SECTION BRAKE SYSTEM

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< PRECAUTION >

PRECAUTION PRECAUTIONS

Precaution for Technicians Using Medical Electric

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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 on board charger at normal charge operation may
 effect medical electric devices, a technician using a medical electric device such as implantable cardiac pacemaker or an implantable cardioverter defibrillator must not enter the vehicle compartment
 (including luggage room) 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

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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"

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

PRECAUTIONS

< PRECAUTION >

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

WARNING:

Always observe the following items for preventing accidental activation.

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

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

WARNING:

Always observe the following items for preventing accidental activation.

- When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the power switch ON, never use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.
- When using air or electric power tools or hammers, always switch the power switch OFF, disconnect the 12V battery, and wait at least 3 minutes before performing any service.

Precautions for Removing Battery Terminal

 When removing the 12V battery terminal, turn OFF the power switch and wait at least 5 minutes.
 NOTE:

ECU may be active for several minutes after the power switch is turned OFF. If the battery terminal is removed before ECU stops, then a DTC detection error or ECU data corruption may occur.

- Always disconnect the battery terminal within 60 minutes after turning OFF the power switch. Even when the power switch is OFF, the 12V battery automatic charge control may automatically start after a lapse of 60 minutes from power switch OFF.
- Disconnect 12V battery terminal according to the following steps.

WORK PROCEDURE

1. Check that EVSE is not connected.

NOTE:

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

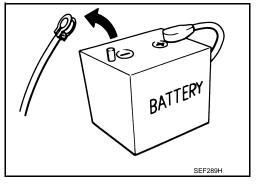
- 2. Turn the power switch OFF \rightarrow ON \rightarrow OFF. Get out of the vehicle. Close all doors (including back door).
- 3. Check that the charge status indicator lamp does not blink and wait for 5 minutes or more. **NOTE:**

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

- 4. Remove 12V battery terminal within 60 minutes after turning the power switch OFF \rightarrow ON \rightarrow OFF. 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.

NOTE:

Once the power switch is turned ON \rightarrow OFF, the 12V battery automatic charge control does not start for approximately 1 hour.



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• For vehicles with the 2-batteries, be sure to connect the main battery and the sub battery before turning ON the power switch.

NOTE:

If the power switch is turned ON with any one of the terminals of main battery and sub battery disconnected, then DTC may be detected.

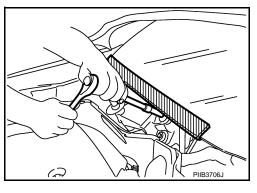
• After installing the 12V battery, always check "Self Diagnosis Result" of all ECUs and erase DTC. **NOTE:**

The removal of 12V battery may cause a DTC detection error.

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.



Precaution for Brake System

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WARNING:

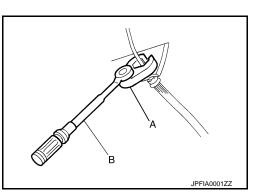
Since dust covering the front and rear brakes has an affect on human body, the dust must be removed with a dust collector. Never splatter the dust with an air blow gun.

- Brake fluid use refer to MA-13, "FOR NORTH AMERICA : Fluids and Lubricants".
- Never reuse drained brake fluid.
- Never spill or splash brake fluid on painted surfaces. Brake fluid may seriously damage paint. Wipe it off immediately and wash with water if it gets on a painted surface. For brake component parts, never wash them with water.
- Always confirm the specified tightening torque when installing the brake pipes.
- After pressing the brake pedal more deeply or harder than normal driving, such as air bleeding, check each item of brake pedal. Adjust brake pedal if it is outside the standard value.
- Always clean with new brake fluid when cleaning the brake caliper and other components.
- Never use mineral oils such as gasoline or light oil to clean. They may damage rubber parts and cause improper operation.
- Always loosen the brake tube flare nut with a flare nut wrench.
- Tighten the brake tube flare nut to the specified torque with a crowfoot (A) and torque wrench (B).
- Turn the power switch OFF to exit CONSULT. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors. Disconnect the electricallydriven intelligent brake unit, the ABS actuator and electric unit (control unit) harness connector or the 12V battery negative terminal before performing the work. Refer to <u>BR-5</u>, "Precautions for <u>Removing Battery Terminal"</u>.

CAUTION:

Never operate the vehicle and CONSULT 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 <u>BR-247</u>, "BRAKE PAD : Inspection and Adjustment".
- Front disc rotor: Refer to BR-247, "DISC ROTOR : Inspection and Adjustment".
- Rear brake pad: Refer to BR-249, "BRAKE PAD : Inspection and Adjustment".
- Rear disc rotor: Refer to BR-249, "DISC ROTOR : Inspection and Adjustment".

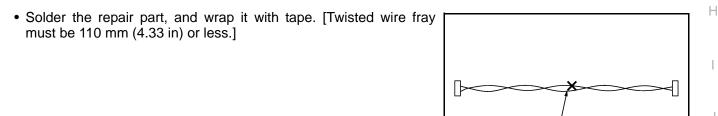


PRECAUTIONS

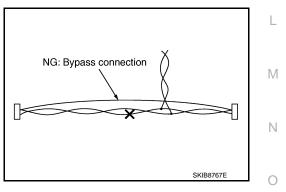
< PRECAUTION >

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

Precaution for Harness Repair



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



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PREPARATION

PREPARATION

Commercial Service Tools

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Tool name		Description
Power tool	PBIC0190E	Loosening bolts and nuts
Brake caliper wrench	NNFIA0040ZZ	Return the piston

< SYSTEM DESCRIPTION >

SYSTEM DESCRIPTION COMPONENT PARTS

Component Parts Location

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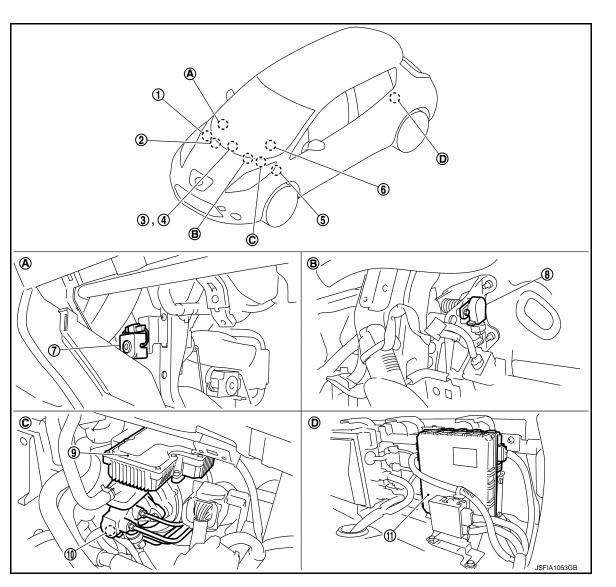
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- A. View with the glove box assembly re- B. Brake pedal moved
- D. Back of rear seat (left)

