inspection and Adjustment</u>".

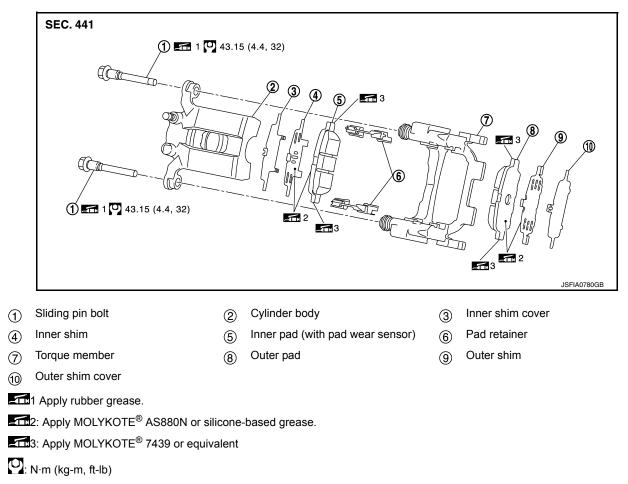
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< REMOVAL AND INSTALLATION >

REAR DISC BRAKE BRAKE PAD

BRAKE PAD : Exploded View

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Molykote is a registered trademark of Dow Corning Corporation.

BRAKE PAD : Removal and Installation

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REMOVAL

WARNING:

Since dust covering the front and rear brakes has an affect on human body, the dust must be removed with a dust collector. Do not splatter the dust with an air blow gun.

CAUTION:

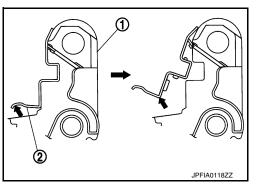
- Do not depress brake pedal. While removing the brake pads because the piston may pop out.
- Do not spill or splash brake fluid on the disc rotor.
- To prevent damage to the parts, if the brake fluid or grease adheres to the disc rotor, quickly wipe it off.
- 1. Remove wheel and tire using power tool. Refer to <u>WT-45, "Removal and Installation"</u>.

< REMOVAL AND INSTALLATION >

2. Remove lower sliding pin bolt.

3. Remove cylinder body from torque member, and suspend the cylinder body with suitable wire so that the brake hose will not stretch.

- 4. Remove the brake pads, shims, shim covers and pad retainers from the torque member. **CAUTION:**
 - Do not deform the pad retainer ② when removing the pad retainer from the torque member ①.
 - Do not damage the piston boot.
 - Do not drop the brake pads, shims, and the shim covers.
 - Remember each position of the removed brake pads.
- Perform inspection after removal. Refer to <u>BR-524</u>, "<u>BRAKE</u> <u>PAD</u> : <u>Inspection</u>".

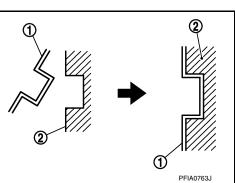


INSTALLATION

WARNING:

Since dust covering the front and rear brakes has an affect on human body, the dust must be removed with a dust collector. Do not splatter the dust with an air blow gun. CAUTION:

- Do not depress brake pedal. While removing the brake pads or the cylinder body because the piston may pop out.
- Do not spill or splash brake fluid on the disc rotor.
- To prevent damage to the parts, if the brake fluid or grease adheres to the disc rotor, quickly wipe it off.
- Install the pad retainers ① to the torque member ② if the pad retainers has been removed.
 CAUTION:
 - Securely assemble the pad retainers so that it will not be lifted up from the torque member.
 - Do not deform the pad retainers.



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< REMOVAL AND INSTALLATION >

2. Apply MOLYKOTE® AS880N or silicone-based grease to the mating faces (A) between the brake pads (1) and the shims (2), and install the shims and shim covers (3) to the brake pad. **CAUTION:**

Always replace the shim together with the shim cover when replacing the brake pad.

Molykote is a registered trademark of Dow Corning Corporation.

