

SECTION BR
BRAKE SYSTEM

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PRECAUTIONS

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Precaution for Technicians Using Medical Electric

INFOID:000000010122972

OPERATION PROHIBITION

WARNING:

- Parts with strong magnet is used in this vehicle.
- Technicians using a medical electric device such as pacemaker must never perform operation on the vehicle, as magnetic field can affect the device function by approaching to such parts.

NORMAL CHARGE PRECAUTION

WARNING:

- If a technician uses a medical electric device such as an implantable cardiac pacemaker or an implantable cardioverter defibrillator, the possible effects on the devices must be checked with the device manufacturer before starting the charge operation.
- As radiated electromagnetic wave generated by PDM (Power Delivery Module) at normal charge operation may affect medical electric devices, a technician using a medical electric device such as implantable cardiac pacemaker or an implantable cardioverter defibrillator must not approach motor room [PDM (Power Delivery Module)] at the hood-opened condition during normal charge operation.

PRECAUTION AT TELEMATICS SYSTEM OPERATION

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 or the implantable cardioverter defibrillator (ICD), when using the service, etc.
- If a technician uses other medical electric devices than implantable cardiac pacemaker or implantable cardioverter defibrillator (ICD), the electromagnetic wave of TCU might affect the function of the device. The possible effects on the devices must be checked with the device manufacturer before TCU use.

PRECAUTION AT INTELLIGENT KEY SYSTEM OPERATION

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 Intelligent Key might affect the function of the implantable cardiac pacemaker or the implantable cardioverter defibrillator (ICD), at door operation, at each request switch operation, or at engine starting.
- If a technician uses other medical electric devices than implantable cardiac pacemaker or implantable cardioverter defibrillator (ICD), the electromagnetic wave of Intelligent Key might affect the function of the device. The possible effects on the devices must be checked with the device manufacturer before Intelligent Key use.

Point to Be Checked Before Starting Maintenance Work

INFOID:000000010122973

The high voltage system may starts automatically. It is required to check that the timer air conditioner and timer charge (during EVSE connection) are not set before starting maintenance work.

NOTE:

If the timer air conditioner or timer charge (during EVSE connection) is set, the high voltage system starts automatically even when the power switch is in OFF state.

Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"

INFOID:000000010122974

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

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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 SR and SB section of this Service Manual.

WARNING:

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which 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 the SR section.
- Do not 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:

- When working near the Airbag Diagnosis Sensor Unit or other Airbag System sensors with the Ignition ON or engine running, DO NOT 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 three minutes before performing any service.

Precaution for Removing 12V Battery

INFOID:000000010122975

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 → ON → 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 → ON → 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 → OFF, the 12V battery automatic charge control does not start for approximately 1 hour.

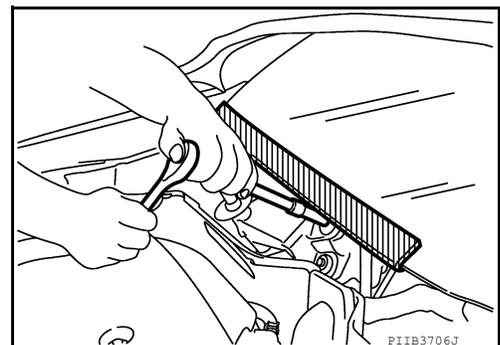
CAUTION:

- 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

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



PRECAUTIONS

< PRECAUTION >

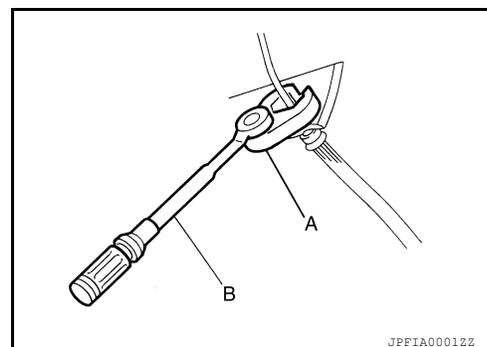
Precaution for Brake System

INFOID:000000010122977

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-16, "FOR USA AND CANADA : Fluids and Lubricants"](#) (United States and Canada) or [MA-17, "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 crow-foot (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 [BR-6, "Precaution for Removing 12V Battery"](#).



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 [BR-496, "DISC ROTOR : Inspection and Adjustment"](#).
 - Rear brake pad: Refer to [BR-498, "BRAKE PAD : Inspection and Adjustment"](#).
 - Rear disc rotor: Refer to [BR-498, "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 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.

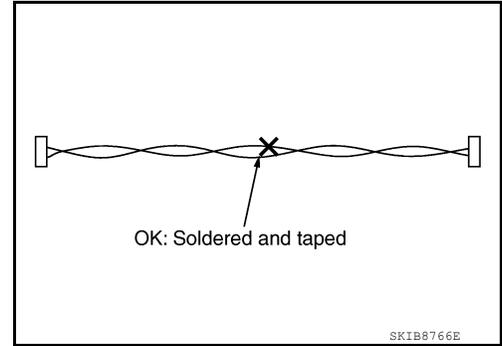
PRECAUTIONS

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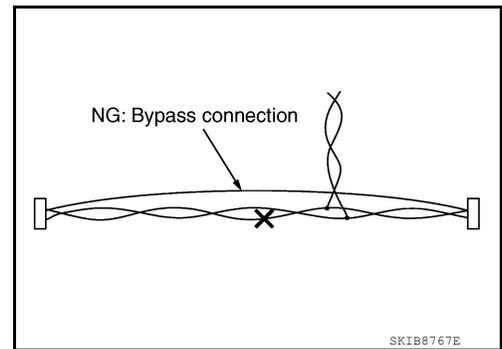
Precaution for Harness Repair

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- 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.)



PREPARATION

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PREPARATION

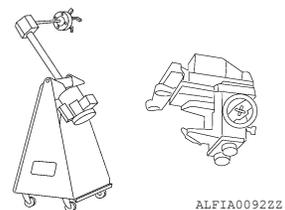
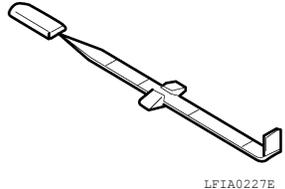
PREPARATION

Special Service Tool

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

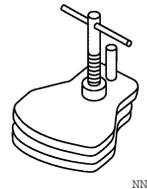
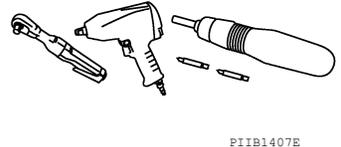
Tool number (TechMate No.) Tool name	Description
— (J-46532) Brake height tool	Measuring brake pedal height
38-PFM92 (—) ProCut™ PFM Series Lathe	Refinishing rotors



Commercial Service Tools

INFOID:000000010122979

Tool name	Description
Power tool	Loosening nuts, screws and bolts
Brake caliper wrench	Return the piston



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COMPONENT PARTS

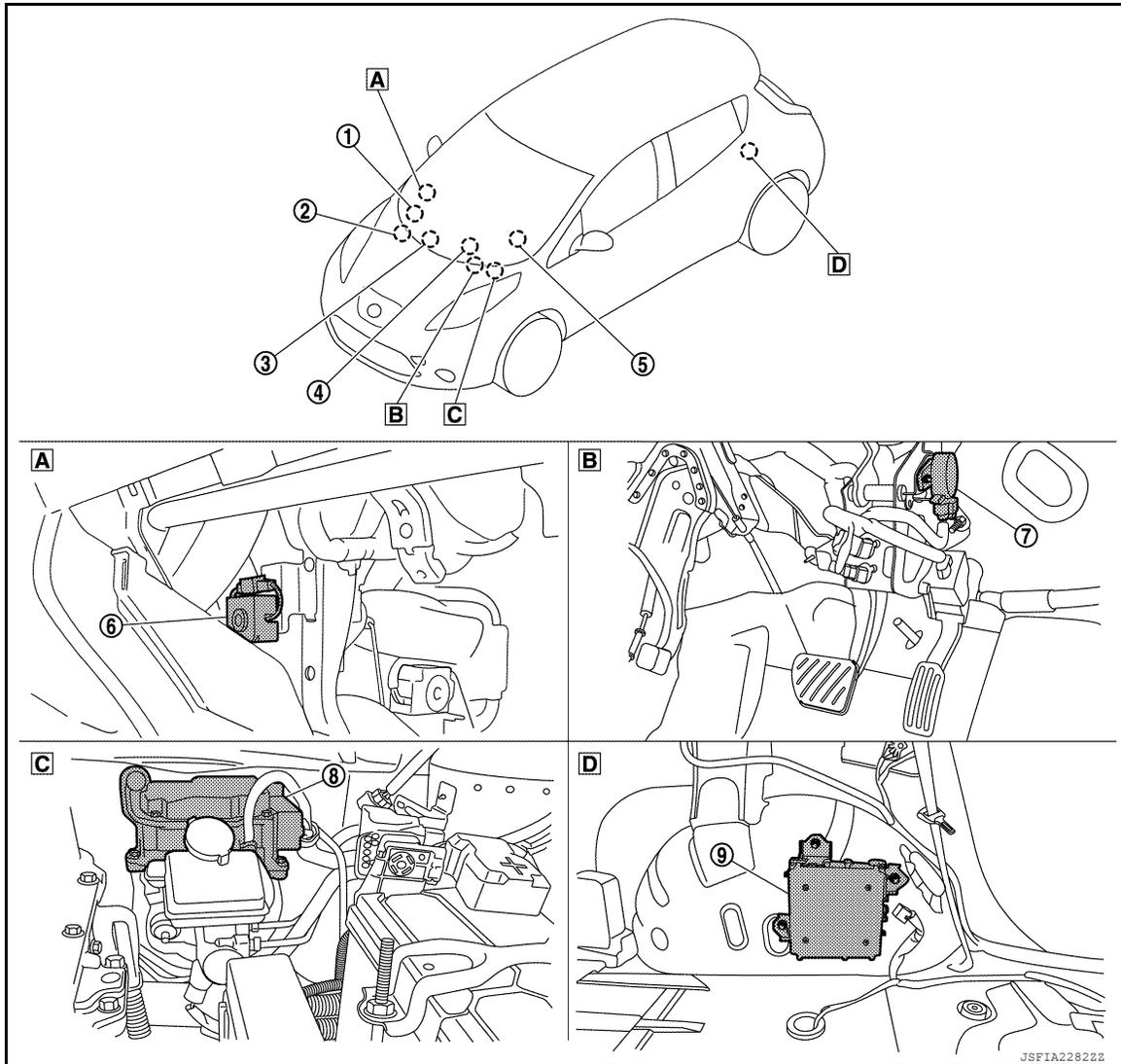
< SYSTEM DESCRIPTION >

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:000000010122980



- A** View with the glove box assembly removed
- B** Brake pedal
- D** Inside luggage side lower finisher LH

- C** Inside motor room (left)

COMPONENT PARTS

< SYSTEM DESCRIPTION >

No.	Component parts	Function	A
①	VCM	<p>Mainly transmits the following signals to electrically-driven intelligent brake unit via CAN communication.</p> <ul style="list-style-type: none"> • VCM control signal • Current regenerative torque signal • VCM status signal • Shift position signal <p>Mainly receives the following signal from electrically-driven intelligent brake unit via CAN communication.</p> <ul style="list-style-type: none"> • Target braking force signal <p>Refer to EVC-15, "Component Parts Location" for detailed installation location.</p>	B C
②	ABS actuator and electric unit (control unit)	<p>Mainly transmits the following signals to electrically-driven intelligent brake unit via CAN communication.</p> <ul style="list-style-type: none"> • 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 • Side G signal • VDC malfunction signal • VDC OFF switch signal • Master cylinder fluid pressure signal <p>Mainly receives the following signals from electrically-driven intelligent brake unit via CAN communication.</p> <ul style="list-style-type: none"> • 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 <p>Refer to BRC-10, "Component Parts Location" for detailed installation location.</p>	D E BR G
③	BCM	<p>Mainly transmits the following signals to electrically-driven intelligent brake unit via CAN communication.</p> <ul style="list-style-type: none"> • Sleep wake up signal • Power switch ON signal • Door switch signal <p>Refer to BCS-5, "BODY CONTROL SYSTEM : Component Parts Location" for detailed installation location.</p>	H I J K
④	Combination meter (brake warning lamp, brake system warning lamp)	<p>Mainly receives the following signals from ABS actuator electric unit (control unit) via electrically-driven intelligent brake unit via CAN communication.</p> <ul style="list-style-type: none"> • Brake warning lamp signal • Brake system warning lamp signal <p>Refer to MWI-6, "METER SYSTEM : Component Parts Location" for detailed installation location.</p>	L M
⑤	Steering angle sensor	<p>Mainly transmits the following signal to electrically-driven intelligent brake unit via CAN communication.</p> <ul style="list-style-type: none"> • Steering angle sensor signal <p>Refer to BRC-10, "Component Parts Location" for detailed installation location.</p>	N
⑥	Warning buzzer	BR-13, "Warning Buzzer"	O
⑦	Stroke sensor	BR-13, "Stroke Sensor"	P
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"	

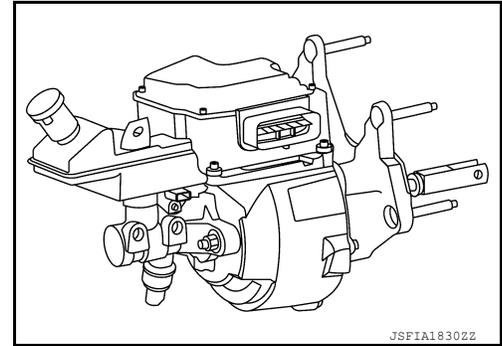
COMPONENT PARTS

< SYSTEM DESCRIPTION >

Electrically-driven Intelligent Brake Unit

INFOID:000000010122981

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).



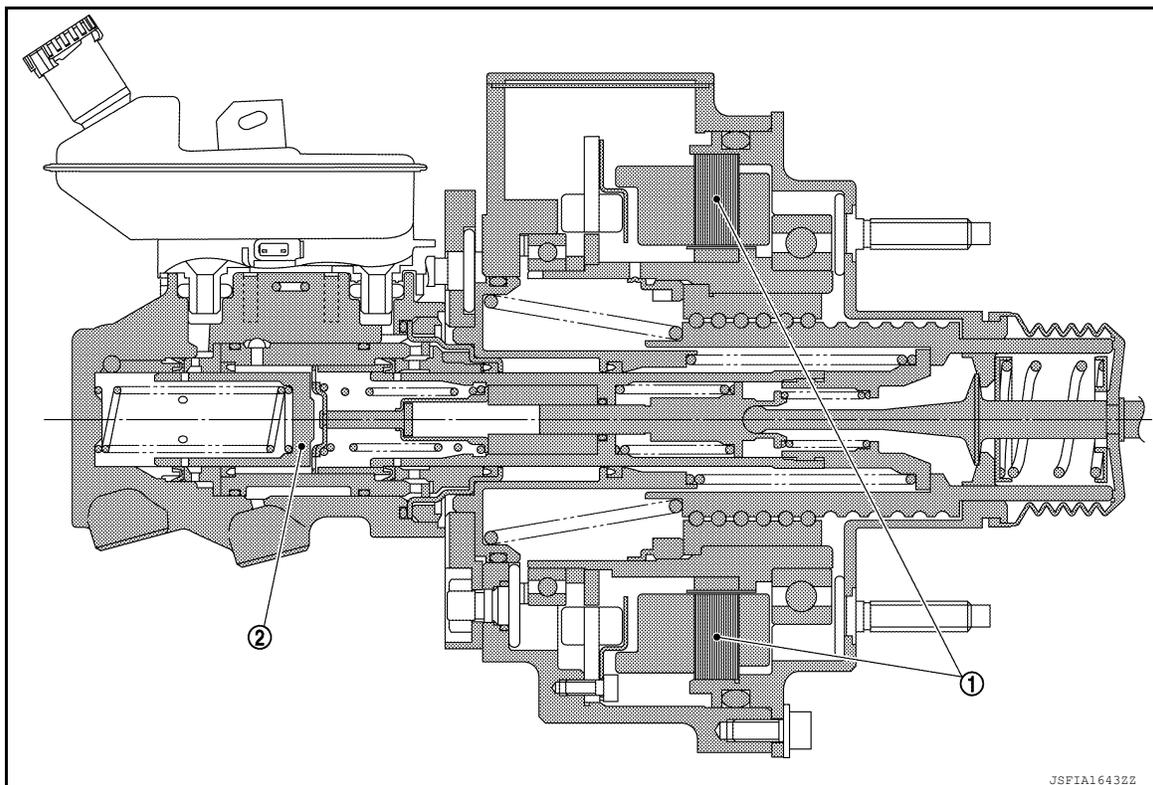
CONTROL MODULE

- 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.

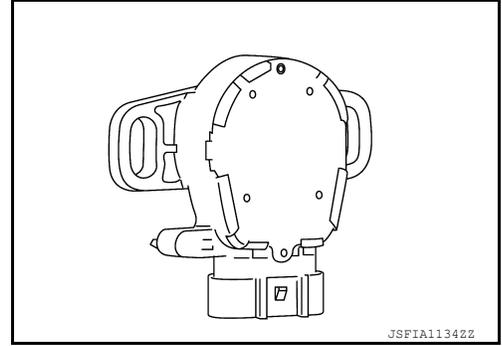
COMPONENT PARTS

< SYSTEM DESCRIPTION >

Stroke Sensor

INFOID:000000010122982

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

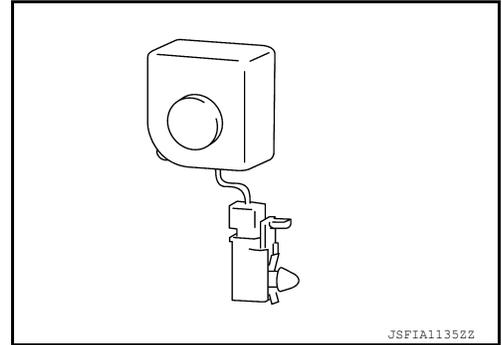


JSPFA1134ZZ

Warning Buzzer

INFOID:000000010122983

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.

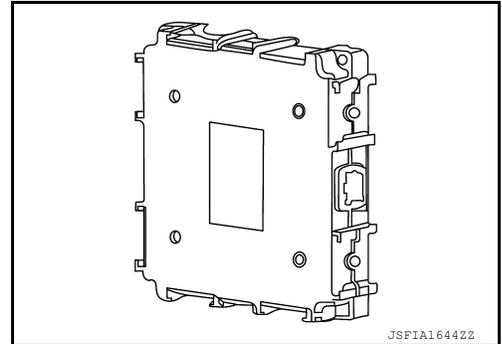


JSPFA1135ZZ

Brake Power Supply Backup Unit

INFOID:000000010122985

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



JSPFA1644ZZ

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SYSTEM

< SYSTEM DESCRIPTION >

SYSTEM

System Description

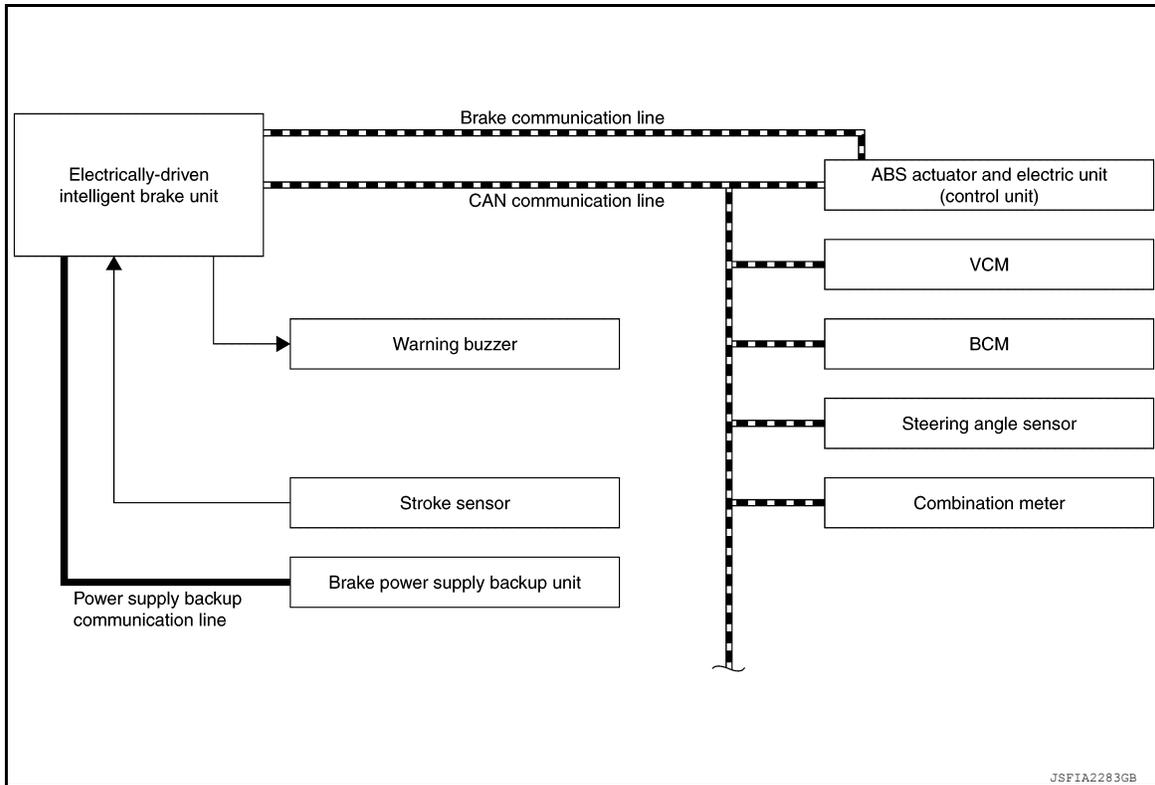
INFOID:000000010122986

- 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 [BR-16. "Fail-Safe"](#).

SYSTEM DIAGRAM

SYSTEM

< SYSTEM DESCRIPTION >



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)	<p>Mainly transmits the following signals to electrically-driven intelligent brake unit via CAN communication and brake communication (CAN communication).</p> <ul style="list-style-type: none"> • 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 • Side G signal • VDC malfunction signal • VDC OFF switch signal • Master cylinder fluid pressure signal <p>Mainly receives the following signals from electrically-driven intelligent brake unit via CAN communication and brake communication (CAN communication).</p> <ul style="list-style-type: none"> • 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
VCM	<p>Mainly transmits the following signals to electrically-driven intelligent brake unit via CAN communication.</p> <ul style="list-style-type: none"> • VCM control signal • Current regenerative torque signal • VCM status signal • Shift position signal <p>Mainly receives the following signal from electrically-driven intelligent brake unit via CAN communication.</p> <ul style="list-style-type: none"> • Target braking force signal

SYSTEM

< SYSTEM DESCRIPTION >

Component	Signal description
BCM	Mainly transmits the following signals to electrically-driven intelligent brake unit via CAN communication. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • 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 warning 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:0000000010122987

- 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. <ul style="list-style-type: none"> • Boost operation by the electrically-driven intelligent brake • Cooperative regenerative brake control • Power supply from the brake power supply backup unit
C1A61	
C1A62	
C1A63	The following function is suspended. <ul style="list-style-type: none"> • Power supply from the brake power supply backup unit

SYSTEM

< SYSTEM DESCRIPTION >

DTC	Vehicle condition	
C1A65	The following functions are suspended. <ul style="list-style-type: none"> • Boost operation by the electrically-driven intelligent brake • Cooperative regenerative brake control • Power supply from the brake power supply backup unit 	A
C1A67	Normal control	B
C1A69	The following functions are suspended. <ul style="list-style-type: none"> • Boost operation by the electrically-driven intelligent brake • Cooperative regenerative brake control • Power supply from the brake power supply backup unit 	C
C1A6B	The following function is suspended. <ul style="list-style-type: none"> • Backup power supply from the brake power supply backup unit 	D
C1A6C		
C1A6D		
C1A6E	The following function is suspended. <ul style="list-style-type: none"> • Cooperative regenerative brake control • hill start assist function 	E
C1A6F	The following function is suspended. <ul style="list-style-type: none"> • hill start assist function 	BR
C1A70	The following function is suspended. <ul style="list-style-type: none"> • Cooperative regenerative brake control • hill start assist function 	G
C1A74		
C1A80	The following functions are suspended. <ul style="list-style-type: none"> • Boost operation by the electrically-driven intelligent brake • Cooperative regenerative brake control • Power supply from the brake power supply backup unit 	H
C1A81		
C1A82		
C1A83		
C1A84		
C1A85		
C1A86		
C1A87		
C1A88		
C1A89		
C1A8A	I	
C1A8B	J	
C1A90	K	
C1A91	The following function is suspended. <ul style="list-style-type: none"> • Cooperative regenerative brake control • hill start assist function 	L
C1A98	The following function is suspended. <ul style="list-style-type: none"> • Power supply from the brake power supply backup unit 	M
C1A99		
C1A9A		
C1AA0	The following functions are suspended. <ul style="list-style-type: none"> • Boost operation by the electrically-driven intelligent brake • Cooperative regenerative brake control • Power supply from the brake power supply backup unit 	N
C1AA1		
C1AA2		
C1AA3		
C1AA9	The following function is suspended. <ul style="list-style-type: none"> • Cooperative regenerative brake control • hill start assist function 	O
C1AB8	P	
C1AB9	The following functions are suspended. <ul style="list-style-type: none"> • Boost operation by the electrically-driven intelligent brake • Cooperative regenerative brake control • Power supply from the brake power supply backup unit 	P
C1ABA		

SYSTEM

< SYSTEM DESCRIPTION >

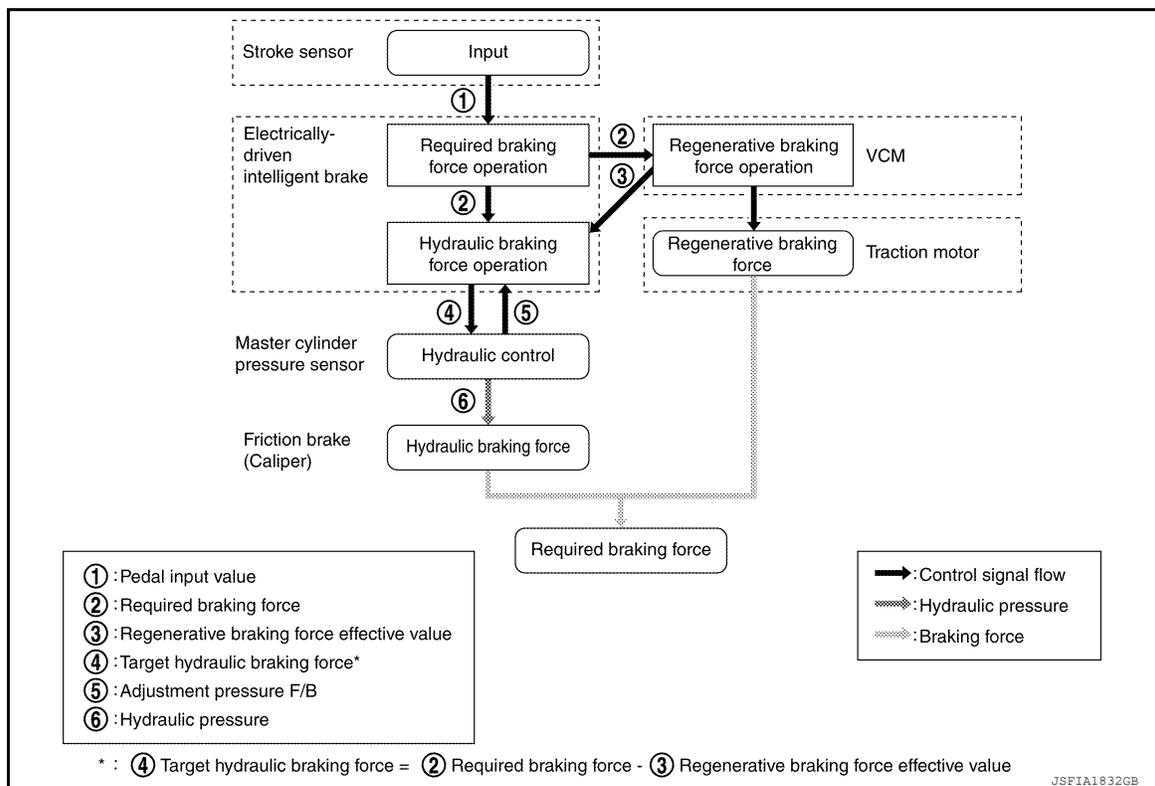
DTC	Vehicle condition
C1AC0	The following function is suspended. • Cooperative regenerative brake control
C1AC1	The following functions are suspended. • Boost operation by the electrically-driven intelligent brake
C1AC8	Normal control
C1AD0	
U1000	The following function is suspended.
U1010	• Cooperative regenerative brake control • hill start assist function
U1510	
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:0000000010122988

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

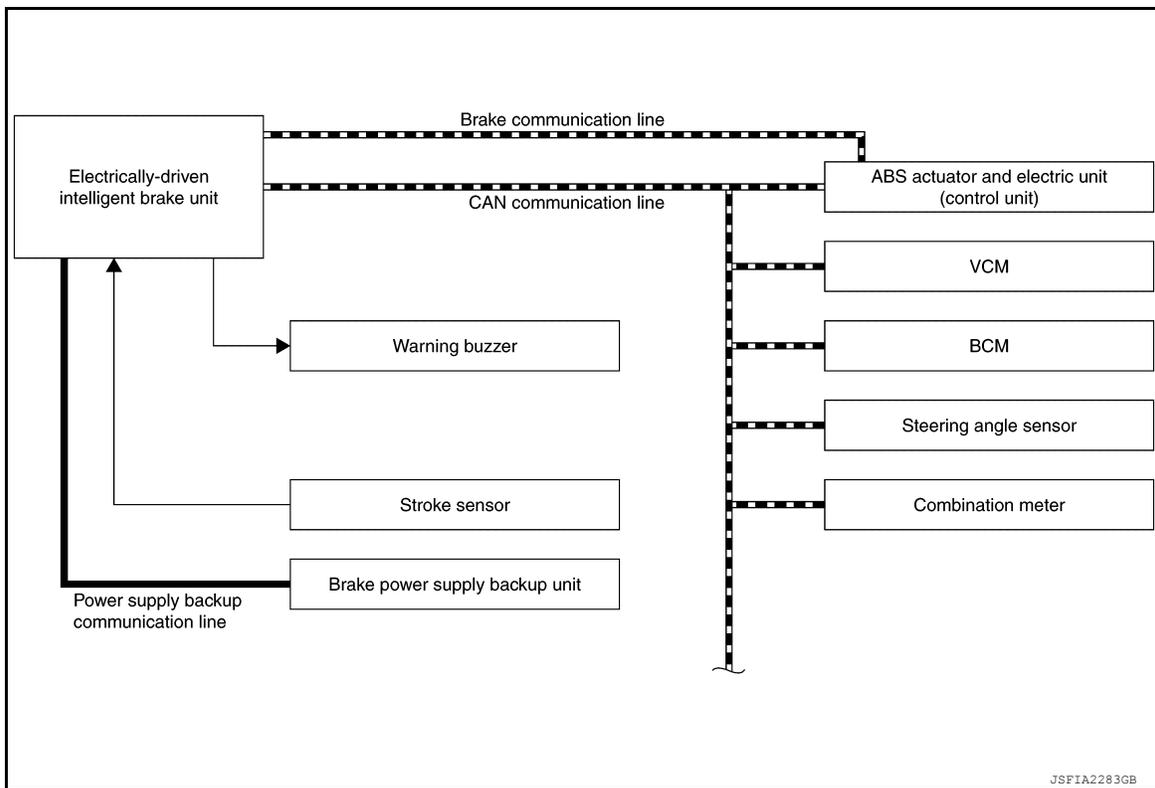
< SYSTEM DESCRIPTION >

- 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.

SYSTEM

< SYSTEM DESCRIPTION >

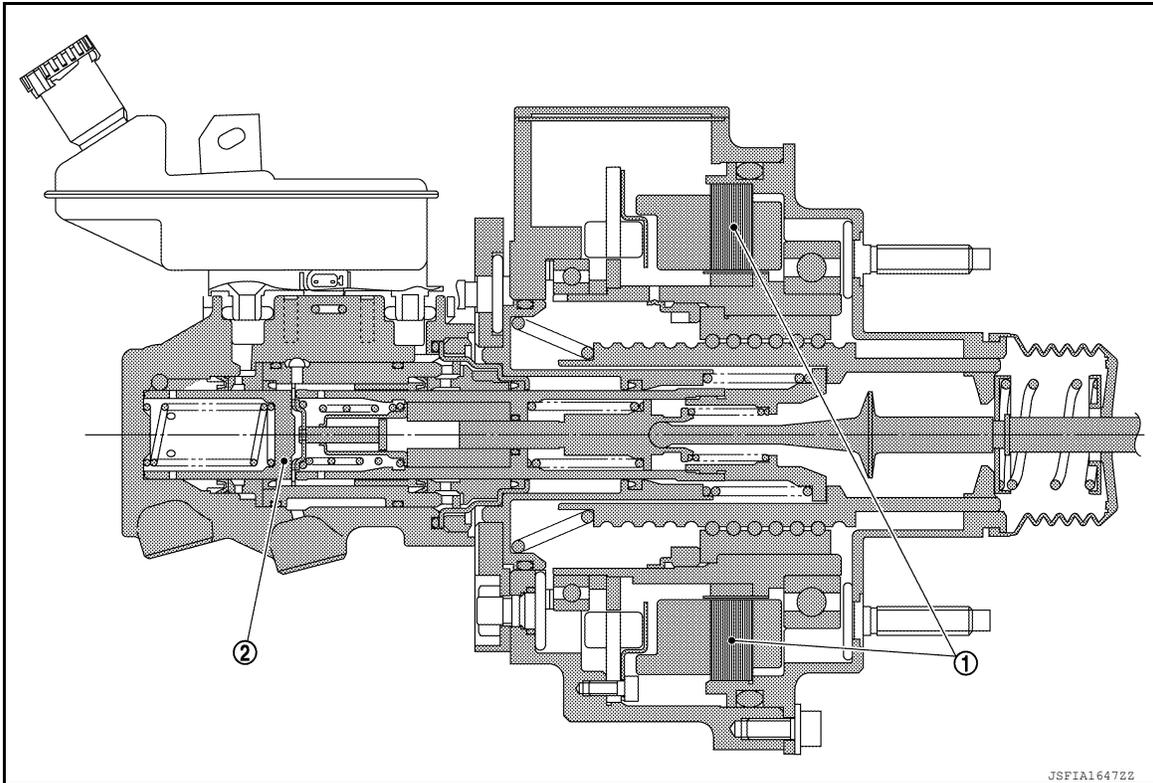
Component	Signal description
ABS actuator and electric unit (control unit)	<p>Mainly transmits the following signals to electrically-driven intelligent brake unit via CAN communication and brake communication (CAN communication).</p> <ul style="list-style-type: none"> • ABS actuator and electric unit (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 • Side G signal • VDC malfunction signal • VDC OFF switch signal • Master cylinder fluid pressure signal <p>Mainly receives the following signals from electrically-driven intelligent brake unit via CAN communication and brake communication (CAN communication).</p> <ul style="list-style-type: none"> • 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
VCM	<p>Mainly transmits the following signals to electrically-driven intelligent brake unit via CAN communication.</p> <ul style="list-style-type: none"> • VCM control signal • Current regenerative torque signal • VCM status signal • Shift position signal <p>Mainly receives the following signal from electrically-driven intelligent brake unit via CAN communication.</p> <ul style="list-style-type: none"> • Target braking force signal
BCM	<p>Mainly transmits the following signals to electrically-driven intelligent brake unit via CAN communication.</p> <ul style="list-style-type: none"> • Sleep wake up signal • Power switch ON signal • Door switch signal
Steering angle sensor	<p>Mainly transmits the following signal to electrically-driven intelligent brake unit via CAN communication.</p> <ul style="list-style-type: none"> • Steering angle sensor signal
Combination meter	<p>Mainly receives the following signals from ABS actuator electric unit (control unit) via electrically-driven intelligent brake unit via CAN communication.</p> <ul style="list-style-type: none"> • Brake warning lamp signal • Brake system warning lamp signal

OPERATION

During Normal Braking

SYSTEM

< SYSTEM DESCRIPTION >

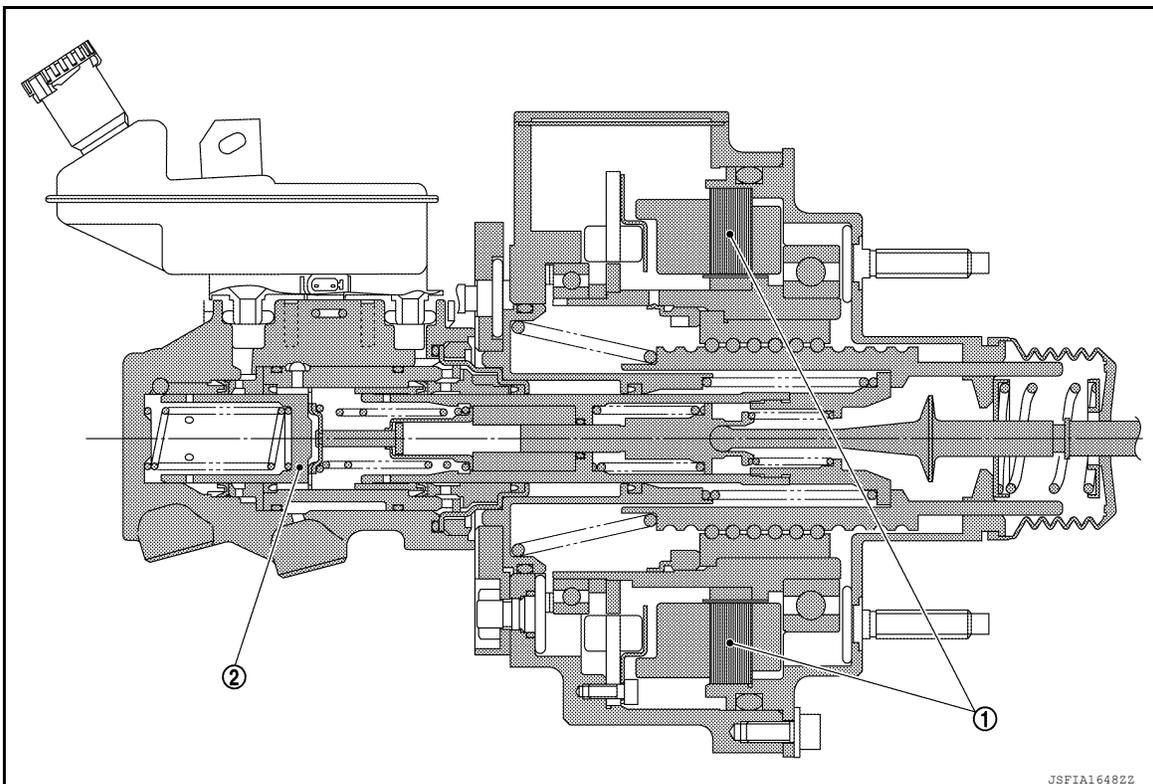


① Motor

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



SYSTEM

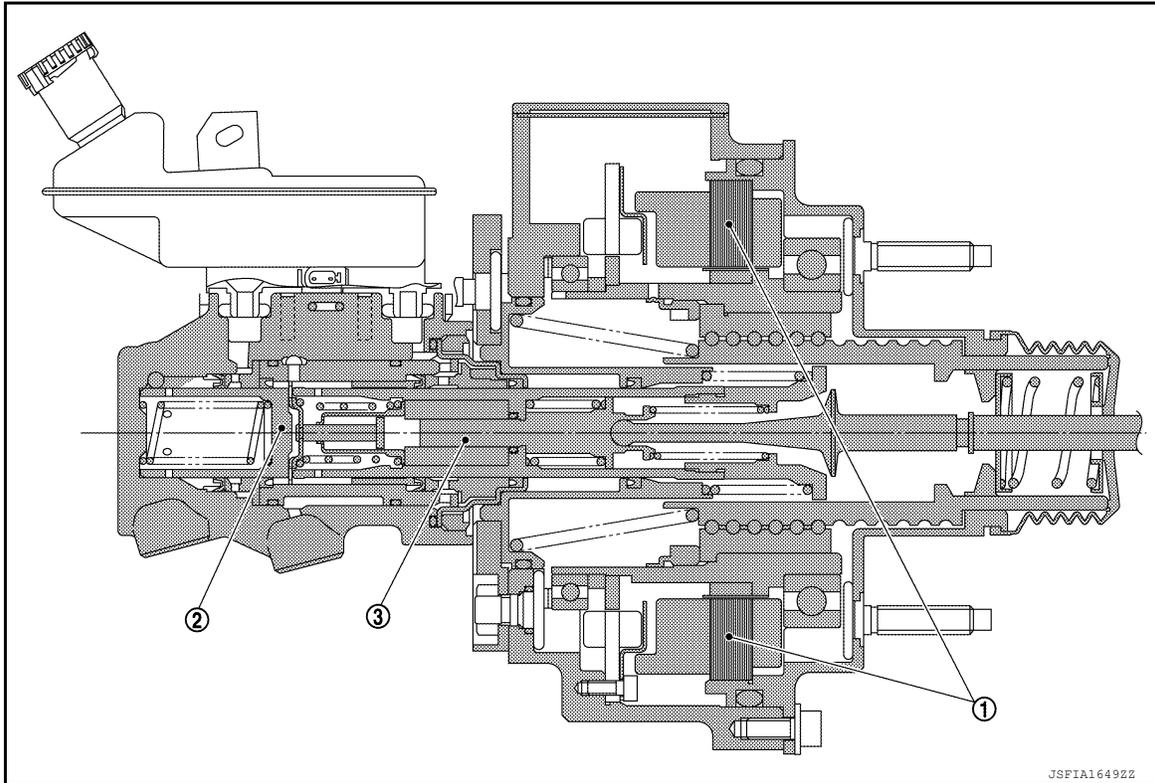
< SYSTEM DESCRIPTION >

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



① Motor

② Piston

③ 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

hill start assist FUNCTION : System Description

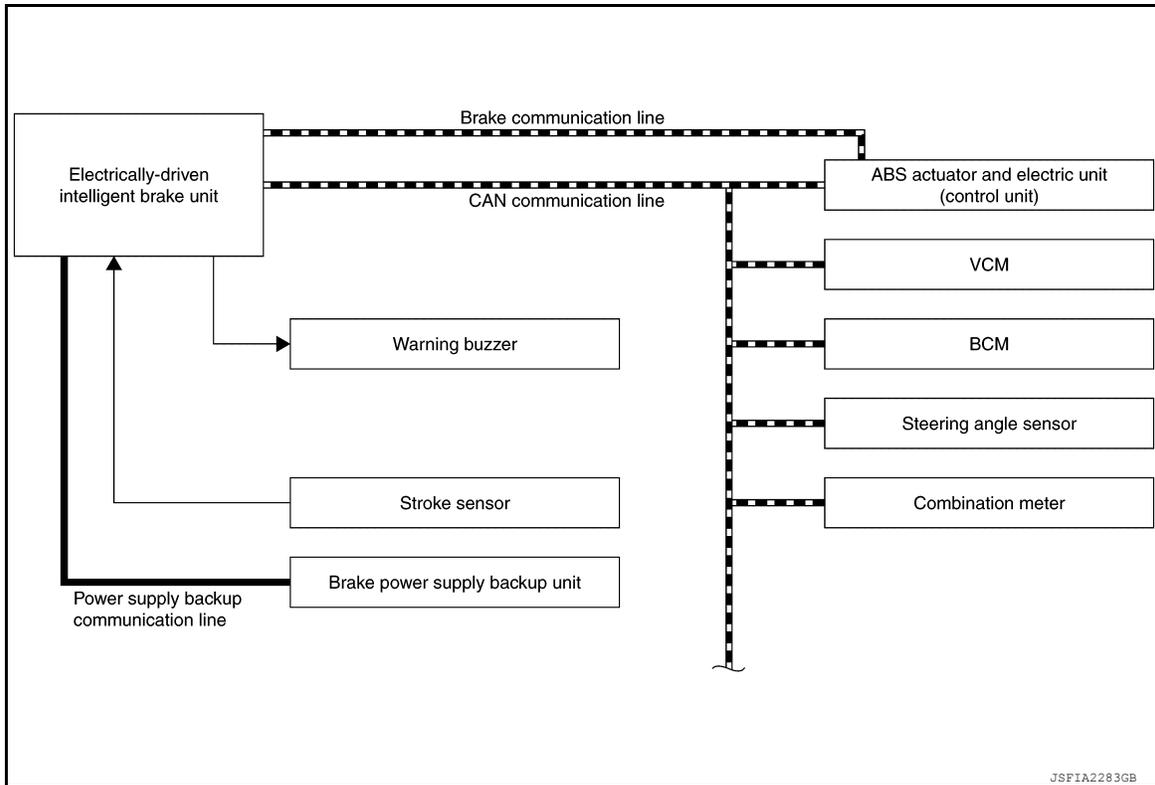
INFOID:000000010122989

- 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

SYSTEM

< SYSTEM DESCRIPTION >



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)	<p>Mainly transmits the following signals to electrically-driven intelligent brake unit via CAN communication and brake communication (CAN communication).</p> <ul style="list-style-type: none"> • 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 • Side G signal • VDC malfunction signal • VDC OFF switch signal • Master cylinder fluid pressure signal <p>Mainly receives the following signals from electrically-driven intelligent brake unit via CAN communication and brake communication (CAN communication).</p> <ul style="list-style-type: none"> • 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
VCM	<p>Mainly transmits the following signals to electrically-driven intelligent brake unit via CAN communication.</p> <ul style="list-style-type: none"> • VCM control signal • Current regenerative torque signal • VCM status signal • Shift position signal <p>Mainly receives the following signal from electrically-driven intelligent brake unit via CAN communication.</p> <ul style="list-style-type: none"> • Target braking force signal

SYSTEM

< SYSTEM DESCRIPTION >

Component	Signal description
BCM	Mainly transmits the following signals to electrically-driven intelligent brake unit via CAN communication. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • Brake warning lamp signal • Brake system warning lamp signal

WARNING/INDICATOR/CHIME LIST

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

INFOID:000000010122990

FOR U.S.A.