C. Inside motor room (left)

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COMPONENT PARTS

< SYSTEM DESCRIPTION >

No.	Component parts	Function		
 ABS actuator and electric unit (control unit) control signal 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 Side G signal Side G signal Side G signal Side G signal Brake assist request signal Brake backup operation signal Brake fluid pressure command signal Electrically-driven intelligent brake control signal 		 Stop lamp switch signal 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 Side G signal Side G signal Mainly receives the following signals from electrically-driven intelligent brake unit via CAN communication. Brake assist request signal Brake backup operation signal Brake fluid pressure command signal 		
2.	VCM	 Mainly transmits the following signals to electrically-driven intelligent brake unit via CAN communication. VCM control signal Current regenerative torque signal Mainly receives the following signal from electrically-driven intelligent brake unit via CAN communication. Target braking force signal Refer to <u>EVC-17, "Component Parts Location"</u> for detailed installation location. 		
3.	Brake warning lamp (in combination meter) Brake system warning lamp (in combi- nation meter)	BR-13, "System Description"		
4.	Combination meter	 Mainly receives the following signals from electrically-driven intelligent brake unit via CAN communication. Brake warning lamp signal Brake system warning lamp signal Refer to <u>MWI-7, "METER SYSTEM : Component Parts Location"</u> for detailed installation location. 		
5.	ВСМ	 Mainly transmits the following signals to electrically-driven intelligent brake unit via CAN communication. Power switch ON signal Door switch signal Refer to <u>BCS-6, "BODY CONTROL SYSTEM : Component Parts Location"</u> for detailed installation location. 		
6.	Steering angle sensor	 Mainly transmits the following signal to electrically-driven intelligent brake unit via CAN communication. Steering angle sensor signal Refer to <u>BRC-10, "Component Parts Location"</u> for detailed installation location. 		
7.	Warning buzzer	BR-12, "Warning Buzzer"		
8.	Stroke sensor	BR-12, "Stroke Sensor"		
9.	Electrically-driven intelligent brake unit	BR-11, "Electrically-driven Intelligent Brake Unit"		
10.	Master cylinder pressure sensor1	BR-12, "Master Cylinder Pressure Sensor1"		
11.	Brake power supply backup unit	BR-12, "Brake Power Supply Backup Unit"		

< SYSTEM DESCRIPTION >

Electrically-driven Intelligent Brake Unit

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

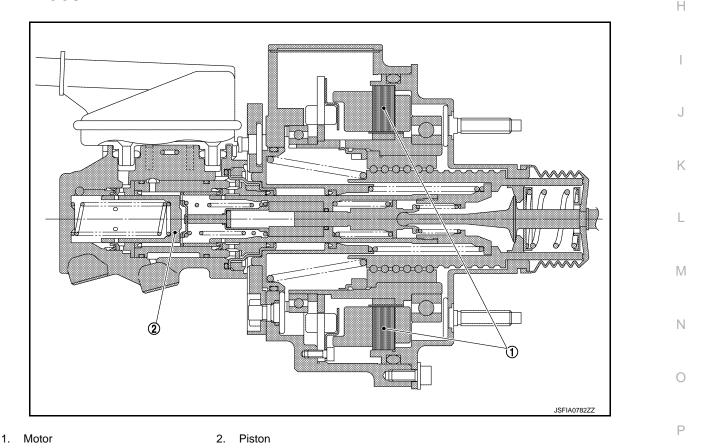
CONTROL MODULE

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

MASTER CYLINDER

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

BRAKE BOOSTER



- 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.

BR-11

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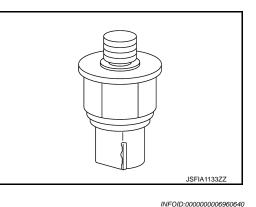
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< SYSTEM DESCRIPTION >

Master Cylinder Pressure Sensor1

Detects the brake fluid pressure and transmits signals to the electrically-driven intelligent brake unit.



Stroke Sensor

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

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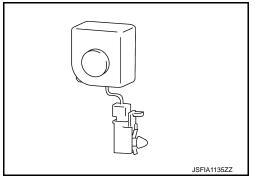
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Warning Buzzer

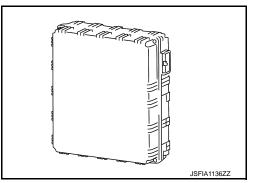
The warning buzzer operates based on the signal from the electrically-driven intelligent brake unit to notify the driver of the change in power supply circuits.

Brake Power Supply Backup Unit

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



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< SYSTEM DESCRIPTION >

SYSTEM

System Description

- An electrically-driven intelligent brake is a booster system that generates assist force by using an internal motor to operate a piston inside the master cylinder.
- 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 DC/DC-J/B and 12V battery, the braking force is determined by the force pressing on the brake pedal (no boost operation). At the same time, the brake warning lamp (red) and the brake system warning lamp (yellow) turn ON.
- When a malfunction occurs in the brake power supply backup unit, the brake system warning lamp (yellow) turn ON.
- When a malfunction occurs in the electrically-driven intelligent brake and in the VDC function, the braking force is determined by the force pressing on the brake pedal (no boost operation). At the same time, the brake warning lamp (red) and brake system warning lamp (yellow) turn ON.
- When a malfunction occurs in the electrically-driven intelligent brake, the VDC function, and the power system, then cooperative regenerative brake control is not performed.
- A fail-safe function is available and is activated when a system malfunction occurs. Refer to <u>BR-19</u>, "Fail-<u>Safe"</u>.