- 3. Apply MOLYKOTE[®] 7439 or equivalent to the mating faces (A) between the brake pads (1) and the pad retainers. Molykote is a registered trademark of Dow Corning Corporation.
- 4. Install the brake pads to the torgue member. **CAUTION:**

Do not deform the pad retainers.

- 5. Install cylinder body to torque member. **CAUTION:**
 - Do not damage the piston boot.
 - When replacing brake pad with new one, check a brake fluid level in the reservoir tank because brake fluid returns to master cylinder reservoir tank when pressing piston in.

NOTE:

Use a disc brake piston tool to easily press piston.

- 6. Apply rubber grease to the sliding pin bolt, install the lower sliding pin bolt and tighten it to the specified torque.
- 7. Depress the brake pedal several times to check that no drag feel is present for the rear disc brake. Refer to BR-524, "BRAKE PAD : Inspection".
- 8. Install wheel and tire. Refer to WT-45, "Removal and Installation".

BRAKE PAD : Inspection

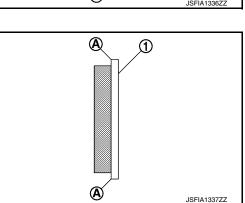
INSPECTION AFTER REMOVAL

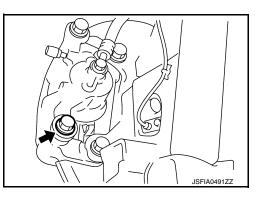
Replace the shims and the shim covers if rust is excessively attached.

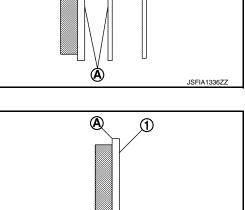
Eliminate rust on the pad retainers and the torque member. Replace them if rust is excessively attached.

INSPECTION AFTER INSTALLATION

- · Check a drag of rear disc brake. If any drag is found, follow the procedure described below.
- Remove brake pads. Refer to BR-522, "BRAKE PAD : Removal and Installation". 1.
- 2. Press the pistons. Refer to <u>BR-522</u>, "<u>BRAKE PAD</u> : <u>Removal and Installation</u>".
- 3. Install brake pads. Refer to BR-522, "BRAKE PAD : Removal and Installation".
- 4. Securely depress the brake pedal several times.
- 5. Check a drag of rear disc brake again. If any drag is found, disassemble the cylinder body and replace if necessary. Refer to BR-527, "BRAKE CALIPER ASSEMBLY : Disassembly and Assembly"
- Burnish contact surfaces brake pads and disc rotor after refinishing or replacing brake pads, or if a soft pedal occurs at very low mileage. Refer to BR-498, "BRAKE PAD : Inspection and Adjustment". BRAKE CALIPER ASSEMBLY







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BR-524



< REMOVAL AND INSTALLATION >

BRAKE CALIPER ASSEMBLY : Exploded View

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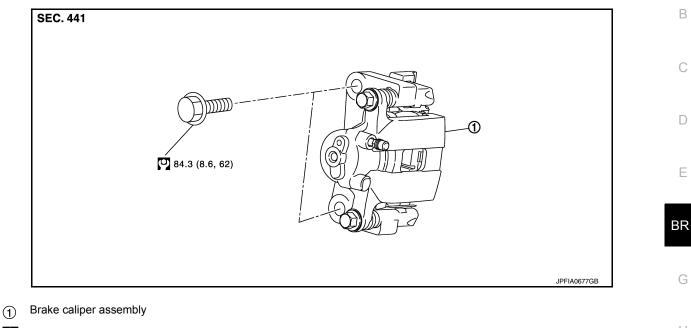
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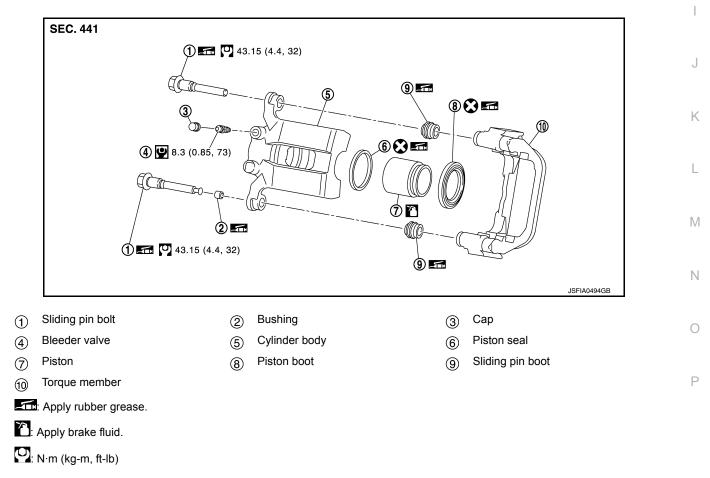
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REMOVAL