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

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

INFOID:000000010122991

DESIGN/PURPOSE

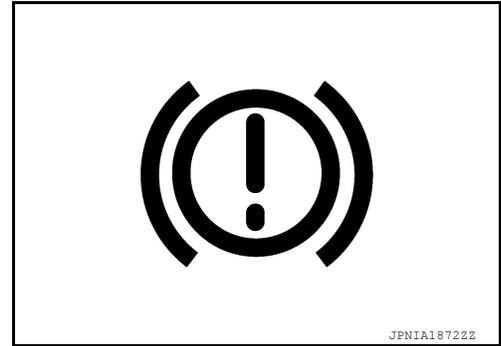
- The brake system warning lamp warns the driver of a malfunction in the electrically-driven intelligent brake unit or the brake power supply backup unit.
- For U.S.A.



SYSTEM

< SYSTEM DESCRIPTION >

- For Canada



- 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 [BR-14. "System Description"](#).

BULB CHECK

Several seconds after power switch is turned ON

SYNCHRONIZATION WITH WARNING BUZZER

YES

For warning buzzer, refer to [BR-13. "Warning Buzzer"](#)

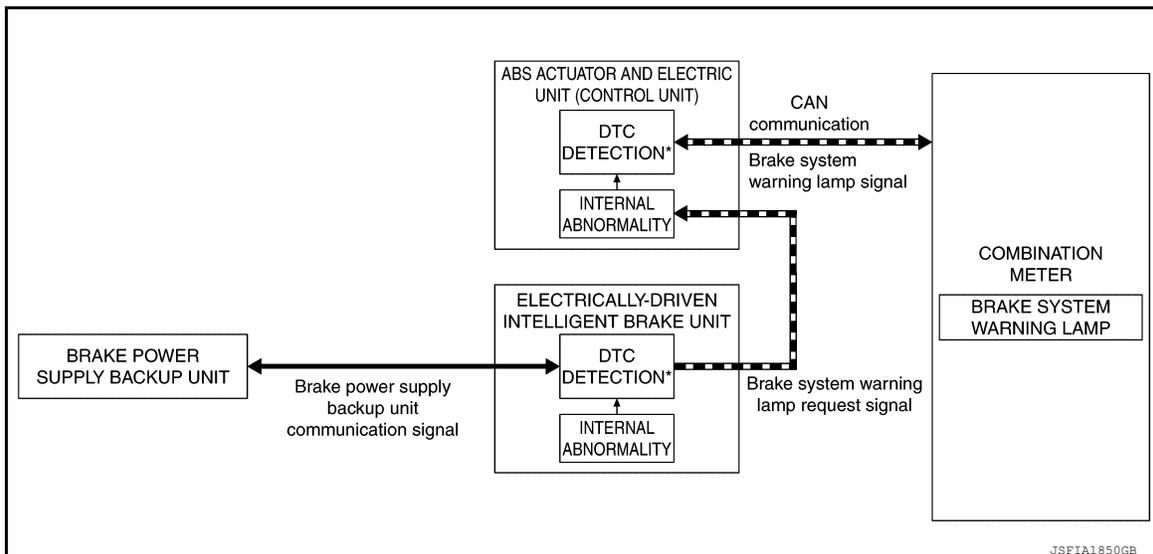
SYNCHRONIZATION WITH MASTER WARNING LAMP

Not applicable

OPERATION AT COMBINATION METER CAN COMMUNICATION CUT-OFF OR UNUSUAL SIGNAL

For actions on CAN communications blackout in the combination meter, refer to [MWI-15. "METER SYSTEM: Fail-Safe"](#).

SYSTEM DIAGRAM



*: For DTCs that the brake system warning lamp turns ON, refer to [BR-38. "DTC Index"](#) (electrically-driven intelligent brake unit) or [BRC-56. "DTC Index"](#) [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.

SYSTEM

< 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 [BR-38, "DTC Index"](#).

LIGHTING CONDITION

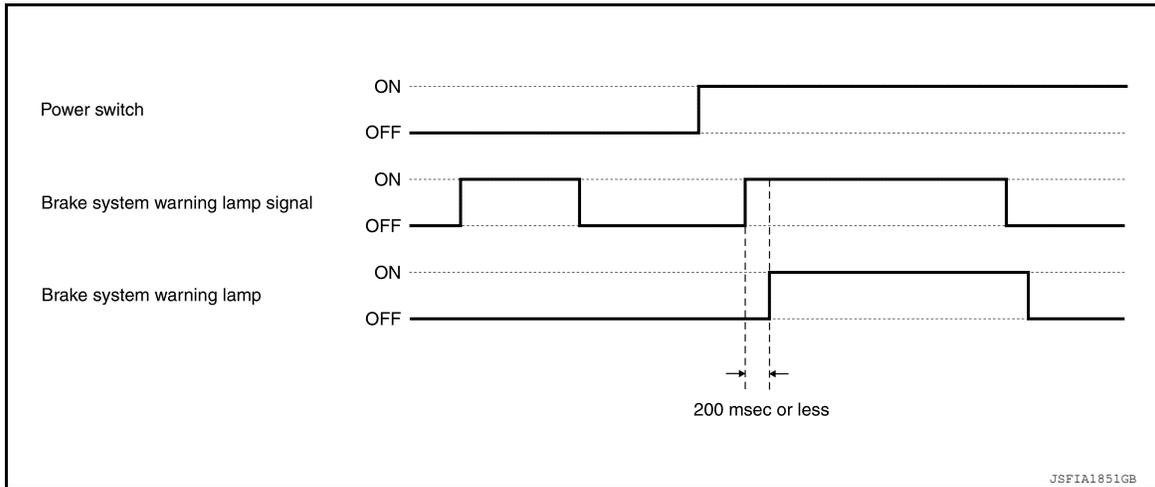
When any of the condition listed below is satisfied while the power switch ON:

- 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



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

INFOID:000000010122992

DESIGN/PURPOSE

- The brake warning lamp warns the driver of brake fluid shortages.
- For U.S.A.



- For Canada



SYSTEM

< 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.

NOTE:

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

BULB CHECK

Several seconds after power switch is turned ON

SYNCHRONIZATION WITH WARNING CHIME

YES

For warning chime, refer to [WCS-11, "PARKING BRAKE RELEASE WARNING CHIME : Parking Brake Release Warning Chime"](#)

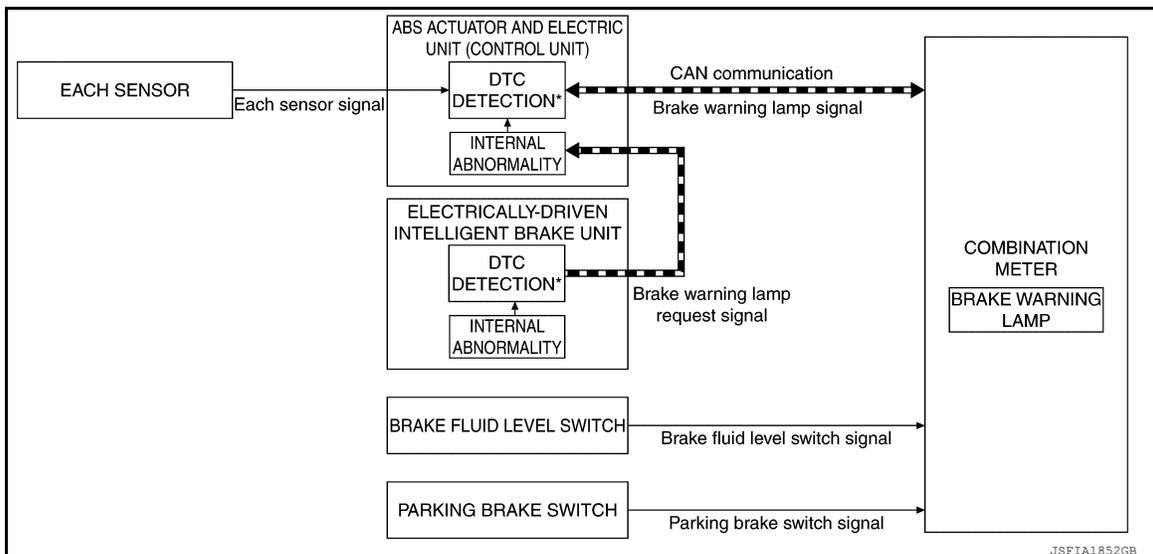
MASTER WARNING LAMP WITH WARNING CHIME

Not applicable

OPERATION AT COMBINATION METER CAN COMMUNICATION CUT-OFF OR UNUSUAL SIGNAL

For actions on CAN communications blackout in the combination meter, refer to [MWI-15, "METER SYSTEM : Fail-Safe"](#).

SYSTEM DIAGRAM



*: For DTCs that the brake system warning lamp turns ON, refer to [BR-38, "DTC Index"](#) (electrically-driven intelligent brake unit) or [BRC-56, "DTC Index"](#) [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 brake 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 [BRC-56, "DTC Index"](#).

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

SYSTEM

< 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 electrically-driven 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

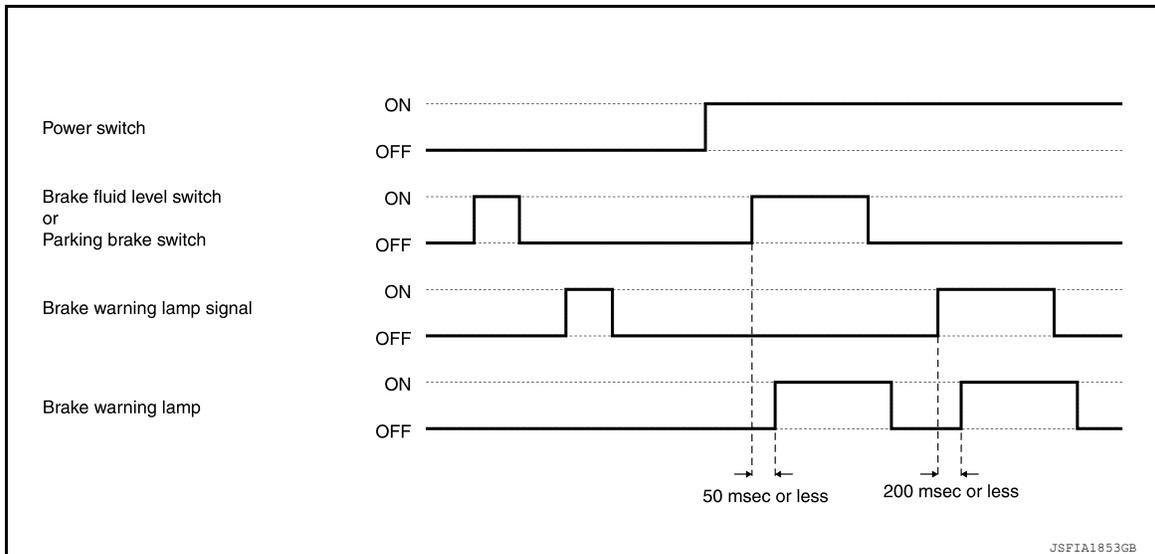
When any of the condition listed below is satisfied while the power switch ON:

- 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 [BR-38, "DTC Index"](#) (electrically-driven intelligent brake unit) or [BRC-56, "DTC Index"](#) [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



DIAGNOSIS SYSTEM (ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT)

< SYSTEM DESCRIPTION >

DIAGNOSIS SYSTEM (ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT)

CONSULT Function

INFOID:000000010122993

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.*
DATA MONITOR	Input/Output data in the electrically-driven intelligent brake unit can be read.
Work Support	Components can be quickly and accurately adjusted.

*: The following diagnosis information is erased by erasing.

CAUTION:

After erasing self-diagnosis results, turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. Close all doors (including back 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 [BR-38, "DTC Index"](#).

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. <ul style="list-style-type: none">• 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 → 3...38 → 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 intelligent 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 intelligent 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.

DIAGNOSIS SYSTEM (ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT)

< SYSTEM DESCRIPTION >

Item name	Display item	
DECEL G SENSOR	Displays the decel G at the time the malfunction is detected.	
ACTUAL GEAR POSITION	Displays the shift position at the time 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 electrically-driven intelligent brake unit and DTC detection is displayed by "msec".	
SYSTEM OPERATING TIME (min)	Time between the start of the electrically-driven intelligent brake unit and DTC detection is displayed by "min".	
BACKUP UNIT OUT VOLT	Displays the power voltage of the brake power supply backup unit at the time the malfunction is detected.	
WAKEUP SIGNAL STATUS	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.
	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 active 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 switch at the time a DTC is detected.	
STATUS STOP LAMP SW	Displays the status of brake pedal 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 where a DTC is detected.	
CONDITION CAN DIAG PERMIS	Displays the status of the CAN communication 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.

DIAGNOSIS SYSTEM (ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT)

< SYSTEM DESCRIPTION >

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

DIAGNOSIS SYSTEM (ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT)

< SYSTEM DESCRIPTION >

Item (Unit)	Note:
BACKUP UNIT 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.

ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT

< ECU DIAGNOSIS INFORMATION >

ECU DIAGNOSIS INFORMATION

ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT

Reference Value

INFOID:000000010122994

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.
ALL SENSOR LEARNING*2	Learning not completed	INCOMP
	Learning completed	COMP
STEERING ANGLE SENSOR	When driving straight	0±3.5°
	When steering wheel is steered to LH by 90°	Approx. –90°
	When steering wheel is steered to RH by 90°	Approx. +90°
DECEL G SENSOR	Vehicle stopped	Approx. 0 G
	During acceleration	Positive value
	During deceleration	Negative value
SIDE G SENSOR	Vehicle stopped	Approx. 0 G
	Right turn	Negative value
	Left turn	Positive value
YAW RATE SENSOR SIGNAL	Vehicle stopped	Approx. 0 deg/s
	Right turn	Negative value
	Left turn	Positive value
WHEEL SENSOR FRONT RH	Vehicle stopped	0 rpm
	Driving*3	Increases according to vehicle speed.
WHEEL SENSOR FRONT LH	Vehicle stopped	0 rpm
	Driving*3	Increases according to vehicle speed.
WHEEL SENSOR REAR RH	Vehicle stopped	0 rpm
	Driving*3	Increases according to vehicle speed.

ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT

< ECU DIAGNOSIS INFORMATION >

Monitor item	Condition	Reference values in normal operation
WHEEL SENSOR REAR LH	Vehicle stopped	0 rpm
	Driving* ³	Increases according to vehicle speed.
VEHICLE SPEED	Vehicle stopped	0.00 km/h (0.00 MPH)
	Driving* ³	Almost same reading as speedometer (within ±10%)
ACTUAL GEAR POSITION	D position	1 – 8
	R position	R
	N or P position	N/P
BRAKE SWITCH	Brake pedal is depressed.	On
	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 seconds later from room lamp OFF	CLOSE
	Any door is open	OPEN
IGNITION SIGNAL	Power switch ON	On
	Power switch other than ON	Off
VCM STATUS	Active	On
	In active	Off
BACKUP UNIT DIAG RESULT	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
	Start signal malfunction	ERR8
	The control part is in abnormal condition	ERR9
	Monitor circuit malfunction	ERR10
	Insulation malfunction	ERR11
	Output circuit malfunction (other than discharge circuit)	ERR12
	Temperature detection circuit malfunction	ERR13
	Deteriorated	ERR14
Outside the reference voltage	ERR15	
BACKUP UNIT MODE	Backup power supply mode is active	On
	Backup power supply mode is not activated	Off
BACKUP UNIT CHG STATUS	80% or less (backup power supply not possible)	CHRG1
	80 – 99%(backup power supply possible)	CHRG2
	100% (backup power supply possible)	FULL

ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT

< ECU DIAGNOSIS INFORMATION >

Monitor item	Condition	Reference values in normal operation
DRV TRQ CTRL VAL	Driving	Changes according to correction value of drive torque.
DRV TRQ CTRL MODE	Driving	NOMAL
	When drive torque control malfunction	ERR1
	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
	Drive torque control is deactivated.	ERR3
DRV TRQ CTRL STP FLAG	Drive torque correction permission.	PERMIS
	Drive torque correction cancellation.	CANCEL

*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

INFOID:0000000010122995

- 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
C1A62	• Cooperative regenerative brake control
	• 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

ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT

< ECU DIAGNOSIS INFORMATION >

DTC	Vehicle condition
C1A6B	The following function is suspended. • Backup power supply from the brake power supply backup unit
C1A6C	
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. • Cooperative regenerative brake control • hill start assist function
C1A74	
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	The following function is suspended. • Power supply from the brake power supply backup unit
C1A99	
C1A9A	
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	
C1AA2	
C1AA3	
C1AA9	The following function is suspended. • Cooperative regenerative brake control • hill start assist function
C1AB8	
C1AB9	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
C1ABA	
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. • Cooperative regenerative brake control • hill start assist function	A
U1010		
U1510		B
U1511	The following functions are suspended. • Power supply from the brake power supply backup unit	C

DTC Inspection Priority Chart

INFOID:000000010122996

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

Priority	Detected item (DTC)	
1	<ul style="list-style-type: none"> • U1000 CAN COMM CIRCUIT • U1010 CONTROL UNIT (CAN) • U1510 BRAKE CONTROL COMMUNICATION • U1511 POWER SUPPLY BACKUP UNIT COMM 	E BR
2	<ul style="list-style-type: none"> • 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 • C1A89 CONTROL MODULE-11 • C1A8A CONTROL MODULE-12 • C1A8B CONTROL MODULE-13 • C1AC8 POWER SUPPLY BACKUP UNIT-2 	G H I J
3	<ul style="list-style-type: none"> • C1A6E EV/HEV SYSTEM • C1A6F TCM/VCM SYSTEM • C1A70 BRAKE CONTROL SYSTEM • C1A74 ST ANG SEN CIRCUIT 	K
4	<ul style="list-style-type: none"> • 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 	L M
5	<ul style="list-style-type: none"> • C1A65 STROKE SENSOR SET • C1A67 STOP LAMP SWITCH • C1A69 MOTOR • C1A6D POWER SUPPLY BACKUP UNIT OUTPUT • C1AA0 STROKE SENSOR-2 • C1AA1 STROKE SENSOR-3 • 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 	N O P

ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT

< ECU DIAGNOSIS INFORMATION >

DTC Index

INFOID:000000010122997

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
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"
U1000	CAN COMM CIRCUIT	OFF	ON	BR-448. "DTC Logic"
U1010	CONTROL UNIT (CAN)	OFF	ON	BR-450. "DTC Logic"
U1510	BRAKE CONTROL COMMUNICATION	OFF	ON	BR-452. "DTC Logic"
U1511	POWER SUPPLY BACKUP UNIT COMM	OFF	ON	BR-460. "DTC Logic"

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BRAKE SYSTEM

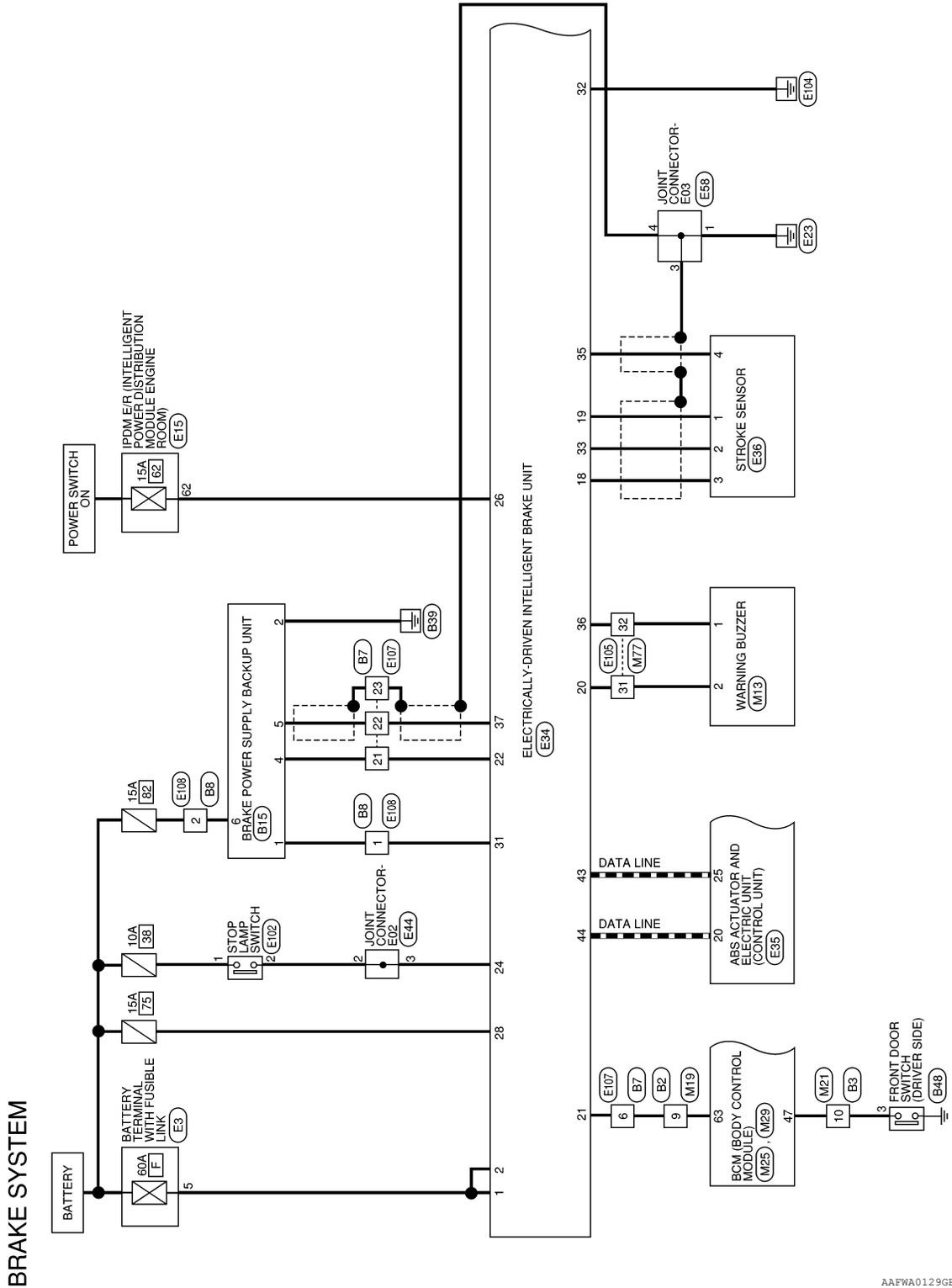
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WIRING DIAGRAM

BRAKE SYSTEM

Wiring Diagram

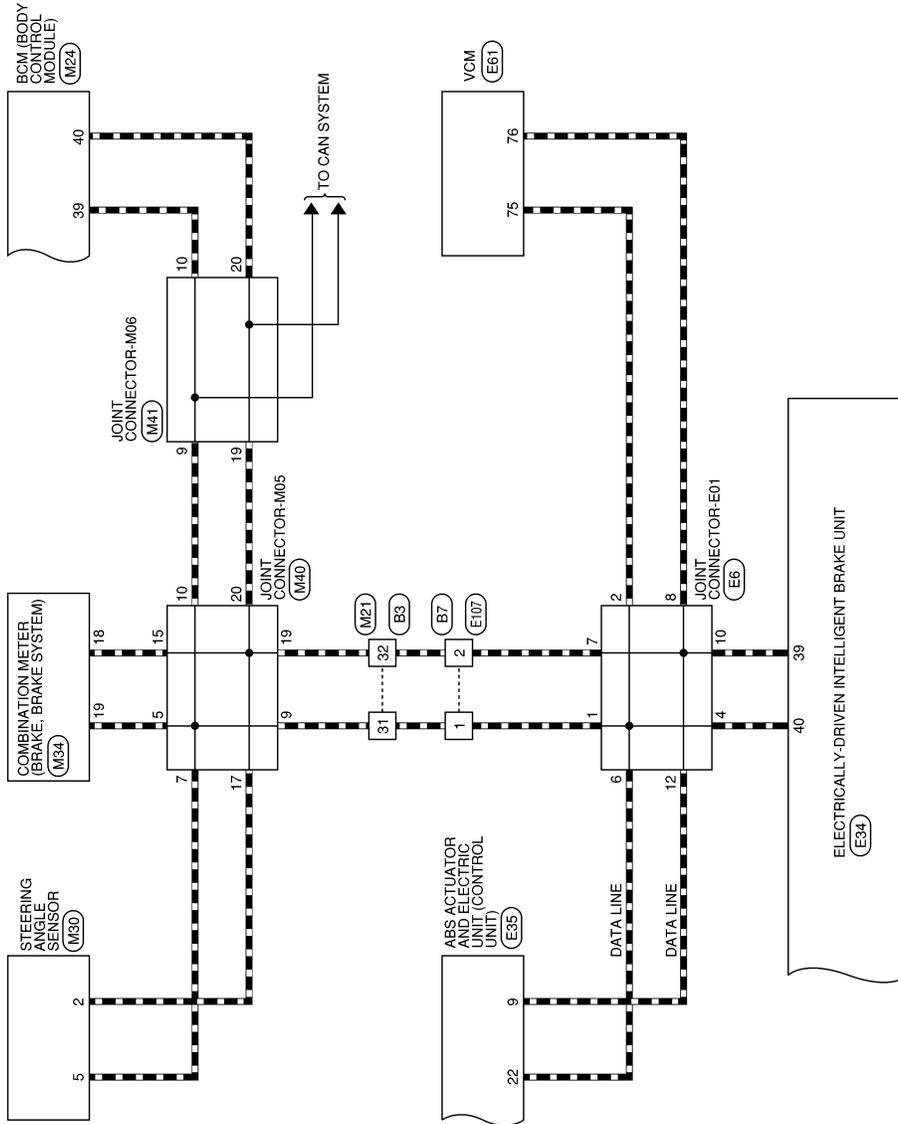
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BRAKE SYSTEM

< WIRING DIAGRAM >



AAFWA0130GB

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BRAKE SYSTEM

< WIRING DIAGRAM >

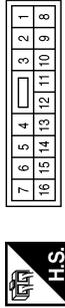
BRAKE SYSTEM CONNECTORS

Connector No.	M13
Connector Name	WARNING BUZZER
Connector Color	BROWN



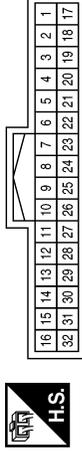
Terminal No.	Color of Wire	Signal Name
1	W	-
2	R	-

Connector No.	M19
Connector Name	WIRE TO WIRE
Connector Color	WHITE



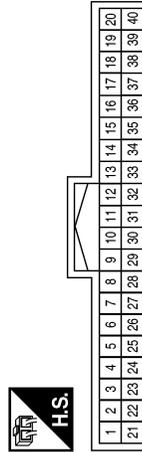
Terminal No.	Color of Wire	Signal Name
9	BR	-

Connector No.	M21
Connector Name	WIRE TO WIRE
Connector Color	WHITE



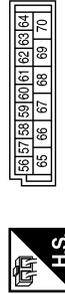
Terminal No.	Color of Wire	Signal Name
10	SB	-
31	L	-
32	P	-

Connector No.	M24
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	BLACK



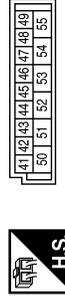
Terminal No.	Color of Wire	Signal Name
39	L	CAN-H
40	P	CAN-L

Connector No.	M25
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
63	BR	ROOM LAMP OUTPUT

Connector No.	M29
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	BLACK

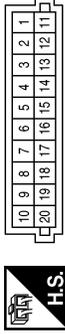


Terminal No.	Color of Wire	Signal Name
47	L	LUGGAGE LAMP OUTPUT

BRAKE SYSTEM

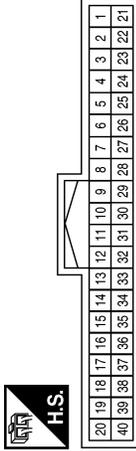
< WIRING DIAGRAM >

Connector No.	M40
Connector Name	JOINT CONNECTOR-M05
Connector Color	BLUE



Terminal No.	Color of Wire	Signal Name
5	L	-
7	L	-
9	L	-
10	L	-
15	P	-
17	P	-
19	P	-
20	P	-

Connector No.	M34
Connector Name	COMBINATION METER
Connector Color	WHITE



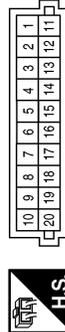
Terminal No.	Color of Wire	Signal Name
18	P	CAN-H
19	L	CAN-L

Connector No.	M30
Connector Name	STEERING ANGLE SENSOR
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
2	P	-
5	L	-

Connector No.	M41
Connector Name	JOINT CONNECTOR-M06
Connector Color	BLUE



Terminal No.	Color of Wire	Signal Name
9	L	-
10	L	-
19	P	-
20	P	-

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BRAKE SYSTEM

< WIRING DIAGRAM >

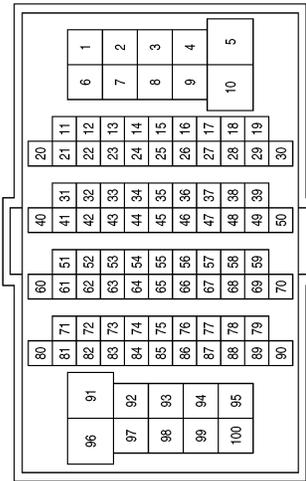
Connector No.	E3
Connector Name	BATTERY TERMINAL WITH FUSIBLE LINK
Connector Color	BLACK



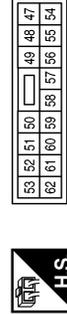
Terminal No.	Color of Wire	Signal Name
5	B	-

Terminal No.	Color of Wire	Signal Name
31	R	-
32	W	-

Connector No.	M77
Connector Name	WIRE TO WIRE
Connector Color	WHITE



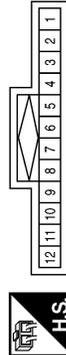
Connector No.	E15
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BLUE



Terminal No.	Color of Wire	Signal Name
62	V	E-ACT/HAS IGN

Terminal No.	Color of Wire	Signal Name
7	P	-
8	P	-
10	P	-
12	P	-

Connector No.	E6
Connector Name	JOINT CONNECTOR-E01
Connector Color	BLUE



Terminal No.	Color of Wire	Signal Name
1	L	-
2	L	-
4	L	-
6	L	-

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BRAKE SYSTEM

< WIRING DIAGRAM >

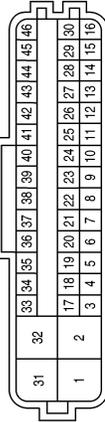
Connector No.	E35
Connector Name	ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT)
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
9	P	CAN-L
20	L	CAN-H
22	L	CAN-H
25	W	CAN-L

Terminal No.	Color of Wire	Signal Name
21	GR	DOOR SWITCH SIGNAL
22	O	DLK WAKE-UP
23	-	-
24	SB	STOP LAMP SW
25	-	-
26	V	IGN SWITCH SIGNAL
27	-	-
28	L	ECU CONTROL SYSTEM POWER
29	-	-
30	-	-
31	W	DLC BACKUP POWER
32	B	GND
33	L/Y	STROKE SENSOR1 SIGNAL
34	-	-
35	B	STROKE SENSOR2 SIGNAL
36	W	BUZZER SIGNAL
37	W	DLC COMMUNICATION
38	-	-
39	P	CAN-L
40	L	CAN-H
41	-	-
42	-	-
43	W	CAN-L
44	L	CAN-H
45	-	-
46	-	-

Connector No.	E34
Connector Name	ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
1	Y	MOTOR POWER
2	Y	MOTOR POWER
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
9	-	-
10	-	-
11	-	-
12	-	-
13	-	-
14	-	-
15	-	-
16	-	-
17	-	-
18	W/L	STROKE SENSOR POWER
19	L/O	STROKE SENSOR GND
20	R	BUZZER POWER

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BRAKE SYSTEM

< WIRING DIAGRAM >

Connector No.	E36
Connector Name	STROKE SENSOR
Connector Color	BLACK



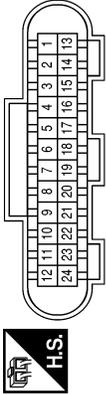
Terminal No.	Color of Wire	Signal Name
1	L/O	-
2	L/Y	-
3	W/L	-
4	B	-

Connector No.	E44
Connector Name	JOINT CONNECTOR-E02
Connector Color	BLUE



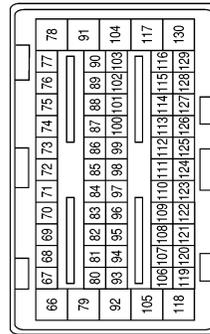
Terminal No.	Color of Wire	Signal Name
2	SB	-
3	SB	-

Connector No.	E58
Connector Name	JOINT CONNECTOR-E03
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
1	B/R	-
3	SHIELD	-
4	SHIELD	-

Connector No.	E62
Connector Name	VCM
Connector Color	BROWN



Terminal No.	Color of Wire	Signal Name
75	L	CAN-H
76	P	CAN-L

Connector No.	E102
Connector Name	STOP LAMP SWITCH
Connector Color	WHITE



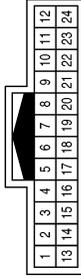
Terminal No.	Color of Wire	Signal Name
1	W	-
2	SB	-

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BRAKE SYSTEM

< WIRING DIAGRAM >

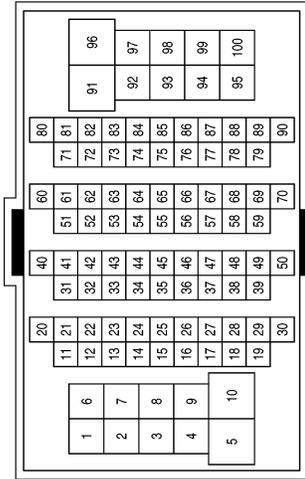
Connector No.	E107
Connector Name	WIRE TO WIRE
Connector Color	WHITE



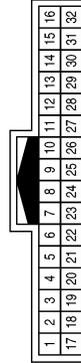
Terminal No.	Color of Wire	Signal Name
1	L	-
2	P	-
6	GR	-
21	O	-
22	W	-
23	SHIELD	-

Terminal No.	Color of Wire	Signal Name
31	R	-
32	W	-

Connector No.	E105
Connector Name	WIRE TO WIRE
Connector Color	WHITE

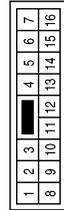


Connector No.	B3
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
10	SB	-
31	L	-
32	P	-

Connector No.	B2
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
9	BR	-

Connector No.	E108
Connector Name	WIRE TO WIRE
Connector Color	WHITE



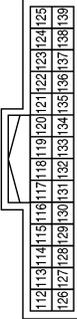
Terminal No.	Color of Wire	Signal Name
1	W	-
2	Y	-

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BRAKE SYSTEM

< WIRING DIAGRAM >

Connector No.	B7
Connector Name	WIRE TO WIRE
Connector Color	WHITE

Terminal No.	Color of Wire	Signal Name
1	L	-
2	P	-
6	BR	-
21	Y	-
22	W	-
23	SHIELD	-

Connector No.	B8
Connector Name	WIRE TO WIRE
Connector Color	WHITE




Terminal No.	Color of Wire	Signal Name
1	R	-
2	L	-

Connector No.	B15
Connector Name	BRAKE POWER SUPPLY BACKUP UNIT
Connector Color	WHITE




Terminal No.	Color of Wire	Signal Name
1	R	-
2	B	-
4	Y	-
5	W	-
6	L	-

Connector No.	B48
Connector Name	FRONT DOOR SWITCH (DRIVER SIDE)
Connector Color	WHITE




Terminal No.	Color of Wire	Signal Name
3	SB	-

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DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION >

BASIC INSPECTION

DIAGNOSIS AND REPAIR WORK FLOW

Work Flow

INFOID:0000000010122999

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.
- NO >> GO TO 7.

4. PERFORM SELF-DIAGNOSIS (2)

 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:

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.
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. Perform DTC reproduction procedures for the system that is malfunctioning.

NOTE:

When multiple DTCs are detected, refer to [BR-37. "DTC Inspection Priority Chart"](#) 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 [GI-53. "Intermittent Incident"](#).

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.
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.

>> 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 [GI-53. "Intermittent Incident"](#).

8.FINAL CHECK

ⓅWith CONSULT

1. Check the reference value for "BRAKE". Refer to [BR-33. "Reference Value"](#).
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

INFOID:000000010123000

Description

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	
		Vehicle type		VIN	
Storage date		Traction motor		Mileage	km (Mile)
Symptom	<input type="checkbox"/> Does not operate () function				
	<input type="checkbox"/> Warning lamp for () turns ON.				
	<input type="checkbox"/> Noise <input type="checkbox"/> Vibration				
	<input type="checkbox"/> Other ()				
First occurrence	<input type="checkbox"/> Recently <input type="checkbox"/> Other ()				
Frequency of occurrence	<input type="checkbox"/> Always <input type="checkbox"/> Under a certain conditions of <input type="checkbox"/> Sometimes (time(s)/day)				
Climate conditions	<input type="checkbox"/> Irrelevant				
	Weather	<input type="checkbox"/> Fine <input type="checkbox"/> Cloud <input type="checkbox"/> Rain <input type="checkbox"/> Snow <input type="checkbox"/> Others ()			
	Temperature	<input type="checkbox"/> Hot <input type="checkbox"/> Warm <input type="checkbox"/> Cool <input type="checkbox"/> Cold <input type="checkbox"/> Temperature [Approx. °C (°F)]			
	Relative humidity	<input type="checkbox"/> High <input type="checkbox"/> Moderate <input type="checkbox"/> Low			
Road conditions	<input type="checkbox"/> Urban area <input type="checkbox"/> Suburb area <input type="checkbox"/> Highway <input type="checkbox"/> Mountainous road (uphill or downhill) <input type="checkbox"/> Rough road				
Operating condition, etc.	<input type="checkbox"/> Irrelevant <input type="checkbox"/> When traction motor starts <input type="checkbox"/> During idling <input type="checkbox"/> During driving <input type="checkbox"/> During acceleration <input type="checkbox"/> At constant speed driving <input type="checkbox"/> During deceleration <input type="checkbox"/> During cornering (right curve or left curve) <input type="checkbox"/> When steering wheel is steered (to right or to left)				
Other conditions					

Memo

ADDITIONAL SERVICE WHEN REPLACING ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT

< BASIC INSPECTION >

ADDITIONAL SERVICE WHEN REPLACING ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT

Description

INFOID:000000010123001

When the electrically-driven intelligent brake unit was replaced, perform stroke sensor 0 point learning. [BR-53](#), "[Work Procedure](#)".

STROKE SENSOR 0 POINT LEARNING

< BASIC INSPECTION >

STROKE SENSOR 0 POINT LEARNING

Description

INFOID:000000010123002

CAUTION:

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

×: Necessary, -: Not necessary

Procedure	Stroke sensor 0 point learning
Removing/installing electrically-driven intelligent brake unit	×
Replacing electrically-driven intelligent brake unit	×
Removing/installing stroke sensor	×
Replacing stroke sensor	×
Removing/installing brake pedal	×
Replacing brake pedal	×
Adjusting brake pedal each height	×

Work Procedure

INFOID:000000010123003

CAUTION:

Make sure to use CONSULT when performing stroke sensor 0 point learning. (It cannot be performed by any means other than CONSULT.)

1.VEHICLE CONDITION

1. Stop the vehicle.
2. Turn the power switch OFF to exit CONSULT.

>> GO TO 2.

2.CHECK 12V BATTERY

Check the 12V battery. Refer to [PG-83, "Work Flow"](#).

Is the inspection result normal?

YES >> GO TO 3.

NO >> Charge or replace the 12V battery. Refer to [PG-83, "How to Handle 12V Battery"](#) or [PG-89, "Removal and Installation"](#). GO TO 3.

3.CHECKING INSTALLATION CONDITIONS OF BRAKE COMPONENTS

Check the installation conditions of brake components.

Is the inspection result normal?

YES >> GO TO 4.

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

4.CHECK BRAKE PEDAL

Check each brake pedal height. Refer to [BR-490, "Inspection and Adjustment"](#).

Is the inspection result normal?

YES >> GO TO 5.

NO >> Adjust each brake pedal height. Refer to [BR-490, "Inspection and Adjustment"](#). GO TO 5.