SYSTEM DIAGRAM

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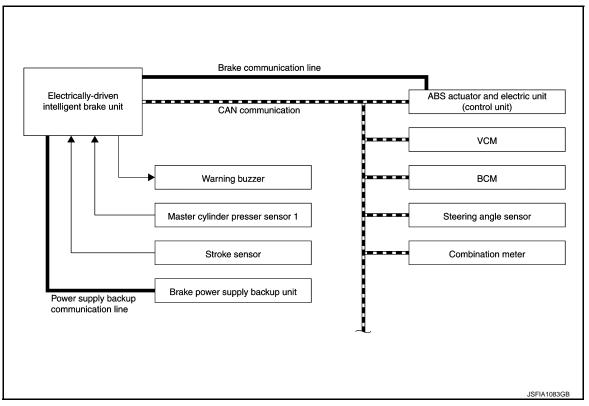
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INPUT SIGNAL AND OUTPUT SIGNAL

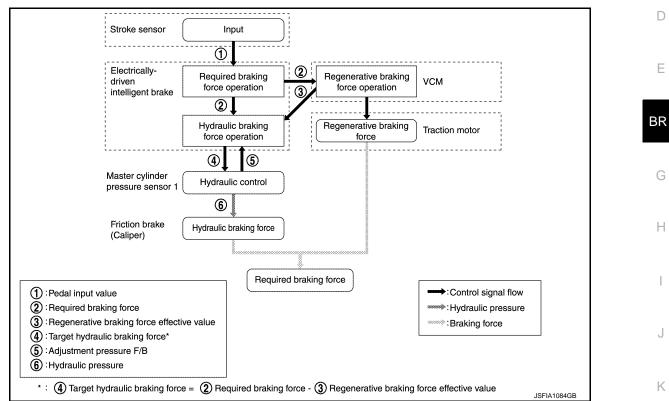
Major signal transmission between each unit via communication lines is shown in the following table.

Component	Signal description	
ABS actuator and electric unit (control unit)	 Mainly transmits the following signals to electrically-driven intelligent brake unit via CAN communication. Stop lamp switch signal 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 Side G signal Side G signal Mainly receives the following signals from electrically-driven intelligent brake unit via CAN communication. Brake assist request signal Brake backup operation signal Electrically-driven intelligent brake control signal 	
VCM	 Mainly transmits the following signals to electrically-driven intelligent brake unit via CAN communication. VCM control signal Current regenerative torque signal Mainly receives the following signal from electrically-driven intelligent brake unit via CAN communication. Target braking force signal 	
BCM	 Mainly transmits the following signals to electrically-driven intelligent brake unit via CAN communication. Power switch ON signal Door switch signal 	

< SYSTEM DESCRIPTION >

Component	Signal description	٥
Steering angle sensor	 Mainly transmits the following signal to electrically-driven intelligent brake unit via CAN communication. Steering angle sensor signal 	A
Combination meter	 Mainly receives the following signals from electrically-driven intelligent brake unit via CAN communication. Brake warning lamp signal Brake system warning lamp signal 	B

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. In the same way as engine braking, this can also reduce the load on the ordinary brakes.
- 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.
- 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 sensor1.

- 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.)

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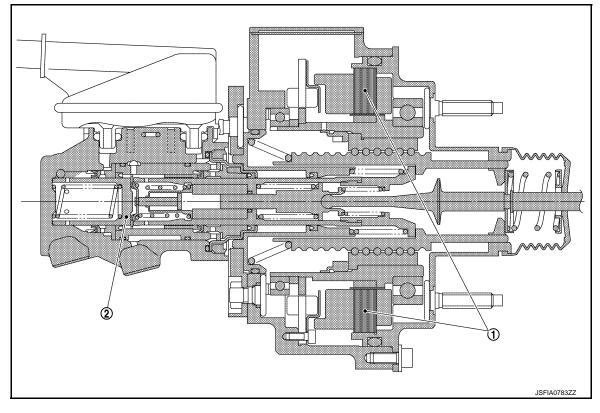
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< SYSTEM DESCRIPTION >

• When brake control is stopped (immediately before vehicle stop or while vehicle is stopped), cooperative regenerative brake control is not performed.

OPERATION

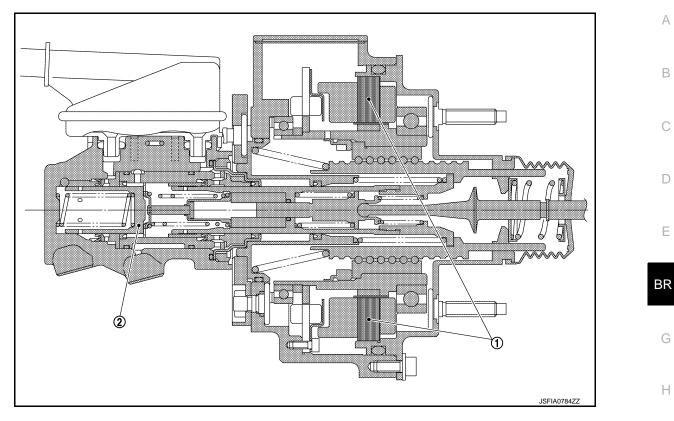
During Normal Braking



1. Motor 2. Piston

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

When Cooperative Regenerative Brake Control Is Operating

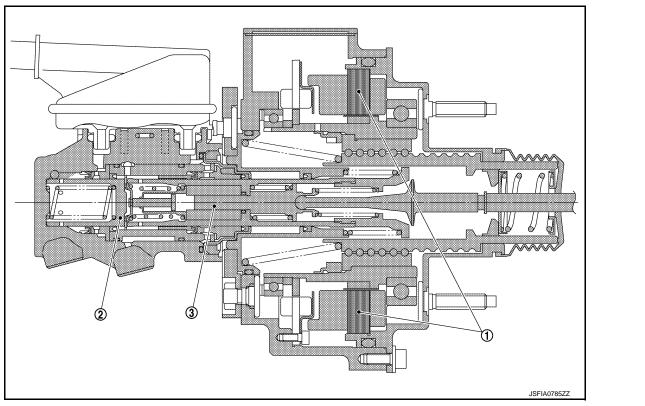


1. Motor

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



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< SYSTEM DESCRIPTION >

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.

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

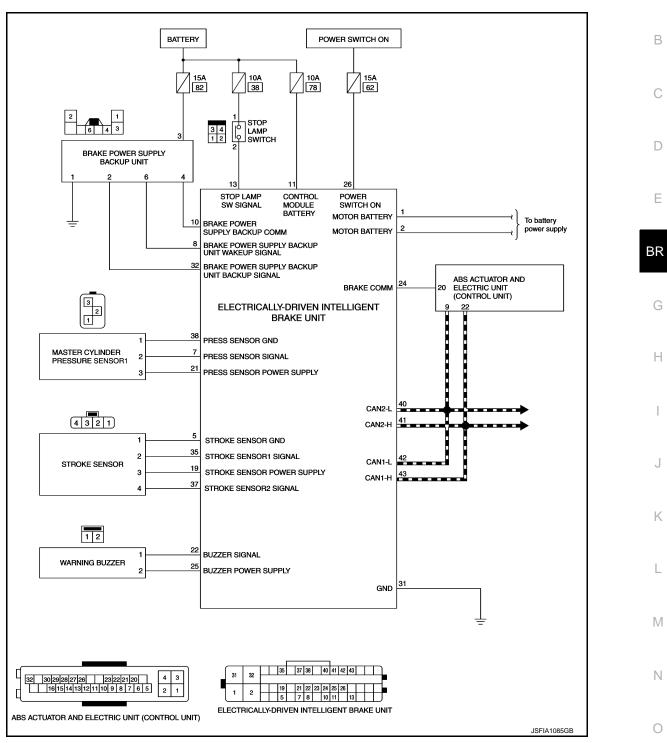
Condition (status)	Brake warning lamp (red)	Brake system warn- ing lamp (yellow)	Warning buzzer
Power switch OFF	OFF	OFF	OFF
For approx. 1 second after the power switch is ON	ON	ON	OFF
Approx. 1 second after power switch ON (when the system is in normal operation)	OFF	OFF	OFF
When the power supply of 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