: N·m (kg-m, ft-lb)

DISASSEMBLY



< REMOVAL AND INSTALLATION >

" N·m (kg-m, in-lb)

Always replace after every disassembly.

BRAKE CALIPER ASSEMBLY : Removal and Installation

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REMOVAL

WARNING:

Since dust covering the front and rear brakes has an affect on human body, the dust must be removed with a dust collector. Do not splatter the dust with an air blow gun.

- Do not spill or splash brake fluid on painted surfaces. Brake fluid may seriously damage paint. Wipe it out immediately and wash with water if it gets on a protect surface. For brake component parts, do not wash them with water.
- Do not depress brake pedal. While removing the brake hose. If this is not complied with, brake fluid may splash.
- Do not drop removed parts.
- Do not spill or splash brake fluid on the disc rotor.
- To prevent damage to the parts, if the brake fluid or grease adheres to the disc rotor, quickly wipe it off.

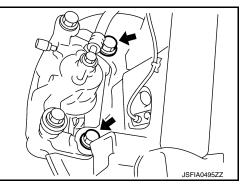
NOTE:

When removing components such as hoses, tubes/lines, etc., cap or plug openings to prevent fluid from spilling.

- 1. Remove wheel and tire using power tool. Refer to WT-45, "Removal and Installation".
- 2. Fix the disc rotor using wheel nuts.
- 3. Drain brake fluid. Refer to <u>BR-493, "Draining"</u>.
- 4. Separate brake hose from caliper assembly. Refer to <u>BR-507</u>, "REAR : Removal and Installation".
- Remove torque member bolts, and remove brake caliper assembly.
 CAUTION:

Do not drop brake pad and caliper assembly.

 When removing disc rotor. Refer to <u>RAX-7, "Removal and Instal-</u> lation".



INSTALLATION

WARNING:

Since dust covering the front and rear brakes has an affect on human body, the dust must be removed with a dust collector. Do not splatter the dust with an air blow gun. CAUTION:

- Do not spill or splash brake fluid on painted surfaces. Brake fluid may seriously damage paint. Wipe it out immediately and wash with water if it gets on a protect surface. For brake component parts, do not wash them with water.
- Do not depress brake pedal. While removing the brake hose. If this is not complied with, brake fluid may splash.
- Do not spill or splash brake fluid on the disc rotor.
- To prevent damage to the parts, if the brake fluid or grease adheres to the disc rotor, quickly wipe it off.
- 1. Install disc rotor. Refer to <u>RAX-7, "Removal and Installation"</u>.

< REMOVAL AND INSTALLATION >

Install the brake caliper assembly to the axle housing and tighten the torque member bolts to the specified torque.
 CAUTION:

Do not spill or splash any grease and moisture on the brake caliper assembly mounting face, threads, bolts and washers. Wipe out any grease and moisture.

- 3. Install brake hose. Refer to <u>BR-507, "REAR : Removal and</u> <u>Installation"</u>.
- 4. Perform the air bleeding. Refer to <u>BR-494, "Bleeding Brake System"</u>.
- 5. Check a drag of rear disc brake. If any drag is found, refer to <u>BR-524, "BRAKE PAD : Inspection"</u>.
- 6. Install wheel and tire. Refer to WT-45, "Removal and Installation".
- 7. Perform inspection after installation. Refer to <u>BR-529</u>, "BRAKE CALIPER ASSEMBLY : Inspection".