5.PERFORM SELF-DIAGNOSIS

Ⓜ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.
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 a malfunction detected?

- YES >> Check the DTC. Refer to [BR-38. "DTC Index"](#). GO TO 6.
NO >> GO TO 6.

6. PERFORM PEDAL STROKE SENSOR 0 POINT LEARNING

Ⓟ With CONSULT

1. 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.
3. 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

Ⓟ 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

1. Turn the power switch OFF to exit CONSULT and wait for 10 seconds or more.
CAUTION:
Be sure to perform the operation above.
2. 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.
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.

Are the memories erased?

YES >> INSPECTION END

NO >> Check the items indicated by the self-diagnosis.

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C1A60 CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

DTC/CIRCUIT DIAGNOSIS

C1A60 CONTROL MODULE

DTC Logic

INFOID:000000010123004

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

④ 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 "C1A60" detected?

- YES >> Proceed to [BR-56, "Diagnosis Procedure"](#).
NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000010123005

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.

C1A60 CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

CAUTION:

Never operate the vehicle while waiting.

3. Check the 12V battery terminal connections. Refer to [BR-6, "Precaution for Removing 12V Battery"](#) and [PG-83, "Work Flow"](#).
4. Check the 12V battery. Refer to [PG-83, "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.
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 "C1A60" 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 [BR-6, "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.

C1A60 CONTROL MODULE

< 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.
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 "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.
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 (Approx.)
Connector	Terminal		
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 (Approx.)
Connector	Terminal		
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.

6. CHECK POWER SWITCH ON 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.

3. Disconnect 12V battery cable from negative terminal. Refer to [BR-6, "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	
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		
E34	26	Ground	Not existed

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to [PG-26, "Wiring Diagram—On Power Supply—"](#).

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.
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.

C1A60 CONTROL MODULE

< 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.
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 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 (Approx.)
Connector	Terminal	
E34	1 – 32	10 – 16 V
	2 – 32	
	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 (Approx.)
Connector	Terminal	
E34	1 – 32	10 – 16 V
	2 – 32	
	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.

3. Disconnect 12V battery cable from negative terminal. Refer to [BR-6. "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 [PG-15. "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

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.
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.
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 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 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:

C1A60 CONTROL MODULE

< 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.
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 "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.
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 [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.

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:

C1A60 CONTROL MODULE

< 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.
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 "C1A60" detected?

- YES >> Replace the electrically-driven intelligent brake unit. Refer to [BR-510, "Removal and installation"](#).
- NO >> INSPECTION END

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C1A61 MOTOR

< DTC/CIRCUIT DIAGNOSIS >

C1A61 MOTOR

DTC Logic

INFOID:000000010123006

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1A61	MOTOR POWER SUPPLY	Power voltage of motor inside electrically-driven intelligent brake unit is as shown below. <ul style="list-style-type: none">• Motor power voltage: $9\text{ V} \geq$ Motor power voltage• Motor power voltage: $16\text{ V} \geq$ Motor power voltage	<ul style="list-style-type: none">• 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.
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 "C1A61" detected?

- YES >> Proceed to [BR-64, "Diagnosis Procedure"](#).
NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000010123007

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:

C1A61 MOTOR

< DTC/CIRCUIT DIAGNOSIS >

Never operate the vehicle while waiting.

3. Check the 12V battery terminal connections. Refer to [BR-6, "Precaution for Removing 12V Battery"](#) and [PG-83, "Work Flow"](#).
4. Check the 12V battery. Refer to [PG-83, "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.
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 "C1A61" 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 [BR-6, "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.

C1A61 MOTOR

< 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.
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 "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 [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 (Approx.)
Connector	Terminal		
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 (Approx.)
Connector	Terminal		
E34	26	Ground	10 – 16 V

Is the inspection result normal?

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

C1A61 MOTOR

< 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.
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. 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	
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		
E34	26	Ground	Not existed

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to [PG-26, "Wiring Diagram—On Power Supply—"](#).

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.
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.

C1A61 MOTOR

< 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.
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 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 (Approx.)
Connector	Terminal	
E34	1 – 32	10 – 16 V
	2 – 32	
	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 (Approx.)
Connector	Terminal	
E34	1 – 32	10 – 16 V
	2 – 32	
	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.

3. Disconnect 12V battery cable from negative terminal. Refer to [BR-6. "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 [PG-15. "Wiring Diagram — Battery Power Supply —"](#).
NO >> Repair or replace error-detected parts and GO TO 10.

C1A61 MOTOR

< 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.
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 "C1A61" 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.
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.
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 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:

C1A61 MOTOR

< 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.
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 "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 to 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 [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.

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:

C1A61 MOTOR

< 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.
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 >> Replace the electrically-driven intelligent brake unit. Refer to [BR-510, "Removal and installation"](#).
- NO >> INSPECTION END

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C1A62 CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

C1A62 CONTROL MODULE

DTC Logic

INFOID:000000010123008

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1A62	CONTROL MODULE POWER SUPPLY	<ul style="list-style-type: none">• Power voltage of control module that is integrated with electrically-driven intelligent brake unit is as shown below.- Control module power voltage: $9\text{ V} \geq$ Control module power voltage- Control module power voltage: $16\text{ V} \leq$ 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).	<ul style="list-style-type: none">• 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 [BR-72. "Diagnosis Procedure"](#).

NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000010123009

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 ("C1A62")?

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.

C1A62 CONTROL MODULE

< 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).

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).

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

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 "C1A62" detected?

YES >> GO TO 6.

NO >> INSPECTION END [DTC "C1A62" is detected when 12V 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.

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 [BR-6, "Precaution for Removing 12V Battery"](#) and [PG-83, "Work Flow"](#).

4. Check the 12V battery. Refer to [PG-83, "Work Flow"](#).

Is the inspection result normal?

YES >> GO TO 7.

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

C1A62 CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

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.
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.
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 [BR-6. "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 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.

C1A62 CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

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 "C1A62" 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.
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 (Approx.)
Connector	Terminal		
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 (Approx.)
Connector	Terminal		
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.
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.

C1A62 CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

3. Disconnect 12V battery cable from negative terminal. Refer to [BR-6, "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	
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		
E34	26	Ground	Not existed

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to [PG-26, "Wiring Diagram—On 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 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.
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 "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.

C1A62 CONTROL MODULE

< 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 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 (Approx.)
Connector	Terminal	
E34	1 – 32	10 – 16 V
	2 – 32	
	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 (Approx.)
Connector	Terminal	
E34	1 – 32	10 – 16 V
	2 – 32	
	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.
 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. 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 [PG-15, "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:

C1A62 CONTROL MODULE

< 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.
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 "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.
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 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.

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.

C1A62 CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

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 "C1A62" 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 to 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 19.

NO >> Replace the electrically-driven intelligent brake unit. Refer to [BR-510. "Removal and installation"](#).

19. 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.

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.

C1A62 CONTROL MODULE

< 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 [BCS-48, "DTC Index"](#). GO TO 21.

NO >> Replace the electrically-driven intelligent brake unit. Refer to [BR-510, "Removal and installation"](#).

21. PERFORM SELF-DIAGNOSIS (9)

Ⓟ 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 "C1A62" detected?

YES >> Replace the electrically-driven intelligent brake unit. Refer to [BR-510, "Removal and installation"](#).

NO >> INSPECTION END

C1A63 BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

C1A63 BRAKE POWER SUPPLY BACKUP UNIT

DTC Logic

INFOID:000000010123010

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1A63	BACKUP POWER SUPPLY	<ul style="list-style-type: none">• A open is detected in the circuit between electricaly-driven intelligent brake unit and brake power supply backup unit.• A short circuit is detected in the circuit between electricaly-driven intelligent brake unit and brake power supply backup unit.• A short to power supply circuit is detected in the circuit between electricaly-driven intelligent brake unit and brake power supply backup unit.	<ul style="list-style-type: none">• 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.
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 "C1A63" detected?

- YES >> Proceed to [BR-82. "Diagnosis Procedure"](#).
NO >> INSPECTION END

C1A63 BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

INFOID:000000010123011

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.
3. Check the 12V battery terminal connections. Refer to [BR-6. "Precaution for Removing 12V Battery"](#) and [PG-83. "Work Flow"](#).
4. Check the 12V battery. Refer to [PG-83. "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.
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 "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.
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 electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.

C1A63 BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

- 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)

Ⓜ With CONSULT

- Connect the electrically-driven intelligent brake unit harness connector.
- Connect the brake power supply backup 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 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 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.

Is DTC "C1A63" detected?

YES >> GO TO 5.

NO >> INSPECTION END

5.CHECK POWER SWITCH ON POWER SUPPLY

- Connect the brake power supply backup unit harness connector.
- 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 operate the vehicle while waiting.
- 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.
- Connect 12V battery cable to negative terminal.
- Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

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

C1A63 BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

- 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.

Electrically-driven intelligent brake unit		—	Voltage (Approx.)
Connector	Terminal		
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

- Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is 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 [BR-6. "Precaution for Removing 12V Battery"](#).
- Check the 15A fuse (#62).
- Disconnect IPDM E/R harness connector.
- 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	
E34	26	E15	62	Existed

- 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

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to [PG-26. "Wiring Diagram—On Power Supply—"](#).

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

7. PERFORM SELF-DIAGNOSIS (3)

Ⓟ With CONSULT

- Connect the electrically-driven intelligent brake unit harness connector.
- Connect IPDM E/R 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 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 READY.

C1A63 BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

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 "C1A63" 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.

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.
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 (Approx.)
Connector	Terminal	
E34	1 - 32	10 - 16 V
	2 - 32	
	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 (Approx.)
Connector	Terminal	
E34	1 - 32	10 - 16 V
	2 - 32	
	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.

3. Disconnect 12V battery cable from negative terminal. Refer to [BR-6. "Precaution for Removing 12V Battery"](#).
4. Check the 60A fusible link (#F).

C1A63 BRAKE POWER SUPPLY BACKUP UNIT

< 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 [PG-15, "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.
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.
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 "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.
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 electrically-driven intelligent brake unit harness connector.
5. Check the continuity between electrically-driven intelligent brake unit and ground.

C1A63 BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

Electrically-driven intelligent brake unit		—	Continuity
Connector	Terminal		
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:
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.
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 "C1A63" 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.
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 [BR-510. "Removal and installation"](#).

C1A63 BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

14. PERFORM SELF-DIAGNOSIS (6)

④ 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 "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.
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 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

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

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

C1A63 BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

7. Disconnect the brake power supply backup unit harness connector.
8. 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	
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

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

Brake power supply backup unit		—	Continuity
Connector	Terminal		
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.
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 "C1A63" detected?

YES >> Replace the electrically-driven intelligent brake unit. Refer to [BR-510, "Removal and installation"](#).

NO >> INSPECTION END

C1A65 INCOMPLETE STROKE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

C1A65 INCOMPLETE STROKE SENSOR

DTC Logic

INFOID:000000010123012

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.
- Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is 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.

Is DTC "C1A65" detected?

- YES >> Proceed to [BR-90, "Diagnosis Procedure"](#).
NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000010123013

1. 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 wait for 3 minutes or more with all doors closed.
CAUTION:
Never operate the vehicle while waiting.

C1A65 INCOMPLETE STROKE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

3. Check the 12V battery terminal connections. Refer to [BR-6. "Precaution for Removing 12V Battery"](#) and [PG-83. "Work Flow"](#). A
4. Check the 12V battery. Refer to [PG-83. "Work Flow"](#). B

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 C

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

Is DTC "C1A65" detected?

- YES >> GO TO 3.
NO >> INSPECTION END L

3.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. N
CAUTION:
Never operate the vehicle while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to [BR-6. "Precaution for Removing 12V Battery"](#). O
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.

Is the inspection result normal?

- YES >> GO TO 5.
NO >> Repair or replace error-detected parts and GO TO 4. P

4.PERFORM SELF-DIAGNOSIS (2)

ⓂWith CONSULT

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

C1A65 INCOMPLETE STROKE SENSOR

< 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.
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.
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.
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 [BR-6, "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 (Approx.)
Connector	Terminal		
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 (Approx.)
Connector	Terminal		
E34	26	Ground	10 – 16 V

Is the inspection result normal?

C1A65 INCOMPLETE STROKE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

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

6. 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 [BR-6, "Precaution for Removing 12V Battery"](#).
- Check the 15A fuse (#62).
- Disconnect IPDM E/R harness connector.
- 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	
E34	26	E15	62	Existed

- 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

Is the inspection result normal?

- YES >> Perform trouble diagnosis for power ON power supply. Refer to [PG-26, "Wiring Diagram—On Power Supply—"](#).
NO >> Repair or replace error-detected parts and GO TO 7.

7. PERFORM SELF-DIAGNOSIS (3)

Ⓜ With CONSULT

- Connect the electrically-driven intelligent brake unit harness connector.
- Connect IPDM E/R 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 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 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.

C1A65 INCOMPLETE STROKE SENSOR

< 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.
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 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 (Approx.)
Connector	Terminal	
E34	1 - 32	10 - 16 V
	2 - 32	
	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 (Approx.)
Connector	Terminal	
E34	1 - 32	10 - 16 V
	2 - 32	
	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.

3. Disconnect 12V battery cable from negative terminal. Refer to [BR-6. "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 [PG-15. "Wiring Diagram — Battery Power Supply —"](#).

C1A65 INCOMPLETE STROKE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

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.
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 "C1A65" 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.
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.
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 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.

C1A65 INCOMPLETE STROKE SENSOR

< 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.
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 "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.
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 [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.

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.

C1A65 INCOMPLETE STROKE SENSOR

< 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.
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 "C1A65" detected?

YES >> GO TO 15.

NO >> INSPECTION END

15. STROKE SENSOR 0 POINT LEARNING (1)

Ⓜ With CONSULT

Perform stroke sensor 0 point learning. Refer to [BR-53. "Work Procedure"](#).

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

"COMPLETED">>GO TO 16.

"The operation is incomplete. Try again after confirming the operation condition.">>GO TO 17.

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.
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 "C1A65" detected?

YES >> GO TO 17.

NO >> INSPECTION END

17. VISUALLY CHECK STROKE SENSOR

C1A65 INCOMPLETE 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 [BR-490, "Inspection and Adjustment"](#). GO TO 21.

20.STROKE SENSOR 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.

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 "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:

C1A65 INCOMPLETE STROKE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

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 unit.

Stroke sensor		Electrically-driven intelligent brake unit		Continuity
Connector	Terminal	Connector	Terminal	
E36	3	E34	18	Existed
	3		33	Not existed
	3		19	Not existed
	3		35	Not existed
	2		18	Not existed
	2		33	Existed
	2		19	Not existed
	2		35	Not existed
	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

Is the inspection result normal?

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.
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		—	Voltage (Approx.)
Connector	Terminal		
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.

C1A65 INCOMPLETE STROKE SENSOR

< 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 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		
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.
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. 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		
E34	33 – 19	Gradually depress the brake pedal.	Resistance value increases between 0.1 – 1.33 kΩ, according to the depth of brake depression.
	35 – 19		Resistance value decreases between 0.1 – 1.33 kΩ, 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 SENSOR 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:

C1A65 INCOMPLETE STROKE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

- Never set the vehicle to READY.**
4. Repeat step 3 two or more times. A
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. B
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. C
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".
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. E
CAUTION:
Never operate the vehicle while waiting.
11. Turn the power switch ON without depressing the brake pedal. BR
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. G
13. Release brake pedal.
14. Start CONSULT and perform "BRAKE" self-diagnosis.
- Is DTC "C1A65" detected? H
- YES >> GO TO 22. I
NO >> INSPECTION END J
- K
L
M
N
O
P

C1A67 STOP LAMP SWITCH

< DTC/CIRCUIT DIAGNOSIS >

C1A67 STOP LAMP SWITCH

DTC Logic

INFOID:000000010123014

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.	<ul style="list-style-type: none">• 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

④ 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 "C1A67" detected?

- YES >> Proceed to [BR-102, "Diagnosis Procedure"](#).
NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000010123015

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?

C1A67 STOP LAMP SWITCH

< 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.
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 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			
E34	24	Ground	Brake pedal is depressed.	10 – 16 V
			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-driven intelligent brake unit		—	Test condition	Voltage (Approx.)
Connector	Terminal			
E34	24	Ground	Brake pedal is depressed.	10 – 16 V
			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.
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.
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
Connector	Terminal	Connector	Terminal	
E34	24	E102	2	Existed

Is the inspection result normal?

- YES >> Perform trouble diagnosis for 12V battery power supply. Refer to [PG-15, "Wiring Diagram — Battery Power Supply —"](#).
 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.

C1A67 STOP LAMP SWITCH

< 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. Check the 12V battery terminal connections. Refer to [BR-6, "Precaution for Removing 12V Battery"](#) and [PG-83, "Work Flow"](#).
4. Check the 12V battery. Refer to [PG-83, "Work Flow"](#).

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

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.
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 "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 [BR-6, "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. 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.

7.PERFORM SELF-DIAGNOSIS (2)

C1A67 STOP LAMP SWITCH

< DTC/CIRCUIT DIAGNOSIS >

④ With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector. A
2. Connect stop lamp switch harness connector. B
3. Connect 12V battery cable to negative terminal. C
4. Turn the power switch OFF to ON without depressing the brake pedal. D
CAUTION:
Never set the vehicle to READY.
5. Repeat step 4 two or more times. E
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. G
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. H
CAUTION:
Never operate the vehicle while waiting.
8. Turn the power switch ON without depressing the brake pedal. I
CAUTION:
Never set the vehicle to READY.
9. Start CONSULT and erase self-diagnosis result of "BRAKE". J
10. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. K
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. L
CAUTION:
Never operate the vehicle while waiting.
12. Turn the power switch ON without depressing the brake pedal. M
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. N
14. Release brake pedal. O
15. Start CONSULT and perform "BRAKE" self-diagnosis. P

Is DTC "C1A67" detected?

- YES >> GO TO 8.
 NO >> INSPECTION END

8. CHECK POWER SWITCH ON POWER SUPPLY

1. Connect stop lamp switch harness connector. A
2. Connect 12V battery cable to negative terminal. B
3. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. C
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. D
CAUTION:
Never operate the vehicle while waiting.
5. Disconnect 12V battery cable from negative terminal. Refer to [BR-6, "Precaution for Removing 12V Battery"](#). E
6. Disconnect the electrically-driven intelligent brake unit harness connector. F
7. Connect 12V battery cable to negative terminal. G
8. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground. H

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

9. Turn the power switch ON without depressing the brake pedal. I
CAUTION:
Never set the vehicle to READY.
10. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground. J

C1A67 STOP LAMP SWITCH

< DTC/CIRCUIT DIAGNOSIS >

Electrically-driven intelligent brake unit		—	Voltage (Approx.)
Connector	Terminal		
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.
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. 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	
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		
E34	26	Ground	Not existed

Is the inspection result normal?

- YES >> Perform trouble diagnosis for power ON power supply. Refer to [PG-26, "Wiring Diagram—On Power Supply—"](#).
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.
6. 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.

C1A67 STOP LAMP SWITCH

< DTC/CIRCUIT DIAGNOSIS >

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:
Never operate the vehicle while waiting.
13. Turn the power switch ON without depressing the brake pedal.
CAUTION:
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 "C1A67" detected?

- YES >> GO TO 11.
NO >> INSPECTION END

11. 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 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 (Approx.)
Connector	Terminal	
E34	1 - 32	10 - 16 V
	2 - 32	
	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 (Approx.)
Connector	Terminal	
E34	1 - 32	10 - 16 V
	2 - 32	
	28 - 32	

Is the inspection result normal?

- YES >> GO TO 15.
NO >> GO TO 12.

12. 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.
3. Disconnect 12V battery cable from negative terminal. Refer to [BR-6, "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).

C1A67 STOP LAMP SWITCH

< 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 [PG-15, "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.
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 "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 [BR-6, "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		
E34	32	Ground	Existed

C1A67 STOP LAMP SWITCH

< DTC/CIRCUIT DIAGNOSIS >

Is the inspection result normal?

- YES >> GO TO 17. A
NO >> Repair or replace error-detected parts and GO TO 15.

15.PERFORM SELF-DIAGNOSIS (5)

With CONSULT B

1. Connect the electrically-driven intelligent brake unit harness connector. C
2. Connect 12V battery cable to negative terminal. D
3. Turn the power switch OFF to ON without depressing the brake pedal. E
CAUTION:
Never set the vehicle to READY.
4. Repeat step 3 two or more times. BR
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. G
CAUTION:
Never operate the vehicle while waiting.
7. Turn the power switch ON without depressing the brake pedal. H
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. I
CAUTION:
Never operate the vehicle while waiting.
11. Turn the power switch ON without depressing the brake pedal. J
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 16. K
NO >> INSPECTION END

16.CHECK DATA MONITOR

With CONSULT L

1. Turn the power switch OFF to ON without depressing the brake pedal. M
CAUTION:
Never set the vehicle to READY.
2. Repeat step 1 two or more times. N
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 "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER". Refer to [BR-33, "Reference Value"](#). O

Is the inspection result normal?

- YES >> GO TO 17. P
NO >> Replace the electrically-driven intelligent brake unit. Refer to [BR-510, "Removal and installation"](#).

17.PERFORM SELF-DIAGNOSIS (6)

With CONSULT

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

C1A67 STOP LAMP SWITCH

< 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 [BR-490, "Inspection and Adjustment"](#).

Is the inspection result normal?

YES >> GO TO 21.

NO >> Adjust each brake pedal height. Refer to [BR-490, "Inspection and Adjustment"](#). GO TO 28.

21. STROKE SENSOR 0 POINT LEARNING

Perform stroke sensor 0 point learning. Refer to [BR-53, "Work Procedure"](#).

>> 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.
2. Check the stop lamp clearance. Refer to [BR-490, "Inspection and Adjustment"](#).

C1A67 STOP LAMP SWITCH

< DTC/CIRCUIT DIAGNOSIS >

Is the inspection result normal?

YES >> GO TO 24.

NO >> Adjust stop lamp switch clearance. Refer to [BR-490. "Inspection and Adjustment"](#). 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.
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 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			
E34	24	Ground	Brake pedal is depressed.	10 – 16 V
			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-driven intelligent brake unit		—	Test condition	Voltage (Approx.)
Connector	Terminal			
E34	24	Ground	Brake pedal is depressed.	10 – 16 V
			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)

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 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 intelligent brake unit		Stop lamp switch		Continuity
Connector	Terminal	Connector	Terminal	
E34	24	E102	2	Existed

Is the inspection result normal?

YES >> Perform trouble diagnosis for 12V battery power supply. Refer to [PG-15. "Wiring Diagram — Battery Power Supply —"](#).

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"](#).

C1A67 STOP LAMP SWITCH

< DTC/CIRCUIT DIAGNOSIS >

Is the inspection result normal?

YES >> GO TO 27.

NO >> Replace the stop lamp switch. Refer to [BR-500. "Removal and Installation"](#). 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

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 "C1A67" detected?

YES >> GO TO 24.

NO >> INSPECTION END

Component Inspection

INFOID:000000010123016

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.

C1A67 STOP LAMP SWITCH

< DTC/CIRCUIT DIAGNOSIS >

Stop lamp switch Terminal	Test condition	Continuity
1 - 2	When stop lamp switch is released (when brake pedal is depressed)	Existed
	When stop lamp switch is pressed (when brake pedal is released)	Not existed

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace the stop lamp switch. Refer to [BR-500. "Removal and Installation"](#).

A
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BR

C1A69 MOTOR

< DTC/CIRCUIT DIAGNOSIS >

C1A69 MOTOR

DTC Logic

INFOID:000000010123017

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

Ⓟ 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.
- Close all doors (including back door), check that the room lamp is 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.

Is DTC "C1A69" detected?

- YES >> Proceed to [BR-114, "Diagnosis Procedure"](#).
NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000010123018

1. 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 wait for 3 minutes or more with all doors closed.
CAUTION:
Never operate the vehicle while waiting.

C1A69 MOTOR

< DTC/CIRCUIT DIAGNOSIS >

3. Check the 12V battery terminal connections. Refer to [BR-6. "Precaution for Removing 12V Battery"](#) and [PG-83. "Work Flow"](#). A
4. Check the 12V battery. Refer to [PG-83. "Work Flow"](#). B

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.
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 "C1A69" 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 [BR-6. "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.

C1A69 MOTOR

< 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.
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 "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 [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 (Approx.)
Connector	Terminal		
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 (Approx.)
Connector	Terminal		
E34	26	Ground	10 – 16 V

Is the inspection result normal?

YES >> GO TO 8.

NO >> GO TO 6.

C1A69 MOTOR

< 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.
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. 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	
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		
E34	26	Ground	Not existed

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to [PG-26. "Wiring Diagram—On Power Supply—"](#).

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.
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.
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.

C1A69 MOTOR

< 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.
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 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 (Approx.)
Connector	Terminal	
E34	1 – 32	10 – 16 V
	2 – 32	
	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 (Approx.)
Connector	Terminal	
E34	1 – 32	10 – 16 V
	2 – 32	
	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.

3. Disconnect 12V battery cable from negative terminal. Refer to [BR-6. "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 [PG-15. "Wiring Diagram — Battery Power Supply —"](#).
NO >> Repair or replace the error-detected parts and GO TO 10.

C1A69 MOTOR

< DTC/CIRCUIT DIAGNOSIS >

10. PERFORM SELF-DIAGNOSIS (4)

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.
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 "C1A69" 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.
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 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 13.

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

12. PERFORM SELF-DIAGNOSIS (5)

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:

C1A69 MOTOR

< 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.
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 "C1A69" detected?

YES >> GO TO 13.

NO >> INSPECTION END

13. CHECK DATA MONITOR (1)

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. Start CONSULT and select "BRAKE", "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 [BR-510. "Removal and installation"](#).

14. PERFORM SELF-DIAGNOSIS (6)

④ 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:

C1A69 MOTOR

< 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.
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 "C1A69" detected?

YES >> GO TO 15.

NO >> INSPECTION END

15. CHECK DATA MONITOR (2)

Ⓜ 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. Start CONSULT and select "BRAKE", "DATA MONITOR" according this order.
4. Check the "MOTOR TEMPERATURE". Refer to [BR-33. "Reference Value"](#).

"MOTOR TEMPERATURE" is 125 °C (257 °F) or more?

YES >> GO TO 16.

NO >> Replace the electrically-driven intelligent brake unit. Refer to [BR-510. "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 [BR-510. "Removal and installation"](#).

17. 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.
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.

C1A69 MOTOR

< 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 [BR-510, "Removal and installation"](#).

NO >> INSPECTION END

C1A6B BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

C1A6B BRAKE POWER SUPPLY BACKUP UNIT

DTC Logic

INFOID:000000010123019

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1A6B	POWER SUPPLY BACKUP UNIT	<ul style="list-style-type: none">• Reception/transmission of an unspecified signal for 2 consecutive seconds or more via brake power supply backup communication line.• Occurrence of an open in the wake up signal circuit of brake power supply backup unit.	<ul style="list-style-type: none">• Harness or connector• Fuse• 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.
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 "C1A6B" detected?

- YES >> Proceed to [BR-123, "Diagnosis Procedure"](#).
NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000010123020

1. CHECK 12V BATTERY

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

C1A6B BRAKE POWER SUPPLY BACKUP UNIT

< 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. Check the 12V battery terminal connections. Refer to [BR-6, "Precaution for Removing 12V Battery"](#) and [PG-83, "Work Flow"](#).
4. Check the 12V battery. Refer to [PG-83, "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.
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 "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 [BR-6, "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.

C1A6B BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

4. PERFORM SELF-DIAGNOSIS (2)

④ 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.
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 "C1A6B" 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.
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 [BR-6, "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 (Approx.)
Connector	Terminal		
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.

C1A6B BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

Electrically-driven intelligent brake unit		—	Voltage (Approx.)
Connector	Terminal		
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.
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. 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	
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		
E34	26	Ground	Not existed

Is the inspection result normal?

- YES >> Perform trouble diagnosis for power ON power supply. Refer to [PG-26, "Wiring Diagram—On Power Supply—"](#).
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.
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.

C1A6B BRAKE POWER SUPPLY BACKUP UNIT

< 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 "C1A6B" 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.

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.
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 (Approx.)
Connector	Terminal	
E34	1 - 32	10 - 16 V
	2 - 32	
	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 (Approx.)
Connector	Terminal	
E34	1 - 32	10 - 16 V
	2 - 32	
	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.

3. Disconnect 12V battery cable from negative terminal. Refer to [BR-6, "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).

C1A6B BRAKE POWER SUPPLY BACKUP UNIT

< 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 [PG-15, "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.
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.
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.
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.
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 13.

C1A6B BRAKE POWER SUPPLY BACKUP UNIT

< 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.
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 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 [BR-33. "Reference Value"](#).

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

C1A6B BRAKE POWER SUPPLY BACKUP UNIT

< 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 "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.
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 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 intelligent brake unit		Brake power supply backup unit		Continuity
Connector	Terminal	Connector	Terminal	
E34	31	B15	1	Existed
			4	Not existed
			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		
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.

C1A6B BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

Brake power supply backup unit		—	Voltage (Approx.)
Connector	Terminal		
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 (Approx.)
Connector	Terminal		
B15	6	Ground	9 – 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, 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 15A fuse (#82).
 4. Disconnect 12V battery cable from negative terminal. Refer to [BR-6. "Precaution for Removing 12V Battery"](#).
 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 >> GO TO 18.

NO >> Perform trouble diagnosis for 12V battery power supply. Refer to [PG-15. "Wiring Diagram — Battery Power Supply —"](#).

18. 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	
E34	37	B15	1	Not existed
			4	Not existed
			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		
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. 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.

C1A6B BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

Electrically-driven intelligent brake unit		Brake power supply backup unit		Continuity
Connector	Terminal	Connector	Terminal	
E34	22	B15	1	Not existed
			4	Existed
			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		
B15	4	Ground	Not existed

Is the inspection result normal?

- YES >> Replace the brake power supply backup unit. Refer to [BR-513, "Removal and Installation"](#).
 NO >> Repair or replace error-detected parts.

C1A6C BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

C1A6C BRAKE POWER SUPPLY BACKUP UNIT

DTC Logic

INFOID:000000010123021

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1A6C	POWER SUPPLY BACKUP UNIT VOLT	<ul style="list-style-type: none">• 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: $9\text{ V} \geq$ Power voltage of brake power supply backup unit- Power voltage of brake power supply backup unit: $16\text{ V} \leq$ Power voltage of brake power supply backup unit	<ul style="list-style-type: none">• Harness or connector• Fuse• Brake power supply backup unit• Electrically-driven intelligent brake unit• 12V battery is low

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.
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 "C1A6C" detected?

- YES >> Proceed to [BR-134. "Diagnosis Procedure"](#).
NO >> INSPECTION END

C1A6C BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

INFOID:000000010123022

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.
3. Check the 12V battery terminal connections. Refer to [BR-6. "Precaution for Removing 12V Battery"](#) and [PG-83. "Work Flow"](#).
4. Check the 12V battery. Refer to [PG-83. "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.
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 "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.
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 electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.

C1A6C BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

- 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)

Ⓜ With CONSULT

- Connect the electrically-driven intelligent brake unit harness connector.
- Connect the brake power supply backup 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 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 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.

Is DTC "C1A6C" detected?

YES >> GO TO 5.

NO >> INSPECTION END

5.CHECK POWER SWITCH ON POWER SUPPLY

- Connect the brake power supply backup unit harness connector.
- 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 operate the vehicle while waiting.
- 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.
- Connect 12V battery cable to negative terminal.
- Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

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

C1A6C BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

- 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.

Electrically-driven intelligent brake unit		—	Voltage (Approx.)
Connector	Terminal		
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

- Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is 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 [BR-6. "Precaution for Removing 12V Battery"](#).
- Check the 15A fuse (#62).
- Disconnect IPDM E/R harness connector.
- 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	
E34	26	E15	62	Existed

- 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

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to [PG-26. "Wiring Diagram—On Power Supply—"](#).

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

7. PERFORM SELF-DIAGNOSIS (3)

Ⓟ With CONSULT

- Connect the electrically-driven intelligent brake unit harness connector.
- Connect the IPDM E/R 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 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 READY.

C1A6C BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

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 "C1A6C" 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.

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.
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 (Approx.)
Connector	Terminal	
E34	1 - 32	10 - 16 V
	2 - 32	
	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 (Approx.)
Connector	Terminal	
E34	1 - 32	10 - 16 V
	2 - 32	
	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.

3. Disconnect 12V battery cable from negative terminal. Refer to [BR-6. "Precaution for Removing 12V Battery"](#).
4. Check the 60A fusible link (#F).

C1A6C BRAKE POWER SUPPLY BACKUP UNIT

< 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 [PG-15, "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.
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.
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 "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.
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 electrically-driven intelligent brake unit harness connector.
5. Check the continuity between electrically-driven intelligent brake unit and ground.

C1A6C BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

Electrically-driven intelligent brake unit		—	Continuity
Connector	Terminal		
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:
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.
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 "C1A6C" 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 [BR-33. "Reference Value"](#).

Is the inspection result normal?

YES >> GO TO 14.

NO >> Replace the electrically-driven intelligent brake unit. Refer to [BR-510. "Removal and installation"](#).

C1A6C BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

14. PERFORM SELF-DIAGNOSIS (6)

④ 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 "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 (Approx.)
Connector	Terminal		
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 (Approx.)
Connector	Terminal		
B15	6	Ground	9 – 16 V

Is the inspection result normal?

YES >> Replace the brake power supply backup unit. Refer to [BR-513, "Removal and Installation"](#).

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.
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:

C1A6C BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

Never operate the vehicle while waiting.

3. Disconnect 12V battery cable from negative terminal. Refer to [BR-6, "Precaution for Removing 12V Battery"](#).
4. Check the 15A fusible link (#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 >> Replace the brake power supply backup unit. Refer to [BR-513, "Removal and Installation"](#).
- NO >> Perform trouble diagnosis for 12V battery power supply. Refer to [PG-15, "Wiring Diagram — Battery Power Supply —"](#).

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C1A6D BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

C1A6D BRAKE POWER SUPPLY BACKUP UNIT

DTC Logic

INFOID:000000010123023

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.	<ul style="list-style-type: none">• 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.
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 "C1A6D" detected?

- YES >> Proceed to [BR-142, "Diagnosis Procedure"](#).
NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000010123024

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.

C1A6D BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

CAUTION:

Never operate the vehicle while waiting.

3. Check the 12V battery terminal connections. Refer to [BR-6, "Precaution for Removing 12V Battery"](#) and [PG-83, "Work Flow"](#).
4. Check the 12V battery. Refer to [PG-83, "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.
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 "C1A6D" 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 [BR-6, "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.

4.PERFORM SELF-DIAGNOSIS (2)

C1A6D BRAKE POWER SUPPLY BACKUP UNIT

< 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.
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 "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.
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 [BR-6. "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 (Approx.)
Connector	Terminal		
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.

C1A6D BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

Electrically-driven intelligent brake unit		—	Voltage (Approx.)
Connector	Terminal		
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

- Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is 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 [BR-6. "Precaution for Removing 12V Battery"](#).
- Check the 15A fuse (#62).
- Disconnect IPDM E/R harness connector.
- 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	
E34	26	E15	62	Existed

- 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

Is the inspection result normal?

- YES >> Perform trouble diagnosis for power ON power supply. Refer to [PG-26. "Wiring Diagram—On Power Supply—"](#).
NO >> Repair or replace error-detected parts and GO TO 7.

7. PERFORM SELF-DIAGNOSIS (3)

 With CONSULT

- Connect the electrically-driven intelligent brake unit harness connector.
- Connect IPDM E/R 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 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 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.

C1A6D BRAKE POWER SUPPLY BACKUP UNIT

< 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.
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 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 (Approx.)
Connector	Terminal	
E34	1 - 32	10 - 16 V
	2 - 32	
	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 (Approx.)
Connector	Terminal	
E34	1 - 32	10 - 16 V
	2 - 32	
	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.

3. Disconnect 12V battery cable from negative terminal. Refer to [BR-6, "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).

C1A6D BRAKE POWER SUPPLY BACKUP UNIT

< 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 [PG-15, "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.
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.
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 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.
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.
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 13.

C1A6D BRAKE POWER SUPPLY BACKUP UNIT

< 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.
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 "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 [BR-33. "Reference Value"](#).

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

C1A6D BRAKE POWER SUPPLY BACKUP UNIT

< 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 "C1A6D" 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.
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 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 intelligent brake unit		Brake power supply backup unit		Continuity
Connector	Terminal	Connector	Terminal	
E34	31	B15	1	Existed
	31		4	Not existed
	31		5	Not existed
	31		6	Not existed

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

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

Is the inspection result normal?

YES >> Replace the brake power supply backup unit. Refer to [BR-513, "Removal and Installation"](#).

NO >> Repair or replace error-detected parts.

C1A6E EV SYSTEM

< DTC/CIRCUIT DIAGNOSIS >

C1A6E EV SYSTEM

DTC Logic

INFOID:000000010123025

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1A6E	EV/HEV SYSTEM	Malfunction is detected in the VCM system.	<ul style="list-style-type: none">• 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

④ 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 "C1A6E" detected?

- YES >> Proceed to [BR-150, "Diagnosis Procedure"](#).
NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000010123026

1. PERFORM VCM SELF DIAGNOSIS

Start CONSULT and perform self-diagnosis for "EV/HEV". Refer to [EVC-72, "CONSULT Function"](#).

Is any DTC detected?

- YES >> Check the DTC. Refer to [EVC-102, "DTC Index"](#).

C1A6E EV SYSTEM

< 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.
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 "C1A6E" 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 [BR-6. "Precaution for Removing 12V Battery"](#) and [PG-83. "Work Flow"](#).
4. Check the 12V battery. Refer to [PG-83. "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.
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.
CAUTION:

C1A6E EV SYSTEM

< 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.
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 "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.
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 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)

Ⓟ 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:

C1A6E EV SYSTEM

< 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 "C1A6E" 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.
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 (Approx.)
Connector	Terminal		
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 (Approx.)
Connector	Terminal		
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.
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. 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	
E34	26	E15	62	Existed

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

C1A6E EV SYSTEM

< DTC/CIRCUIT DIAGNOSIS >

Electrically-driven intelligent 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-26, "Wiring Diagram—On Power Supply—"](#).

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.
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 "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 [BR-6, "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.

C1A6E EV SYSTEM

< DTC/CIRCUIT DIAGNOSIS >

Electrically-driven intelligent brake unit		Voltage (Approx.)
Connector	Terminal	
E34	1 – 32	10 – 16 V
	2 – 32	
	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 (Approx.)
Connector	Terminal	
E34	1 – 32	10 – 16 V
	2 – 32	
	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.
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. 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 [PG-15, "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.

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.

C1A6E EV SYSTEM

< 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 [BR-6. "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		
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.
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.

C1A6E EV SYSTEM

< 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 "C1A6E" 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.
6. Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER". Refer to [BR-33. "Reference Value"](#).

Is the inspection result normal?

YES >> GO TO 16.

NO >> Replace the electrically-driven intelligent brake unit. Refer to [BR-510. "Removal and installation"](#).

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.
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 "C1A6E" or "U1000" detected?

YES ("C1A6E")>>GO TO 1.

C1A6E EV SYSTEM

< DTC/CIRCUIT DIAGNOSIS >

YES ("U1000")>>Refer to [BR-449, "Diagnosis Procedure"](#).

NO >> INSPECTION END

C1A6F VCM SYSTEM

< DTC/CIRCUIT DIAGNOSIS >

C1A6F VCM SYSTEM

DTC Logic

INFOID:000000010123027

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1A6F	TCM/VCM SYSTEM	Malfunction is detected in the VCM system.	<ul style="list-style-type: none">• 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

④ 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 "C1A6F" detected?

- YES >> Proceed to [BR-159, "Diagnosis Procedure"](#).
NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000010123028

1. PERFORM VCM SELF DIAGNOSIS

Start CONSULT and perform self-diagnosis for "EV/HEV". Refer to [EVC-72, "CONSULT Function"](#).

Is any DTC detected?

- YES >> Check the DTC. Refer to [EVC-102, "DTC Index"](#).

C1A6F VCM SYSTEM

< 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.

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 "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 [BR-6. "Precaution for Removing 12V Battery"](#) and [PG-83. "Work Flow"](#).

4. Check the 12V battery. Refer to [PG-83. "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.

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.

CAUTION:

C1A6F VCM SYSTEM

< 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.
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 "C1A6F" 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.
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 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)

 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.

CAUTION:

Never operate the vehicle while waiting.

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

CAUTION:

C1A6F VCM SYSTEM

< DTC/CIRCUIT DIAGNOSIS >

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 "C1A6F" detected?

YES >> GO TO 7.

NO >> INSPECTION END

7. 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 operate the vehicle while waiting.

- 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.
- Connect 12V battery cable to negative terminal.
- Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

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

- 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.

Electrically-driven intelligent brake unit		—	Voltage (Approx.)
Connector	Terminal		
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

- Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is 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 [BR-6, "Precaution for Removing 12V Battery"](#).
- Check the 15A fuse (#62).
- Disconnect IPDM E/R harness connector.
- 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	
E34	26	E15	62	Existed

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

C1A6F VCM SYSTEM

< DTC/CIRCUIT DIAGNOSIS >

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

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. [PG-26. "Wiring Diagram—On Power Supply—"](#).

NO >> Repair or replace error-detected parts 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.
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 "C1A6F" 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 [BR-6. "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.

C1A6F VCM SYSTEM

< DTC/CIRCUIT DIAGNOSIS >

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

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. 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 [PG-15, "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.

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.

C1A6F VCM SYSTEM

< 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 "C1A6F" 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 [BR-6. "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		
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.
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.

C1A6F VCM SYSTEM

< 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 to 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 16.
NO >> Replace the electrically-driven intelligent brake unit. Refer to [BR-510. "Removal and installation"](#).

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.
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 "C1A6F" or "U1000" detected?

- YES ("C1A6F")>>GO TO 1.

C1A6F VCM SYSTEM

< DTC/CIRCUIT DIAGNOSIS >

YES ("U1000")>>Refer to [BR-449. "Diagnosis Procedure"](#).

NO >> INSPECTION END

A

B

C

D

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BR

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I

J

K

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M

N

O

P

C1A70 BRAKE CONTROL SYSTEM

< DTC/CIRCUIT DIAGNOSIS >

C1A70 BRAKE CONTROL SYSTEM

DTC Logic

INFOID:000000010123029

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.	<ul style="list-style-type: none">• 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

Ⓜ 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 "C1A70" detected?

- YES >> Proceed to [BR-168, "Diagnosis Procedure"](#).
NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000010123030

1. 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?

C1A70 BRAKE CONTROL SYSTEM

< DTC/CIRCUIT DIAGNOSIS >

- YES >> Check the DTC. Refer to [BRC-56. "DTC Index"](#).
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.
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 "C1A70" 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 [BR-6. "Precaution for Removing 12V Battery"](#) and [PG-83. "Work Flow"](#).
4. Check the 12V battery. Refer to [PG-83. "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.
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.

C1A70 BRAKE CONTROL SYSTEM

< 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.
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 "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.
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 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)

Ⓟ 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.

CAUTION:

Never operate the vehicle while waiting.