< SYSTEM DESCRIPTION >

Circuit Diagram

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Fail-Safe

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- When there is a malfunction in the power system of the electrically-driven intelligent brake unit (no voltage is generated), voltage is temporarily supplied to the electrically-driven intelligent brake unit from the brake power supply backup unit. At the same time, the brake warning lamp (red) and brake system warning lamp (yellow) turn ON and the buzzer sounds.
- When a malfunction occurs in the electrically-driven intelligent brake unit, the VDC function performs control (boost operation).

< SYSTEM DESCRIPTION >

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

DTC	Vehicle condition
C1A60	The following functions are suspended.
C1A61	 Boost operation by the electrically-driven intelligent brake Cooperative regenerative brake control
C1A62	Power supply from the brake power supply backup unit
C1A63	The following function is suspended.Power supply from the brake power supply backup unit
C1A64	The following functions are suspended.
C1A65	 Boost operation by the electrically-driven intelligent brake Cooperative regenerative brake control Power supply from the brake power supply backup unit
C1A66	The following function is suspended. Cooperative regenerative brake control
C1A67	Normal control
C1A69	The following functions are suspended.
C1A6A	 Boost operation by the electrically-driven intelligent brake Cooperative regenerative brake control Power supply from the brake power supply backup unit
C1A6B	
C1A6C	 The following function is suspended. Backup power supply from the brake power supply backup unit
C1A6D	
C1A6E	The following function is suspended. Cooperative regenerative brake control
C1A6F	Normal control
C1A70	The following function is suspended. Cooperative regenerative brake control
C1A74	
U1000	 The following function is suspended. Cooperative regenerative brake control
U1010	
U1510	Nermal control
U1511	- Normal control

DIAGNOSIS SYSTEM (ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT) < SYSTEM DESCRIPTION >

DIAGNOSIS SYSTEM (ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT)

CONSULT Function

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APPLICATION ITEM

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

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

*: The following diagnosis information is erased by erasing.

CAUTION:

After erasing self-diagnosis results, turn the power switch OFF to exit CONSULT, get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors. Never operate the vehicle and CONSULT while waiting. • DTC

• Freeze frame data (FFD)

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

SELF DIAGNOSTIC RESULT

Refer to <u>BR-27, "DTC Index"</u>.

When "CRNT" is displayed on self-diagnosis result

The system is presently malfunctioning.

When "PAST" is displayed on self-diagnosis result

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

Freeze frame data (FFD)

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

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

DATA MONITOR

Item (Unit)	Note:
MASTER CYL PRESSURE (V)	Master cylinder pressure sensor1 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 (°C)	Displays the temperature of the motor inside the electrically-driven intelligent brake unit.
CONTROL MODULE TEMP (°C)	Displays the temperature of the control module that is integrated with the electrically-driven intelligent brake unit.
MST CYL PRES POWER VOLT (V)	Master cylinder pressure sensor1 power supply is displayed
STROKE SEN 1 POWER VOLT (V)	Stroke sensor power supply is displayed
MOTOR POWER SUPPLY (V)	Displays the power voltage of the motor inside the electrically-driven intelligent brake unit.
CONTROL MODULE POWER (V)	Displays the power voltage of the control module that is integrated with the electrically-driv- en 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.
ALL SENSOR LEARNING (INCOMP/COMP)	Displays the learning values of stroke sensor 1 [*] , stroke sensor 2 [*] , and master cylinder pressure.
STROKE SEN 1 OUTPUT VOLT (V)	Displays the stroke sensor 1 [*] output voltage.
STEERING ANGLE SENSOR (deg)	Displays the steering angle.
DECEL G SENSOR (G)	Displays the decel G.
SIDE G SENSOR (G)	Displays the side G.
YAW RATE SENSOR SIGNAL (deg/s)	Displays the yaw rate.
WHEEL SENSOR FRONT RH (rpm)	Displays the front RH wheel speed.
WHEEL SENSOR FRONT LH (rpm)	Displays the front LH wheel speed.
WHEEL SENSOR REAR RH (rpm)	Displays the rear RH wheel speed.
WHEEL SENSOR REAR LH (rpm)	Displays the rear LH wheel speed.
VEHICLE SPEED (km/h)	Displays the vehicle speed.
ACTUAL GEAR POSITION [R/D/(N/P)]	Displays the shift position.
BRAKE SWITCH (On/Off)	Displays the operating status of stop lamp switch.
COMMAND WAKE UP SLEEP (sleep/wake-up)	Displays the wake up status.
DOOR SWITCH (BACK DOOR) (CLOSE/OPEN)	Displays the status of back door.
DOOR SWITCH (REAR RH) (CLOSE/OPEN)	Displays the status of rear RH door.
DOOR SWITCH (REAR LH) (CLOSE/OPEN)	Displays the status of rear LH door.
DOOR SWITCH (FRONT RH) (CLOSE/OPEN)	Displays the status of front RH door.