BRAKE CALIPER ASSEMBLY : Disassembly and Assembly

DISASSEMBLY

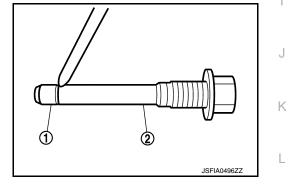
NOTE:

Do not remove the torque member, brake pad and pad retainers when disassembling and assembling the cylinder body.

 Remove the sliding pin bolt, and remove the cylinder body from the torque member. Refer to <u>BR-522</u>. <u>"BRAKE PAD : Removal and Installation"</u>. CAUTION:

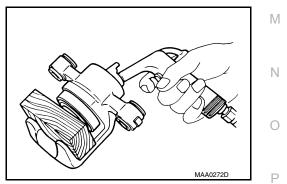
To prevent damage to the parts, fix the brake pad at suitable tape so that the brake pad will not $^{ op}$ drop.

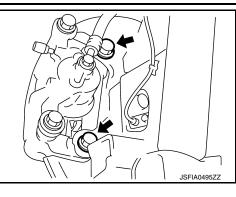
- 2. Remove sliding pin boots from torque member.
- 3. Remove bushing ① from sliding pin bolt ②.



 Place a wooden block as shown, and blow air from union bolt mounting hole to remove pistons and piston boots.
 WARNING:

Do not get fingers caught in the pistons.





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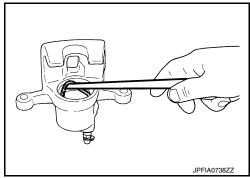
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< REMOVAL AND INSTALLATION >

- Remove piston seal from cylinder body using seal pick tool.
 CAUTION: To prevent damage to the parts, be careful not to damage a cylinder inner wall.
- 6. Remove bleeder valve and cap.
- 7. Perform inspection after disassembly. Refer to <u>BR-529</u>, "<u>BRAKE</u> <u>CALIPER ASSEMBLY</u> : <u>Inspection</u>".



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ASSEMBLY

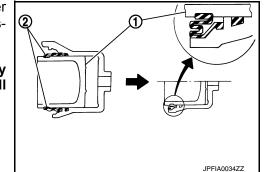
- 1. Install bleeder valve and cap.
- Apply rubber grease to piston seals ①, and install them to cylinder body.
 CAUTION:

Do not reuse piston seals.

 Apply rubber grease to piston boots ①. Cover the piston ② end with piston boot, and then install cylinder side lip on piston boot securely into a groove on cylinder body.
 CAUTION:

Do not reuse piston boots.

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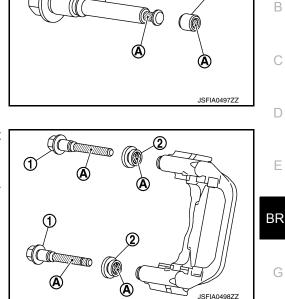
 Apply new brake fluid to pistons ①. Push piston into cylinder body by hand and push piston boot ② piston-side lip into the piston groove.
 CAUTION:

To prevent damage to the parts, press the pistons evenly and vary the pressing point to prevent cylinder inner wall from being rubbed.

< REMOVAL AND INSTALLATION >

Apply rubber grease to mating faces (A) between sliding pin bolt
 (1) and bushing (2), and install bushing to sliding pin.

- Apply rubber grease to mating faces (A) between sliding pin bolt
 and sliding pin boot (2), and install sliding pin boot to torque member.
- Install the cylinder body to tighten sliding pin bolts to the specified torque. Refer to <u>BR-522</u>, "<u>BRAKE PAD</u> : <u>Exploded View</u>".



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BRAKE CALIPER ASSEMBLY : Inspection

INSPECTION AFTER DISASSEMBLY

Check the following items and replace if necessary.