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

C1A70 BRAKE CONTROL SYSTEM

< DTC/CIRCUIT DIAGNOSIS >

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 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.
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 (Approx.)
Connector	Terminal		
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 (Approx.)
Connector	Terminal		
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.
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. 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	
E34	26	E15	62	Existed

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

C1A70 BRAKE CONTROL SYSTEM

< DTC/CIRCUIT DIAGNOSIS >

Electrically-driven intelligent 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-26. "Wiring Diagram—On Power Supply—"](#).
- 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.
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 "C1A70" 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 [BR-6. "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.

C1A70 BRAKE CONTROL SYSTEM

< DTC/CIRCUIT DIAGNOSIS >

Electrically-driven intelligent brake unit		Voltage (Approx.)
Connector	Terminal	
E34	1 – 32	10 – 16 V
	2 – 32	
	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 (Approx.)
Connector	Terminal	
E34	1 – 32	10 – 16 V
	2 – 32	
	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.
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. 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 [PG-15, "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.
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.

C1A70 BRAKE CONTROL SYSTEM

< 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.
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 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 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.
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.

C1A70 BRAKE CONTROL SYSTEM

< 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 "C1A70" 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.
6. Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER". Refer to [BR-33. "Reference Value"](#).

Is the inspection result normal?

YES >> GO TO 16.

NO >> Replace the electrically-driven intelligent brake unit. Refer to [BR-510. "Removal and installation"](#).

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.
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 "C1A70" or "U1000" detected?

YES ("C1A70")>>GO TO 1.

C1A70 BRAKE CONTROL SYSTEM

< DTC/CIRCUIT DIAGNOSIS >

YES ("U1000")>>Refer to [BR-449, "Diagnosis Procedure"](#).

NO >> INSPECTION END

C1A74 STEERING ANGLE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

C1A74 STEERING ANGLE SENSOR

DTC Logic

INFOID:000000010123031

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1A74	ST ANG SEN CIRCUIT	Malfunction is detected in the steering angle sensor system.	<ul style="list-style-type: none">• Harness or connector• ABS actuator and electric unit (control unit)• Steering angle 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.
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 "C1A74" detected?

- YES >> Proceed to [BR-177, "Diagnosis Procedure"](#).
NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000010123032

1. CHECK 12V BATTERY

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

C1A74 STEERING ANGLE SENSOR

< 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. Check the 12V battery terminal connections. Refer to [BR-6, "Precaution for Removing 12V Battery"](#) and [PG-83, "Work Flow"](#).
4. Check the 12V battery. Refer to [PG-83, "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.
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 "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 [BR-6, "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)

C1A74 STEERING ANGLE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

④ With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector. A
2. Connect 12V battery cable to negative terminal. B
3. Turn the power switch OFF to ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY. C
4. Repeat step 3 two or more times.
CAUTION:
Be sure to wait for 5 seconds or more after turning the power switch OFF. D
5. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. E
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. BR
7. Turn the power switch ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY. G
8. Start CONSULT and erase self-diagnosis result of "BRAKE". H
9. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. I
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. K
12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more. L
13. Release brake pedal. M
14. Start CONSULT and perform "BRAKE" self-diagnosis. N

Is DTC "C1A74" detected?

YES >> GO TO 5.

NO >> INSPECTION END O

5. CHECK POWER SWITCH ON POWER SUPPLY

1. Connect 12V battery cable to negative terminal. P
2. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. K
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. L
4. Disconnect 12V battery cable from negative terminal. Refer to [BR-6, "Precaution for Removing 12V Battery"](#). M
5. Disconnect the electrically-driven intelligent brake unit harness connector. N
6. Connect 12V battery cable to negative terminal. O
7. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground. P

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

8. Turn the power switch ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY. P
9. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground. P

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

C1A74 STEERING ANGLE SENSOR

< 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.
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. 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	
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		
E34	26	Ground	Not existed

Is the inspection result normal?

- YES >> Perform trouble diagnosis for power ON power supply. [PG-26, "Wiring Diagram—On Power Supply—"](#).
- 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.
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.

C1A74 STEERING ANGLE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

- 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 "C1A74" detected?

- YES >> GO TO 8.
NO >> INSPECTION END

8. CHECK 12V BATTERY POWER SUPPLY

- Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is 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 [BR-6. "Precaution for Removing 12V Battery"](#).
- Disconnect the electrically-driven intelligent brake unit harness connector.
- Connect 12V battery cable to negative terminal.
- Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

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

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

Is the inspection result normal?

- YES >> GO TO 11.
NO >> GO TO 9.

9. 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 [BR-6. "Precaution for Removing 12V Battery"](#).
- 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).
- 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).

Is the inspection result normal?

C1A74 STEERING ANGLE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

- YES >> Perform trouble diagnosis for 12V battery power supply. Refer to [PG-15. "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.
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.
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 "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.
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 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 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.

C1A74 STEERING ANGLE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

2. Connect 12V battery cable to negative terminal.
3. 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. B
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. C
CAUTION:
Never operate the vehicle while waiting.
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. 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. G
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. H
14. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A74" detected?

- YES >> GO TO 13. I
NO >> INSPECTION END

13. CHECK DATA MONITOR

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector. J
2. Connect 12V battery cable from negative terminal
3. Turn the power switch OFF to ON without depressing the brake pedal. K
CAUTION:
Never set the vehicle to READY.
4. Repeat step 3 two or more times. L
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 to this order.
6. Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER". Refer to [BR-33, "Reference Value"](#). M

Is the inspection result normal?

- YES >> GO TO 14. N
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. O
CAUTION:
Never set the vehicle to READY.
2. Repeat step 1 two or more times. P
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:

C1A74 STEERING ANGLE SENSOR

< 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.
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 "C1A74" or "U1000" detected?

YES ("C1A74")>>GO TO 15.

YES ("U1000")>>Refer to [BR-449. "Diagnosis Procedure"](#).

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 [BRC-56. "DTC Index"](#). 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.
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 "C1A74" detected?

YES >> GO TO 15.

NO >> INSPECTION END

C1A80 CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

C1A80 CONTROL MODULE

DTC Logic

INFOID:000000010123033

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1A80	CONTROL MODULE-2	<ul style="list-style-type: none">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 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.
- Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is 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.

Is DTC "C1A80" detected?

- YES >> Proceed to [BR-185, "Diagnosis Procedure"](#).
NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000010123034

1. CHECK 12V BATTERY

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

C1A80 CONTROL MODULE

< 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. Check the 12V battery terminal connections. Refer to [BR-6, "Precaution for Removing 12V Battery"](#) and [PG-83, "Work Flow"](#).
4. Check the 12V battery. Refer to [PG-83, "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.
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 "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 [BR-6, "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)

C1A80 CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

④ With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector. A
2. Connect 12V battery cable to negative terminal. B
3. Turn the power switch OFF to ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY. C
4. Repeat step 3 two or more times.
CAUTION:
Be sure to wait for 5 seconds or more after turning the power switch OFF. D
5. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. E
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. BR
7. Turn the power switch ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY. G
8. Start CONSULT and erase self-diagnosis result of "BRAKE". H
9. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. I
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. K
12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more. L
13. Release brake pedal. M
14. Start CONSULT and perform "BRAKE" self-diagnosis. N

Is DTC "C1A80" detected?

YES >> GO TO 5.

NO >> INSPECTION END O

5. CHECK POWER SWITCH ON POWER SUPPLY

1. Connect 12V battery cable to negative terminal. P
2. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. K
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. L
4. Disconnect 12V battery cable from negative terminal. Refer to [BR-6, "Precaution for Removing 12V Battery"](#). M
5. Disconnect the electrically-driven intelligent brake unit harness connector. N
6. Connect 12V battery cable to negative terminal. O
7. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground. P

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

8. Turn the power switch ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY. P
9. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

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

C1A80 CONTROL MODULE

< 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.
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. 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	
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		
E34	26	Ground	Not existed

Is the inspection result normal?

- YES >> Perform trouble diagnosis for power ON power supply. Refer to [PG-26. "Wiring Diagram—On Power Supply—"](#).
- 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.
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.

C1A80 CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

- 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 "C1A80" detected?

- YES >> GO TO 8.
NO >> INSPECTION END

8. CHECK 12V BATTERY POWER SUPPLY

- Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is 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 [BR-6. "Precaution for Removing 12V Battery"](#).
- Disconnect the electrically-driven intelligent brake unit harness connector.
- Connect 12V battery cable to negative terminal.
- Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

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

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

Is the inspection result normal?

- YES >> GO TO 11.
NO >> GO TO 9.

9. 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 [BR-6. "Precaution for Removing 12V Battery"](#).
- 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).
- 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).

Is the inspection result normal?

C1A80 CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

- YES >> Perform trouble diagnosis for 12V battery power supply. Refer to [PG-15. "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.
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.
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 "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.
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 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 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.

C1A80 CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

2. Connect 12V battery cable to negative terminal.
3. 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. B
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. C
CAUTION:
Never operate the vehicle while waiting.
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. 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. G
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. H
14. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A80" detected?

YES >> GO TO 13. I

NO >> INSPECTION END

13. CHECK DATA MONITOR

With CONSULT J

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. K
CAUTION:
Never set the vehicle to READY.
4. Repeat step 3 two or more times. L
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 to this order.
6. Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER". Refer to [BR-33, "Reference Value"](#). M

Is the inspection result normal?

YES >> GO TO 14. N

NO >> Replace the electrically-driven intelligent brake unit. Refer to [BR-510, "Removal and installation"](#).

14. PERFORM SELF-DIAGNOSIS (6)

With CONSULT O

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

C1A80 CONTROL MODULE

< 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.
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 "C1A80" detected?

- YES >> Replace the electrically-driven intelligent brake unit. Refer to [BR-510, "Removal and installation"](#).
- NO >> INSPECTION END

C1A81 CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

C1A81 CONTROL MODULE

DTC Logic

INFOID:000000010123035

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1A81	CONTROL MODULE-3	<ul style="list-style-type: none">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

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.
- Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is 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.

Is DTC "C1A81" detected?

- YES >> Proceed to [BR-193, "Diagnosis Procedure"](#).
NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000010123036

1. CHECK 12V BATTERY

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

C1A81 CONTROL MODULE

< 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. Check the 12V battery terminal connections. Refer to [BR-6, "Precaution for Removing 12V Battery"](#) and [PG-83, "Work Flow"](#).
4. Check the 12V battery. Refer to [PG-83, "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.
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 "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 [BR-6, "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)

C1A81 CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

④ With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector. A
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal. B
CAUTION:
Never set the vehicle to READY.
4. Repeat step 3 two or more times. C
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.
7. Turn the power switch ON without depressing the brake pedal. E
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. BR
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. G
CAUTION:
Never operate the vehicle while waiting.
11. Turn the power switch ON without depressing the brake pedal. H
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. I

Is DTC "C1A81" detected?

- YES >> GO TO 5. J
 NO >> INSPECTION END

5. CHECK POWER SWITCH ON POWER SUPPLY

1. Connect 12V battery cable to negative terminal. K
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. L
CAUTION:
Never operate the vehicle while waiting.
4. Disconnect 12V battery cable from negative terminal. Refer to [BR-6, "Precaution for Removing 12V Battery"](#). M
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. N

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

8. Turn the power switch ON without depressing the brake pedal. O
CAUTION:
Never set the vehicle to READY.
9. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground. P

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

C1A81 CONTROL MODULE

< 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.
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. 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	
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		
E34	26	Ground	Not existed

Is the inspection result normal?

- YES >> Perform trouble diagnosis for power ON power supply. Refer to [PG-26. "Wiring Diagram—On Power Supply—"](#).
- 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.
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.

C1A81 CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

- 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 "C1A81" detected?

- YES >> GO TO 8.
NO >> INSPECTION END

8. CHECK 12V BATTERY POWER SUPPLY

- Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is 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 [BR-6. "Precaution for Removing 12V Battery"](#).
- Disconnect the electrically-driven intelligent brake unit harness connector.
- Connect 12V battery cable to negative terminal.
- Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

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

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

Is the inspection result normal?

- YES >> GO TO 11.
NO >> GO TO 9.

9. 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 [BR-6. "Precaution for Removing 12V Battery"](#).
- 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).
- 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).

Is the inspection result normal?

C1A81 CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

- YES >> Perform trouble diagnosis for 12V battery power supply. Refer to [PG-15. "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.
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.
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 "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.
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 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 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.

C1A81 CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

2. Connect 12V battery cable to negative terminal.
3. 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. B
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. C
CAUTION:
Never operate the vehicle while waiting.
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. 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. G
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. H
14. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A81" detected?

YES >> GO TO 13. I

NO >> INSPECTION END

13. CHECK DATA MONITOR

With CONSULT J

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. K
CAUTION:
Never set the vehicle to READY.
4. Repeat step 3 two or more times. L
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 to this order.
6. Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER". Refer to [BR-33, "Reference Value"](#). M

Is the inspection result normal?

YES >> GO TO 14. N

NO >> Replace the electrically-driven intelligent brake unit. Refer to [BR-510, "Removal and installation"](#).

14. PERFORM SELF-DIAGNOSIS (6)

With CONSULT O

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

C1A81 CONTROL MODULE

< 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.
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 "C1A81" detected?

- YES >> Replace the electrically-driven intelligent brake unit. Refer to [BR-510, "Removal and installation"](#).
- NO >> INSPECTION END

C1A82 CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

C1A82 CONTROL MODULE

DTC Logic

INFOID:000000010123037

DTC DETECTION 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 EEPROM)	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.
 - Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
 - Close all doors (including back door), check that the room lamp is 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.
- Is DTC "C1A82" detected?
- YES >> Proceed to [BR-201, "Diagnosis Procedure"](#).
- NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000010123038

1. 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 wait for 3 minutes or more with all doors closed.
CAUTION:
Never operate the vehicle while waiting.

C1A82 CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

3. Check the 12V battery terminal connections. Refer to [BR-6. "Precaution for Removing 12V Battery"](#) and [PG-83. "Work Flow"](#).
4. Check the 12V battery. Refer to [PG-83. "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.
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 "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.
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 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.

C1A82 CONTROL MODULE

< 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.
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 "C1A82" 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 (Approx.)
Connector	Terminal		
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 (Approx.)
Connector	Terminal		
E34	26	Ground	10 – 16 V

Is the inspection result normal?

YES >> GO TO 8.

NO >> GO TO 6.

C1A82 CONTROL MODULE

< 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.
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. 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	
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		
E34	26	Ground	Not existed

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to [PG-26. "Wiring Diagram—On Power Supply—"](#).

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.
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.

C1A82 CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

Is DTC "C1A82" 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.

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.
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 (Approx.)
Connector	Terminal	
E34	1 – 32	10 – 16 V
	2 – 32	
	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 (Approx.)
Connector	Terminal	
E34	1 – 32	10 – 16 V
	2 – 32	
	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.

3. Disconnect 12V battery cable from negative terminal. Refer to [BR-6. "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 [PG-15. "Wiring Diagram — Battery Power Supply —"](#).

NO >> Repair or replace error-detected parts and GO TO 10.

C1A82 CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

10. PERFORM SELF-DIAGNOSIS (4)

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.
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 "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.
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 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 13.

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

12. PERFORM SELF-DIAGNOSIS (5)

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:

C1A82 CONTROL MODULE

< 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.
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 "C1A82" 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.
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 [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.

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:

C1A82 CONTROL MODULE

< 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.
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 "C1A82" detected?

- YES >> Replace the electrically-driven intelligent brake unit. Refer to [BR-510, "Removal and installation"](#).
- NO >> INSPECTION END

C1A83 CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

C1A83 CONTROL MODULE

DTC Logic

INFOID:000000010123039

DTC DETECTION 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

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.
 - Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
 - Close all doors (including back door), check that the room lamp is 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.
- Is DTC "C1A83" detected?
- YES >> Proceed to [BR-209, "Diagnosis Procedure"](#).
- NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000010123040

1. 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 wait for 3 minutes or more with all doors closed.
CAUTION:
Never operate the vehicle while waiting.

C1A83 CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

3. Check the 12V battery terminal connections. Refer to [BR-6. "Precaution for Removing 12V Battery"](#) and [PG-83. "Work Flow"](#).
4. Check the 12V battery. Refer to [PG-83. "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.
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 "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.
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 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.

C1A83 CONTROL MODULE

< 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.
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 "C1A83" 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 (Approx.)
Connector	Terminal		
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 (Approx.)
Connector	Terminal		
E34	26	Ground	10 – 16 V

Is the inspection result normal?

YES >> GO TO 8.

NO >> GO TO 6.

C1A83 CONTROL MODULE

< 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.
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. 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	
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		
E34	26	Ground	Not existed

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to [PG-26. "Wiring Diagram—On Power Supply—"](#).

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.
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.

C1A83 CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

Is DTC "C1A83" 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.

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.
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 (Approx.)
Connector	Terminal	
E34	1 – 32	10 – 16 V
	2 – 32	
	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 (Approx.)
Connector	Terminal	
E34	1 – 32	10 – 16 V
	2 – 32	
	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.

3. Disconnect 12V battery cable from negative terminal. Refer to [BR-6. "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 [PG-15. "Wiring Diagram — Battery Power Supply —"](#).

NO >> Repair or replace error-detected parts and GO TO 10.

C1A83 CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

10. PERFORM SELF-DIAGNOSIS (4)

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.
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 "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.
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 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 13.

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

12. PERFORM SELF-DIAGNOSIS (5)

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:

C1A83 CONTROL MODULE

< 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.
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 "C1A83" 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.
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 [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.

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:

C1A83 CONTROL MODULE

< 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.
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 "C1A83" detected?

- YES >> Replace the electrically-driven intelligent brake unit. Refer to [BR-510, "Removal and installation"](#).
- NO >> INSPECTION END

C1A84 CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

C1A84 CONTROL MODULE

DTC Logic

INFOID:000000010123041

DTC DETECTION 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 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.
- Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is 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.

Is DTC "C1A84" detected?

- YES >> Proceed to [BR-217, "Diagnosis Procedure"](#).
NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000010123042

1. 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 wait for 3 minutes or more with all doors closed.
CAUTION:
Never operate the vehicle while waiting.

C1A84 CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

3. Check the 12V battery terminal connections. Refer to [BR-6. "Precaution for Removing 12V Battery"](#) and [PG-83. "Work Flow"](#).
4. Check the 12V battery. Refer to [PG-83. "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.
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 "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.
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 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.

C1A84 CONTROL MODULE

< 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.
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 "C1A84" 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 (Approx.)
Connector	Terminal		
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 (Approx.)
Connector	Terminal		
E34	26	Ground	10 – 16 V

Is the inspection result normal?

YES >> GO TO 8.

NO >> GO TO 6.

C1A84 CONTROL MODULE

< 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.
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. 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	
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		
E34	26	Ground	Not existed

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to [PG-26. "Wiring Diagram—On Power Supply—"](#).

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.
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.

C1A84 CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

Is DTC "C1A84" 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.

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.
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 (Approx.)
Connector	Terminal	
E34	1 – 32	10 – 16 V
	2 – 32	
	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 (Approx.)
Connector	Terminal	
E34	1 – 32	10 – 16 V
	2 – 32	
	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.

3. Disconnect 12V battery cable from negative terminal. Refer to [BR-6. "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 [PG-15. "Wiring Diagram — Battery Power Supply —"](#).

NO >> Repair or replace error-detected parts and GO TO 10.

C1A84 CONTROL MODULE

< 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.
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 "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.
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 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 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:

C1A84 CONTROL MODULE

< 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.
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 "C1A84" 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.
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 [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.

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:

C1A84 CONTROL MODULE

< 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.
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 "C1A84" detected?

- YES >> Replace the electrically-driven intelligent brake unit. Refer to [BR-510, "Removal and installation"](#).
- NO >> INSPECTION END

C1A85 CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

C1A85 CONTROL MODULE

DTC Logic

INFOID:000000010123043

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1A85	CONTROL MODULE-7	<ul style="list-style-type: none">• 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 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

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.
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 >> Proceed to [BR-226. "Diagnosis Procedure"](#).
NO >> INSPECTION END

C1A85 CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

Diagnosis Procedure

INFOID:000000010123044

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 [BR-6. "Precaution for Removing 12V Battery"](#) and [PG-83. "Work Flow"](#).
4. Check the 12V battery. Refer to [PG-83. "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.
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 "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.
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 electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.

Is the inspection result normal?

C1A85 CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

- 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 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 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 (Approx.)
Connector	Terminal		
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.

C1A85 CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

Electrically-driven intelligent brake unit		—	Voltage (Approx.)
Connector	Terminal		
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.
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. 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	
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		
E34	26	Ground	Not existed

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to [PG-26, "Wiring Diagram—On Power Supply—"](#).

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.
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.

C1A85 CONTROL MODULE

< 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 "C1A85" 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.

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.
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 (Approx.)
Connector	Terminal	
E34	1 - 32	10 - 16 V
	2 - 32	
	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 (Approx.)
Connector	Terminal	
E34	1 - 32	10 - 16 V
	2 - 32	
	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.

3. Disconnect 12V battery cable from negative terminal. Refer to [BR-6, "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).

C1A85 CONTROL MODULE

< 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 [PG-15, "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.
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.
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.
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.
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 13.

C1A85 CONTROL MODULE

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

C1A85 CONTROL MODULE

< 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 [BR-510, "Removal and installation"](#).
NO >> INSPECTION END

C1A86 CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

C1A86 CONTROL MODULE

DTC Logic

INFOID:000000010123045

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1A86	CONTROL MODULE-8	<ul style="list-style-type: none">• 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 ROM of sub CPU)	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.
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 "C1A86" detected?

- YES >> Proceed to [BR-234. "Diagnosis Procedure"](#).
NO >> INSPECTION END

C1A86 CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

Diagnosis Procedure

INFOID:000000010123046

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 [BR-6. "Precaution for Removing 12V Battery"](#) and [PG-83. "Work Flow"](#).
4. Check the 12V battery. Refer to [PG-83. "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.
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 "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.
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 electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.

Is the inspection result normal?

C1A86 CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

- 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 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 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 (Approx.)
Connector	Terminal		
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.

C1A86 CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

Electrically-driven intelligent brake unit		—	Voltage (Approx.)
Connector	Terminal		
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

- Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is 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 [BR-6, "Precaution for Removing 12V Battery"](#).
- Check the 15A fuse (#62).
- Disconnect IPDM E/R harness connector.
- 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	
E34	26	E15	62	Existed

- 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

Is the inspection result normal?

- YES >> Perform trouble diagnosis for power ON power supply. Refer to [PG-26, "Wiring Diagram—On Power Supply—"](#).
NO >> Repair or replace error-detected parts and GO TO 7.

7. PERFORM SELF-DIAGNOSIS (3)

Ⓟ With CONSULT

- Connect the electrically-driven intelligent brake unit harness connector.
- Connect IPDM E/R 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 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 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.

C1A86 CONTROL MODULE

< 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 "C1A86" 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.

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.
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 (Approx.)
Connector	Terminal	
E34	1 - 32	10 - 16 V
	2 - 32	
	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 (Approx.)
Connector	Terminal	
E34	1 - 32	10 - 16 V
	2 - 32	
	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.

3. Disconnect 12V battery cable from negative terminal. Refer to [BR-6, "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).

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< 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 [PG-15, "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.
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.
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.
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.
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 13.

C1A86 CONTROL MODULE

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

C1A86 CONTROL MODULE

< 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 "C1A86" detected?

- YES >> Replace the electrically-driven intelligent brake unit. Refer to [BR-510, "Removal and installation"](#).
- NO >> INSPECTION END

C1A87 CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

C1A87 CONTROL MODULE

DTC Logic

INFOID:000000010123047

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1A87	CONTROL MODULE-9	A malfunction is detected in the control module of electrically-driven intelligent brake unit. (Abnormal sub CPU)	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.
- Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is 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.

Is DTC "C1A87" detected?

- YES >> Proceed to [BR-241, "Diagnosis Procedure"](#).
NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000010123048

1. 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 wait for 3 minutes or more with all doors closed.
CAUTION:
Never operate the vehicle while waiting.

C1A87 CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

3. Check the 12V battery terminal connections. Refer to [BR-6. "Precaution for Removing 12V Battery"](#) and [PG-83. "Work Flow"](#).
4. Check the 12V battery. Refer to [PG-83. "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.
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 "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.
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 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.

C1A87 CONTROL MODULE

< 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.
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 "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 (Approx.)
Connector	Terminal		
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 (Approx.)
Connector	Terminal		
E34	26	Ground	10 – 16 V

Is the inspection result normal?

YES >> GO TO 8.

NO >> GO TO 6.

C1A87 CONTROL MODULE

< 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.
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. 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	
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		
E34	26	Ground	Not existed

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to [PG-26. "Wiring Diagram—On Power Supply—"](#).

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.
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.

C1A87 CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

Is DTC "C1A87" 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.

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.
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 (Approx.)
Connector	Terminal	
E34	1 – 32	10 – 16 V
	2 – 32	
	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 (Approx.)
Connector	Terminal	
E34	1 – 32	10 – 16 V
	2 – 32	
	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.

3. Disconnect 12V battery cable from negative terminal. Refer to [BR-6. "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 [PG-15. "Wiring Diagram — Battery Power Supply —"](#).

NO >> Repair or replace error-detected parts and GO TO 10.

C1A87 CONTROL MODULE

< 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.
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 "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.
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 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 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:

C1A87 CONTROL MODULE

< 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.
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 "C1A87" 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.
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 [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.

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:

C1A87 CONTROL MODULE

< 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.
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 "C1A87" detected?

- YES >> Replace the electrically-driven intelligent brake unit. Refer to [BR-510, "Removal and installation"](#).
- NO >> INSPECTION END

C1A88 CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

C1A88 CONTROL MODULE

DTC Logic

INFOID:000000010123049

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1A88	CONTROL MODULE-10	A malfunction is detected in the control module of electrically-driven intelligent brake unit. (Abnormal main CPU)	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.
- Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is 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.

Is DTC "C1A88" detected?

- YES >> Proceed to [BR-249, "Diagnosis Procedure"](#).
NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000010123050

1. 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 wait for 3 minutes or more with all doors closed.
CAUTION:
Never operate the vehicle while waiting.

C1A88 CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

3. Check the 12V battery terminal connections. Refer to [BR-6. "Precaution for Removing 12V Battery"](#) and [PG-83. "Work Flow"](#).
4. Check the 12V battery. Refer to [PG-83. "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.
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 "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.
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 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.

C1A88 CONTROL MODULE

< 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.
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 "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 (Approx.)
Connector	Terminal		
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 (Approx.)
Connector	Terminal		
E34	26	Ground	10 – 16 V

Is the inspection result normal?

YES >> GO TO 8.

NO >> GO TO 6.

C1A88 CONTROL MODULE

< 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.
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. 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	
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		
E34	26	Ground	Not existed

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to [PG-26. "Wiring Diagram—On Power Supply—"](#).

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.
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.

C1A88 CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

Is DTC "C1A87" 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.

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.
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 (Approx.)
Connector	Terminal	
E34	1 – 32	10 – 16 V
	2 – 32	
	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 (Approx.)
Connector	Terminal	
E34	1 – 32	10 – 16 V
	2 – 32	
	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.

3. Disconnect 12V battery cable from negative terminal. Refer to [BR-6. "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 [PG-15. "Wiring Diagram — Battery Power Supply —"](#).

NO >> Repair or replace error-detected parts and GO TO 10.

C1A88 CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

10. PERFORM SELF-DIAGNOSIS (4)

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.
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 "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.
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 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 13.

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

12. PERFORM SELF-DIAGNOSIS (5)

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:

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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.
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 "C1A87" 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.
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 [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.

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:

C1A88 CONTROL MODULE

< 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.
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 "C1A87" detected?

- YES >> Replace the electrically-driven intelligent brake unit. Refer to [BR-510, "Removal and installation"](#).
- NO >> INSPECTION END

C1A89 CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

C1A89 CONTROL MODULE

DTC Logic

INFOID:000000010123051

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1A89	CONTROL MODULE-11	<ul style="list-style-type: none">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 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.
- Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is 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.

Is DTC "C1A89" detected?

- YES >> Proceed to [BR-257, "Diagnosis Procedure"](#).
NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000010123052

1. CHECK 12V BATTERY

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

C1A89 CONTROL MODULE

< 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. Check the 12V battery terminal connections. Refer to [BR-6, "Precaution for Removing 12V Battery"](#) and [PG-83, "Work Flow"](#).
4. Check the 12V battery. Refer to [PG-83, "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.
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 "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 [BR-6, "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)

C1A89 CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

④ With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector. A
2. Connect 12V battery cable to negative terminal. B
3. Turn the power switch OFF to ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY. C
4. Repeat step 3 two or more times.
CAUTION:
Be sure to wait for 5 seconds or more after turning the power switch OFF. D
5. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. E
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. BR
7. Turn the power switch ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY. G
8. Start CONSULT and erase self-diagnosis result of "BRAKE". H
9. Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector. I
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. K
12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more. L
13. Release brake pedal. M
14. Start CONSULT and perform "BRAKE" self-diagnosis. N

Is DTC "C1A89" detected?

- YES >> GO TO 5. O
NO >> INSPECTION END P

5. CHECK POWER SWITCH ON POWER SUPPLY

1. Connect 12V battery cable to negative terminal. K
2. 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.
CAUTION:
Never operate the vehicle while waiting. M
4. Disconnect 12V battery cable from negative terminal. Refer to [BR-6, "Precaution for Removing 12V Battery"](#). N
5. Disconnect the electrically-driven intelligent brake unit harness connector. O
6. Connect 12V battery cable to negative terminal. P
7. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

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

8. Turn the power switch ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY. P
9. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

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

C1A89 CONTROL MODULE

< 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.
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. 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	
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		
E34	26	Ground	Not existed

Is the inspection result normal?

- YES >> Perform trouble diagnosis for power ON power supply. Refer to [PG-26. "Wiring Diagram—On Power Supply—"](#).
- 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.
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.

C1A89 CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

- 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 "C1A89" detected?

- YES >> GO TO 8.
NO >> INSPECTION END

8. CHECK 12V BATTERY POWER SUPPLY

- Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is 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 [BR-6. "Precaution for Removing 12V Battery"](#).
- Disconnect the electrically-driven intelligent brake unit harness connector.
- Connect 12V battery cable to negative terminal.
- Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

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

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

Is the inspection result normal?

- YES >> GO TO 11.
NO >> GO TO 9.

9. 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 [BR-6. "Precaution for Removing 12V Battery"](#).
- 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).
- 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).

Is the inspection result normal?

C1A89 CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

- YES >> Perform trouble diagnosis for 12V battery power supply. Refer to [PG-15. "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.
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.
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 "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.
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 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 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.

C1A89 CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

2. Connect 12V battery cable to negative terminal.
3. 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. B
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. C
CAUTION:
Never operate the vehicle while waiting.
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. 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. G
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. H
14. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A89" detected?

YES >> GO TO 13. I

NO >> INSPECTION END

13. CHECK DATA MONITOR

With CONSULT J

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. K
CAUTION:
Never set the vehicle to READY.
4. Repeat step 3 two or more times. L
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 to this order.
6. Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER". Refer to [BR-33, "Reference Value"](#). M

Is the inspection result normal?

YES >> GO TO 14. N

NO >> Replace the electrically-driven intelligent brake unit. Refer to [BR-510, "Removal and installation"](#).

14. PERFORM SELF-DIAGNOSIS (6)

With CONSULT O

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

C1A89 CONTROL MODULE

< 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.
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 "C1A89" detected?

- YES >> Replace the electrically-driven intelligent brake unit. Refer to [BR-510, "Removal and installation"](#).
- NO >> INSPECTION END

C1A8A CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

C1A8A CONTROL MODULE

DTC Logic

INFOID:000000010123053

DTC DETECTION LOGIC

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 relay)	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.
 - Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
 - Close all doors (including back door), check that the room lamp is 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.
- Is DTC "C1A8A" detected?
- YES >> Proceed to [BR-265, "Diagnosis Procedure"](#).
- NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000010123054

1. 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 wait for 3 minutes or more with all doors closed.
CAUTION:
Never operate the vehicle while waiting.

C1A8A CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

3. Check the 12V battery terminal connections. Refer to [BR-6. "Precaution for Removing 12V Battery"](#) and [PG-83. "Work Flow"](#).
4. Check the 12V battery. Refer to [PG-83. "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.
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 "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.
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 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.

C1A8A CONTROL MODULE

< 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.
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 "C1A8A" 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 (Approx.)
Connector	Terminal		
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 (Approx.)
Connector	Terminal		
E34	26	Ground	10 – 16 V

Is the inspection result normal?

YES >> GO TO 8.

NO >> GO TO 6.

C1A8A CONTROL MODULE

< 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.
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. 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	
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		
E34	26	Ground	Not existed

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to [PG-26. "Wiring Diagram—On Power Supply—"](#).

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.
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.

C1A8A CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

Is DTC "C1A8A" 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.

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.
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 (Approx.)
Connector	Terminal	
E34	1 – 32	10 – 16 V
	2 – 32	
	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 (Approx.)
Connector	Terminal	
E34	1 – 32	10 – 16 V
	2 – 32	
	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.

3. Disconnect 12V battery cable from negative terminal. Refer to [BR-6. "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 [PG-15. "Wiring Diagram — Battery Power Supply —"](#).

NO >> Repair or replace error-detected parts and GO TO 10.

C1A8A CONTROL MODULE

< 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.
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 "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.
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 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 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:

C1A8A CONTROL MODULE

< 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.
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 "C1A8A" 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.
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 [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.

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:

C1A8A CONTROL MODULE

< 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.
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 "C1A8A" detected?

- YES >> Replace the electrically-driven intelligent brake unit. Refer to [BR-510, "Removal and installation"](#).
- NO >> INSPECTION END

C1A8B CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

C1A8B CONTROL MODULE

DTC Logic

INFOID:000000010123055

DTC DETECTION LOGIC

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

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.
 - Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
 - Close all doors (including back door), check that the room lamp is 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.
- Is DTC "C1A8B" detected?
- YES >> Proceed to [BR-273, "Diagnosis Procedure"](#).
- NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000010123056

1. 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 wait for 3 minutes or more with all doors closed.
CAUTION:
Never operate the vehicle while waiting.

C1A8B CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

3. Check the 12V battery terminal connections. Refer to [BR-6. "Precaution for Removing 12V Battery"](#) and [PG-83. "Work Flow"](#).
4. Check the 12V battery. Refer to [PG-83. "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.
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 "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.
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 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.

C1A8B CONTROL MODULE

< 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.
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 "C1A8B" 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 (Approx.)
Connector	Terminal		
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 (Approx.)
Connector	Terminal		
E34	26	Ground	10 – 16 V

Is the inspection result normal?

YES >> GO TO 8.

NO >> GO TO 6.

C1A8B CONTROL MODULE

< 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.
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. 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	
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		
E34	26	Ground	Not existed

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to [PG-26. "Wiring Diagram—On Power Supply—"](#).

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.
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.

C1A8B CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

Is DTC "C1A8B" 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.

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.
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 (Approx.)
Connector	Terminal	
E34	1 – 32	10 – 16 V
	2 – 32	
	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 (Approx.)
Connector	Terminal	
E34	1 – 32	10 – 16 V
	2 – 32	
	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.

3. Disconnect 12V battery cable from negative terminal. Refer to [BR-6, "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 [PG-26, "Wiring Diagram—On Power Supply—"](#).

NO >> Repair or replace error-detected parts and GO TO 10.

C1A8B CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

10. PERFORM SELF-DIAGNOSIS (4)

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.
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 "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.
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 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 13.

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

12. PERFORM SELF-DIAGNOSIS (5)

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:

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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.
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 "C1A8B" 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.
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 [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.

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:

C1A8B CONTROL MODULE

< 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.
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 "C1A8B" detected?

- YES >> Replace the electrically-driven intelligent brake unit. Refer to [BR-510, "Removal and installation"](#).
- NO >> INSPECTION END

C1A90 CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

C1A90 CONTROL MODULE

DTC Logic

INFOID:000000010123057

DTC DETECTION LOGIC

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.	<ul style="list-style-type: none">• 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

④ 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 "C1A90" detected?

YES >> Proceed to [BR-281, "Diagnosis Procedure"](#).

NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000010123058

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 ("C1A90")?

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).

C1A90 CONTROL MODULE

< 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

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 "C1A90" detected?

- YES >> GO TO 6.
NO >> INSPECTION END [DTC "C1A90" is detected when 12V 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.
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 [BR-6. "Precaution for Removing 12V Battery"](#) and [PG-83. "Work Flow"](#).
4. Check the 12V battery. Refer to [PG-83. "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.
3. Repeat step 2 two or more times.
CAUTION:
Be sure to wait for 5 seconds or more after turning the power switch OFF.

C1A90 CONTROL MODULE

< 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.
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 "C1A90" 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 [BR-6, "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 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.
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.

C1A90 CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

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.

Is DTC "C1A90" detected?

YES >> GO TO 10.

NO >> INSPECTION END

10. 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 operate the vehicle while waiting.

- 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.
- Connect 12V battery cable to negative terminal.
- Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

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

- 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.

Electrically-driven intelligent brake unit		—	Voltage (Approx.)
Connector	Terminal		
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

- Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is 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 [BR-6. "Precaution for Removing 12V Battery"](#).
- Check the 15A fuse (#62).
- Disconnect IPDM E/R harness connector.
- 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	
E34	26	E15	62	Existed

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

C1A90 CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

Electrically-driven intelligent 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-26. "Wiring Diagram—On 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 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.
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 "C1A90" 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 [BR-6. "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.

C1A90 CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

Electrically-driven intelligent brake unit		Voltage (Approx.)
Connector	Terminal	
E34	1 – 32	10 – 16 V
	2 – 32	
	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 (Approx.)
Connector	Terminal	
E34	1 – 32	10 – 16 V
	2 – 32	
	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.
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. 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 [PG-15, "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.
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.

C1A90 CONTROL MODULE

< 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 "C1A90" 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.
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 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.
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.

C1A90 CONTROL MODULE

< 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 to 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 19.
NO >> Replace the electrically-driven intelligent brake unit. Refer to [BR-510. "Removal and installation"](#).

19. 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.

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 "C1A90" detected?

- YES >> GO TO 20.

C1A90 CONTROL MODULE

< 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 [BCS-48, "DTC Index"](#). GO TO 21.

NO >> Replace the electrically-driven intelligent brake unit. Refer to [BR-510, "Removal and installation"](#).

21. PERFORM SELF-DIAGNOSIS (9)

Ⓜ 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 "C1A90" detected?

YES >> Replace the electrically-driven intelligent brake unit. Refer to [BR-510, "Removal and installation"](#).

NO >> INSPECTION END

C1A91 CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

C1A91 CONTROL MODULE

DTC Logic

INFOID:000000010123059

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.	<ul style="list-style-type: none">• 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 [BR-290, "Diagnosis Procedure"](#).

NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000010123060

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).

C1A91 CONTROL MODULE

< 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

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 "C1A91" detected?

- YES >> GO TO 6.
NO >> INSPECTION END [DTC "C1A91" is detected when 12V 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.
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 [BR-6, "Precaution for Removing 12V Battery"](#) and [PG-83, "Work Flow"](#).
4. Check the 12V battery. Refer to [PG-83, "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.
3. Repeat step 2 two or more times.
CAUTION:
Be sure to wait for 5 seconds or more after turning the power switch OFF.

C1A91 CONTROL MODULE

< 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.
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 "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.
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 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.
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.

C1A91 CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

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.

Is DTC "C1A91" detected?

YES >> GO TO 10.

NO >> INSPECTION END

10. 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 operate the vehicle while waiting.

- 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.
- Connect 12V battery cable to negative terminal.
- Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

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

- 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.

Electrically-driven intelligent brake unit		—	Voltage (Approx.)
Connector	Terminal		
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

- Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is 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 [BR-6. "Precaution for Removing 12V Battery"](#).
- Check the 15A fuse (#62).
- Disconnect IPDM E/R harness connector.
- 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	
E34	26	E15	62	Existed

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

C1A91 CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

Electrically-driven intelligent 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-26, "Wiring Diagram—On 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 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.
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 "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 [BR-6, "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.

C1A91 CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

Electrically-driven intelligent brake unit		Voltage (Approx.)
Connector	Terminal	
E34	1 – 32	10 – 16 V
	2 – 32	
	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 (Approx.)
Connector	Terminal	
E34	1 – 32	10 – 16 V
	2 – 32	
	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.
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. 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 [PG-15, "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.
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.

C1A91 CONTROL MODULE

< 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.
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 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.
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.

C1A91 CONTROL MODULE

< 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 "C1A91" 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.
6. Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER". Refer to [BR-33. "Reference Value"](#).

Is the inspection result normal?

YES >> GO TO 19.

NO >> Replace the electrically-driven intelligent brake unit. Refer to [BR-510. "Removal and installation"](#).

19. 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.

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 "C1A91" detected?

YES >> GO TO 20.

C1A91 CONTROL MODULE

< 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 [BCS-48, "DTC Index"](#). GO TO 21.

NO >> Replace the electrically-driven intelligent brake unit. Refer to [BR-510, "Removal and installation"](#).

21. PERFORM SELF-DIAGNOSIS (9)

Ⓟ 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 "C1A91" detected?

YES >> Replace the electrically-driven intelligent brake unit. Refer to [BR-510, "Removal and installation"](#).

NO >> INSPECTION END

C1A98 BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

C1A98 BRAKE POWER SUPPLY BACKUP UNIT

DTC Logic

INFOID:000000010123061

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1A98	BACKUP POWER SUPPLY-2	A malfunction is detected in the backup power supply circuit. (Abnormal relay in the control module of the electrically-driven intelligent brake unit)	<ul style="list-style-type: none">• 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.
 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 "C1A98" detected?
- YES >> Proceed to [BR-299, "Diagnosis Procedure"](#).
- NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000010123062

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.

C1A98 BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

3. Check the 12V battery terminal connections. Refer to [BR-6. "Precaution for Removing 12V Battery"](#) and [PG-83. "Work Flow"](#).
4. Check the 12V battery. Refer to [PG-83. "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.
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 "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.
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 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)

With CONSULT

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

C1A98 BRAKE POWER SUPPLY BACKUP UNIT

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

Is DTC "C1A98" 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.
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 [BR-6, "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 (Approx.)
Connector	Terminal		
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 (Approx.)
Connector	Terminal		
E34	26	Ground	10 – 16 V

C1A98 BRAKE POWER SUPPLY BACKUP UNIT

< 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.
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. 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	
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		
E34	26	Ground	Not existed

Is the inspection result normal?

- YES >> Perform trouble diagnosis for power ON power supply. Refer to [PG-26. "Wiring Diagram—On Power Supply—"](#).
- 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.
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.

C1A98 BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

- 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 "C1A98" detected?

- YES >> GO TO 8.
NO >> INSPECTION END

8. CHECK 12V BATTERY POWER SUPPLY

- Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is 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 [BR-6. "Precaution for Removing 12V Battery"](#).
- Disconnect the electrically-driven intelligent brake unit harness connector.
- Connect 12V battery cable to negative terminal.
- Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

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

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

Is the inspection result normal?

- YES >> GO TO 11.
NO >> GO TO 9.

9. 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 [BR-6. "Precaution for Removing 12V Battery"](#).
- 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).
- 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).

Is the inspection result normal?