DIAGNOSIS SYSTEM (ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT)

< SYSTEM DESCRIPTION >

Item (Unit)	Note:	
DOOR SWITCH (FRONT LH) (CLOSE/OPEN)	Displays the status of front LH door.	— A
IGNITION SIGNAL (On/Off)	Displays the status of power switch.	В
READY STATUS (On/Off)	Displays the ready status.	
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.	— C
BACKUP UNIT MODE (On/Off)	Displays the operating status of the brake power supply backup unit.	
BACKUP UNIT CHAGE STATUS (CHRG1/CHRG2/FULL)	Displays the charge status of the brake power supply backup unit.	E

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

WORK SUPPORT

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

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< ECU DIAGNOSIS INFORMATION >

ECU DIAGNOSIS INFORMATION ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT

Reference Value

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CONSULT DATA MONITOR STANDARD VALUE

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 depression.
MASTER CYL PRES (VDC)	Gradually depress the brake pedal	Increases between 0 – 25.6 MPa according to the depth of brake depression.
MOTOR TEMPERATURE	Always	115 °C (239 °F) or less
CONTROL MODULE TEMP	Always	150 °C (302 °F) or less
MST CYL PRES POWER VOLT	Always	5.00 – 5.22 V
STROKE SEN 1 POWER VOLT	Always	5.00 – 5.22 V
MOTOR POWER SUPPLY	Always	4.28 – 28.0 V
CONTROL MODULE POWER	Always	11.7 – 16.2 V
STROKE SEN 1 LEARN VALUE ^{*1}	Always	43.32 – 64.76 deg
STROKE SEN 2 LEARN VALUE ^{*1}	Always	43.32 – 64.76 deg
414 05N005 1 5 05N1N10*2	Learning not completed	INCOMP
ALL SENSOR LEARNING ^{*2}	Learning completed	COMP
STROKE SEN 1 OUTPUT VOLT*1	Gradually depress the brake pedal	Increases between 0.51 – 4.59 V according to the depth of brake depression.
	When driving straight	0±3.5°
STEERING ANGLE SENSOR	When steering wheel is steered to LH by 90°	Approx. –90°
	When steering wheel is steered to RH by 90°	Approx. +90°
	Vehicle stopped	Approx. 0 G
DECEL G SENSOR	During acceleration	Positive value
	During deceleration	Negative value
	Vehicle stopped	Approx. 0 G
SIDE G SENSOR	Right turn	Negative value
	Left turn	Positive value
	Vehicle stopped	Approx. 0 deg/s
YAW RATE SENSOR SIGNAL	Right turn	Negative value
	Left turn	Positive value
WHEEL SENSOR FRONT RH	Vehicle stopped	0 rpm
WHEEL SENSOR FRONT RH	Driving ^{*3}	Increases according to vehicle speed.
	Vehicle stopped	0 rpm
WHEEL SENSOR FRONT LH	Driving ^{*3}	Increases according to vehicle speed.
	Vehicle stopped	0 rpm
WHEEL SENSOR REAR RH	Driving ^{*3}	Increases according to vehicle speed.
	Vehicle stopped	0 rpm
WHEEL SENSOR REAR LH	Driving ^{*3}	Increases according to vehicle speed.

< ECU DIAGNOSIS INFORMATION >

Monitor item	Condition	Reference values in normal operation
	Vehicle stopped	0.00 km/h (0.00 MPH)
VEHICLE SPEED	Driving ^{*3}	Almost same reading as speedometer (within $\pm 10\%$)
	D position	D
ACTUAL GEAR POSITION	R position	R
	N or P position	N/P
	Brake pedal is depressed.	On
BRAKE SWITCH	Brake pedal is not depressed.	Off
COMMAND WAKE UP SLEEP	When command is not input from BCM	SLEEP
	When command is input from BCM	WAKEUP
DOOR SWITCH (BACK DOOR)	Back door closed	CLOSE
DOOR SWITCH (BACK DOOR)	Back door open	OPEN
	Rear RH door closed	CLOSE
DOOR SWITCH (REAR RH)	Rear RH door open	OPEN
DOOR SWITCH (REAR LH)	Rear LH door closed	CLOSE
DOOR SWITCH (REAR LH)	Rear LH door open	OPEN
DOOR SWITCH (FRONT RH)	Front RH door closed	CLOSE
	Front RH door open	OPEN
	Front LH door closed	CLOSE
DOOR SWITCH (FRONT LH)	Front LH door open	OPEN
IGNITION SIGNAL	Power switch ON	On
IGNITION SIGNAL	Power switch other than ON	Off
	READY status	On
READY STATUS	Other than READY status	Off
	Normal	NORMAL
	Overvoltage	ERR1
	Communications malfunction	ERR2
	Charging circuit malfunction	ERR3
	Discharge circuit open	ERR4
	Discharge circuit shorted	ERR5
	Cell malfunction	ERR6
	Backup power circuit malfunction	ERR7
	Start signal malfunction	ERR8
BACKUP UNIT DIAG RESULT	The control part is in abnormal condi- tion	ERR9
	Monitor circuit malfunction	ERR10
	Insulation malfunction	ERR11
	Output circuit malfunction (other than discharge circuit)	ERR12
	Temperature detection circuit mal- function	ERR13
	Deteriorated	ERR14
	Outside the reference voltage	ERR15

< ECU DIAGNOSIS INFORMATION >

Monitor item	Condition	Reference values in normal operation
	Backup power supply mode is active	On
BACKUP UNIT MODE	Backup power supply mode is not ac- tivated	Off
	80% or less (backup power supply not possible)	CHRG1
BACKUP UNIT CHAGE STATUS	80 – 99%(backup power supply possible)	CHRG2
	100% (backup power supply possible)	FULL

*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:000000006960648

- 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 DC/DC-J/B 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, VDC function, and power system, cooperative regenerative brake control is not performed.

DTC	Vehicle condition
C1A60	The following functions are suspended.
C1A61	 Boost operation by the electrically-driven intelligent brake Cooperative regenerative brake control
C1A62	Power supply from the brake power supply backup unit
C1A63	The following function is suspended.Power supply from the brake power supply backup unit
C1A64	The following functions are suspended.
C1A65	 Boost operation by the electrically-driven intelligent brake Cooperative regenerative brake control
CTA65	Power supply from the brake power supply backup unit
C1A66	The following function is suspended.
	Cooperative regenerative brake control
C1A67	Normal control
C1A69	The following functions are suspended.
01404	 Boost operation by the electrically-driven intelligent brake Cooperative regenerative brake control
C1A6A	Power supply from the brake power supply backup unit
C1A6B	
C1A6C	 The following function is suspended. Backup power supply from the brake power supply backup unit
C1A6D	
C1A6E	The following function is suspended. • Cooperative regenerative brake control
C1A6F	Normal control

< ECU DIAGNOSIS INFORMATION >

DTC	Vehicle condition	
C1A70	The following function is suspended. Cooperative regenerative brake control 	
C1A74		
U1000	 The following function is suspended. Cooperative regenerative brake control 	
U1010		
U1510	Normal control	
U1511	- Normal control	