Cylinder Body

Check the inner wall of the cylinder for rust, wear, cracks or damage.

CAUTION: Always clean with new brake fluid. Never clean with mineral oil such as gasoline and light oil.

Torque Member

Check the torque member for rust, wear, cracks or damage.

Pistons

Check the surface of the piston for rust, wear, cracks or damage.

CAUTION:

A piston sliding surface is plated. Never polish with sandpaper.

Sliding Pin, Sliding Pin Boot and Bushing Check the sliding pins, sliding boots and bushing for rust, wear, cracks or damage.

INSPECTION AFTER INSTALLATION

• Check a drag of rear disc brake. If any drag is found, follow the procedure described below.

- 1. Remove brake pads. Refer to <u>BR-522, "BRAKE PAD : Removal and Installation"</u>.
- 2. Press the pistons. Refer to BR-522, "BRAKE PAD : Removal and Installation".
- 3. Install brake pads. Refer to <u>BR-522, "BRAKE PAD : Removal and Installation"</u>.
- 4. Securely depress the brake pedal several times.
- 5. Check a drag of rear disc brake again. If any drag is found, disassemble the cylinder body and replace if necessary. Refer to <u>BR-527</u>, "<u>BRAKE CALIPER ASSEMBLY</u> : <u>Disassembly and Assembly</u>".
- Burnish contact surface between disc rotor and brake pads after refinishing or replacing disc rotor, or if a soft pedal occurs at very low mileage. Refer to <u>BR-498</u>, "<u>DISC ROTOR</u> : <u>Inspection and Adjustment</u>".

SERVICE DATA AND SPECIFICATIONS (SDS)

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SERVICE DATA AND SPECIFICATIONS (SDS) SERVICE DATA AND SPECIFICATIONS (SDS)

General Specifications

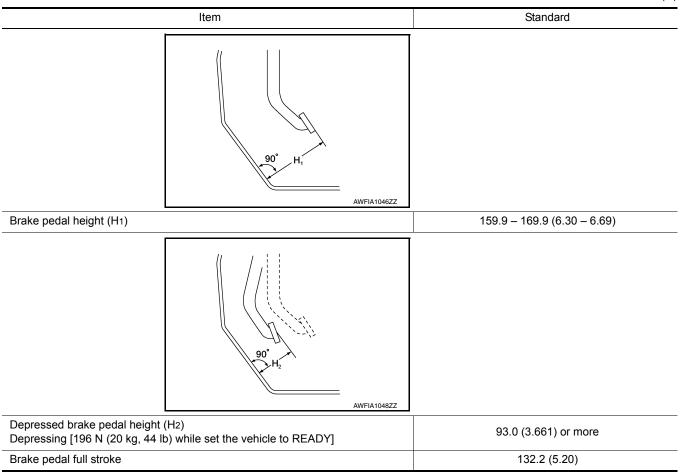
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		Unit: mm (in)
	Cylinder bore diameter	57.2 (2.252)
Front brake	Pad length × width × thickness	140.0 × 48.0 × 10.0 (5.51 × 1.890 × 0.394)
	Rotor outer diameter × thickness	296 × 26.0 (11.65 × 1.024)
	Cylinder bore diameter	38.1 (1.500)
Rear brake	Pad length × width × thickness	83.0 × 31.9 × 8.5 (3.268 × 1.265 × 0.355)
	Rotor outer diameter × thickness	292 × 16.0 (11.50 × 0.630)
Master cylinder	Cylinder bore diameter	25.4 (1)
Control valve	Valve type	Electric brake force distribution
Recommended brake fluid		Refer to MA-17, "FOR USA AND CANADA : Flu- ids and Lubricants" (United States and Canada) or MA-18, "FOR MEXICO : Fluids and Lubri- cants" (Mexico).