C1A98 BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

- YES >> Perform trouble diagnosis for 12V battery power supply. Refer to [PG-15. "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.
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.
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 "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.
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 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 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.

C1A98 BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

2. Connect 12V battery cable to negative terminal.
3. 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. B
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. C
CAUTION:
Never operate the vehicle while waiting.
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. 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. G
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. H
14. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A98" detected?

YES >> GO TO 13. I

NO >> INSPECTION END

13. CHECK DATA MONITOR J

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector. K
2. 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.
4. Repeat step 3 two or more times. M
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 to 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. N

NO >> Replace the electrically-driven intelligent brake unit. Refer to [BR-510, "Removal and installation"](#).

14. PERFORM SELF-DIAGNOSIS (6) O

With CONSULT

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

C1A98 BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

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.

Is DTC "C1A98", "C1A6B", "C1A6C", "C1A6D", "C1AC8" or "C1AD0" detected?

YES (C1A98)>>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

- Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is 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 [BR-6, "Precaution for Removing 12V Battery"](#).
- Disconnect the electrically-driven intelligent brake unit harness connector.
- Check the continuity between electrically-driven intelligent brake unit and ground.

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

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

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

- Disconnect the brake power supply backup unit harness connector.
- 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	
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

C1A98 BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

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

Brake power supply backup unit		—	Continuity
Connector	Terminal		
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)

④ 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.
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 "C1A98" detected?

YES >> Replace the electrically-driven intelligent brake unit. Refer to [BR-510, "Removal and installation"](#).

NO >> INSPECTION END

C1A99 BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

C1A99 BRAKE POWER SUPPLY BACKUP UNIT

DTC Logic

INFOID:000000010123063

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)	<ul style="list-style-type: none">• 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.
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 "C1A99" detected?

- YES >> Proceed to [BR-308, "Diagnosis Procedure"](#).
NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000010123064

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.

C1A99 BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

3. Check the 12V battery terminal connections. Refer to [BR-6. "Precaution for Removing 12V Battery"](#) and [PG-83. "Work Flow"](#).
4. Check the 12V battery. Refer to [PG-83. "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.
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 "C1A99" 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 [BR-6. "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.

4.PERFORM SELF-DIAGNOSIS (2)

With CONSULT

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

C1A99 BRAKE POWER SUPPLY BACKUP UNIT

< 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.
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.
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.
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 [BR-6. "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 (Approx.)
Connector	Terminal		
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 (Approx.)
Connector	Terminal		
E34	26	Ground	10 – 16 V

C1A99 BRAKE POWER SUPPLY BACKUP UNIT

< 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.
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. 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	
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		
E34	26	Ground	Not existed

Is the inspection result normal?

- YES >> Perform trouble diagnosis for power ON power supply. Refer to [PG-26, "Wiring Diagram—On Power Supply—"](#).
- 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.
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.

C1A99 BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

- 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 "C1A99" detected?

- YES >> GO TO 8.
NO >> INSPECTION END

8. CHECK 12V BATTERY POWER SUPPLY

- Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is 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 [BR-6. "Precaution for Removing 12V Battery"](#).
- Disconnect the electrically-driven intelligent brake unit harness connector.
- Connect 12V battery cable to negative terminal.
- Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

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

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

Is the inspection result normal?

- YES >> GO TO 11.
NO >> GO TO 9.

9. 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 [BR-6. "Precaution for Removing 12V Battery"](#).
- 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).
- 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).

Is the inspection result normal?

C1A99 BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

- YES >> Perform trouble diagnosis for 12V battery power supply. Refer to [PG-15. "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.
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.
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 "C1A99" 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.
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.
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 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.

C1A99 BRAKE POWER SUPPLY BACKUP UNIT

< 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.
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 "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.
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 to 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 [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.
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:

C1A99 BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

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.

Is DTC "C1A99", "C1A6B", "C1A6C", "C1A6D", "C1AC8" or "C1AD0" detected?

YES (C1A99)>>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

- Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is 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 [BR-6, "Precaution for Removing 12V Battery"](#).
- Disconnect the electrically-driven intelligent brake unit harness connector.
- Check the continuity between electrically-driven intelligent brake unit and ground.

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

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

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

- Disconnect the brake power supply backup unit harness connector.
- 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	
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

C1A99 BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

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

Brake power supply backup unit		—	Continuity
Connector	Terminal		
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.
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 >> Replace the electrically-driven intelligent brake unit. Refer to [BR-510, "Removal and installation"](#).

NO >> INSPECTION END

C1A9A BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

C1A9A BRAKE POWER SUPPLY BACKUP UNIT

DTC Logic

INFOID:000000010123065

DTC DETECTION LOGIC

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 module of the electrically-driven intelligent brake unit)	<ul style="list-style-type: none">• 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

④ 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 "C1A9A" detected?
- YES >> Proceed to [BR-317, "Diagnosis Procedure"](#).
- NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000010123066

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.

C1A9A BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

3. Check the 12V battery terminal connections. Refer to [BR-6. "Precaution for Removing 12V Battery"](#) and [PG-83. "Work Flow"](#).
4. Check the 12V battery. Refer to [PG-83. "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.
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 "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.
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 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)

With CONSULT

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

C1A9A BRAKE POWER SUPPLY BACKUP UNIT

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

Is DTC "C1A9A" 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.
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 [BR-6, "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 (Approx.)
Connector	Terminal		
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 (Approx.)
Connector	Terminal		
E34	26	Ground	10 – 16 V

C1A9A BRAKE POWER SUPPLY BACKUP UNIT

< 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.
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. 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	
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		
E34	26	Ground	Not existed

Is the inspection result normal?

- YES >> Perform trouble diagnosis for power ON power supply. Refer to [PG-26. "Wiring Diagram—On Power Supply—"](#).
- 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.
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.

C1A9A BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

- 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 "C1A9A" detected?

- YES >> GO TO 8.
NO >> INSPECTION END

8. CHECK 12V BATTERY POWER SUPPLY

- Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is 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 [BR-6. "Precaution for Removing 12V Battery"](#).
- Disconnect the electrically-driven intelligent brake unit harness connector.
- Connect 12V battery cable to negative terminal.
- Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

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

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

Is the inspection result normal?

- YES >> GO TO 11.
NO >> GO TO 9.

9. 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 [BR-6. "Precaution for Removing 12V Battery"](#).
- 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).
- 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).

Is the inspection result normal?

C1A9A BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

- YES >> Perform trouble diagnosis for 12V battery power supply. Refer to [PG-15. "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.
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.
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 "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.
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 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 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.

C1A9A BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

2. Connect 12V battery cable to negative terminal.
3. 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. B
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. C
CAUTION:
Never operate the vehicle while waiting.
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. 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. G
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. H
14. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A9A" detected?

YES >> GO TO 13. I

NO >> INSPECTION END

13. CHECK DATA MONITOR

With CONSULT J

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. K
CAUTION:
Never set the vehicle to READY.
4. Repeat step 3 two or more times. L
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 to this order.
6. Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER". Refer to [BR-33, "Reference Value"](#). M

Is the inspection result normal?

YES >> GO TO 14. N

NO >> Replace the electrically-driven intelligent brake unit. Refer to [BR-510, "Removal and installation"](#).

14. PERFORM SELF-DIAGNOSIS (6)

With CONSULT O

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

C1A9A BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

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.

Is DTC "C1A9A", "C1A6B", "C1A6C", "C1A6D", "C1AC8" or "C1AD0" detected?

YES (C1A9A)>>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

- Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is 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 [BR-6, "Precaution for Removing 12V Battery"](#).
- Disconnect the electrically-driven intelligent brake unit harness connector.
- Check the continuity between electrically-driven intelligent brake unit and ground.

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

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

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

- Disconnect the brake power supply backup unit harness connector.
- 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	
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 >

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

Brake power supply backup unit		—	Continuity
Connector	Terminal		
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)

④ 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.
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 "C1A9A" detected?

YES >> Replace the electrically-driven intelligent brake unit. Refer to [BR-510, "Removal and installation"](#).

NO >> INSPECTION END

C1AA0 STROKE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

C1AA0 STROKE SENSOR

DTC Logic

INFOID:000000010123067

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1AA0	STROKE SENSOR-2	<ul style="list-style-type: none">• Open circuit is detected in stroke sensor circuit.• Short circuit is detected in stroke sensor circuit.• Malfunction is detected in stroke sensor circuit.	<ul style="list-style-type: none">• 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.
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 "C1AA0" detected?

- YES >> Proceed to [BR-326, "Diagnosis Procedure"](#).
NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000010123068

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:

C1AA0 STROKE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

Never operate the vehicle while waiting.

3. Check the 12V battery terminal connections. Refer to [BR-6, "Precaution for Removing 12V Battery"](#) and [PG-83, "Work Flow"](#). A
4. Check the 12V battery. Refer to [PG-83, "Work Flow"](#).

Is the inspection result normal? B

YES >> GO TO 2.

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

2.PERFORM SELF-DIAGNOSIS (1) C

ⓂWith CONSULT

1. Connect 12V battery cable to negative terminal. D
 2. Turn the power switch OFF to ON without depressing the brake pedal. D
- CAUTION:**
- Never set the vehicle to READY.**
3. Repeat step 2 two or more times. E
- 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. BR
- CAUTION:**
- 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.**
7. Start CONSULT and erase self-diagnosis result of "BRAKE". H
 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. I
- 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.**
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. K
 13. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1AA0" detected? L

YES >> GO TO 3.

NO >> INSPECTION END

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. N
- CAUTION:**
- Never operate the vehicle while waiting.**
3. Disconnect 12V battery cable from negative terminal. Refer to [BR-6, "Precaution for Removing 12V Battery"](#). O
 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. P

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.

C1AA0 STROKE SENSOR

< 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.
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.
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.
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 [BR-6. "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 (Approx.)
Connector	Terminal		
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 (Approx.)
Connector	Terminal		
E34	26	Ground	10 – 16 V

C1AA0 STROKE SENSOR

< 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.
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. 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	
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		
E34	26	Ground	Not existed

Is the inspection result normal?

- YES >> Perform trouble diagnosis for power ON power supply. Refer to [PG-26, "Wiring Diagram—On Power Supply—"](#).
- 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.
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.

C1AA0 STROKE SENSOR

< 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.
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 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 (Approx.)
Connector	Terminal	
E34	1 - 32	10 - 16 V
	2 - 32	
	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 (Approx.)
Connector	Terminal	
E34	1 - 32	10 - 16 V
	2 - 32	
	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.

3. Disconnect 12V battery cable from negative terminal. Refer to [BR-6. "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?

C1AA0 STROKE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

- YES >> Perform trouble diagnosis for 12V battery power supply. Refer to [PG-15, "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.
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.
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 "C1AA0" 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.
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.
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 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.

C1AA0 STROKE SENSOR

< 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.
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 "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.
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 [BR-33. "Reference Value"](#).

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.
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:

C1AA0 STROKE SENSOR

< 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.
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 15.

NO >> INSPECTION END

15. STROKE SENSOR 0 POINT LEARNING (1)

Ⓜ With CONSULT

Perform stroke sensor 0 point learning. Refer to [BR-53, "Work Procedure"](#).

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

"COMPLETED">>GO TO 16.

"The operation is incomplete. Try again after confirming the operation condition.">>GO TO 17.

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.
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 17.

NO >> INSPECTION END

C1AA0 STROKE SENSOR

< 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.

NO >> Adjust each height. Refer to [BR-490, "Inspection and Adjustment"](#). GO TO 21.

20. STROKE SENSOR 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.

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 "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.

C1AA0 STROKE SENSOR

< 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 unit.

Stroke sensor		Electrically-driven intelligent brake unit		Continuity
Connector	Terminal	Connector	Terminal	
E36	3	E34	18	Existed
	3		33	Not existed
	3		19	Not existed
	3		35	Not existed
	2		18	Not existed
	2		33	Existed
	2		19	Not existed
	2		35	Not existed
	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

Is the inspection result normal?

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.
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		—	Voltage (Approx.)
Connector	Terminal		
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.

C1AA0 STROKE SENSOR

< 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.
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 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		
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.
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. 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		
E34	33 – 19	Gradually depress the brake pedal.	Resistance value increases between 0.1 – 1.33 kΩ, according to the depth of brake depression.
	35 – 19		Resistance value decreases between 0.1 – 1.33 kΩ, 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 SENSOR 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.

C1AA0 STROKE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

2. Connect 12V battery cable to negative terminal.
 3. 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. B
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. C
CAUTION:
Never operate the vehicle while waiting.
 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. 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. G
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. H
 14. Start CONSULT and perform "BRAKE" self-diagnosis.
- Is DTC "C1AA0" detected?
- YES >> GO TO 22. I
- NO >> INSPECTION END

C1AA1 STROKE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

C1AA1 STROKE SENSOR

DTC Logic

INFOID:000000010123069

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1AA1	STROKE SENSOR-3	An internal malfunction is detected in the stroke sensor. (With fluctuations in output voltage of the stroke sensor)	<ul style="list-style-type: none">• 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.
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 "C1AA1" detected?

- YES >> Proceed to [BR-338, "Diagnosis Procedure"](#).
NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000010123070

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:

C1AA1 STROKE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

Never operate the vehicle while waiting.

3. Check the 12V battery terminal connections. Refer to [BR-6, "Precaution for Removing 12V Battery"](#) and [PG-83, "Work Flow"](#).
4. Check the 12V battery. Refer to [PG-83, "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.
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 "C1AA1" 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 [BR-6, "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 stroke sensor 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.

C1AA1 STROKE SENSOR

< 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.
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.
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.
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 [BR-6. "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 (Approx.)
Connector	Terminal		
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 (Approx.)
Connector	Terminal		
E34	26	Ground	10 – 16 V

C1AA1 STROKE SENSOR

< 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.
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. 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	
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		
E34	26	Ground	Not existed

Is the inspection result normal?

- YES >> Perform trouble diagnosis for power ON power supply. Refer to [PG-26, "Wiring Diagram—On Power Supply—"](#).
- 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.
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.

C1AA1 STROKE SENSOR

< 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.
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 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 (Approx.)
Connector	Terminal	
E34	1 - 32	10 - 16 V
	2 - 32	
	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 (Approx.)
Connector	Terminal	
E34	1 - 32	10 - 16 V
	2 - 32	
	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.

3. Disconnect 12V battery cable from negative terminal. Refer to [BR-6. "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?

C1AA1 STROKE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

- YES >> Perform trouble diagnosis for 12V battery power supply. Refer to [PG-15, "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.
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.
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 "C1AA1" 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.
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.
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 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.

C1AA1 STROKE SENSOR

< 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.
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 "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.
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 to 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 [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.
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:

C1AA1 STROKE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

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.

Is DTC "C1AA1" detected?

YES >> GO TO 15.

NO >> INSPECTION END

15. STROKE SENSOR 0 POINT LEARNING (1)

Ⓜ With CONSULT

Perform stroke sensor 0 point learning. Refer to [BR-53, "Work Procedure"](#).

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

"COMPLETED">>GO TO 16.

"The operation is incomplete. Try again after confirming the operation condition.">>GO TO 17.

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.

- 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:

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.

Is DTC "C1AA1" detected?

YES >> GO TO 17.

NO >> INSPECTION END

C1AA1 STROKE SENSOR

< 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.

NO >> Adjust each height. Refer to [BR-490, "Inspection and Adjustment"](#). GO TO 21.

20. STROKE SENSOR 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.

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 "C1AA1" 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.

C1AA1 STROKE SENSOR

< 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 unit.

Stroke sensor		Electrically-driven intelligent brake unit		Continuity
Connector	Terminal	Connector	Terminal	
E36	3	E34	18	Existed
	3		33	Not existed
	3		19	Not existed
	3		35	Not existed
	2		18	Not existed
	2		33	Existed
	2		19	Not existed
	2		35	Not existed
	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

Is the inspection result normal?

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.
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		—	Voltage (Approx.)
Connector	Terminal		
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.

C1AA1 STROKE SENSOR

< 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.
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 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		
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.
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. 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		
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.
	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 [BR-500. "Removal and Installation"](#).

>> GO TO 27.

27. STROKE SENSOR 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.

C1AA1 STROKE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

2. Connect 12V battery cable to negative terminal.
 3. 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. B
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. C
CAUTION:
Never operate the vehicle while waiting.
 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. 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. G
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. H
 14. Start CONSULT and perform "BRAKE" self-diagnosis.
- Is DTC "C1AA1" detected?
- YES >> GO TO 22. I
- NO >> INSPECTION END J
- K
- L
- M
- N
- O
- P

C1AA2 STROKE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

C1AA2 STROKE SENSOR

DTC Logic

INFOID:000000010123071

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1AA2	STROKE SENSOR-4	An internal malfunction is detected in the stroke sensor. (Without fluctuations in output voltage of the stroke sensor)	<ul style="list-style-type: none">• 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

④ 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 "C1AA2" detected?

- YES >> Proceed to [BR-350, "Diagnosis Procedure"](#).
NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000010123072

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:

C1AA2 STROKE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

Never operate the vehicle while waiting.

3. Check the 12V battery terminal connections. Refer to [BR-6, "Precaution for Removing 12V Battery"](#) and [PG-83, "Work Flow"](#). A
4. Check the 12V battery. Refer to [PG-83, "Work Flow"](#).

Is the inspection result normal? B

YES >> GO TO 2.

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

2.PERFORM SELF-DIAGNOSIS (1) C

ⓂWith CONSULT

1. Connect 12V battery cable to negative terminal. D
 2. Turn the power switch OFF to ON without depressing the brake pedal. D
- CAUTION:**
- Never set the vehicle to READY.**
3. Repeat step 2 two or more times. E
- 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. BR
- CAUTION:**
- 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.**
7. Start CONSULT and erase self-diagnosis result of "BRAKE". H
 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. I
- 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.**
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. K
 13. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1AA2" detected?

YES >> GO TO 3. L

NO >> INSPECTION END

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. N
- CAUTION:**
- Never operate the vehicle while waiting.**
3. Disconnect 12V battery cable from negative terminal. Refer to [BR-6, "Precaution for Removing 12V Battery"](#). O
 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. P

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.

C1AA2 STROKE SENSOR

< 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.
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.
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.
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 [BR-6. "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 (Approx.)
Connector	Terminal		
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 (Approx.)
Connector	Terminal		
E34	26	Ground	10 – 16 V

C1AA2 STROKE SENSOR

< 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.
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. 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	
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		
E34	26	Ground	Not existed

Is the inspection result normal?

- YES >> Perform trouble diagnosis for power ON power supply. Refer to [PG-26, "Wiring Diagram—On Power Supply—"](#).
- 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.
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.

C1AA2 STROKE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

- 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 "C1AA2" detected?

- YES >> GO TO 8.
NO >> INSPECTION END

8. CHECK 12V BATTERY POWER SUPPLY

- Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is 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 [BR-6. "Precaution for Removing 12V Battery"](#).
- Disconnect the electrically-driven intelligent brake unit harness connector.
- Connect 12V battery cable to negative terminal.
- Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

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

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

Is the inspection result normal?

- YES >> GO TO 11.
NO >> GO TO 9.

9. 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 [BR-6. "Precaution for Removing 12V Battery"](#).
- 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).
- 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).

Is the inspection result normal?

C1AA2 STROKE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

- YES >> Perform trouble diagnosis for 12V battery power supply. Refer to [PG-15. "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.
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.
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 "C1AA2" 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.
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.
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 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.

C1AA2 STROKE SENSOR

< 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.
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 "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.
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 [BR-33. "Reference Value"](#).

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.
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:

C1AA2 STROKE SENSOR

< 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.
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 >> GO TO 15.

NO >> INSPECTION END

15. STROKE SENSOR 0 POINT LEARNING (1)

Ⓜ With CONSULT

Perform stroke sensor 0 point learning. Refer to [BR-53, "Work Procedure"](#).

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

"COMPLETED">>GO TO 16.

"The operation is incomplete. Try again after confirming the operation condition.">>GO TO 17.

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.
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 >> GO TO 17.

NO >> INSPECTION END

C1AA2 STROKE SENSOR

< 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.

NO >> Adjust each height. Refer to [BR-490, "Inspection and Adjustment"](#). GO TO 21.

20. STROKE SENSOR 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.

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 "C1AA2" 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.

C1AA2 STROKE SENSOR

< 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 unit.

Stroke sensor		Electrically-driven intelligent brake unit		Continuity
Connector	Terminal	Connector	Terminal	
E36	3	E34	18	Existed
	3		33	Not existed
	3		19	Not existed
	3		35	Not existed
	2		18	Not existed
	2		33	Existed
	2		19	Not existed
	2		35	Not existed
	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

Is the inspection result normal?

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.
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		—	Voltage (Approx.)
Connector	Terminal		
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.

C1AA2 STROKE SENSOR

< 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.
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 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		
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.
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. 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		
E34	33 – 19	Gradually depress the brake pedal.	Resistance value increases between 0.1 – 1.33 kΩ, according to the depth of brake depression.
	35 – 19		Resistance value decreases between 0.1 – 1.33 kΩ, 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 SENSOR 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.

C1AA2 STROKE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

2. Connect 12V battery cable to negative terminal.
 3. 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. B
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. C
CAUTION:
Never operate the vehicle while waiting.
 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. 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. G
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. H
 14. Start CONSULT and perform "BRAKE" self-diagnosis.
- Is DTC "C1AA2" detected?
- YES >> GO TO 22. I
- NO >> INSPECTION END

C1AA3 STROKE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

C1AA3 STROKE SENSOR

DTC Logic

INFOID:000000010123073

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1AA3	STROKE SENSOR-5	<ul style="list-style-type: none">An internal malfunction is detected in the stroke sensor.Poor installation is detected in the stroke sensor.	<ul style="list-style-type: none">Harness or connectorStroke sensorElectrically-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

④ 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.
- Close all doors (including back door), check that the room lamp is 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.

Is DTC "C1AA3" detected?

- YES >> Proceed to [BR-362, "Diagnosis Procedure"](#).
NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000010123074

1. 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 wait for 3 minutes or more with all doors closed.
CAUTION:

C1AA3 STROKE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

Never operate the vehicle while waiting.

3. Check the 12V battery terminal connections. Refer to [BR-6, "Precaution for Removing 12V Battery"](#) and [PG-83, "Work Flow"](#). A
4. Check the 12V battery. Refer to [PG-83, "Work Flow"](#).

Is the inspection result normal? B

YES >> GO TO 2.

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

2.PERFORM SELF-DIAGNOSIS (1) C

ⓂWith CONSULT

1. Connect 12V battery cable to negative terminal. D
2. Turn the power switch OFF to ON without depressing the brake pedal. D
- CAUTION:**
Never set the vehicle to READY.
3. Repeat step 2 two or more times. E
- 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. BR
- CAUTION:**
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.
7. Start CONSULT and erase self-diagnosis result of "BRAKE". H
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. I
- 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.
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. K
13. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1AA3" detected?

YES >> GO TO 3. L

NO >> INSPECTION END

3.CHECK CONNECTOR TERMINALS M

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. N
- CAUTION:**
Never operate the vehicle while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to [BR-6, "Precaution for Removing 12V Battery"](#). O
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. P

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.

C1AA3 STROKE SENSOR

< 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.
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.
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.
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 [BR-6. "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 (Approx.)
Connector	Terminal		
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 (Approx.)
Connector	Terminal		
E34	26	Ground	10 – 16 V

C1AA3 STROKE SENSOR

< 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.
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. 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	
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		
E34	26	Ground	Not existed

Is the inspection result normal?

- YES >> Perform trouble diagnosis for power ON power supply. Refer to [PG-26, "Wiring Diagram—On Power Supply—"](#).
- 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.
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.

C1AA3 STROKE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

- 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 8.
NO >> INSPECTION END

8. CHECK 12V BATTERY POWER SUPPLY

- Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is 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 [BR-6. "Precaution for Removing 12V Battery"](#).
- Disconnect the electrically-driven intelligent brake unit harness connector.
- Connect 12V battery cable to negative terminal.
- Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

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

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

Is the inspection result normal?

- YES >> GO TO 11.
NO >> GO TO 9.

9. 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 [BR-6. "Precaution for Removing 12V Battery"](#).
- 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).
- 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).

Is the inspection result normal?

C1AA3 STROKE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

- YES >> Perform trouble diagnosis for 12V battery power supply. Refer to [PG-15, "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.
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.
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 "C1AA3" 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.
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.
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 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.

C1AA3 STROKE SENSOR

< 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.
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 "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.
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 [BR-33. "Reference Value"](#).

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.
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:

C1AA3 STROKE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

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.

Is DTC "C1AA3" detected?

YES >> GO TO 15.

NO >> INSPECTION END

15. STROKE SENSOR 0 POINT LEARNING (1)

Ⓜ With CONSULT

Perform stroke sensor 0 point learning. Refer to [BR-53, "Work Procedure"](#).

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

"COMPLETED">>GO TO 16.

"The operation is incomplete. Try again after confirming the operation condition.">>GO TO 17.

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.

- 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:

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.

Is DTC "C1AA3" detected?

YES >> GO TO 17.

NO >> INSPECTION END

C1AA3 STROKE SENSOR

< 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.

NO >> Adjust each height. Refer to [BR-490, "Inspection and Adjustment"](#). GO TO 21.

20. STROKE SENSOR 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.

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 "C1AA3" 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.

C1AA3 STROKE SENSOR

< 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 unit.

Stroke sensor		Electrically-driven intelligent brake unit		Continuity
Connector	Terminal	Connector	Terminal	
E36	3	E34	18	Existed
	3		33	Not existed
	3		19	Not existed
	3		35	Not existed
	2		18	Not existed
	2		33	Existed
	2		19	Not existed
	2		35	Not existed
	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

Is the inspection result normal?

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.
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		—	Voltage (Approx.)
Connector	Terminal		
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.

C1AA3 STROKE SENSOR

< 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.
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 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		
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.
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. 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		
E34	33 – 19	Gradually depress the brake pedal.	Resistance value increases between 0.1 – 1.33 kΩ, according to the depth of brake depression.
	35 – 19		Resistance value decreases between 0.1 – 1.33 kΩ, 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 SENSOR 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.

C1AA3 STROKE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

2. Connect 12V battery cable to negative terminal.
3. 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. B
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. C
CAUTION:
Never operate the vehicle while waiting.
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. 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. G
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. H
14. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1AA3" detected?

YES >> GO TO 22. I

NO >> INSPECTION END J

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C1AA9 PRESSURE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

C1AA9 PRESSURE SENSOR

DTC Logic

INFOID:000000010123075

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1AA9	PRESSURE SENSOR	A malfunction is detected in the master cylinder pressure sensor.	<ul style="list-style-type: none">• 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.
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 "C1AA9" detected?

- YES >> Proceed to [BR-374. "Diagnosis Procedure"](#).
NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000010123076

1. CHECK 12V BATTERY

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

C1AA9 PRESSURE SENSOR

< 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. Check the 12V battery terminal connections. Refer to [BR-6, "Precaution for Removing 12V Battery"](#) and [PG-83, "Work Flow"](#).
4. Check the 12V battery. Refer to [PG-83, "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.
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 "C1AA9" 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 [BR-6, "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. Check that there is no malfunction in pin terminals and connection of master cylinder pressure sensor harness connector.

Is the inspection result normal?

- YES >> GO TO 5.
NO >> Repair or replace error-detected parts and GO TO 4.

C1AA9 PRESSURE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

4. PERFORM SELF-DIAGNOSIS (2)

④ With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect master cylinder pressure 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.
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

5. CHECK POWER SWITCH ON POWER SUPPLY

1. Connect master cylinder pressure 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.
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 [BR-6. "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 (Approx.)
Connector	Terminal		
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.

C1AA9 PRESSURE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

Electrically-driven intelligent brake unit		—	Voltage (Approx.)
Connector	Terminal		
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

- Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is 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 [BR-6. "Precaution for Removing 12V Battery"](#).
- Check the 15A fuse (#62).
- Disconnect IPDM E/R harness connector.
- 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	
E34	26	E15	62	Existed

- 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

Is the inspection result normal?

- YES >> Perform trouble diagnosis for power ON power supply. Refer to [PG-26. "Wiring Diagram—On Power Supply—"](#).
NO >> Repair or replace error-detected parts and GO TO 7.

7. PERFORM SELF-DIAGNOSIS (3)

 With CONSULT

- Connect the electrically-driven intelligent brake unit harness connector.
- Connect master cylinder pressure sensor harness connector.
- Connect IPDM E/R 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 5 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.

C1AA9 PRESSURE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

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:

Never operate the vehicle while waiting.

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

CAUTION:

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.

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.
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 (Approx.)
Connector	Terminal	
E34	1 - 32	10 - 16 V
	2 - 32	
	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 (Approx.)
Connector	Terminal	
E34	1 - 32	10 - 16 V
	2 - 32	
	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.

3. Disconnect 12V battery cable from negative terminal. Refer to [BR-6. "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).

C1AA9 PRESSURE SENSOR

< 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 [PG-15. "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.
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.
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 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.
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.
5. Check the continuity between electrically-driven intelligent brake unit and ground.

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

C1AA9 PRESSURE SENSOR

< 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.
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.
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.
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 [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.

C1AA9 PRESSURE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

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 "C1AA9" detected?

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

15. CHECK MASTER CYLINDER PRESSURE SENSOR INSTALLATION

1. Turn the power switch OFF to exit CONSULT.
2. Check the master cylinder pressure sensor for looseness and disconnection. Refer to [BR-510. "Exploded View"](#).

Is the inspection result normal?

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

C1AA9 PRESSURE SENSOR

< 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.
4. Check the continuity between master cylinder pressure sensor harness connector and ABS actuator and electric unit (control unit) harness connector. Refer to [BRC-107, "Diagnosis Procedure"](#).

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.
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 [BR-6, "Precaution for Removing 12V Battery"](#).
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.
8. 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 [BR-33, "Reference Value"](#).

Is the inspection result normal?

- YES >> GO TO 20.
NO >> Check the ABS actuator and electric unit (control unit). Refer to [BRC-46, "CONSULT Function"](#).

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.
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.

C1AA9 PRESSURE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

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 "C1AA9" detected?

YES >> GO TO 21.

NO >> INSPECTION END

21.CHECK MASTER CYLINDER PRESSURE SENSOR

1. Disconnect master cylinder pressure sensor harness connector.
2. Check that the voltage between master cylinder pressure sensor harness connector changes with the depth of pedal depression.

Is the inspection result normal?

YES >> Replace the electrically-driven intelligent brake unit. Refer to [BR-510. "Removal and installation"](#).

NO >> Check the ABS actuator and electric unit (control unit). Refer to [BRC-46. "CONSULT Function"](#).

C1AB8 MOTOR

< DTC/CIRCUIT DIAGNOSIS >

C1AB8 MOTOR

DTC Logic

INFOID:000000010123077

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1AB8	MOTOR-2	<ul style="list-style-type: none">• Temperature of motor that is integrated with electrically-driven intelligent brake unit is as shown below.<ul style="list-style-type: none">- Motor temperature: -50°C (-122°F) \geq Motor temperature- Motor temperature: 115°C (239°F) \leq 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

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 "C1AB8" detected?

- YES >> Proceed to [BR-385. "Diagnosis Procedure"](#).
NO >> INSPECTION END

C1AB8 MOTOR

< DTC/CIRCUIT DIAGNOSIS >

Diagnosis Procedure

INFOID:000000010123078

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 [BR-6. "Precaution for Removing 12V Battery"](#) and [PG-83. "Work Flow"](#).
4. Check the 12V battery. Refer to [PG-83. "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.
 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 "C1AB8" 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 [BR-6. "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?

C1AB8 MOTOR

< 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.
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 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 (Approx.)
Connector	Terminal		
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.

C1AB8 MOTOR

< DTC/CIRCUIT DIAGNOSIS >

Electrically-driven intelligent brake unit		—	Voltage (Approx.)
Connector	Terminal		
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

- Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is 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 [BR-6. "Precaution for Removing 12V Battery"](#).
- Check the 15A fuse (#62).
- Disconnect IPDM E/R harness connector.
- 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	
E34	26	E15	62	Existed

- 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

Is the inspection result normal?

- YES >> Perform trouble diagnosis for power ON power supply. Refer to [PG-26. "Wiring Diagram—On Power Supply—"](#).
NO >> Repair or replace error-detected part and GO TO 7.

7. PERFORM SELF-DIAGNOSIS (3)

 With CONSULT

- Connect the electrically-driven intelligent brake unit harness connector.
- Connect IPDM E/R 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 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 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.

C1AB8 MOTOR

< 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.
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 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 (Approx.)
Connector	Terminal	
E34	1 - 32	10 - 16 V
	2 - 32	
	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 (Approx.)
Connector	Terminal	
E34	1 - 32	10 - 16 V
	2 - 32	
	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.

3. Disconnect 12V battery cable from negative terminal. Refer to [BR-6, "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).

C1AB8 MOTOR

< 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 [PG-15, "Wiring Diagram — Battery Power Supply —"](#).

NO >> Repair or replace the 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.
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 "C1AB8" 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.
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 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 13.

C1AB8 MOTOR

< 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.
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 "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 [BR-33. "Reference Value"](#).

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

C1AB8 MOTOR

< 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. A
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. B

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

CAUTION:

Never set the vehicle to READY. C

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. D

CAUTION:

Never operate the vehicle while waiting.

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

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. BR

Is DTC "C1AB8" detected?

YES >> GO TO 15. G

NO >> INSPECTION END

15. CHECK DATA MONITOR (2) H

 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. Start CONSULT and select "BRAKE", "DATA MONITOR" according to this order. J
4. Check the "MOTOR TEMPERATURE". Refer to [BR-33, "Reference Value"](#).

"MOTOR TEMPERATURE" is 125 °C (257 °F) or more? K

YES >> GO TO 16.

NO >> Replace the electrically-driven intelligent brake unit. Refer to [BR-510, "Removal and installation"](#). L

16. CHECK MOTOR ROOM

Check for any locations of abnormal heating around the electrically-driven intelligent brake unit.

Are there any heated locations? M

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 [BR-510, "Removal and installation"](#).

17. PERFORM SELF-DIAGNOSIS (7) N

 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. P

CAUTION:

Never operate the vehicle while waiting.

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

C1AB8 MOTOR

< 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.
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 "C1AB8" detected?

- YES >> Replace the electrically-driven intelligent brake unit. Refer to [BR-510. "Removal and installation"](#).
- NO >> INSPECTION END

C1AB9 MOTOR

< DTC/CIRCUIT DIAGNOSIS >

C1AB9 MOTOR

DTC Logic

INFOID:000000010123079

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

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.
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 "C1AB9" detected?

- YES >> Proceed to [BR-393, "Diagnosis Procedure"](#).
NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000010123080

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.

C1AB9 MOTOR

< DTC/CIRCUIT DIAGNOSIS >

3. Check the 12V battery terminal connections. Refer to [BR-6. "Precaution for Removing 12V Battery"](#) and [PG-83. "Work Flow"](#).
4. Check the 12V battery. Refer to [PG-83. "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.
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 "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.
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 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.

C1AB9 MOTOR

< 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.
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 "C1AB9" 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 (Approx.)
Connector	Terminal		
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 (Approx.)
Connector	Terminal		
E34	26	Ground	10 – 16 V

Is the inspection result normal?

YES >> GO TO 8.

NO >> GO TO 6.

C1AB9 MOTOR

< 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.
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. 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	
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		
E34	26	Ground	Not existed

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to [PG-26. "Wiring Diagram—On Power Supply—"](#).

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.
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.
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.

C1AB9 MOTOR

< DTC/CIRCUIT DIAGNOSIS >

Is DTC "C1AB9" 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.

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.
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 (Approx.)
Connector	Terminal	
E34	1 – 32	10 – 16 V
	2 – 32	
	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 (Approx.)
Connector	Terminal	
E34	1 – 32	10 – 16 V
	2 – 32	
	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.

3. Disconnect 12V battery cable from negative terminal. Refer to [BR-6. "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 [PG-15. "Wiring Diagram — Battery Power Supply —"](#).

NO >> Repair or replace the error-detected parts and GO TO 10.

C1AB9 MOTOR

< DTC/CIRCUIT DIAGNOSIS >

10. PERFORM SELF-DIAGNOSIS (4)

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.
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 "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.
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 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 13.

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

12. PERFORM SELF-DIAGNOSIS (5)

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:

C1AB9 MOTOR

< 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.
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 "C1AB9" 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 [BR-33, "Reference Value"](#).

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.

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:

C1AB9 MOTOR

< 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.
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 "C1AB9" detected?

YES >> GO TO 15.

NO >> INSPECTION END

15. CHECK DATA MONITOR (2)

Ⓟ 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. Start CONSULT and select "BRAKE", "DATA MONITOR" according to this order.
4. Check the "MOTOR TEMPERATURE". Refer to [BR-33. "Reference Value"](#).

"MOTOR TEMPERATURE" is 125 °C (257 °F) or more?

YES >> GO TO 16.

NO >> Replace the electrically-driven intelligent brake unit. Refer to [BR-510. "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 [BR-510. "Removal and installation"](#).

17. 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.
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.

C1AB9 MOTOR

< 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 "C1AB9" detected?

YES >> Replace the electrically-driven intelligent brake unit. Refer to [BR-510, "Removal and installation"](#).

NO >> INSPECTION END

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C1ABA MOTOR

< DTC/CIRCUIT DIAGNOSIS >

C1ABA MOTOR

DTC Logic

INFOID:000000010123081

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.
- 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:
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.

Is DTC "C1ABA" detected?

- YES >> Proceed to [BR-402, "Diagnosis Procedure"](#).
NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000010123082

1. 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 wait for 3 minutes or more with all doors closed.
CAUTION:
Never operate the vehicle while waiting.

C1ABA MOTOR

< DTC/CIRCUIT DIAGNOSIS >

3. Check the 12V battery terminal connections. Refer to [BR-6. "Precaution for Removing 12V Battery"](#) and [PG-83. "Work Flow"](#). A
4. Check the 12V battery. Refer to [PG-83. "Work Flow"](#). B

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.
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 "C1ABA" 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 [BR-6. "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.

C1ABA MOTOR

< 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.
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 "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 [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 (Approx.)
Connector	Terminal		
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 (Approx.)
Connector	Terminal		
E34	26	Ground	10 – 16 V

Is the inspection result normal?

YES >> GO TO 8.

NO >> GO TO 6.

C1ABA MOTOR

< 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.
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. 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	
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		
E34	26	Ground	Not existed

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to [PG-26. "Wiring Diagram—On Power Supply—"](#).

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.
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.
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.

C1ABA MOTOR

< 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.
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 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 (Approx.)
Connector	Terminal	
E34	1 – 32	10 – 16 V
	2 – 32	
	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 (Approx.)
Connector	Terminal	
E34	1 – 32	10 – 16 V
	2 – 32	
	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.

3. Disconnect 12V battery cable from negative terminal. Refer to [BR-6. "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 [PG-15. "Wiring Diagram — Battery Power Supply —"](#).
NO >> Repair or replace the error-detected parts and GO TO 10.

C1ABA MOTOR

< 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.
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 "C1ABA" 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.
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 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 13.

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:

C1ABA MOTOR

< 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.
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 "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.
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 [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.

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:

C1ABA MOTOR

< 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.
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 "C1ABA" detected?

YES >> GO TO 15.

NO >> INSPECTION END

15. CHECK DATA MONITOR (2)

Ⓜ 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. Start CONSULT and select "BRAKE", "DATA MONITOR" according this order.
4. Check the "MOTOR TEMPERATURE". Refer to [BR-33. "Reference Value"](#).

"MOTOR TEMPERATURE" is 125 °C (257 °F) or more?

YES >> GO TO 16.

NO >> Replace the electrically-driven intelligent brake unit. Refer to [BR-510. "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 [BR-510. "Removal and installation"](#).

17. 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.
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.

C1ABA MOTOR

< 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 [BR-510, "Removal and installation"](#).

NO >> INSPECTION END

C1AC0 CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

C1AC0 CONTROL MODULE

DTC Logic

INFOID:000000010123083

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1AC0	CONTROL MODULE TEMP-2	<ul style="list-style-type: none">• 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) \geq Control module temperature signal- Control module temperature signal: 150°C (302°F) \leq 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.	<ul style="list-style-type: none">• 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.
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 >> Proceed to [BR-412. "Diagnosis Procedure"](#).
NO >> INSPECTION END

C1AC0 CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

Diagnosis Procedure

INFOID:000000010123084

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 [BR-6. "Precaution for Removing 12V Battery"](#) and [PG-83. "Work Flow"](#).
4. Check the 12V battery. Refer to [PG-83. "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.
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 "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.
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 electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.

Is the inspection result normal?

C1AC0 CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

- 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 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 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 (Approx.)
Connector	Terminal		
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.

C1AC0 CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

Electrically-driven intelligent brake unit		—	Voltage (Approx.)
Connector	Terminal		
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

- Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is 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 [BR-6, "Precaution for Removing 12V Battery"](#).
- Check the 15A fuse (#62).
- Disconnect IPDM E/R harness connector.
- 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	
E34	26	E15	62	Existed

- 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

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to [PG-26, "Wiring Diagram—On Power Supply—"](#).

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

7. PERFORM SELF-DIAGNOSIS (3)

Ⓟ With CONSULT

- Connect the electrically-driven intelligent brake unit harness connector.
- Connect IPDM E/R 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 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 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.

C1AC0 CONTROL MODULE

< 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 "C1AC0" 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.

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.
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 (Approx.)
Connector	Terminal	
E34	1 - 32	10 - 16 V
	2 - 32	
	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 (Approx.)
Connector	Terminal	
E34	1 - 32	10 - 16 V
	2 - 32	
	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.

3. Disconnect 12V battery cable from negative terminal. Refer to [BR-6, "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).

C1AC0 CONTROL MODULE

< 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 [PG-15, "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.
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.
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.
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.
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 13.

C1AC0 CONTROL MODULE

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

C1AC0 CONTROL MODULE

< 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

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. Start CONSULT and select "BRAKE" and "DATA MONITOR" according to this order.
4. Check the "CONTROL MODULE TEMP". Refer to [BR-33, "Reference Value"](#).

"CONTROL MODULE TEMP" is 150 °C (302 °F) or more?

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 [BR-510, "Removal and installation"](#)

17. 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.

C1AC0 CONTROL MODULE

< 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.
- 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 >> Replace the electrically-driven intelligent brake unit. Refer to [BR-510. "Removal and installation"](#).
- NO >> INSPECTION END

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C1AC1 CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

C1AC1 CONTROL MODULE

DTC Logic

INFOID:000000010123085

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1AC1	CONTROL MODULE TEMP-3	<ul style="list-style-type: none">• Temperature of control module that is integrated with electrically-driven intelligent brake unit is as shown below.<ul style="list-style-type: none">- Control module temperature: -50°C (-122°F) \geq Control module temperature- Control module temperature: 150°C (302°F) \leq 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.	<ul style="list-style-type: none">• 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.
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 [BR-421, "Diagnosis Procedure"](#).
NO >> INSPECTION END

C1AC1 CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

Diagnosis Procedure

INFOID:000000010123086

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 [BR-6. "Precaution for Removing 12V Battery"](#) and [PG-83. "Work Flow"](#).
4. Check the 12V battery. Refer to [PG-83. "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.
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 "C1AC1" 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 [BR-6. "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?

C1AC1 CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

- 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 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

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 (Approx.)
Connector	Terminal		
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.