DTC Inspection Priority Chart

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

Priority	Detected item (DTC)	
1	 U1000 CAN COMM CIRCUIT U1010 CONTROL UNIT (CAN) U1510 BRAKE CONTROL COMMUNICATION U1511 POWER SUPPLY BACKUP UNIT COMM 	
2	C1A60 CONTROL MODULE C1A6B POWER SUPPLY BACKUP UNIT	
3	C1A6E EV/HEV SYSTEM C1A6F TCM/VCM SYSTEM C1A70 BRAKE CONTROL SYSTEM C1A74 ST ANG SEN CIRCUIT	
4	 C1A61 MOTOR POWER SUPPLY C1A62 CONTROL MODULE POWER SUPPLY C1A63 BACKUP POWER SUPPLY C1A6C POWER SUPPLY BACKUP UNIT VOLT 	
5	 C1A64 STROKE SENSOR C1A65 STROKE SENSOR SET C1A66 MASTER PRESSURE SENSOR C1A67 STOP LAMP SWITCH 	
5	 C1A67 STOP LAMP SWITCH C1A69 MOTOR C1A6A CONTROL MODULE TEMPERATURE C1A6D POWER SUPPLY BACKUP UNIT OUTPUT 	

DTC Index

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Ν	Refer to	Display item	DTC
_	BR-41, "DTC Logic"	CONTROL MODULE	C1A60
	BR-49, "DTC Logic"	MOTOR POWER SUPPLY	C1A61
	BR-57, "DTC Logic"	CONTROL MODULE POWER SUPPLY	C1A62
	BR-66, "DTC Logic"	BACKUP POWER SUPPLY	C1A63
(BR-75, "DTC Logic"	STROKE SENSOR	C1A64
	BR-87, "DTC Logic"	STROKE SENSOR SET	C1A65
F	BR-99, "DTC Logic"	MASTER PRESSURE SENSOR	C1A66
- r	BR-110, "DTC Logic"	STOP LAMP SWITCH	C1A67
	BR-122, "DTC Logic"	MOTOR	C1A69
	BR-131, "DTC Logic"	CONTROL MODULE TEMPERATURE	C1A6A
	BR-140, "DTC Logic"	POWER SUPPLY BACKUP UNIT	C1A6B
	BR-151, "DTC Logic"	POWER SUPPLY BACKUP UNIT VOLT	C1A6C
	BR-159, "DTC Logic"	POWER SUPPLY BACKUP UNIT OUTPUT	C1A6D

< ECU DIAGNOSIS INFORMATION >

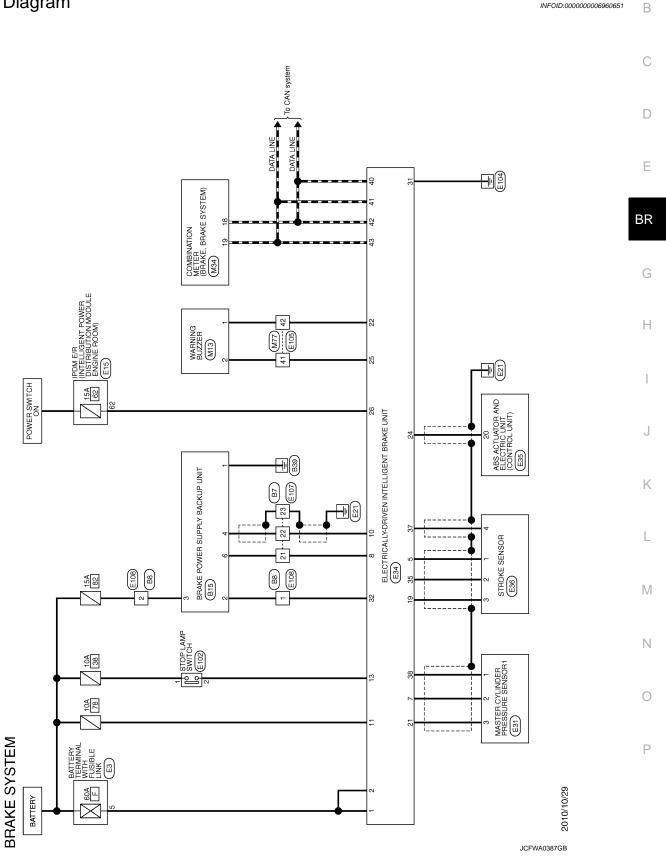
DTC	Display item	Refer to
C1A6E	EV/HEV SYSTEM	BR-167, "DTC Logic"
C1A6F	TCM/VCM SYSTEM	BR-176, "DTC Logic"
C1A70	BRAKE CONTROL SYSTEM	BR-185, "DTC Logic"
C1A74	ST ANG SEN CIRCUIT	BR-194, "DTC Logic"
U1000	CAN COMM CIRCUIT	BR-202, "DTC Logic"
U1010	CONTROL UNIT (CAN)	BR-204, "DTC Logic"
U1510	BRAKE CONTROL COMMUNICATION	BR-206, "DTC Logic"
U1511	POWER SUPPLY BACKUP UNIT COMM	BR-214, "DTC Logic"

BRAKE SYSTEM

< WIRING DIAGRAM > WIRING DIAGRAM

BRAKE SYSTEM

Wiring Diagram



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BRAKE SYSTEM	Connector No B15	40 V	13 B	STOD I AMD SW SIGNAL	
Т	Т	+9 	ľ	STROKE SENSOR DOWER SLIDDI V	
Connector Name WIRE TO WIRE	Connector Name BRAKE POWER SUPPLY BACKUP UNIT	بر د	┢	PRESS SENSOR POWER SUPPLY	
Connector Type TH24FW-NH	Connector Type TB04FW-TM4	52 P -	22 W	BUZZER SIGNAL	
0	2		H	BRAKE COMM	
	(Type)	+	25 R	BUZZER POWER SUPPLY	
	HS.	+	+	POWER SWITCH ON	
1211110 9 8 7 6 5 4 3 2 1		60 GR	╉	GND	
20 10 18 17 16 15	6 4 3	+	╉	BRAKE POWER SUPPLY BACKUP UNIT BACKUP SIGNAL	
	1	62 V =	╢	STROKE SENSORI SIGNAL	
			+	STROKE SENSOR2 SIGNAL	
	H	Γ	+	PRESS SEINSUR GNU	
Terminal Color Signal Name [Specification]	leu	Connector No. E31	40 P	CAN2-L	
of Wire	No. of Wire	Connector Name MASTER CVI INDER PRESSURE SENSORI		CAN2-H	
1 L -			42 P	CAN1-L	
₽.	2 R BRAKE POWER SUPPLY BACKUP UNIT BACKUP SIGNAL	Connector Type AAZ03FB2-S	43 L	CAN1-H	
+	3 L BRAKE POWER SUPPLY BACKUP UNIT POWER SUPPLY	đ			
-	×				
+	6 Y BRAKE POWER SUPPLY BACKUP UNIT WAKEUP SIGNAL	HS. (
H ·	Γ				
. פ	Connector No. E3				
8	Connector Name BATTERY TERMINAL WITH FUSIBLE LINK				
+	Т	- H			
20 R -	Connector Type L01FB-MC	nal			
-	4	e			
	AAA	+			
23 SHIELD -	HS.	2 2			
Connector No. B8	<u></u>				
Γ		Connector No E34			
Connector Name WIRE TO WIRE					
Connector Type NS04FW-CS	Terminal Color	Connector Name ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT			
1	-	Connector Type SA742FB-S.174-S			
- Contraction of the second se	┢				
		Į			
	Γ				
4 3 2 1	Connector No. E15	17			
	Connector Name IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE				
	Т				
Mo of Wire Signal Name [Specification]		Terminal Ada			
t		_			
£ .	U U U	p 1			
(52 51 50 49 48				
+	62 61 60 59 58 57 56 55 54				
4 R –		_			
		~			
		0			
	Terminal Color Signal Name [Specification]	+			
	of Wire	11 Y CONTROL MODULE BATTERY			