Brake Pedal

INFOID:000000010634332

Unit: mm (in)



SERVICE DATA AND SPECIFICATIONS (SDS)

< SERVICE DATA AND SPECIFICATIONS (SDS)

	Item	Standard
	AWFIA1049ZZ	
	een stop lamp switch and brake pedal position switch (if end and the brake pedal lever	0.74 – 1.96 (0.0291 – 0.0772)
Brake pedal play		3 – 11 (0.12 – 0.43)
Electrically-dr	iven Intelligent Brake Unit	INFOID:000000010634333 Unit: mm (in)
	Item	Standard
Input rod length		
		Standard
		Standard 164.4 – 166.0 (6.47 – 6.54) INFOID:000000010634334
Front Disc Bra	ake	Standard 164.4 – 166.0 (6.47 – 6.54) ^{INFOID:000000010634334} Unit: mm (in)
Input rod length Front Disc Bra Brake pad	ake	Standard 164.4 – 166.0 (6.47 – 6.54) INFOID:000000010634334 Unit: mm (in) Limit
Front Disc Bra	Item Wear limit thickness	Standard 164.4 – 166.0 (6.47 – 6.54) INFOID:000000010634334 Unit: mm (in) Limit 2.0 (0.079)
Front Disc Bra	Item Wear limit thickness Wear limit thickness	Standard 164.4 – 166.0 (6.47 – 6.54) <i>INFOID:000000010634334</i> Unit: mm (in) Limit 2.0 (0.079) 24.0 (0.945)
Front Disc Bra	Item Wear limit thickness Wear limit thickness Wear limit thickness Thickness variation (measured at 8 positions) Runout (with it attached to the vehicle) Item	Standard 164.4 – 166.0 (6.47 – 6.54) INFOLD:000000010634334 Unit: mm (in) Limit 2.0 (0.079) 24.0 (0.945) 0.015 (0.0006)
Front Disc Bra Brake pad Disc rotor	Item Wear limit thickness Wear limit thickness Wear limit thickness Thickness variation (measured at 8 positions) Runout (with it attached to the vehicle) Item	Standard 164.4 – 166.0 (6.47 – 6.54) INFOID:000000010634334 Unit: mm (in) Limit 2.0 (0.079) 24.0 (0.945) 0.015 (0.0006) 0.035 (0.0014)
Front Disc Bra Brake pad Disc rotor	Item Wear limit thickness Wear limit thickness Wear limit thickness Thickness variation (measured at 8 positions) Runout (with it attached to the vehicle) Item	Standard 164.4 – 166.0 (6.47 – 6.54) INFOID:000000010634334 Unit: mm (in) Limit 2.0 (0.079) 24.0 (0.945) 0.015 (0.0006) 0.035 (0.0014)
Front Disc Bra Brake pad Disc rotor	Item Utem Wear limit thickness Wear limit thickness Wear limit thickness Thickness variation (measured at 8 positions) Runout (with it attached to the vehicle) Ake	Standard 164.4 – 166.0 (6.47 – 6.54) INFOID:000000010634334 Unit: mm (in) Limit 2.0 (0.079) 24.0 (0.945) 0.015 (0.0006) 0.035 (0.0014)
Front Disc Bra Brake pad Disc rotor Rear Disc Bra	Item Wear limit thickness Wear limit thickness Thickness variation (measured at 8 positions) Runout (with it attached to the vehicle) Ake	Standard 164.4 – 166.0 (6.47 – 6.54) INFOID:000000010634334 Unit: mm (in) Limit 2.0 (0.079) 24.0 (0.945) 0.015 (0.0006) 0.035 (0.0014)
Front Disc Bra Brake pad Disc rotor Rear Disc Bra	Item Wear limit thickness Wear limit thickness Thickness variation (measured at 8 positions) Runout (with it attached to the vehicle) Ake Item Wear thickness	Standard 164.4 – 166.0 (6.47 – 6.54) INFOID:000000010634334 Unit: mm (in) Limit 2.0 (0.079) 24.0 (0.945) 0.015 (0.0006) 0.035 (0.0014) INFOID:000000010634334 Unit: mm (in) Limit 2.0 (0.079)

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