C1AC1 CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

Electrically-driven intelligent brake unit		—	Voltage (Approx.)
Connector	Terminal		
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

- Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is 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 [BR-6. "Precaution for Removing 12V Battery"](#).
- Check the 15A fuse (#62).
- Disconnect IPDM E/R harness connector.
- 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	
E34	26	E15	62	Existed

- 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

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to [PG-26. "Wiring Diagram—On Power Supply—"](#).

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

7. PERFORM SELF-DIAGNOSIS (3)

Ⓜ With CONSULT

- Connect the electrically-driven intelligent brake unit harness connector.
- Connect IPDM E/R 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 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 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.

C1AC1 CONTROL MODULE

< 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.
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 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 (Approx.)
Connector	Terminal	
E34	1 - 32	10 - 16 V
	2 - 32	
	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 (Approx.)
Connector	Terminal	
E34	1 - 32	10 - 16 V
	2 - 32	
	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.

3. Disconnect 12V battery cable from negative terminal. Refer to [BR-6, "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).

C1AC1 CONTROL MODULE

< 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 [PG-15, "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.
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.
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 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.
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.
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 13.

C1AC1 CONTROL MODULE

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

C1AC1 CONTROL MODULE

< 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. A
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. B

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

CAUTION:

Never set the vehicle to READY. C

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. D

CAUTION:

Never operate the vehicle while waiting.

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

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. BR
11. Release brake pedal.
12. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1AC1" detected?

YES >> GO TO 15. G

NO >> INSPECTION END

15. CHECK DATA MONITOR (2) H

 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. Start CONSULT and select "BRAKE" and "DATA MONITOR" according to this order.
4. Check the "CONTROL MODULE TEMP". Refer to [BR-33, "Reference Value"](#). J

"CONTROL MODULE TEMP" is 150 °C (302 °F) or more? K

YES >> GO TO 16.

NO >> INSPECTION END

16. CHECK MOTOR ROOM L

Check for any locations of abnormal heating around the electrically-driven intelligent brake unit.

Are there any heated locations? M

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 [BR-510, "Removal and installation"](#)

17. PERFORM SELF-DIAGNOSIS (7) N

 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. P

CAUTION:

Never operate the vehicle while waiting.

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

C1AC1 CONTROL MODULE

< 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.
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 >> Replace the electrically-driven intelligent brake unit. Refer to [BR-510. "Removal and installation"](#).
- NO >> INSPECTION END

C1AC8 BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

C1AC8 BRAKE POWER SUPPLY BACKUP UNIT

DTC Logic

INFOID:000000010123087

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1AC8	POWER SUPPLY BACKUP UNIT-2	A malfunction is detected in the internal circuit of the brake power supply backup unit.	<ul style="list-style-type: none">• Harness or connector• Fuse• 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.
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 "C1AC8" detected?

- YES >> Proceed to [BR-429, "Diagnosis Procedure"](#).
NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000010123088

1. CHECK 12V BATTERY

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

C1AC8 BRAKE POWER SUPPLY BACKUP UNIT

< 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. Check the 12V battery terminal connections. Refer to [BR-6, "Precaution for Removing 12V Battery"](#) and [PG-83, "Work Flow"](#).
4. Check the 12V battery. Refer to [PG-83, "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.
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 "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 [BR-6, "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.

C1AC8 BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

4. PERFORM SELF-DIAGNOSIS (2)

④ 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.
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 "C1AC8" 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.
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 [BR-6, "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 (Approx.)
Connector	Terminal		
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.

C1AC8 BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

Electrically-driven intelligent brake unit		—	Voltage (Approx.)
Connector	Terminal		
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.
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. 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	
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		
E34	26	Ground	Not existed

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to [PG-26. "Wiring Diagram—On Power Supply—"](#).

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.
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.

C1AC8 BRAKE POWER SUPPLY BACKUP UNIT

< 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 "C1AC8" 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.

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.
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 (Approx.)
Connector	Terminal	
E34	1 - 32	10 - 16 V
	2 - 32	
	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 (Approx.)
Connector	Terminal	
E34	1 - 32	10 - 16 V
	2 - 32	
	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.

3. Disconnect 12V battery cable from negative terminal. Refer to [BR-6, "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).

C1AC8 BRAKE POWER SUPPLY BACKUP UNIT

< 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 [PG-15, "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.
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.
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.
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.
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 13.

C1AC8 BRAKE POWER SUPPLY BACKUP UNIT

< 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.
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 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", "DATE 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 [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.
2. Repeat step 1 two or more times.
CAUTION:

C1AC8 BRAKE POWER SUPPLY BACKUP UNIT

< 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 "C1AC8" detected?

YES >> GO TO 15.

NO >> INSPECTION END

15. CHECK DATA MONITOR (2)

 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. Start CONSULT and select "BRAKE", "DATE MONITOR" according this order.
4. Check the "BACKUP UINT DIAG RESULT". Refer to [BR-33, "Reference Value"](#).

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 [BR-513, "Removal and Installation"](#).

"ERR4">> Replace the brake power supply backup unit. Refer to [BR-513, "Removal and Installation"](#).

"ERR5">> Replace the brake power supply backup unit. Refer to [BR-513, "Removal and Installation"](#).

"ERR6">> Replace the brake power supply backup unit. Refer to [BR-513, "Removal and Installation"](#).

"ERR7">> GO TO 16.

"ERR8">> GO TO 16.

"ERR9">> Replace the brake power supply backup unit. Refer to [BR-513, "Removal and Installation"](#).

"ERR10">> Replace the brake power supply backup unit. Refer to [BR-513, "Removal and Installation"](#).

"ERR11">> Replace the brake power supply backup unit. Refer to [BR-513, "Removal and Installation"](#).

"ERR12">>GO TO 16.

"ERR13">> Replace the brake power supply backup unit. Refer to [BR-513, "Removal and Installation"](#).

"ERR14">> Replace the brake power supply backup unit. Refer to [BR-513, "Removal and Installation"](#).

"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.
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.

C1AC8 BRAKE POWER SUPPLY BACKUP UNIT

< 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.
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 intelligent brake unit		Brake power supply backup unit		Continuity
Connector	Terminal	Connector	Terminal	
E34	31	B15	1	Existed
			4	Not existed
			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		
B15	1	Ground	Not existed

Is the inspection result normal?

YES >> GO TO 17.

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

17. 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 (Approx.)
Connector	Terminal		
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 (Approx.)
Connector	Terminal		
B15	6	Ground	9 – 16 V

Is the inspection result normal?

YES >> GO TO 19.

NO >> GO TO 18.

18. 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.
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 15A fuse (#82).
4. Disconnect 12V battery cable from negative terminal. Refer to [BR-6. "Precaution for Removing 12V Battery"](#).
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 >> GO TO 19.

C1AC8 BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

NO >> Perform trouble diagnosis for 12V battery power supply. Refer to [PG-15. "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	
E34	37	B15	1	Not existed
			4	Not existed
			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		
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. 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	
E34	22	B15	1	Not existed
			4	Existed
			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		
B15	4	Ground	Not existed

Is the inspection result normal?

YES >> Replace the brake power supply backup unit. Refer to [BR-513. "Removal and Installation"](#).

NO >> Repair or replace error-detected parts.

C1AD0 BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

C1AD0 BRAKE POWER SUPPLY BACKUP UNIT

DTC Logic

INFOID:000000010123089

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1AD0	POWER SUPPLY BACKUP UNIT VOLT-2	<ul style="list-style-type: none">• 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: $9\text{ V} \geq$ Power voltage of brake power supply backup unit- Power voltage of brake power supply backup unit: $16\text{ V} \leq$ Power voltage of brake power supply backup unit	<ul style="list-style-type: none">• Harness or connector• Fuse• Brake power supply backup unit• Electrically-driven intelligent brake unit• 12V battery is low

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.
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 "C1AD0" detected?

- YES >> Proceed to [BR-440, "Diagnosis Procedure"](#).
NO >> INSPECTION END

C1AD0 BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

Diagnosis Procedure

INFOID:000000010123090

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 [BR-6. "Precaution for Removing 12V Battery"](#) and [PG-83. "Work Flow"](#).
4. Check the 12V battery. Refer to [PG-83. "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.
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 "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.
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 electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.

C1AD0 BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

- 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)

Ⓜ With CONSULT

- Connect the electrically-driven intelligent brake unit harness connector.
- Connect the brake power supply backup 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 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 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.

Is DTC "C1AD0" detected?

YES >> GO TO 5.

NO >> INSPECTION END

5.CHECK POWER SWITCH ON POWER SUPPLY

- Connect the brake power supply backup unit harness connector.
- 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 operate the vehicle while waiting.
- 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.
- Connect 12V battery cable to negative terminal.
- Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

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

C1AD0 BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

- 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.

Electrically-driven intelligent brake unit		—	Voltage (Approx.)
Connector	Terminal		
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

- Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is 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 [BR-6. "Precaution for Removing 12V Battery"](#).
- Check the 15A fuse (#62).
- Disconnect IPDM E/R harness connector.
- 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	
E34	26	E15	62	Existed

- 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

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to [PG-26. "Wiring Diagram—On Power Supply—"](#).

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

7. PERFORM SELF-DIAGNOSIS (3)

Ⓟ With CONSULT

- Connect the electrically-driven intelligent brake unit harness connector.
- Connect the IPDM E/R 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 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 READY.

C1AD0 BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

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 "C1AD0" 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.

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.
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 (Approx.)
Connector	Terminal	
E34	1 - 32	10 - 16 V
	2 - 32	
	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 (Approx.)
Connector	Terminal	
E34	1 - 32	10 - 16 V
	2 - 32	
	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.

3. Disconnect 12V battery cable from negative terminal. Refer to [BR-6. "Precaution for Removing 12V Battery"](#).
4. Check the 60A fusible link (#F).

C1AD0 BRAKE POWER SUPPLY BACKUP UNIT

< 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 [PG-15, "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.
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.
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 "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.
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 electrically-driven intelligent brake unit harness connector.
5. Check the continuity between electrically-driven intelligent brake unit and ground.

C1AD0 BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

Electrically-driven intelligent brake unit		—	Continuity
Connector	Terminal		
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)

④With 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.
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 "C1AD0" detected?

YES >> GO TO 13.

NO >> INSPECTION END

13.CHECK DATA MONITOR

④With 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 [BR-33. "Reference Value"](#).

Is the inspection result normal?

YES >> GO TO 14.

NO >> Replace the electrically-driven intelligent brake unit. Refer to [BR-510. "Removal and installation"](#).

C1AD0 BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

14.PERFORM SELF-DIAGNOSIS (6)

④With 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 "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 (Approx.)
Connector	Terminal		
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 (Approx.)
Connector	Terminal		
B15	6	Ground	9 – 16 V

Is the inspection result normal?

YES >> Replace the brake power supply backup unit. Refer to [BR-513, "Removal and Installation"](#).

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.
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:

C1AD0 BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

Never operate the vehicle while waiting.

3. Disconnect 12V battery cable from negative terminal. Refer to [BR-6, "Precaution for Removing 12V Battery"](#).
4. Check the 15A fusible link (#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 >> Replace the brake power supply backup unit. Refer to [BR-513, "Removal and Installation"](#).

NO (9 V or less)>>Perform trouble diagnosis for 12V battery power supply. Refer to [PG-15, "Wiring Diagram — Battery Power Supply —"](#).

NO (16 V or more)>>Perform diagnosis for the PDM (Power Delivery Module). Refer to [VC-28, "CONSULT Function"](#).

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U1000 CAN COMM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

U1000 CAN COMM CIRCUIT

Description

INFOID:000000010123091

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:000000010123092

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 seconds or more.	CAN communication system malfunction

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

④ 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.
- Close all doors (including back door), check that the room lamp is 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.

Is DTC "U1000" detected?

- YES >> Proceed to [BR-449, "Diagnosis Procedure"](#).
NO >> INSPECTION END

U1000 CAN COMM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

Diagnosis Procedure

INFOID:000000010123093

Proceed to [LAN-17, "Trouble Diagnosis Flow Chart"](#).

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U1010 CONTROL UNIT (CAN)

< DTC/CIRCUIT DIAGNOSIS >

U1010 CONTROL UNIT (CAN)

Description

INFOID:000000010123094

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:000000010123095

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

④ 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 "U1010" detected?

- YES >> Proceed to [BR-451, "Diagnosis Procedure"](#).
NO >> INSPECTION END

U1010 CONTROL UNIT (CAN)

< DTC/CIRCUIT DIAGNOSIS >

Diagnosis Procedure

INFOID:000000010123096

1. CHECK SELF-DIAGNOSIS RESULTS

Check for failures in the pin terminals and connections of the electrically-driven intelligent brake unit harness connector.

Is the inspection result normal?

- YES >> Replace the electrically-driven intelligent brake unit. Refer to [BR-510, "Removal and installation"](#).
- NO >> Repair or replace error-detected parts.

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U1510 ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) COMMUNICATION

< DTC/CIRCUIT DIAGNOSIS >

U1510 ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) COMMUNICATION

DTC Logic

INFOID:000000010123097

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
U1510	BRAKE CONTROL COMMUNICATION	Signals from brake communications line * are not sent or received continuously for 4 seconds or more.	<ul style="list-style-type: none">• 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

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 "U1510" detected?

YES >> Proceed to [BR-452, "Diagnosis Procedure"](#).

NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000010123098

1. CHECK 12V BATTERY

U1510 ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) COMMUNICATION

< DTC/CIRCUIT DIAGNOSIS >

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 [BR-6, "Precaution for Removing 12V Battery"](#) and [PG-83, "Work Flow"](#).
4. Check the 12V battery. Refer to [PG-83, "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.
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 "U1510" 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 [BR-6, "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)

U1510 ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) COMMUNICATION

< DTC/CIRCUIT DIAGNOSIS >

Ⓟ 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.
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.
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 (Approx.)
Connector	Terminal		
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 (Approx.)
Connector	Terminal		
E34	26	Ground	10 – 16 V

U1510 ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) COMMUNICATION

< 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.
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. 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	
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		
E34	26	Ground	Not existed

Is the inspection result normal?

- YES >> Perform trouble diagnosis for power ON power supply. Refer to [PG-26, "Wiring Diagram—On Power Supply—"](#).
- 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.
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.

U1510 ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) COMMUNICATION

< 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.
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 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 (Approx.)
Connector	Terminal	
E34	1 - 32	10 - 16 V
	2 - 32	
	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 (Approx.)
Connector	Terminal	
E34	1 - 32	10 - 16 V
	2 - 32	
	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.

3. Disconnect 12V battery cable from negative terminal. Refer to [BR-6. "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?

U1510 ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) COMMUNICATION

< DTC/CIRCUIT DIAGNOSIS >

- YES >> Perform trouble diagnosis for 12V battery power supply. Refer to [PG-15, "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.
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.
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 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.
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.
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 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.

U1510 ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) COMMUNICATION

< 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.
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 "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.
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 to 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 [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.
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:

U1510 ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) COMMUNICATION

< 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.
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 "U1510" detected?

YES >> GO TO 15.

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 DTC "U110D" detected?

YES >> Perform diagnosis. Refer to [BRC-134, "Diagnosis Procedure"](#).

NO >> Replace the electrically-driven intelligent brake unit. Refer to [BR-510, "Removal and installation"](#).

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U1511 BRAKE POWER SUPPLY BACKUP UNIT COMMUNICATION

< DTC/CIRCUIT DIAGNOSIS >

U1511 BRAKE POWER SUPPLY BACKUP UNIT COMMUNICATION

DTC Logic

INFOID:000000010123099

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.	<ul style="list-style-type: none">• 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

Ⓜ 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 "U1511" detected?

- YES >> Proceed to [BR-460, "Diagnosis Procedure"](#).
NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000010123100

1. CHECK 12V BATTERY

1. 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 >

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 [BR-6, "Precaution for Removing 12V Battery"](#) and [PG-83, "Work Flow"](#).
4. Check the 12V battery. Refer to [PG-83, "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.
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 "U1511" 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 [BR-6, "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.

U1511 BRAKE POWER SUPPLY BACKUP UNIT COMMUNICATION

< DTC/CIRCUIT DIAGNOSIS >

4. PERFORM SELF-DIAGNOSIS (2)

④ 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.
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 [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 (Approx.)
Connector	Terminal		
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.

U1511 BRAKE POWER SUPPLY BACKUP UNIT COMMUNICATION

< DTC/CIRCUIT DIAGNOSIS >

Electrically-driven intelligent brake unit		—	Voltage (Approx.)
Connector	Terminal		
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

- Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is 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 [BR-6. "Precaution for Removing 12V Battery"](#).
- Check the 15A fuse (#62).
- Disconnect IPDM E/R harness connector.
- 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	
E34	26	E15	62	Existed

- 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

Is the inspection result normal?

- YES >> Perform trouble diagnosis for power ON power supply. Refer to [PG-26. "Wiring Diagram—On Power Supply—"](#).
NO >> Repair or replace error-detected parts and GO TO 7.

7. PERFORM SELF-DIAGNOSIS (3)

 With CONSULT

- Connect the electrically-driven intelligent brake unit harness connector.
- Connect IPDM E/R 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 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 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.

U1511 BRAKE POWER SUPPLY BACKUP UNIT COMMUNICATION

< 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.
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 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 (Approx.)
Connector	Terminal	
E34	1 - 32	10 - 16 V
	2 - 32	
	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 (Approx.)
Connector	Terminal	
E34	1 - 32	10 - 16 V
	2 - 32	
	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.

3. Disconnect 12V battery cable from negative terminal. Refer to [BR-6, "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).

U1511 BRAKE POWER SUPPLY BACKUP UNIT COMMUNICATION

< 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 [PG-15, "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.
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.
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 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.
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.
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 13.

U1511 BRAKE POWER SUPPLY BACKUP UNIT COMMUNICATION

< 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.
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 "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.
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 [BR-33. "Reference Value"](#).

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

U1511 BRAKE POWER SUPPLY BACKUP UNIT COMMUNICATION

< 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 "U1511" 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.
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 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 intelligent brake unit		Brake power supply backup unit		Continuity
Connector	Terminal	Connector	Terminal	
E34	31	B15	1	Existed
	31		4	Not existed
	31		5	Not existed
	22		1	Not existed
	22		4	Existed
	22		5	Not existed
	37		1	Not existed
	37		4	Not existed
	37		5	Existed

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

U1511 BRAKE POWER SUPPLY BACKUP UNIT COMMUNICATION

< DTC/CIRCUIT DIAGNOSIS >

Electrically-driven intelligent brake unit		—	Continuity
Connector	Terminal		
E34	31	Ground	Not existed
	22		Not existed
	37		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 (Approx.)
Connector	Terminal		
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 (Approx.)
Connector	Terminal		
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 [BR-6, "Precaution for Removing 12V Battery"](#).
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 [PG-15, "Wiring Diagram — Battery 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 >

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

Is DTC "U1511" detected?

YES >> GO TO 19.

NO >> INSPECTION END

19. REPLACE BRAKE POWER SUPPLY BACKUP UNIT

Ⓜ With CONSULT

1. Replace the brake power supply backup unit. Refer to [BR-513, "Removal and Installation"](#).
2. Connect the electrically-driven intelligent brake 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.
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 >> Replace the electrically-driven intelligent brake unit. Refer to [BR-510, "Removal and installation"](#).

NO >> INSPECTION END

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

POWER SUPPLY AND GROUND CIRCUIT

Diagnosis Procedure

INFOID:000000010123101

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.
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 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 (Approx.)
Connector	Terminal		
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		—	Voltage (Approx.)
Connector	Terminal		
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.
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. 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.

Electrically-driven intelligent brake unit		IPDM E/R		Continuity
Connector	Terminal	Connector	Terminal	
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		
E34	26	Ground	Not existed

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

Is the inspection result normal?

- YES >> Perform trouble diagnosis for power ON power supply. Refer to [PG-26, "Wiring Diagram—On Power Supply—"](#).
- 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		
E34	1	Ground	10 – 16 V
	2		
	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.

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

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 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 [PG-15, "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.

POWER SUPPLY AND GROUND CIRCUIT

< 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.

- Disconnect 12V battery cable from negative terminal. Refer to [BR-6, "Precaution for Removing 12V Battery"](#).
- Disconnect brake power supply backup unit harness connector.
- Connect 12V battery cable to negative terminal.
- Check the voltage between brake power supply backup unit harness connector and ground.

Brake power supply backup unit		—	Voltage (Approx.)
Connector	Terminal		
B15	6	Ground	10 – 16 V

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

CAUTION:

Never set the vehicle to READY.

- Check the voltage between brake power supply backup unit harness connector and ground.

Brake power supply backup unit		—	Voltage (Approx.)
Connector	Terminal		
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

- Turn the power switch OFF to exit CONSULT, and disconnect CONSULT from data link connector.
- Close all doors (including back door), check that the room lamp is 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 [BR-6, "Precaution for Removing 12V Battery"](#).
- Check the 15A fuse (#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 >> Perform trouble diagnosis for 12V battery power supply. Refer to [PG-15, "Wiring Diagram — Battery 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.

8. CHECK BRAKE POWER SUPPLY BACKUP UNIT GROUND

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

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

Brake power supply backup unit		—	Continuity
Connector	Terminal		
B15	2	Ground	Existed

Is the inspection result normal?

YES >> GO TO 9.

NO >> Repair or replace error-detected parts.

9.CHECK TERMINAL

- Check for failures in the pin terminals and connections of the electrically-driven 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 pin terminals and connections in brake power supply backup unit harness connector.

Is the inspection result normal?

YES >> INSPECTION END

NO >> Repair or replace error-detected parts.

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WARNING BUZZER

< DTC/CIRCUIT DIAGNOSIS >

WARNING BUZZER

Diagnosis Procedure

INFOID:000000010123102

1. CHECK POWER AND GROUND CIRCUITS OF ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT

Perform diagnosis of electrically-driven intelligent brake unit power and ground circuits. [BR-470. "Diagnosis Procedure"](#).

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.
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 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 [BR-510. "Removal and installation"](#).
- NO >> Replace the warning buzzer. Refer to [BR-515. "Removal and Installation"](#).

Component Inspection

INFOID:000000010123103

1. CHECK WARNING BUZZER

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 Battery"](#).
4. Disconnect buzzer harness connector.
5. Apply voltage of 12V between warning buzzer connector terminals 1 and 2.

WARNING BUZZER

< DTC/CIRCUIT DIAGNOSIS >

Condition	Warning buzzer
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"](#).

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BRAKE WARNING LAMP

< DTC/CIRCUIT DIAGNOSIS >

BRAKE WARNING LAMP

Component Function Check

INFOID:000000010123106

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 [BR-476, "Diagnosis Procedure"](#).

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 [BRC-142, "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 [BRC-115, "Diagnosis Procedure"](#).

Diagnosis Procedure

INFOID:000000010123107

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 [BR-470, "Diagnosis Procedure"](#).

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 [BR-29, "CONSULT Function"](#).
- "ABS": Refer to [BRC-46, "CONSULT Function"](#).

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 [BR-510, "Removal and installation"](#).

NO >> Replace combination meter. Refer to [MWI-102, "Removal and Installation"](#).

BRAKE SYSTEM WARNING LAMP

< DTC/CIRCUIT DIAGNOSIS >

BRAKE SYSTEM WARNING LAMP

Component Function Check

INFOID:000000010123108

1.CHECK BRAKE SYSTEM WARNING LAMP FUNCTION

Check that brake system 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 >> INSPECTION END
NO >> Proceed to [BR-477, "Diagnosis Procedure"](#).

Diagnosis Procedure

INFOID:000000010123109

1.CHECK POWER AND GROUND CIRCUITS OF ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT

Perform diagnosis of electrically-driven intelligent brake unit power and ground circuits. [BR-470, "Diagnosis Procedure"](#).

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 a malfunction detected?

- YES >> Check the error-detected system.
• "BRAKE": Refer to [BR-38, "DTC Index"](#).
• "ABS": Refer to [BRC-46, "CONSULT Function"](#).
NO >> GO TO 3.

3.CHECK BRAKE SYSTEM WARNING LAMP ILLUMINATION

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 [BR-510, "Removal and installation"](#).
NO >> Replace combination meter. Refer to [MWI-102, "Removal and Installation"](#).

NOISE, VIBRATION AND HARSHNESS (NVH) TROUBLESHOOTING

< SYMPTOM DIAGNOSIS >

SYMPTOM DIAGNOSIS

NOISE, VIBRATION AND HARSHNESS (NVH) TROUBLESHOOTING

NVH Troubleshooting Chart

INFOID:000000010283843

Use the chart below to find the cause of the symptom. If necessary, repair or replace these parts.

Symptom		BRAKE	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 AND SUSPENSION	TIRE	ROAD WHEEL	DRIVE SHAFT	STEERING		
Noise			x	x	x								x	x	x	x	x		
Shake						x							x	x	x	x	x		
Shimmy, Judder						x	x	x	x	x	x	x	x	x	x		x		
Reference page			BR-496, BR-498	BR-496, BR-498	BR-517, BR-521	BR-496, BR-498	NVH in FAX, RAX and FSU, RSU section	NVH in WT section	NVH in WT section	NVH in FAX section	NVH in ST section								

x: Applicable

UNEXPECTED BRAKE PEDAL REACTION

< SYMPTOM DIAGNOSIS >

UNEXPECTED BRAKE PEDAL REACTION

Description

INFOID:0000000010123110

A malfunction of brake pedal feel (height or others) is detected when the brake pedal is depressed.

Diagnosis Procedure

INFOID:0000000010123111

1.CHECK AXLE

Check that there is no significant looseness of axle.

- Front axle: Refer to [FAX-7. "Inspection"](#).
- Rear axle: Refer to [RAX-6. "Inspection"](#).

Is the inspection result normal?

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

2.CHECK DISC ROTOR

Check the disc rotor runout.

- Front: Refer to [BR-496. "DISC ROTOR : Inspection and Adjustment"](#).
- Rear: Refer to [BR-498. "DISC ROTOR : Inspection and Adjustment"](#).

Is the inspection result normal?

- YES >> GO TO 3.
- NO >> Grind disc rotor.

3.CHECK BRAKE FLUID LEAKAGE

Check the brake fluid leakage.

- Front: Refer to [BR-506. "FRONT : Inspection"](#).
- Rear: Refer to [BR-509. "REAR : Inspection"](#).

Is the inspection result normal?

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

4.CHECK BRAKE PEDAL

Check the brake pedal items. Refer to [BR-490. "Inspection and Adjustment"](#).

Is the inspection result normal?

- YES >> GO TO 5.
- NO >> Adjust the brake pedal items. Refer to [BR-490. "Inspection and Adjustment"](#).

5.CHECK BRAKING FORCE

Check the braking force.

Is the inspection result normal?

- YES >> GO TO 6.
- NO >> Check each component of brake system.

6.CHECK BRAKE PERFORMANCE

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.

Is the inspection result normal?

- YES >> Normal
- NO >> Check each component of brake system.

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THE BRAKING DISTANCE IS LONG

< SYMPTOM DIAGNOSIS >

THE BRAKING DISTANCE IS LONG

Description

INFOID:000000010123112

Brake stopping distance is long when ABS function is operated.

Diagnosis Procedure

INFOID:000000010123113

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.
 3. Check the 12V battery terminal connections. Refer to [BR-6, "Precaution for Removing 12V Battery"](#) and [PG-83, "Work Flow"](#).
 4. Check the 12V battery. Refer to [PG-83, "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.
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 detected?

YES >> Check the DTC. Refer to [BR-38, "DTC Index"](#). 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.

THE BRAKING DISTANCE IS LONG

< 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"](#).
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 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 [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 [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.

THE BRAKING DISTANCE IS LONG

< SYMPTOM DIAGNOSIS >

Electrically-driven intelligent brake unit		—	Voltage (Approx.)
Connector	Terminal		
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 (Approx.)
Connector	Terminal		
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.

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. 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	
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		
E34	26	Ground	Not existed

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to [PG-26, "Wiring Diagram—On Power Supply—"](#).

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.

THE BRAKING DISTANCE IS LONG

< SYMPTOM DIAGNOSIS >

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

Is any DTC detected?

- YES >> Check the DTC. Refer to [BR-38, "DTC Index"](#). 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.
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.
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 (Approx.)
Connector	Terminal	
E34	1 - 32	10 - 16 V
	2 - 32	
	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 (Approx.)
Connector	Terminal	
E34	1 - 32	10 - 16 V
	2 - 32	
	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.

THE BRAKING DISTANCE IS LONG

< 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"](#).
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 [PG-15, "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.
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.
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 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.

THE BRAKING DISTANCE IS LONG

< SYMPTOM 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.
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 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.
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.
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 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.
6. Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER". Refer to [BR-33. "Reference Value"](#).

THE BRAKING DISTANCE IS LONG

< SYMPTOM DIAGNOSIS >

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.

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 any DTC detected?

YES >> Check the DTC. Refer to [BR-38. "DTC Index"](#).

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

INFOID:0000000010123114

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

INFOID:0000000010123115

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?

- YES >> Normal
- NO >> GO TO 2.

2. PERFORM SELF-DIAGNOSIS

Ⓜ 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 any DTC detected?

- YES >> Check the DTC. Refer to [BR-38, "DTC Index"](#).
- NO >> Perform symptom diagnosis for VDC function, TCS function, ABS function, EBD function, brake limited slip differential (BLSD) function, or brake assist function. Refer to [BRC-155, "Diagnosis Procedure"](#). GO TO 3.

3. CHECK CONNECTOR

Ⓜ With CONSULT

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 Battery"](#).

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-72. "CONSULT Function"](#).

Is any DTC detected?

YES >> Check the DTC. Refer to [EVC-102. "DTC Index"](#).

NO >> Replace ABS actuator and electric unit (control unit). Refer to [BRC-164. "Removal and Installation"](#).

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

NORMAL OPERATING CONDITION

Description

INFOID:0000000010123116

Symptom	Result
The brake pedal may move during braking.	This occurs when the electrically-driven intelligent brake unit is operating normally and is not a malfunction.
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 operated.	
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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BRAKE PEDAL

< PERIODIC MAINTENANCE >

PERIODIC MAINTENANCE

BRAKE PEDAL

Inspection and Adjustment

INFOID:000000010123117

INSPECTION

Brake Pedal Height

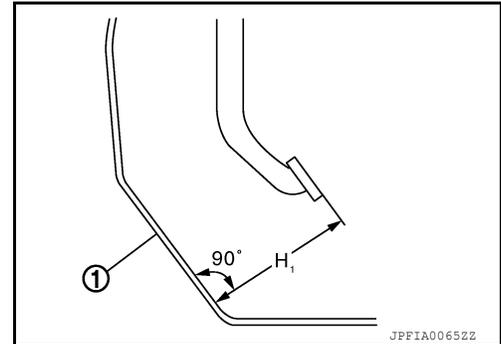
Check the height from the dash lower panel ① to the top face of the brake pedal (H₁), using Tool.

(H₁) : Refer to [BR-530, "Brake Pedal"](#).

Tool number : — (J-46532)

CAUTION:

Perform with the floor trim pulled up.



Stop Lamp Switch and Brake Pedal Position Switch (if equipped)

Check the clearance (C) between brake pedal lever ① and the threaded end of stop lamp switch and brake pedal position switch ② (if equipped).

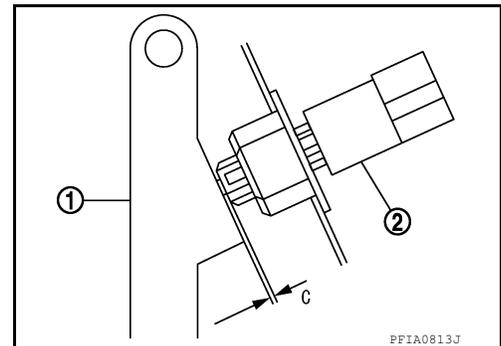
(C) : Refer to [BR-530, "Brake Pedal"](#).

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 (if equipped), check with the brake pedal (pad) pulled gently toward you.



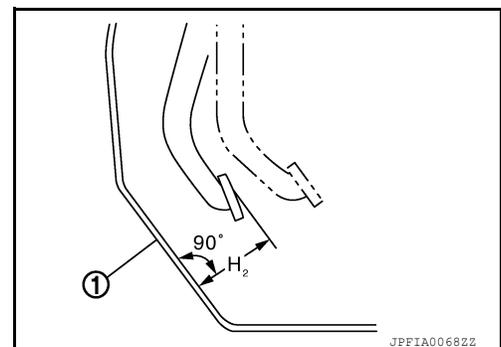
Pedal Height When Depressed

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.

(H₂) : Refer to [BR-530, "Brake Pedal"](#).

CAUTION:

Perform with the floor trim pulled up.



ADJUSTMENT

Brake Pedal Height

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 (if equipped).
3. Rotate the stop lamp switch and brake pedal position switch (if equipped) counterclockwise by 45° to loosen them.

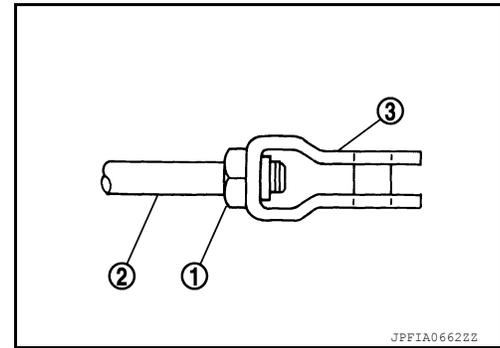
BRAKE PEDAL

< PERIODIC MAINTENANCE >

- Loosen the input rod lock nut ①.
- Rotate the input rod ②.

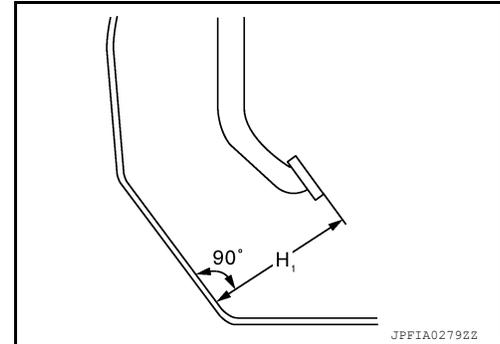
CAUTION:

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).

(H₁) : Refer to [BR-530, "Brake Pedal"](#).



- Tighten the lock nut to the specified torque. [BR-510, "Exploded View"](#).
- 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 (if equipped).
- Perform stroke sensor 0 point learning when the brake pedal assembly is removed and installed, or replaced. Refer to [BR-53, "Work Procedure"](#).

Stop Lamp Switch and Brake Pedal Position Switch (if equipped)

- Remove the instrument lower panel LH. Refer to [IP-17, "Removal and Installation"](#).
- Disconnect the harness connectors from the stop lamp switch and brake pedal position switch (if equipped).
- Rotate the stop lamp switch and brake pedal position switch (if equipped) counterclockwise by 45° to loosen them.
- 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 (if equipped) contacts the brake pedal lever ①. Under those conditions, rotate 45° to the right to fasten it in place.

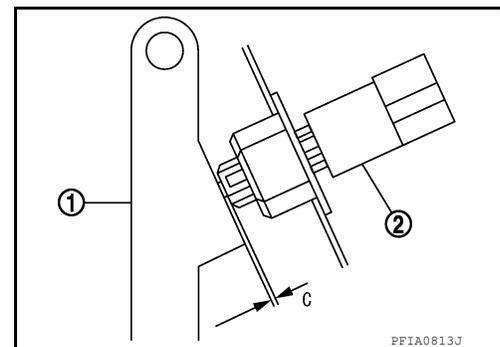
CAUTION:

• 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 [BR-530, "Brake Pedal"](#).

• 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 [BR-53, "Work Procedure"](#).



Pedal Height When Depressed

- Perform air bleeding. [BR-494, "Bleeding Brake System"](#).

BRAKE PEDAL

< PERIODIC MAINTENANCE >

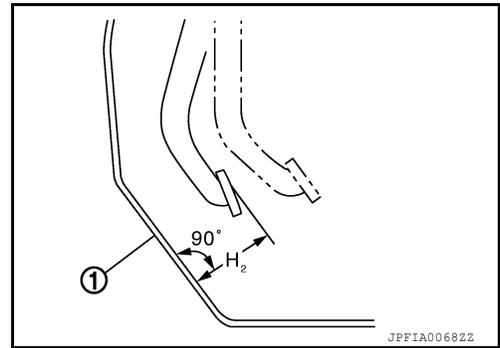
2. Check the height from the dash lower panel ① to the top face of the brake pedal (H₂) when depressing the brake pedal with a force of 196 N (20 kg, 44 lb) while the vehicle is in READY state.

(H₂) : Refer to [BR-530, "Brake Pedal"](#).

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 (if equipped).
4. Perform stroke sensor 0 point learning when the brake pedal assembly is removed and installed, or replaced. Refer to [BR-53, "Work Procedure"](#).



BRAKE FLUID

< PERIODIC MAINTENANCE >

BRAKE FLUID

Inspection

INFOID:0000000010123118

CHECK BRAKE FLUID LEVEL

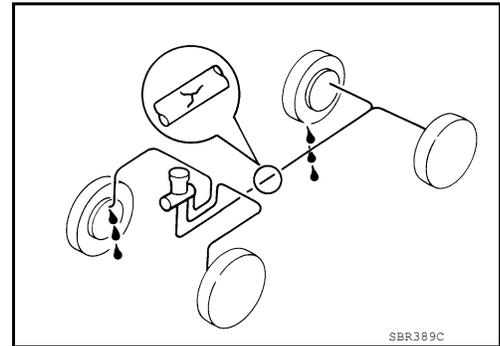
- Check that the brake fluid level in the reservoir tank is within the standard (between MAX – MIN lines).
- Visually check around the reservoir tank for brake fluid leakage.
- If the brake fluid level is extremely low (below the MIN line), check the amount of brake fluid and check for brake fluid leaks 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.
2. 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.



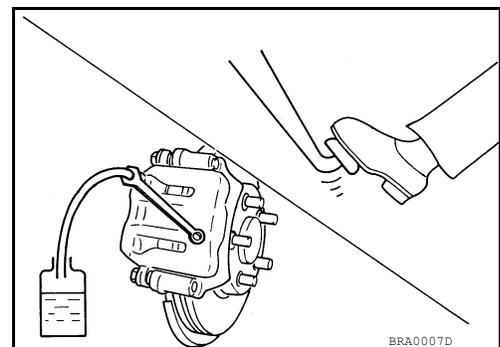
Draining

INFOID:0000000010123119

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 [BR-6. "Precaution for Removing 12V Battery"](#).
- 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

INFOID:0000000010123120

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

< PERIODIC MAINTENANCE >

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. [BR-494. "Bleeding Brake System"](#).

Bleeding Brake System

INFOID:000000010123121

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 rear right wheel air bleeder.
 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 [BR-518. "BRAKE CALIPER ASSEMBLY : Exploded View"](#).
 - Rear disc brake: Refer to [BR-525. "BRAKE CALIPER ASSEMBLY : Exploded View"](#).
 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: rear right brake → front left brake → rear left brake → front right brake.
 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 [BR-490. "Inspection and Adjustment"](#).

ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT

< PERIODIC MAINTENANCE >

ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT

Inspection

INFOID:000000010123122

Brake fluid leakage

Check for brake fluid leakage from the brake tube connections and the electrically-driven intelligent brake unit.

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FRONT DISC BRAKE

< PERIODIC MAINTENANCE >

FRONT DISC BRAKE BRAKE PAD

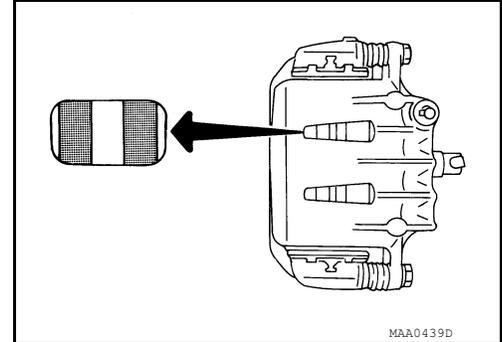
BRAKE PAD : Inspection and Adjustment

INFOID:000000010123123

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 thickness : Refer to [BR-531, "Front Disc Brake"](#).



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

INFOID:000000010123124

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

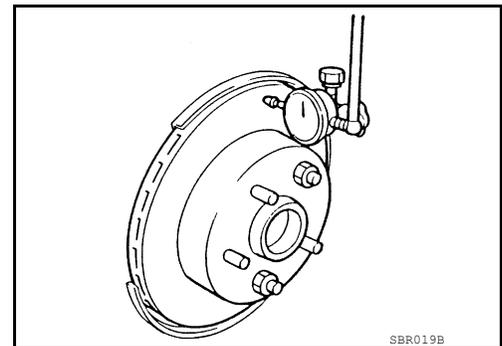
1. Use the wheel nuts and fasten the disc rotor to the wheel hub assembly (minimum 2 positions).
2. Check axial end play of wheel hub assembly. [FAX-7, "Inspection"](#).
3. Check runout using a dial indicator [at 10 mm (0.39 in) from outer edge of disc rotor].

Maximum runout (vehicle stopped) : Refer to [BR-531, "Front Disc 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.
5. 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 [FAX-9, "Removal and Installation"](#).



FRONT DISC BRAKE

< PERIODIC MAINTENANCE >

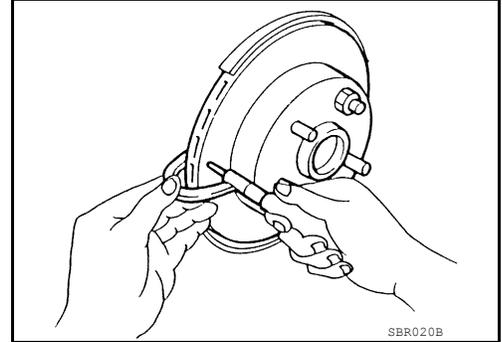
Wear limit thickness : Refer to [BR-531, "Front Disc Brake"](#).

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. [FAX-9, "Removal and Installation"](#).

Wear limit thickness : Refer to [BR-531, "Front Disc Brake"](#).



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.

REAR DISC BRAKE

< PERIODIC MAINTENANCE >

REAR DISC BRAKE

BRAKE PAD

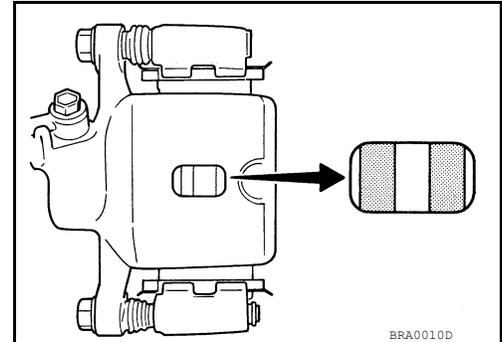
BRAKE PAD : Inspection and Adjustment

INFOID:000000010123125

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 thickness : Refer to [BR-531, "Rear Disc Brake"](#).