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BRAKE SYSTEM

Revision: 2014 June

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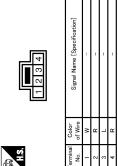
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GROUND	В
POWER SWITCH SUPPLY (FOR UPPER METER	BR
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BATTERY POWER SUPPLY(FOR UPPER METTER)	Я
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	Color of Wire



< WIRING DIAGRAM >

SEAT BELT BUCKLE SWITCH SIGNAL (DRIVER SIL	٢	40
LED HEADLAMP (LH) WARNING SIGNAL	LG	39
LED HEADLAMP (RH) WARNING SIGNAL	>	38
PLUG IN INDICATOR LAMP SIGNAL	L	34
CLOCK SIGNAL	ΓC	33
COMMUNICATION SIGNAL (METER → UPPE	M	32
VEHICLE SPEED SIGNAL (8-PULSE)	GR	30
SECURITY SIGNAL	ч	28
AIR BAG SIGNAL	Я	27
ILLUMINATION CONTROL SIGNAL	8	26
BRAKE FLUID LEVEL SWITCH SIGNAL	BS	25
ELECTRIC PARKING BRAKE CONTROL MODULE WAKEUP SIGN	ЯR	24
GROUND (FOR UPPER METER)	GR	22



WIRE TO WIRE

nector Name

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ctor No.

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BRAKE SYSTEM

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< BASIC INSPECTION >

BASIC INSPECTION DIAGNOSIS AND REPAIR WORK FLOW

Work Flow

INFOID:000000006960652

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 <u>BR-35</u>, "<u>Diagnostic Work Sheet</u>" 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 <u>BR-26</u>, <u>"Fail-Safe"</u>.

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

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

Never set the vehicle to READY.

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

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

- 3. Turn the power switch OFF to exit CONSULT.
- 4. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT while waiting.

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

Never set the vehicle to READY.

- 6. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 7. Turn the power switch OFF to exit CONSULT.
- Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 CAUTION:

Never operate the vehicle and CONSULT 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 "DRAKE" colf diagnosis	A
12. Start CONSULT and perform "BRAKE" self-diagnosis.	
<u>Is DTC detected?</u> YES >> Record or print self-diagnosis results. GO TO 5. NO >> GO TO 7.	В
5.RECHECK SYMPTOM	C
-	С
 With CONSULT Erase self-diagnosis results from the memory. Turn the power switch OFF to exit CONSULT. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more withour ing these doors. CAUTION: 	D t open- E
Never operate the vehicle and CONSULT while waiting.Perform DTC reproduction procedures for the system that is malfunctioning.	
NOTE: When multiple DTCs are detected, refer to <u>BR-27, "DTC Inspection Priority Chart"</u> and then determ order for performing the diagnosis.	ine the BR
Is DTC detected?	G
 YES >> GO TO 6. NO >> Check harness and connectors based on the information obtained by the interview. Refer <u>51. "Intermittent Incident"</u>. 	-
6.REPAIR OR REPLACE ERROR-DETECTED PART	Н
 Repair or replace the part that is malfunctioning. Reconnect part or connector after repairing or rep Erase DTC from the memory when DTC is detected. Turn the power switch OFF to exit CONSULT. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more withour ing these doors. 	I
CAUTION: Never operate the vehicle and CONSULT while waiting.	J
>> GO TO 7.	К
7. IDENTIFY ERROR-DETECTED SYSTEM BY SYMPTOM DIAGNOSIS	
Estimate which system is malfunctioning according to the possible symptoms based on symptom dia and perform check.	ignosis
<u>Can the malfunctioning part be identified?</u> YES >> GO TO 8.	
NO >> Check harness and connectors based on the information obtained by the interview. Refer	r to <u>GI-</u>
8.FINAL CHECK	Ν
 With CONSULT Check the reference value for "BRAKE". Refer to <u>BR-24, "Reference Value"</u>. Perform the operation check. Check that the symptom is not reproduced under the same conditi when the symptom is reproduced before. 	ons as
Is the symptom reproduced?	
YES >> GO TO 3. NO >> INSPECTION END	Р
Diagnostic Work Sheet	000006960653
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	MR/MS	Registration number				Initial year registration			
name		Vehicle type				VIN			
Storage date		Traction mo- tor				Mileage	km	(Mile)
		Does not op	oerate () fui	nction
		Warning lamp for () turns ON.							
Symptom		□ Noise				Vibration			
		□ Other ()
First occurren	се	□ Recently	□ Oth	er ()
Frequency of	occurrence	□ Always	□ Und	er a certair	n conditior	ns of □ Son	netimes (time(s)/day)
		□ Irrelevant							
Climate con-	Weather	□ Fine □	I Cloud	🗆 Rai	in 🗆	ISnow □ Oth	iers ()
ditions	Temperature	□ Hot □W	/arm	Cool	□ Cold	d 🗆 Tempera	ature [Approx.	°C (°F)]
	Relative humidity	□ High		loderate		□ Low			
Road conditio	Road conditions Urban area Suburb area Highway Mountainous road (uphill or downhill) Rough road								
Operating condition, etc.		□Irrelevant □When traction motor starts □ During idling □ During driving □ During acceleration □ At constant speed driving □ During deceleration □ During cornering (right curve or left curve) □ When steering wheel is steered (to right or to left)							
Other conditio	ns								

Memo

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

< BASIC INSPECTION >

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

Description

When the electrically-driven intelligent brake unit was replaced, perform stroke sensor 0 point learning. <u>BR-38</u>, <u>"Work Procedure"</u>.

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STROKE SENSOR 0 POINT LEARNING

< BASIC INSPECTION >

STROKE SENSOR 0 POINT LEARNING

Description

INFOID:000000006960655

×: Necessary, -: Not necessary

CAUTION:

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

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:000000006960656

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-105, "Work Flow".