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

INFOID:000000010123126

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

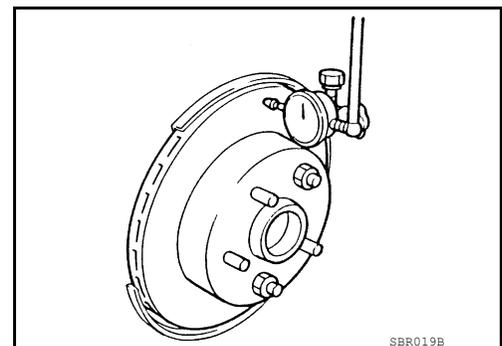
1. Use the wheel nuts and fasten the disc rotor to the wheel hub assembly (minimum 2 positions).
2. Check axial end play of wheel hub assembly. [RAX-6, "Inspection"](#).
3. Check runout using a dial indicator [at 10 mm (0.39 in) from outer edge of disc rotor].

Maximum runout (vehicle stopped) : Refer to [BR-531, "Rear Disc 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.
5. 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 [RAX-7, "Removal and Installation"](#).



REAR DISC BRAKE

< PERIODIC MAINTENANCE >

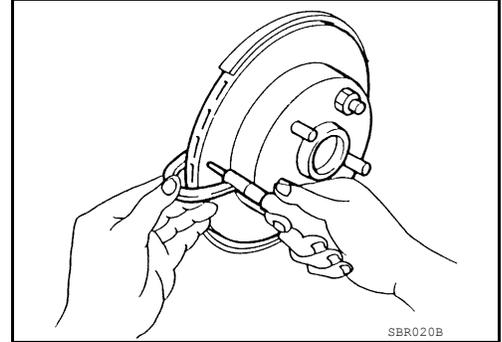
Wear limit thickness : Refer to [BR-531, "Rear Disc Brake"](#).

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 [RAX-7, "Removal and Installation"](#).

Wear limit thickness : Refer to [BR-531, "Rear Disc Brake"](#).



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.

BRAKE PEDAL

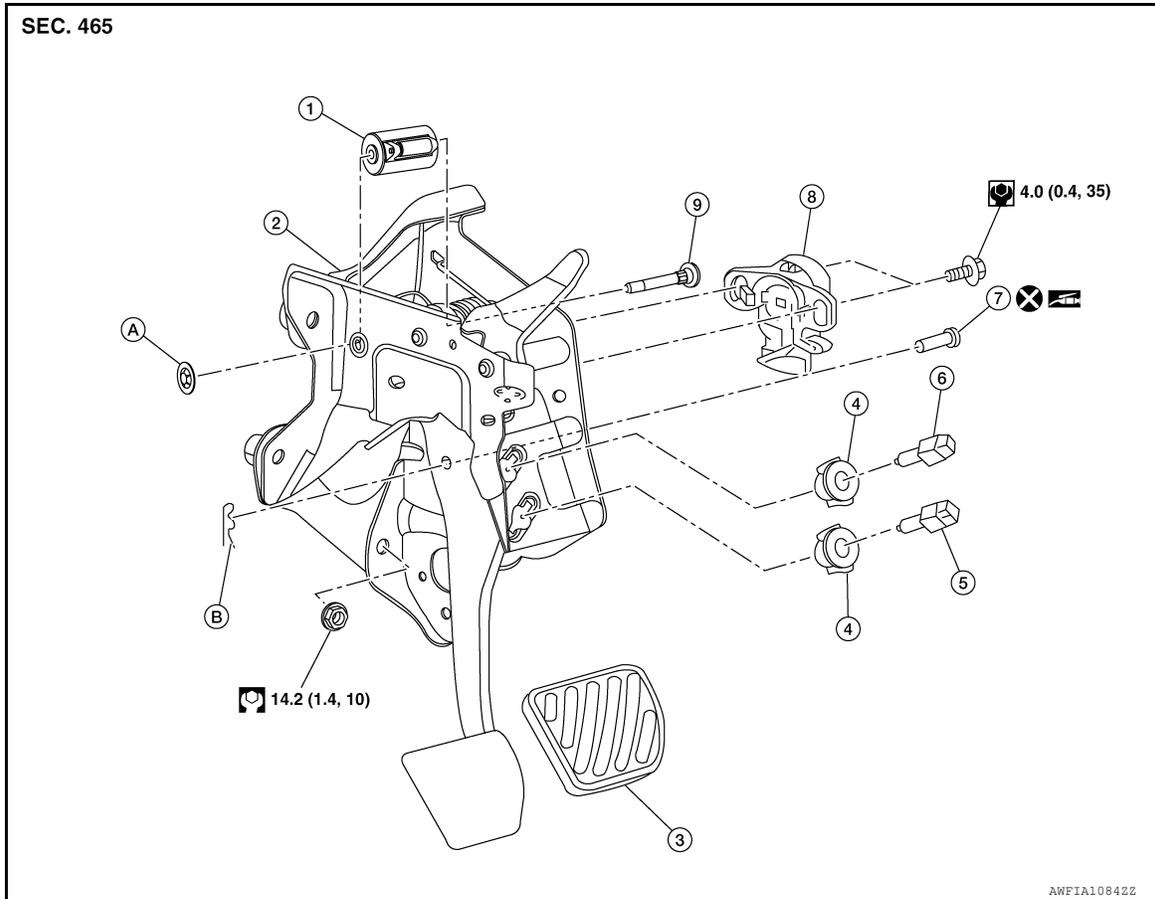
< REMOVAL AND INSTALLATION >

REMOVAL AND INSTALLATION

BRAKE PEDAL

Exploded View

INFOID:000000010123127



- | | | |
|----------------------------|---|--------------------|
| ① Hysteresis unit assembly | ② Brake pedal assembly | ③ Brake pedal pad |
| ④ Clip | ⑤ Brake pedal position switch (if equipped) | ⑥ Stop lamp switch |
| ⑦ Clevis pin | ⑧ Stroke sensor | ⑨ Hysteresis shaft |
| Ⓐ Push nut | Ⓑ Snap pin | |

 Apply multi-purpose grease.

Removal and Installation

INFOID:000000010123128

REMOVAL

CAUTION:

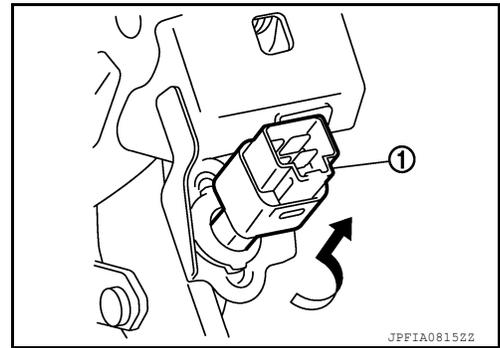
Prevent impact on brake pedal assembly. To prevent damage to the parts, do not drop brake pedal assembly.

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 (if equipped).
3. Disconnect the harness connector from the stroke sensor.

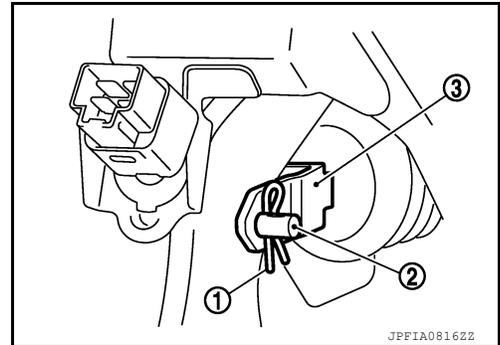
BRAKE PEDAL

< REMOVAL AND INSTALLATION >

4. Rotate the stop lamp switch and the brake pedal position switch ① (if equipped) 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 [ST-35, "Removal and Installation"](#).
8. Remove the brake pedal assembly.



9. Remove hysteresis unit assembly from brake pedal assembly.
CAUTION:
 - To prevent damage to the parts, hold the electrically-driven 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.
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.
- 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 [BR-53, "Work Procedure"](#).
- Perform stroke sensor 0 point learning when stroke sensor removed and installed, or replaced. Refer to [BR-53, "Work Procedure"](#).
- Perform adjustment after installation. Refer to [BR-501, "Inspection and Adjustment"](#).

Inspection and Adjustment

INFOID:000000010123129

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.

BRAKE PEDAL

< 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 [BR-490, "Inspection and Adjustment"](#).
- Perform the release position learning of the accelerator pedal. Refer to [EVC-133, "Work Procedure"](#).

BRAKE PIPING

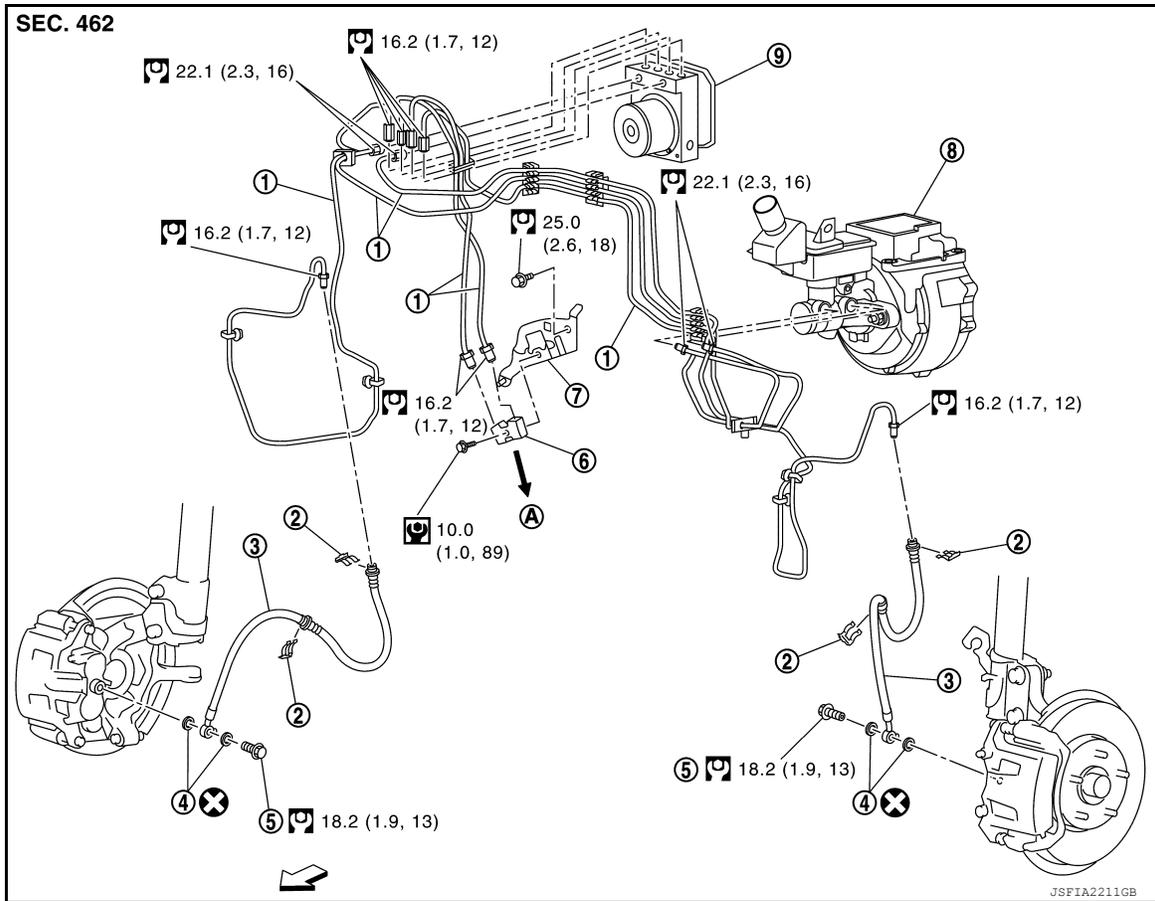
< REMOVAL AND INSTALLATION >

BRAKE PIPING

FRONT

FRONT : Exploded View

INFOID:000000010123130



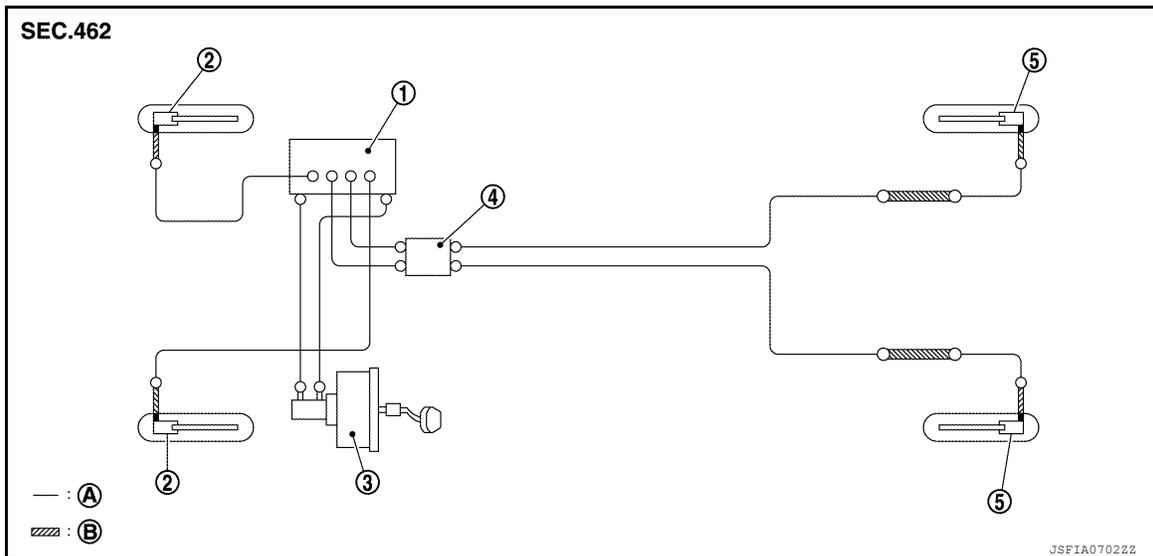
- | | | |
|-------------------------|--|---|
| ① Brake tube | ② Lock plate | ③ Brake hose |
| ④ Copper sealing washer | ⑤ Union bolt | ⑥ Connector |
| ⑦ Connector bracket | ⑧ Electrically-driven intelligent brake unit | ⑨ ABS actuator and electric unit (control unit) |
| Ⓐ To rear brake tube | ⇐ Front | |

BRAKE PIPING

< REMOVAL AND INSTALLATION >

FRONT : Hydraulic Piping

INFOID:000000010123131



- ① ABS actuator and electric unit (control unit)
- ② Front disc brake
- ③ Electrically-driven intelligent brake unit
- ④ Connector
- ⑤ Rear disc brake
- (A) Brake tube
- (B) Brake hose
- : Flare nut
- : Union bolt

FRONT : Removal and Installation

INFOID:000000010123132

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.

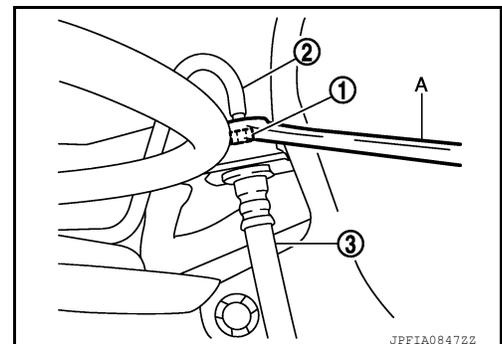
NOTE:

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 [BR-493, "Draining"](#).
3. Loosen the flare nut ① with a flare nut wrench (A) and separate the brake tube ② from the brake hose ③.

CAUTION:

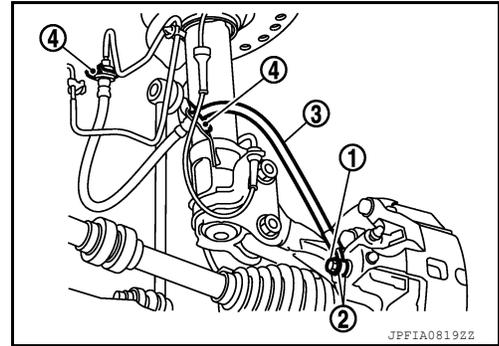
- Do not scratch the flare nut and the brake tube.
- Do not bend sharply, twist or strongly pull out the brake hoses and tubes.
- To prevent the inclusion of foreign matter, cover open end of brake tubes and hoses when disconnecting to prevent entrance of dirt.



BRAKE PIPING

< 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:

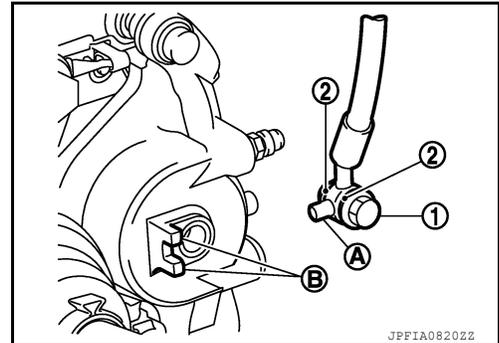
- Do not spill or splash brake fluid on painted surfaces. Brake fluid may seriously damage paint. Wipe it off immediately and wash with water if it gets on a painted surface. For brake component parts, do not wash them with water.
- Do not depress brake pedal. While removing the brake hose or brake tube. 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.

1. Assemble the union bolt ① and the copper sealing washers ② to the brake hose.

CAUTION:

Do not reuse copper sealing washers.

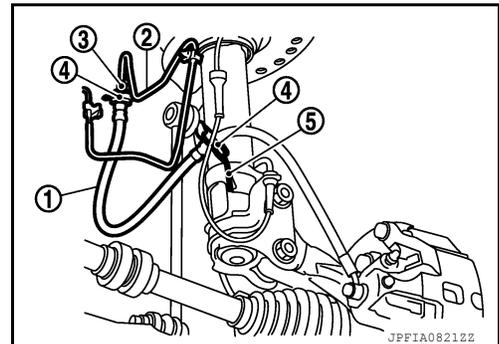
2. Align the brake hose pin ① with the brake caliper assembly projection ②, and tighten the union bolt to the specified torque.



3. Install the brake tube ② to the brake hose ①, temporarily tighten the flare nut ③ by hand until it does not rotate further, and fix the brake hose to the 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.



4. Tighten the flare nut to the specified torque with a crowfoot (A) and torque wrench (B).

CAUTION:

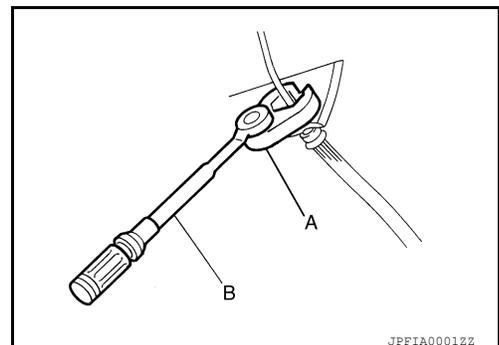
Do not scratch the flare nut and the brake tube.

5. Refill with new brake fluid and perform the air bleeding. Refer to [BR-494, "Bleeding Brake System"](#).

CAUTION:

Do not reuse drained brake fluid.

6. Install wheel and tire. Refer to [WT-45, "Removal and Installation"](#).
7. Perform inspection after installation. Refer to [BR-506, "FRONT: Inspection"](#).



BRAKE PIPING

< REMOVAL AND INSTALLATION >

FRONT : Inspection

INFOID:000000010123133

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.
2. 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.

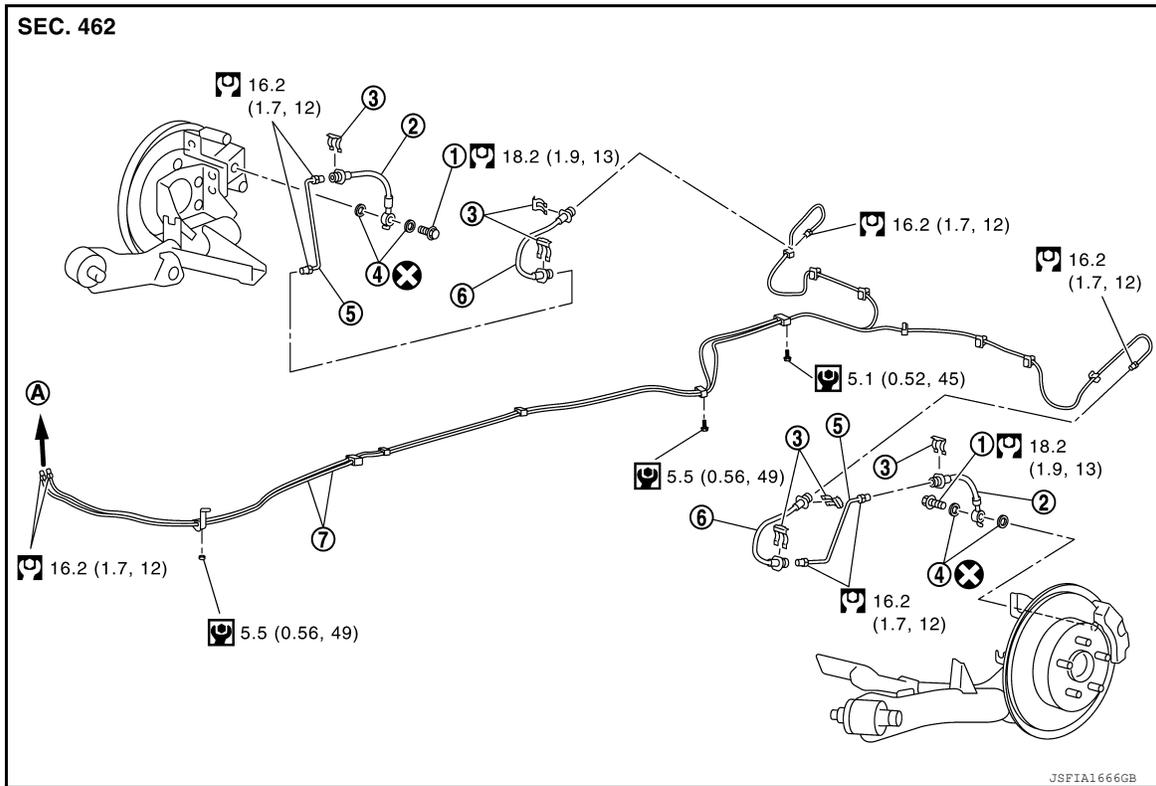
CAUTION:

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:000000010123134



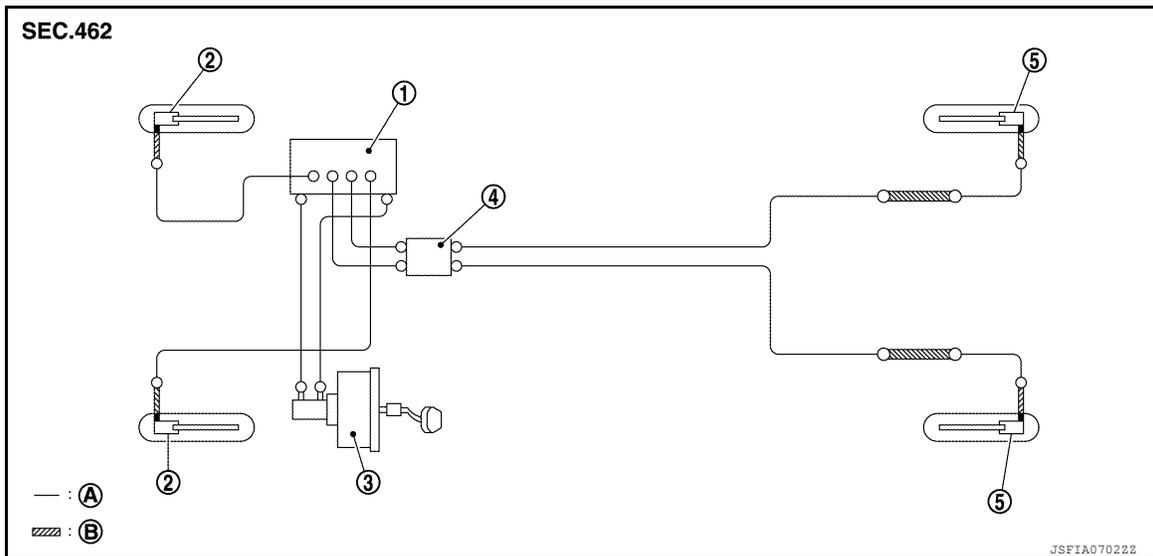
- | | | |
|-------------------------|----------------|----------------|
| ① Union bolt | ② Brake hose A | ③ Lock plate |
| ④ Copper sealing washer | ⑤ Brake tube A | ⑥ Brake hose B |
| ⑦ Brake tube B | | |
| Ⓐ To connector | | |

BRAKE PIPING

< REMOVAL AND INSTALLATION >

REAR : Hydraulic Piping

INFOID:000000010123135



- ① ABS actuator and electric unit (control unit)
- ② Front disc brake
- ③ Electrically-driven intelligent brake unit
- ④ Connector
- ⑤ Rear disc brake
- (A) Brake tube
- (B) Brake hose
- : Flare nut
- : Union bolt

REAR : Removal and Installation

INFOID:000000010123136

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.

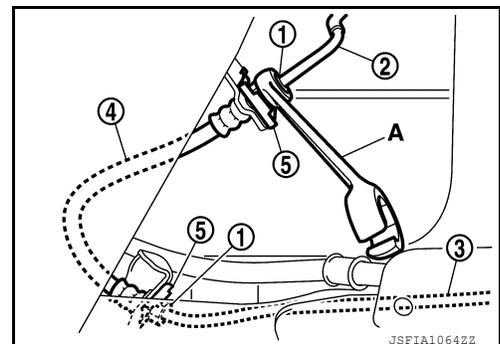
NOTE:

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 [BR-493. "Draining"](#).
3. 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.



BRAKE PIPING

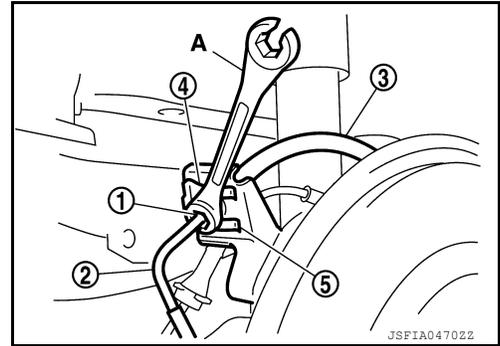
< REMOVAL AND INSTALLATION >

5. Loosen the flare nut ① with a flare nut wrench (A) and separate the brake tube A ② from the hose A ③.

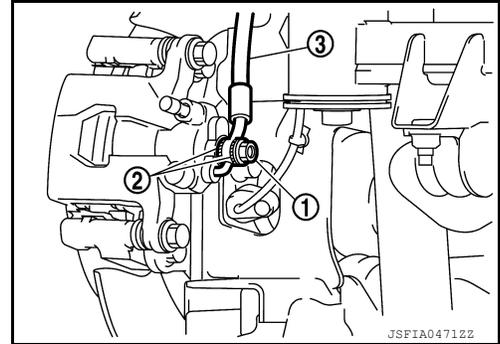
CAUTION:

- 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:

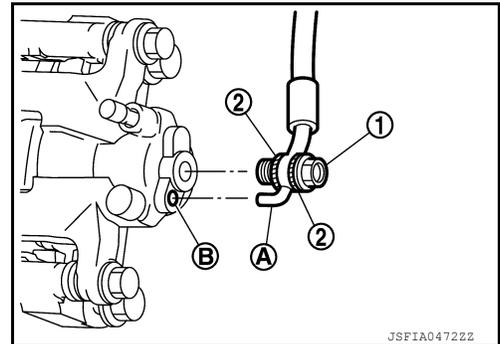
- Do not spill or splash brake fluid on painted surfaces. Brake fluid may seriously damage paint. Wipe it off immediately and wash with water if it gets on a painted surface. For brake component parts, do not wash them with water.
- Do not depress brake pedal. While removing the brake hose or brake tube. 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.

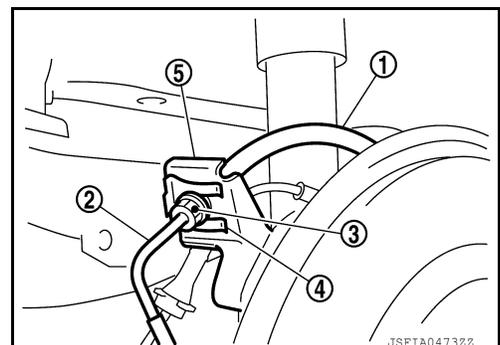
2. Align the brake hose B L-pin ① with the brake caliper assembly hole ②, and tighten the union bolt to the specified torque.



3. 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.



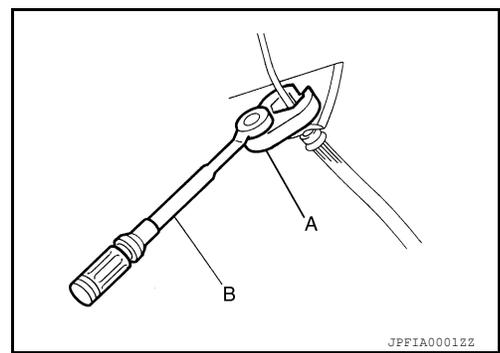
BRAKE PIPING

< REMOVAL AND INSTALLATION >

4. Tighten the flare nut to the specified torque with a crowfoot (A) and torque wrench (B).

CAUTION:

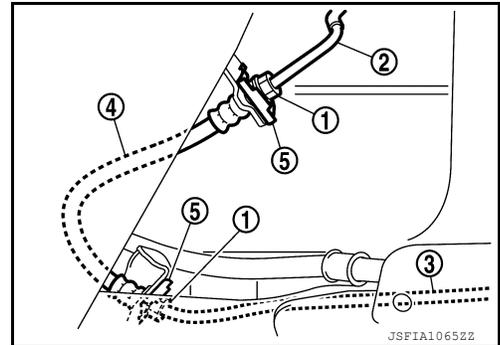
Do not scratch the flare nut and the brake tube.



5. 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.



6. Tighten the flare nut to the specified torque with a crowfoot (A) and torque wrench (B).

CAUTION:

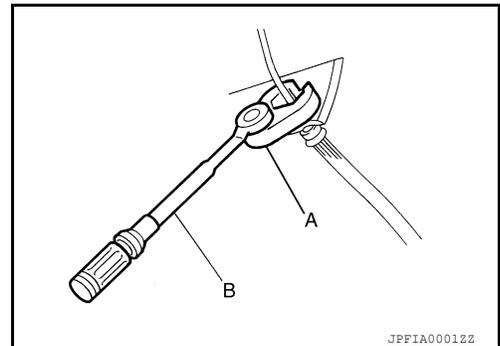
Do not scratch the flare nut and the brake tube.

7. Refill with new brake fluid and perform the air bleeding. Refer to [BR-494, "Bleeding Brake System"](#).

CAUTION:

Do not reuse drained brake fluid.

8. Install wheel and tire. Refer to [WT-45, "Removal and Installation"](#).
9. Perform inspection after installation. Refer to [BR-509, "REAR : Inspection"](#).



REAR : Inspection

INFOID:000000010123137

INSPECTION AFTER INSTALLATION

1. Check the brake hoses and tubes for the following: no scratches; no twist and deformation; no looseness at connections.
2. 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.

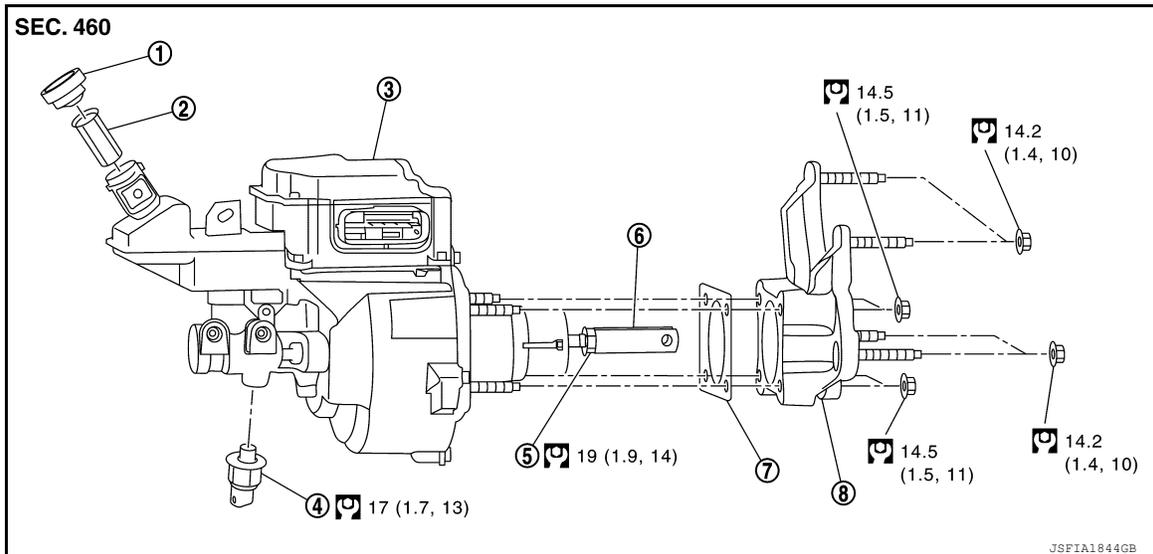
ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT

< REMOVAL AND INSTALLATION >

ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT

Exploded View

INFOID:000000010123138



- | | | |
|-----------------------------------|----------------|--|
| ① Reservoir cap | ② Oil strainer | ③ Electrically-driven intelligent brake unit |
| ④ Master cylinder pressure sensor | ⑤ Lock nut | ⑥ Clevis |
| ⑦ Gasket | ⑧ Spacer | |

: N·m (kg-m, ft-lb)

Removal and installation

INFOID:000000010123139

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.

NOTE:

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 [BR-512, "Inspection and Adjustment"](#).
2. Turn the power switch OFF to exit CONSULT.
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:

Do not operate the vehicle and CONSULT while waiting.

4. Remove 12V battery. Refer to [PG-89, "Removal and Installation"](#).
5. Move the fuse box.
6. Drain brake fluid. Refer to [BR-493, "Draining"](#).
7. Remove cowl top cover. Refer to [EXT-19, "Removal and Installation"](#).
8. Remove wiper drive assembly. Refer to [WW-54, "Removal and Installation"](#).
9. Remove cowl top extension. Refer to [EXT-19, "Removal and Installation"](#).
10. Disconnect the brake fluid level switch harness connector.

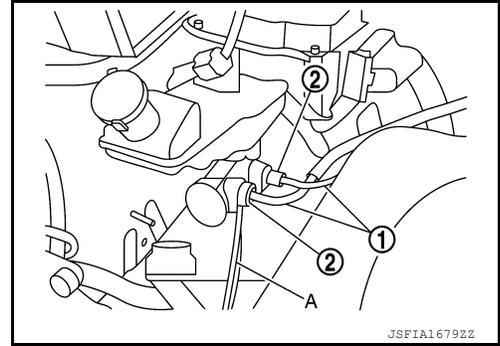
ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT

< REMOVAL AND INSTALLATION >

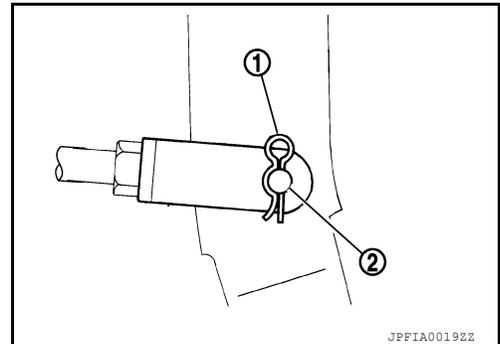
11. Disconnect the master cylinder pressure sensor harness connector.
12. Separate the brake tube ① from electrically-driven intelligent brake unit with a flare nut wrench (A).

CAUTION:

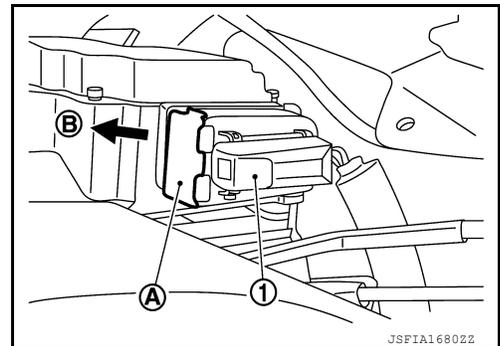
Do not scratch the flare nut ② and the brake tube.



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).



- b. Disconnect electrically-driven intelligent brake unit harness connector ①.
15. Remove nuts on electrically-driven intelligent brake unit and brake pedal assembly.

CAUTION:

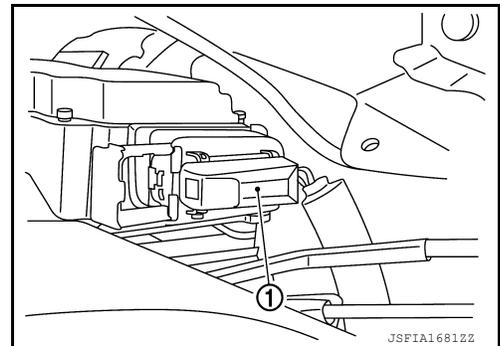
To prevent damage to the parts, hold the electrically-driven intelligent brake unit so as to avoid dropping out.

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.
19. Perform inspection after removal. Refer to [BR-512](#), "[Inspection and Adjustment](#)".



INSTALLATION

Note the following, and install in the reverse order of removal.

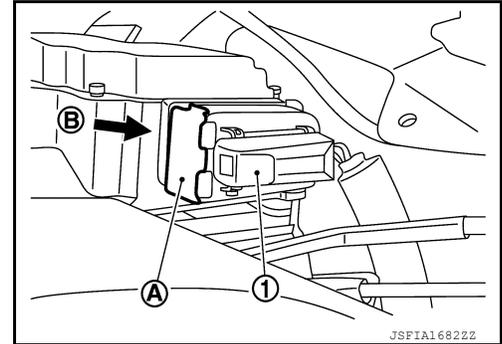
CAUTION:

A
B
C
D
E
BR
G
H
I
J
K
L
M
N
O
P

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 electrically-driven 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 ② in the direction ③ to secure the locking.
- Perform the air bleeding. Refer to [BR-494. "Bleeding Brake System"](#).
- Check each item of brake pedal. Adjust it if the measurement value is not the standard. Refer to [BR-490. "Inspection and Adjustment"](#).
- Perform stroke sensor 0 point learning when electrically-driven intelligent brake unit is removed and installed, or replaced. Refer to [BR-53. "Work Procedure"](#).



INFOID:000000010123140

Inspection and Adjustment

INSPECTION BEFORE REMOVAL

Check the brake fluid level switch. Refer to [BRC-118. "Component Inspection"](#).

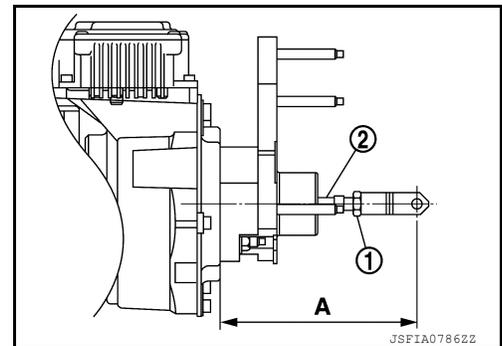
INSPECTION AFTER REMOVAL

Input Rod Length Inspection

1. Loosen the lock nut ① and adjust the input rod ② to the specified length (A).

A : Refer to [BR-531. "Electrically-driven Intelligent Brake"](#).

2. Tighten the lock nut to the specified torque.



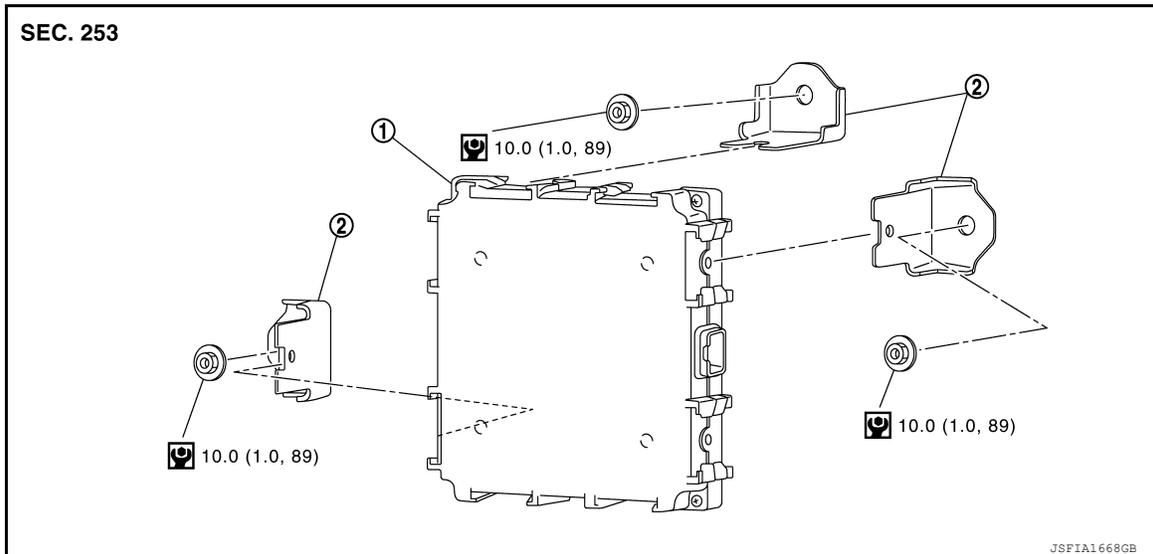
BRAKE POWER SUPPLY BACKUP UNIT

< REMOVAL AND INSTALLATION >

BRAKE POWER SUPPLY BACKUP UNIT

Exploded View

INFOID:000000010123141



- ① Brake power supply backup unit ② Bracket

: N·m (kg-m, in-lb)

Removal and Installation

INFOID:000000010123142

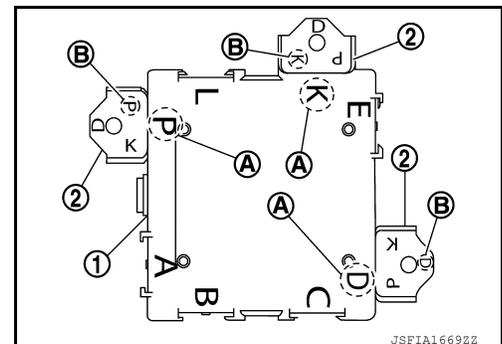
REMOVAL

1. Turn the power switch OFF to exit CONSULT.
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 and CONSULT while waiting.
3. Remove luggage side lower finisher LH. Refer to [INT-43, "LUGGAGE SIDE LOWER FINISHER : Removal and Installation"](#).
4. Disconnect brake power supply backup unit harness connector.
5. Remove brake power supply backup unit and bracket.
CAUTION:
To prevent damage to the parts, never drop removed parts.
6. Remove bracket from brake power supply backup unit.

INSTALLATION

Note the following, and install in the reverse order of removal.

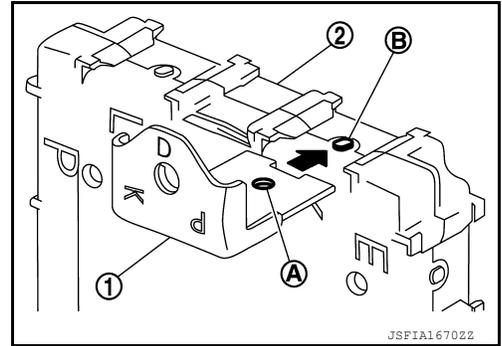
- Align the direction of mark (A) located on the back of brake power supply backup unit (1) with that of mark (B) on bracket (2).



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.



WARNING BUZZER

< REMOVAL AND INSTALLATION >

WARNING BUZZER

Removal and Installation

INFOID:000000010123143

REMOVAL

1. Remove glove box cover assembly. Refer to [IP-17. "Removal and Installation"](#).
2. Disconnect warning buzzer harness connector.
3. Remove warning buzzer.

INSTALLATION

Install in the reverse order of removal.

A

B

C

D

E

BR

G

H

I

J

K

L

M

N

O

P

FRONT DISC BRAKE

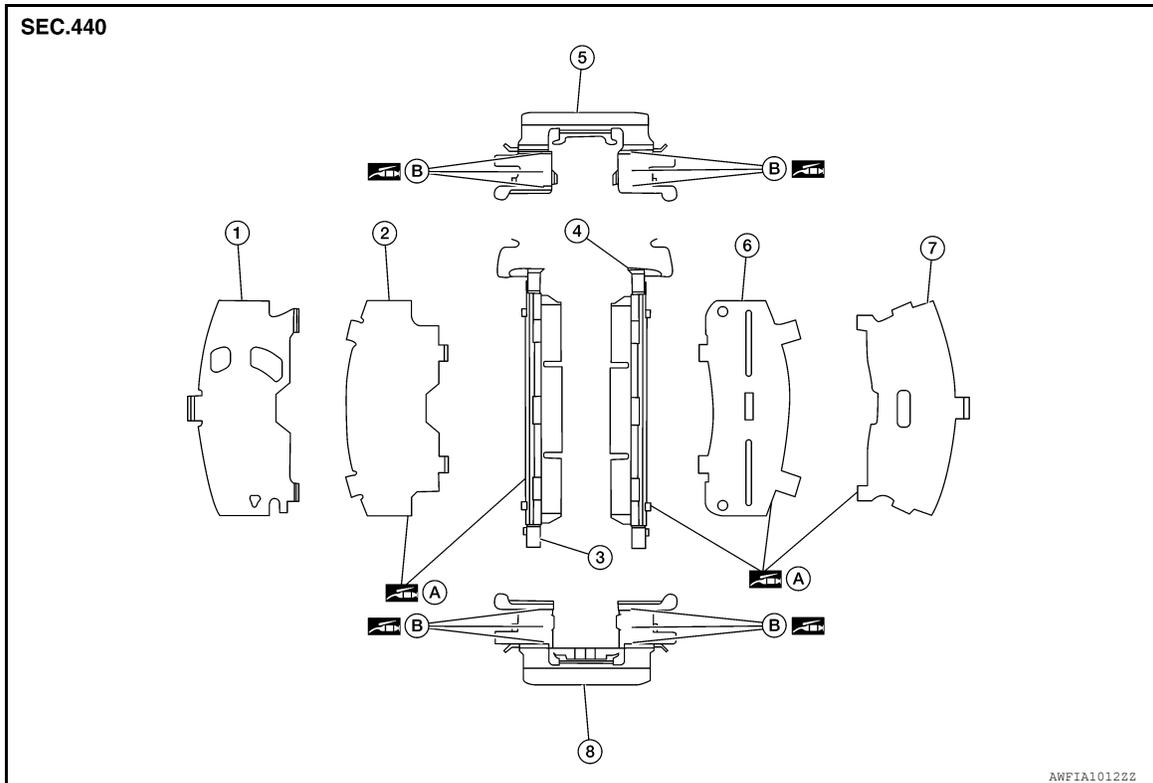
< REMOVAL AND INSTALLATION >

FRONT DISC BRAKE

BRAKE PAD

BRAKE PAD : Exploded View

INFOID:000000010123144



- | | | |
|-------------------------|-----------------------|----------------------------|
| 1. Inner shim cover | 2. Inner shim | 3. Inner pad |
| 4. Outer pad | 5. Pad retainer upper | 6. Outer shim |
| 7. Outer shim cover | 8. Pad retainer lower | A. Molykote AS-880N grease |
| B. Molykote 7439 grease | | |

NOTE:

LH shown, RH similar

BRAKE PAD : Removal and Installation

INFOID:000000010123145

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 [BR-496, "BRAKE PAD : Inspection and Adjustment"](#).

REMOVAL

1. Partially drain brake fluid from the master cylinder. Refer to [BR-493, "Draining"](#).
2. Remove the front wheel and tire using power tool. Refer to [WT-45, "Removal and Installation"](#).

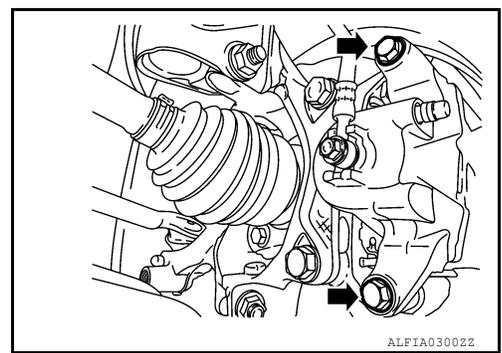
FRONT DISC BRAKE

< 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.



4. Remove the brake caliper from the torque member. Leaving the brake hose attached, reposition the brake caliper aside with wire.

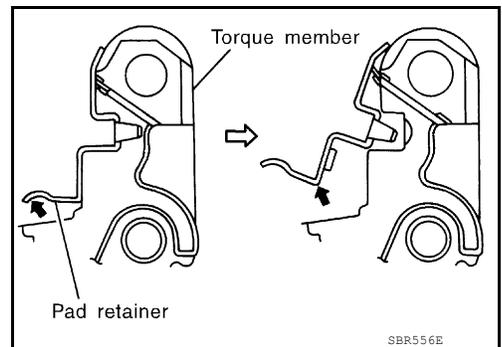
CAUTION:

Do not twist or stretch brake hose.

5. Remove the brake pads, shims, and shim covers from the torque member.
6. 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.

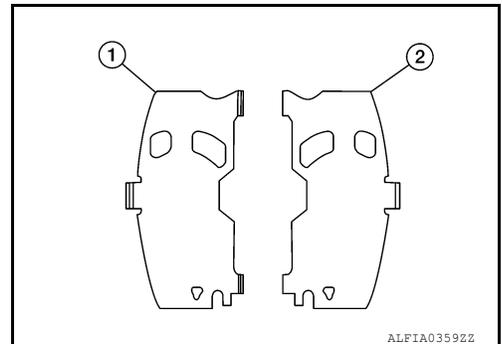
- Apply Molykote AS-880N grease or equivalent between the outer brake pad, outer shim cover and outer shim and between the inner shim and inner brake pad. Install outer shim and outer shim cover to outer brake pad. Install inner shim and inner shim cover to inner brake pad.

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 [BR-493](#), "[Inspection](#)".
 - Burnish contact surface between brake pads and disc brake rotors. Refer to [BR-496](#), "[BRAKE PAD : Inspection and Adjustment](#)".



BRAKE PAD : Inspection

INFOID:000000010123146

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 front disc brake. If any drag is found, follow the procedure described below.

FRONT DISC BRAKE

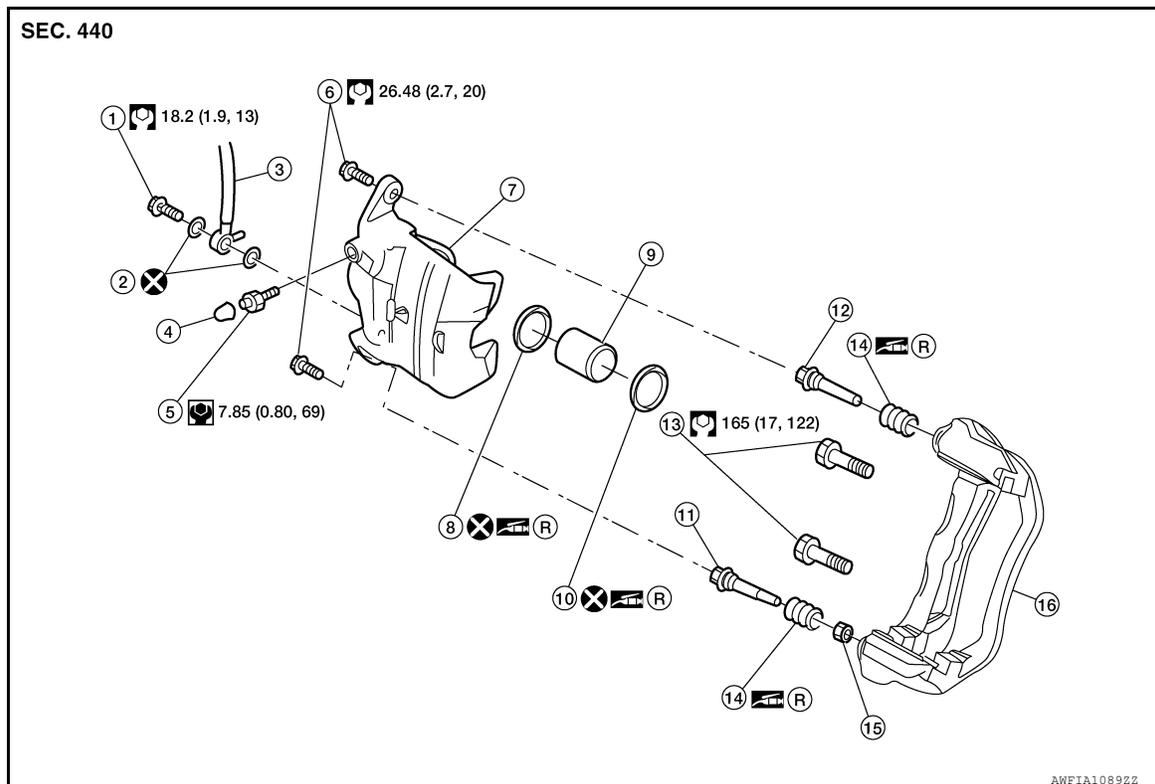
< REMOVAL AND INSTALLATION >

1. Remove brake pads. Refer to [BR-516, "BRAKE PAD : Removal and Installation"](#).
 2. Press the piston. Refer to [BR-516, "BRAKE PAD : Removal and Installation"](#).
 3. 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 [BR-496, "BRAKE PAD : Inspection and Adjustment"](#).

BRAKE CALIPER ASSEMBLY

BRAKE CALIPER ASSEMBLY : Exploded View

INFOID:000000010123147



- | | | |
|------------------------|--------------------------|-------------------------------|
| 1. Union bolt | 2. Copper sealing washer | 3. Brake hose |
| 4. Cap | 5. Bleeder valve | 6. Sliding pin bolt |
| 7. Brake caliper | 8. Piston seal | 9. Piston |
| 10. Piston boot | 11. Lower sliding pin | 12. Upper sliding pin |
| 13. Torque member bolt | 14. Sliding pin boot | 15. Lower sliding pin bushing |
| 16. Torque member | R. Rubber grease | |

NOTE:

RH side caliper shown, LH side caliper similar.

BRAKE CALIPER ASSEMBLY : Removal and Installation

INFOID:000000010123148

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".

FRONT DISC BRAKE

< REMOVAL AND INSTALLATION >

- **Do not reuse drained brake fluid.**

NOTE:

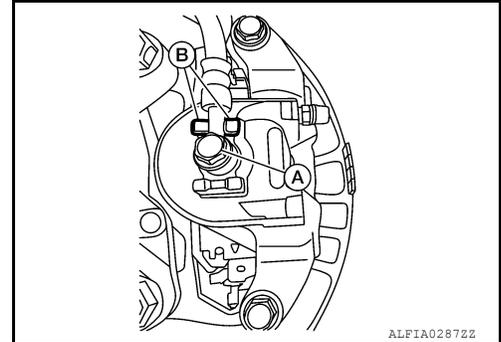
When removing components such as hoses, tubes/lines, etc., cap or plug openings to prevent fluid from spilling.

REMOVAL

1. Remove front wheel and tire using power tool. Refer to [WT-45, "Removal and Installation"](#).
2. Remove reservoir cap.
3. 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.



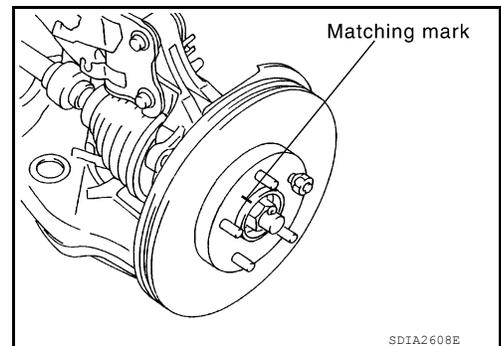
4. Remove the upper and lower sliding pin bolts.
NOTE:
Note the sliding pin orientation during removal. The lower sliding pin contains a bushing.

5. Remove the brake caliper from the torque member.
6. Remove the brake pads and shims from the torque member.
7. Remove torque member bolts and the torque member.

NOTE:

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.



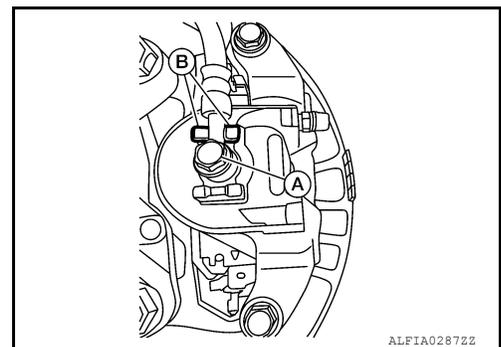
INSTALLATION

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 [BR-503, "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 [BR-494, "Bleeding Brake System"](#).
- Perform inspection after installation. Refer to [BR-521, "BRAKE CALIPER ASSEMBLY : Inspection"](#).

FRONT DISC BRAKE

< REMOVAL AND INSTALLATION >

BRAKE CALIPER ASSEMBLY : Disassembly and Assembly

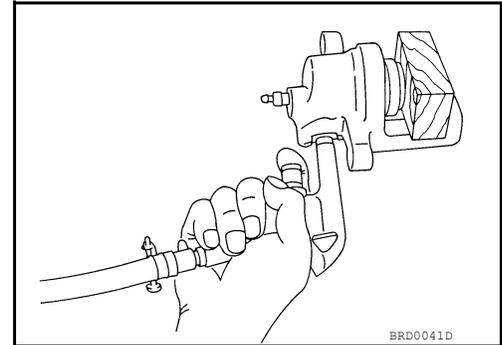
INFOID:000000010123149

DISASSEMBLY

1. 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:

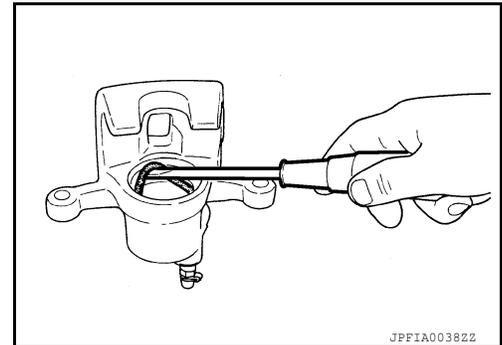
Do not get fingers caught between the piston and wooden block.



2. 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

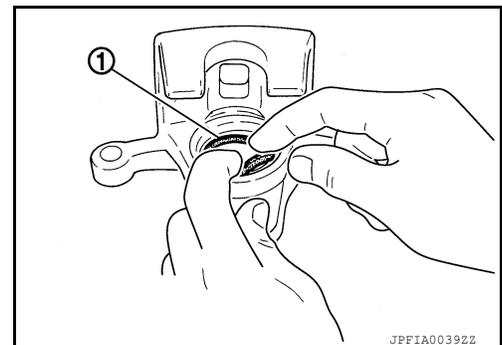
CAUTION:

Use NISSAN Rubber Grease during assembly.

1. Apply rubber grease to new piston seal (1), and install on brake caliper.

CAUTION:

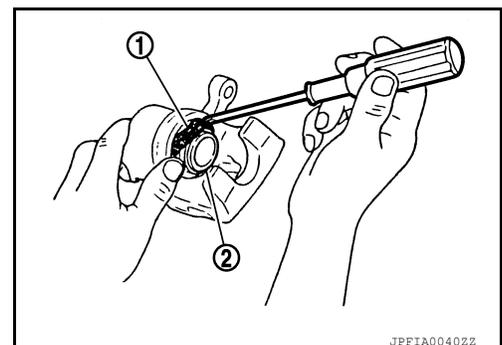
Do not reuse piston seal.



2. 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.



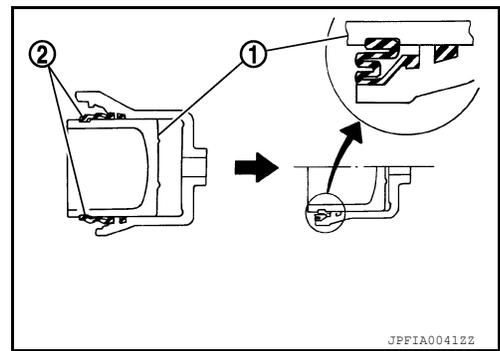
FRONT DISC BRAKE

< REMOVAL AND INSTALLATION >

3. 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.



BRAKE CALIPER ASSEMBLY : Inspection

INFOID:000000010123150

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:

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 [BR-516, "BRAKE PAD : Removal and Installation"](#).
 3. 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 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 [BR-496, "DISC ROTOR : Inspection and Adjustment"](#).

REAR DISC BRAKE

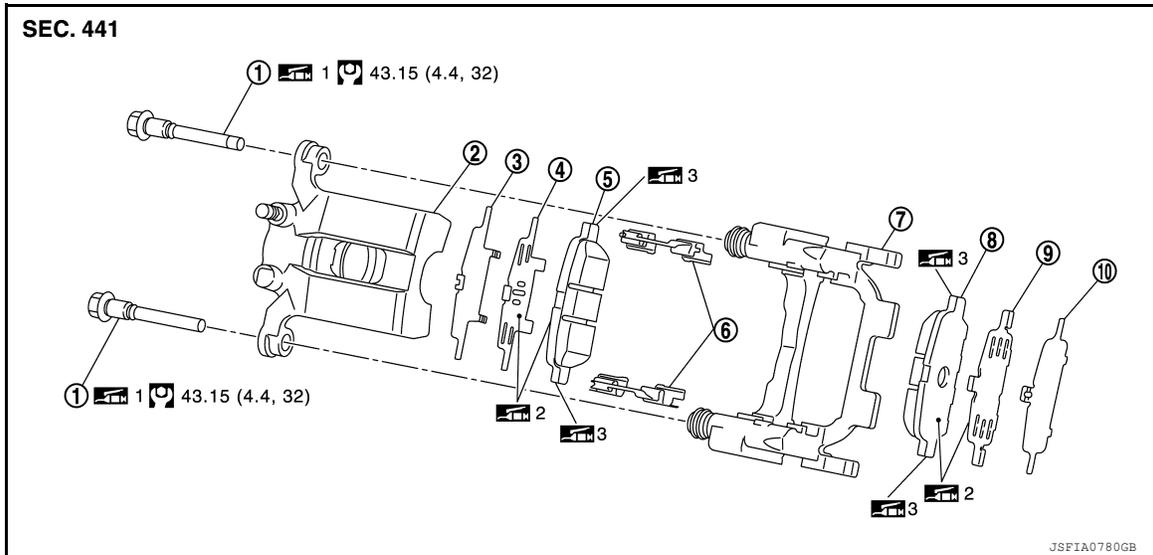
< REMOVAL AND INSTALLATION >

REAR DISC BRAKE

BRAKE PAD

BRAKE PAD : Exploded View

INFOID:000000010123151



- | | | |
|--------------------|------------------------------------|--------------------|
| ① Sliding pin bolt | ② Cylinder body | ③ Inner shim cover |
| ④ Inner shim | ⑤ Inner pad (with pad wear sensor) | ⑥ Pad retainer |
| ⑦ Torque member | ⑧ Outer pad | ⑨ Outer shim |
| ⑩ Outer shim cover | | |

1 Apply rubber grease.

2: Apply MOLYKOTE® AS880N or silicone-based grease.

3: Apply MOLYKOTE® 7439 or equivalent

: N·m (kg-m, ft-lb)

Molykote is a registered trademark of Dow Corning Corporation.

BRAKE PAD : Removal and Installation

INFOID:000000010123152

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:

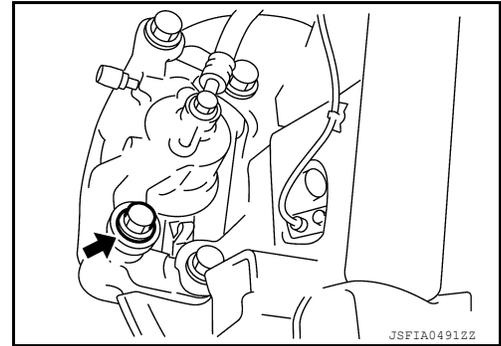
- Do not depress brake pedal. While removing the brake pads because the piston may pop out.
- Do not spill or splash brake fluid on the disc rotor.
- To prevent damage to the parts, if the brake fluid or grease adheres to the disc rotor, quickly wipe it off.

1. Remove wheel and tire using power tool. Refer to [WT-45. "Removal and Installation"](#).

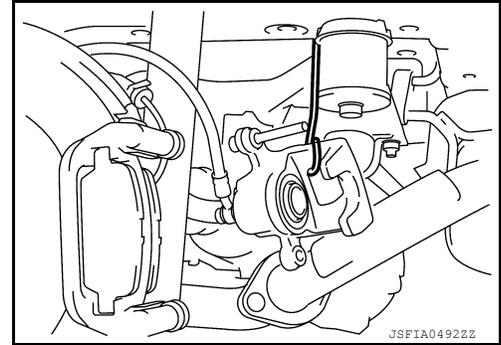
REAR DISC BRAKE

< 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.

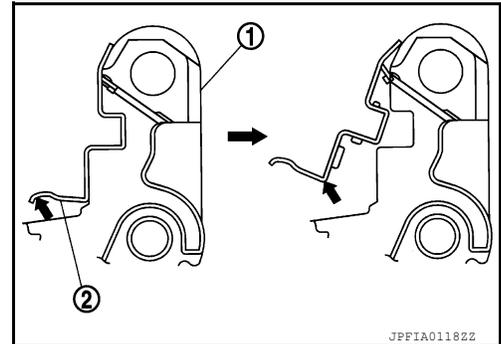


4. Remove the brake pads, shims, shim covers and pad retainers from the torque member.

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.

5. Perform inspection after removal. Refer to [BR-524. "BRAKE PAD : Inspection"](#).



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.

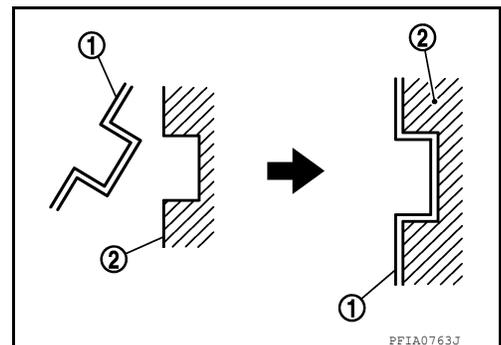
CAUTION:

- 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.

1. 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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REAR DISC BRAKE

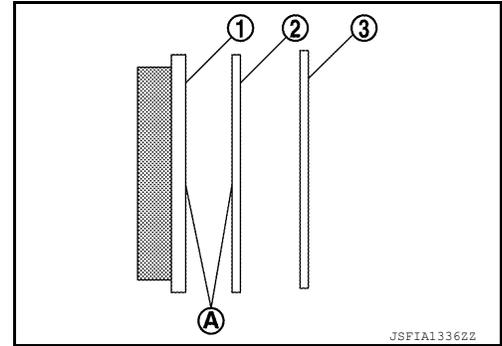
< REMOVAL AND INSTALLATION >

- 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.



- 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.

- Install the brake pads to the torque member.

CAUTION:

Do not deform the pad retainers.

- Install cylinder body to torque member.

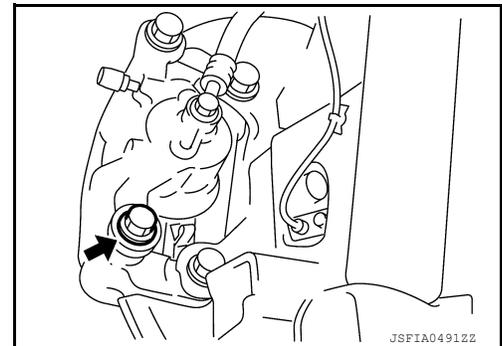
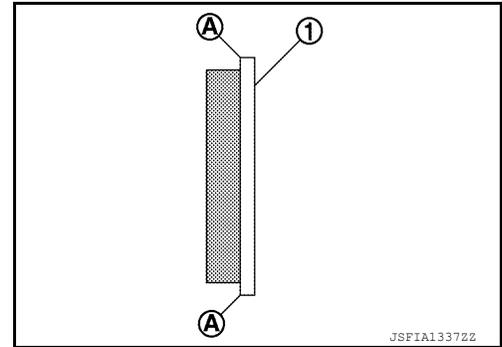
CAUTION:

- 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.

- Apply rubber grease to the sliding pin bolt, install the lower sliding pin bolt and tighten it to the specified torque.
- 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"](#).
- Install wheel and tire. Refer to [WT-45, "Removal and Installation"](#).



BRAKE PAD : Inspection

INFOID:000000010123153

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"](#).
 - Press the pistons. Refer to [BR-522, "BRAKE PAD : Removal and Installation"](#).
 - Install brake pads. Refer to [BR-522, "BRAKE PAD : Removal and Installation"](#).
 - Securely depress the brake pedal several times.
 - 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

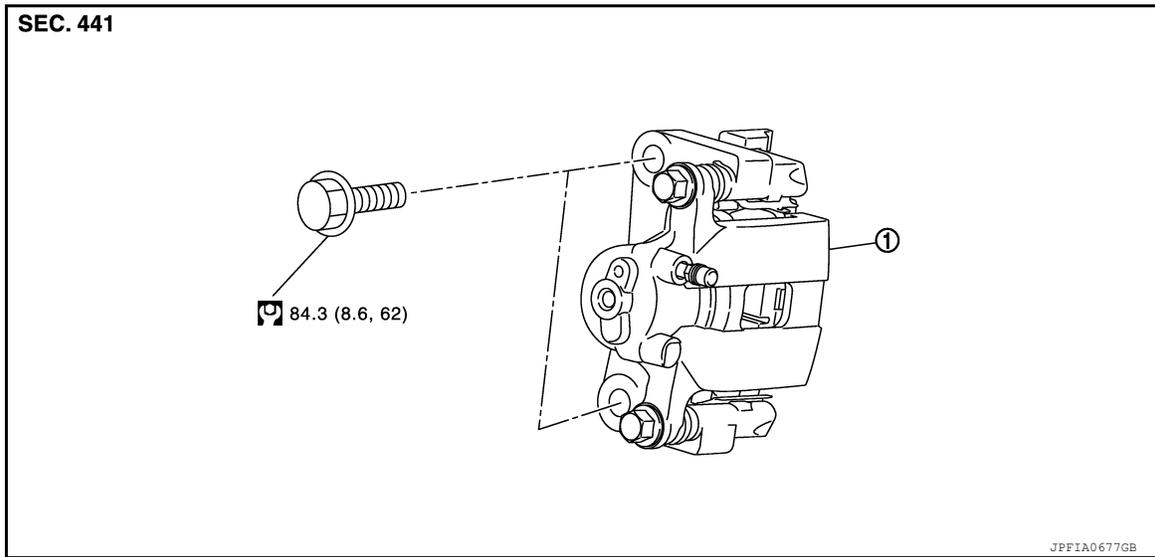
REAR DISC BRAKE

< REMOVAL AND INSTALLATION >

BRAKE CALIPER ASSEMBLY : Exploded View

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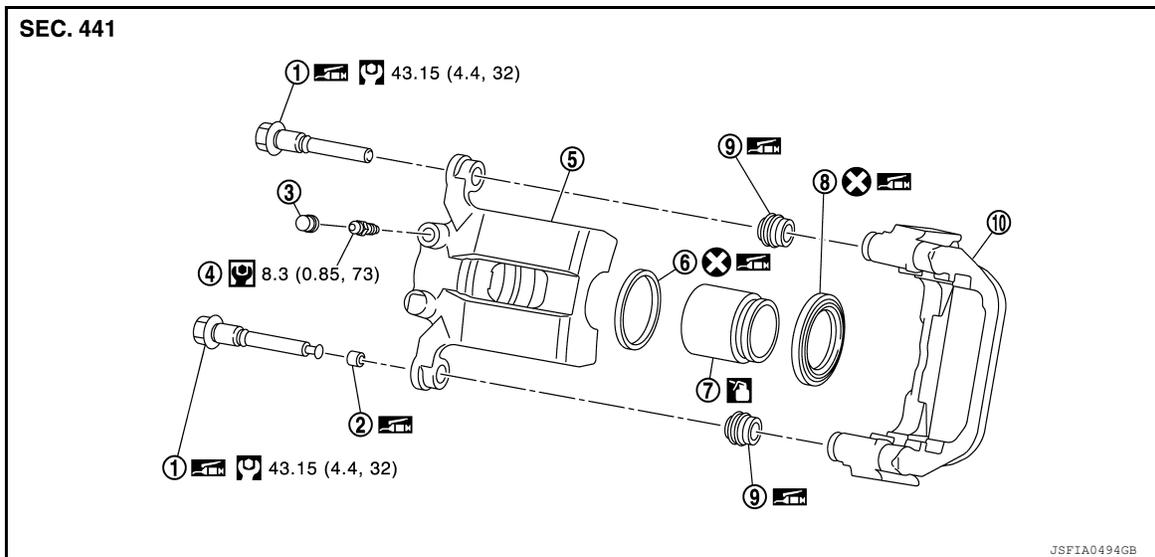
REMOVAL



① Brake caliper assembly

: N·m (kg-m, ft-lb)

DISASSEMBLY



① Sliding pin bolt

② Bushing

③ Cap

④ Bleeder valve

⑤ Cylinder body

⑥ Piston seal

⑦ Piston

⑧ Piston boot

⑨ Sliding pin boot

⑩ Torque member

: Apply rubber grease.

: Apply brake fluid.

: N·m (kg-m, ft-lb)

REAR DISC BRAKE

< REMOVAL AND INSTALLATION >

: N·m (kg-m, in-lb)

: Always replace after every disassembly.

BRAKE CALIPER ASSEMBLY : Removal and Installation

INFOID:000000010123155

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 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:

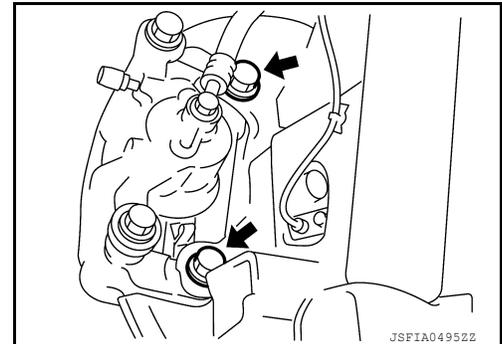
When removing components such as hoses, tubes/lines, etc., cap or plug openings to prevent fluid from spilling.

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 [BR-493, "Draining"](#).
4. Separate brake hose from caliper assembly. Refer to [BR-507, "REAR : Removal and Installation"](#).
5. Remove torque member bolts, and remove brake caliper assembly.

CAUTION:

Do not drop brake pad and caliper assembly.

6. When removing disc rotor. Refer to [RAX-7, "Removal and Installation"](#).



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 [RAX-7, "Removal and Installation"](#).

REAR DISC BRAKE

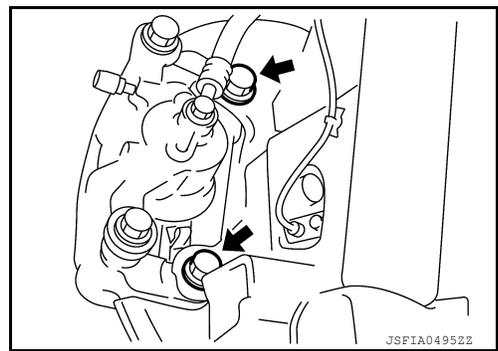
< REMOVAL AND INSTALLATION >

2. 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 [BR-507, "REAR : Removal and Installation"](#).
4. Perform the air bleeding. Refer to [BR-494, "Bleeding Brake System"](#).
5. Check a drag of rear disc brake. If any drag is found, refer to [BR-524, "BRAKE PAD : Inspection"](#).
6. Install wheel and tire. Refer to [WT-45, "Removal and Installation"](#).
7. Perform inspection after installation. Refer to [BR-529, "BRAKE CALIPER ASSEMBLY : Inspection"](#).



BRAKE CALIPER ASSEMBLY : Disassembly and Assembly

INFOID:000000010123156

DISASSEMBLY

NOTE:

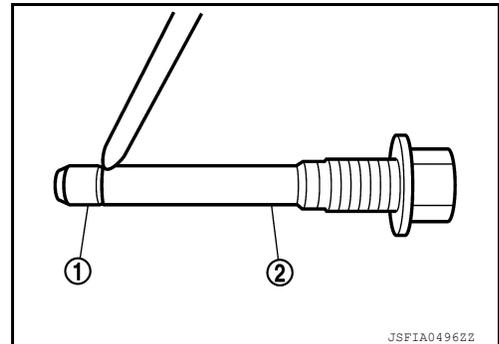
Do not remove the torque member, brake pad and pad retainers when disassembling and assembling the cylinder body.

1. Remove the sliding pin bolt, and remove the cylinder body from the torque member. Refer to [BR-522, "BRAKE PAD : Removal and Installation"](#).

CAUTION:

To prevent damage to the parts, fix the brake pad at suitable tape so that the brake pad will not drop.

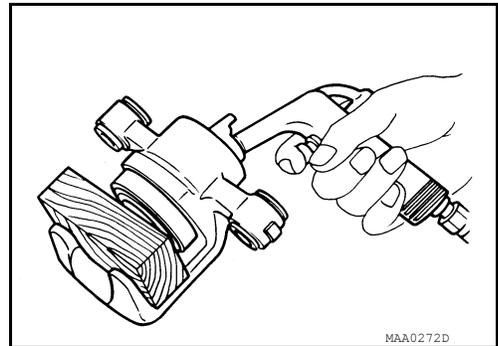
2. Remove sliding pin boots from torque member.
3. Remove bushing ① from sliding pin bolt ②.



4. 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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REAR DISC BRAKE

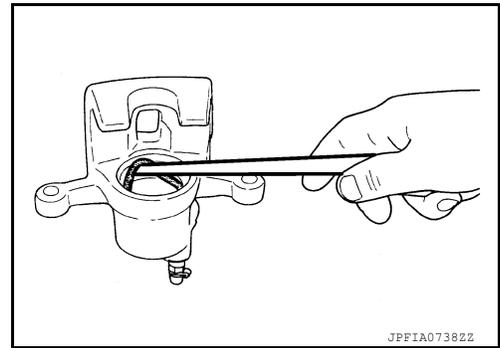
< REMOVAL AND INSTALLATION >

5. 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 [BR-529, "BRAKE CALIPER ASSEMBLY : Inspection"](#).

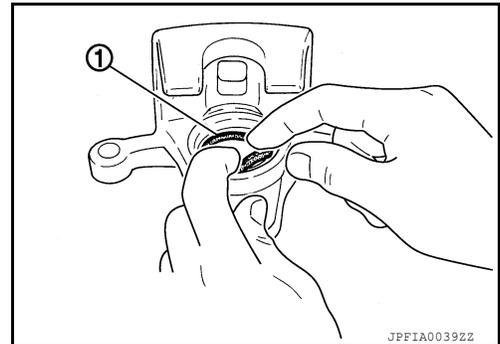


ASSEMBLY

1. Install bleeder valve and cap.
2. Apply rubber grease to piston seals ①, and install them to cylinder body.

CAUTION:

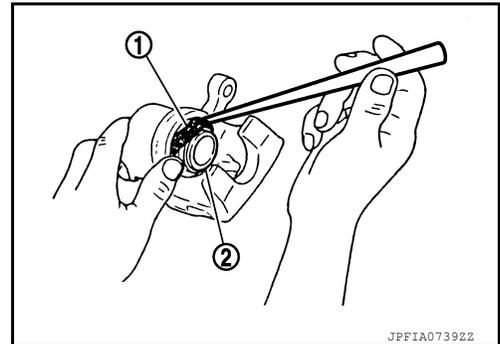
Do not reuse piston seals.



3. 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:

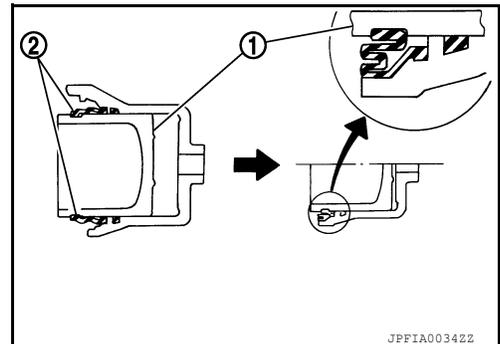
Do not reuse piston boots.



4. 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:

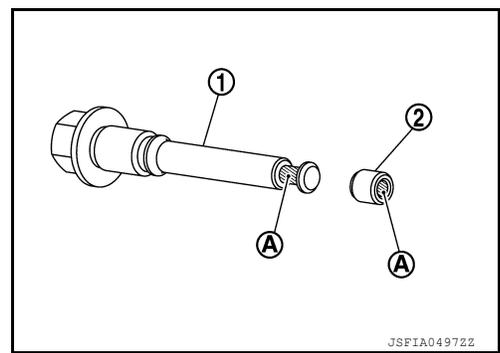
To prevent damage to the parts, press the pistons evenly and vary the pressing point to prevent cylinder inner wall from being rubbed.



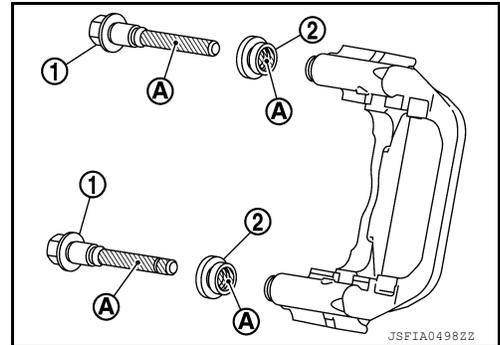
REAR DISC BRAKE

< REMOVAL AND INSTALLATION >

5. Apply rubber grease to mating faces (A) between sliding pin bolt ① and bushing ②, and install bushing to sliding pin.



6. Apply rubber grease to mating faces (A) between sliding pin bolt ① and sliding pin boot ②, and install sliding pin boot to torque member.
7. Install the cylinder body to tighten sliding pin bolts to the specified torque. Refer to [BR-522, "BRAKE PAD : Exploded View"](#).



BRAKE CALIPER ASSEMBLY : Inspection

INFOID:000000010123157

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 [BR-522, "BRAKE PAD : Removal and Installation"](#).
 2. Press the pistons. Refer to [BR-522, "BRAKE PAD : Removal and Installation"](#).
 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 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 [BR-498, "DISC ROTOR : Inspection and Adjustment"](#).

SERVICE DATA AND SPECIFICATIONS (SDS)

< SERVICE DATA AND SPECIFICATIONS (SDS)

SERVICE DATA AND SPECIFICATIONS (SDS)

SERVICE DATA AND SPECIFICATIONS (SDS)

General Specifications

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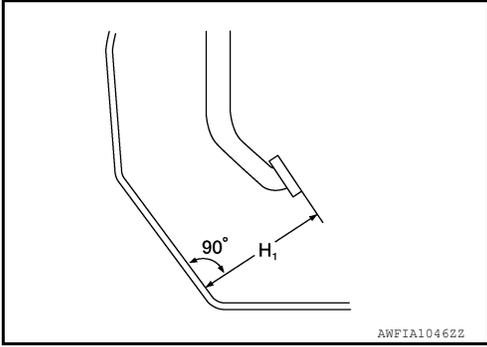
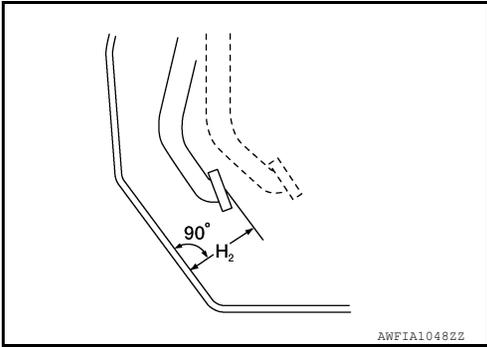
Unit: mm (in)

Front brake	Cylinder bore diameter	57.2 (2.252)
	Pad length × width × thickness	140.0 × 48.0 × 9.5 (5.51 × 1.890 × 0.374)
	Rotor outer diameter × thickness	296 × 26.0 (11.65 × 1.024)
Rear brake	Cylinder bore diameter	38.1 (1.500)
	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-16. "FOR USA AND CANADA : Fluids and Lubricants" (United States and Canada) or MA-17. "FOR MEXICO : Fluids and Lubricants" (Mexico).	

Brake Pedal

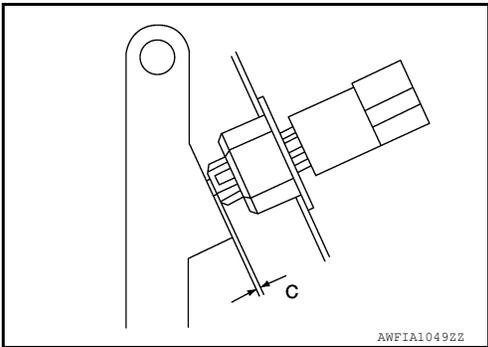
INFOID:0000000010123159

Unit: mm (in)

Item	Standard
	
Brake pedal height (H1)	159.9 – 169.9 (6.30 – 6.69)
	
Depressed brake pedal height (H2) Depressing [196 N (20 kg, 44 lb) while set the vehicle to READY]	93.0 (3.661) or more

SERVICE DATA AND SPECIFICATIONS (SDS)

< SERVICE DATA AND SPECIFICATIONS (SDS)

Item	Standard
 <p style="text-align: right; font-size: small;">AWFIA10492Z</p>	
Clearance (C) between stop lamp switch and brake pedal position switch (if equipped) threaded end and the brake pedal lever	0.74 – 1.96 (0.0291 – 0.0772)
Brake pedal play	3 – 11 (0.12 – 0.43)

Electrically-driven Intelligent Brake

INFOID:0000000010123160

Unit: mm (in)

Item	Standard
Input rod length	164.4 – 166.0 (6.47 – 6.54)

Front Disc Brake

INFOID:0000000010123161

Unit: mm (in)

	Item	Limit
Brake pad	Wear limit thickness	2.0 (0.079)
Disc rotor	Wear limit thickness	24.0 (0.945)
	Thickness variation (measured at 8 positions)	0.015 (0.0006)
	Runout (with it attached to the vehicle)	0.035 (0.0014)

Rear Disc Brake

INFOID:0000000010123162

Unit: mm (in)

	Item	Limit
Brake pad	Wear thickness	2.0 (0.079)
Disc rotor	Wear thickness	14.0 (0.051)
	Thickness variation (measured at 8 positions)	0.015 (0.0006)
	Runout (with it attached to the vehicle)	0.1 (0.0039)

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