Is the inspection result normal?

- YES >> GO TO 3.
- NO >> Charge or replace the 12V battery. Refer to <u>PG-103, "How to Handle 12V Battery"</u> or <u>PG-108,</u> <u>"Removal and Installation"</u>. GO TO 3.

$\mathbf{3.}$ 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 <u>BR-242, "Inspection and Adjustment"</u>.

Is the inspection result normal?

YES >> GO TO 5.

NO >> Adjust each brake pedal height. Refer to <u>BR-242</u>, "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. 4.	Turn the power switch OFF to exit CONSULT. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open- ing these doors.	А
	CAUTION:	
5.	Never operate the vehicle and CONSULT while waiting. Turn the power switch ON without depressing the brake pedal.	В
5.	CAUTION:	
	Never set the vehicle to READY.	
6.	Start CONSULT and erase self-diagnosis result of "BRAKE".	С
7. 8.	Turn the power switch OFF to exit CONSULT. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open-	
0.	ing these doors.	
	CAUTION:	D
	Never operate the vehicle and CONSULT while waiting.	
9.	Turn the power switch ON without depressing the brake pedal. CAUTION:	Е
	Never set the vehicle to READY.	
10.	Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.	
	Release brake pedal.	BR
	Start CONSULT and perform "BRAKE" self-diagnosis.	
	malfunction detected?	
	ES >> Check the DTC. Refer to <u>BR-27, "DTC Index"</u> . GO TO 6.	G
N0	D >> GO TO 6. PERFORM STROKE SENSOR 0 POINT LEARNING	
		Н
9	Vith CONSULT	11
1.	Turn the power switch OFF to exit CONSULT and wait for 10 seconds or more. Turn the power switch ON without depressing the brake pedal.	
۷.	CAUTION:	1
	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:	J
	Never depress brake pedal.	
4.	Touch "START".	
<u>ls e</u>	ither "COMPLETED" or "The operation is incomplete. Try again after confirming the operation condition."	Κ
<u>dis</u>	blayed?	
	OMPLETED">>Touch the "END". GO TO 7.	
	he operation is incomplete. Try again after confirming the operation condition.">>GO TO 2.	L
1.	CHECK DATA MONITOR	
	Vith CONSULT	M
	ect "BRAKE", "DATA MONITOR" and "STROKE SEN 1 OUTPUT VOLT" according to this order. Check that	IVI
this	signal is within the specified value.	
	STROKE SEN 1 OUTPUT VOLT : 0.84 – 2.38 V	Ν
la t		
	ne inspection result normal? ES >> GO TO 8.	
N		0
~	ERASE SELF-DIAGNOSIS MEMORY	
		Р
	Vith CONSULT	1
1.	Turn the power switch OFF to exit CONSULT and wait for 10 seconds or more.	
	Be sure to perform the operation above.	
2.	Turn the power switch ON without depressing the brake pedal.	
	CAUTION:	
c	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.
- Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 CAUTION:

Never operate the vehicle and CONSULT while waiting.

Are the memories erased?

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

< DTC/CIRCUIT DIAGNOSIS >

DTC/CIRCUIT DIAGNOSIS C1A60 CONTROL MODULE

DTC Logic

INFOID:00000006960657 B

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DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1A60	CONTROL MODULE	A malfunction is detected control module that is inte- grated with the electrically-driven intelligent brake unit.	Electrically-driven intelligent brake unit
DTC REI	PRODUCTION PROCED	URE	
1.PREC	ONDITIONING		
	ONFIRMATION PROCEDU ast 10 seconds before cond	IRE" has been previously conducted, always ucting the next test.	turn power switch OFF and
-	>> GO TO 2. K DTC DETECTION		
With C			
	the power switch OFF to O <mark>I</mark> TION:	N without depressing the brake pedal.	
Neve	r set the vehicle to READ		
	at step 1 two or more times TION:		
	ure to wait for 5 seconds of the power switch OFF to ex	or more after turning the power switch OF	F.
. Get c	out of the vehicle, close all d	loors (including back door), and wait for 3 mir	nutes or more without open-
	ese doors. TION:		
	r operate the vehicle and	CONSULT while waiting. It depressing the brake pedal.	
CAU	TION:		
	r set the vehicle to READ CONSULT and erase self-d	γ. iagnosis result of "BRAKE".	
	the power switch OFF to ex out of the vehicle, close all d	it CONSULT. loors (including back door), and wait for 3 mir	outes or more without open-
ing th	ese doors.		
	TION: r operate the vehicle and	CONSULT while waiting.	
	the power switch ON withou	ut depressing the brake pedal.	
Neve	r set the vehicle to READ		
	ess brake pedal by 100 mm ase brake pedal.	(3.94 in) or more, and hold the position for 5	seconds or more.
2. Start	CONSULT and perform "BF	RAKE" self-diagnosis.	
	C1A60" detected?	nosis Procedure"	
-	>> Proceed to <u>BR-41, "Diag</u> >> INSPECTION END		
Diagnos	sis Procedure		INFOID:00000006960658
.CHEC	K 12V BATTERY		

- 1. Turn the power switch OFF to exit CONSULT.
- 2. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

< DTC/CIRCUIT DIAGNOSIS >

CAUTION:

Never operate the vehicle and CONSULT while waiting.

- 3. Check the 12V battery terminal connections. Refer to <u>BR-5</u>, "Precautions for Removing Battery Terminal" and <u>PG-105</u>, "Work Flow".
- 4. Check the 12V battery. Refer to PG-105, "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.
- 5. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CĂUTION:

Never operate the vehicle and CONSULT 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.
- 9. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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.
- Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 CAUTION:

Never operate the vehicle and CONSULT while waiting.

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

Is the inspection result normal?

YES >> GO TO 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.

	TC/CIRCUIT DIA	40110313 >				
		ttery cable to negative				
		switch OFF to ON with	nout depressing the b	rake pedal.		A
	CAUTION: Never set the ve	ehicle to READY.				
		o or more times.				
	CAUTION:					В
		for 5 seconds or mo		power switch OFF.		
		witch OFF to exit CO		and wait for 3 minut	es or more without open-	С
	ing these doors.		(including back door)	, and wait for 5 minut		U
	CAUTION:					
		he vehicle and CON				D
		witch ON without dep	pressing the brake pe	dal.		
	CAUTION: Never set the ve	ehicle to READY.				
		and erase self-diagno	sis result of "BRAKE			E
9.	Turn the power s	witch OFF to exit ČO	NSULT.			
		hicle, close all doors	(including back door)	, and wait for 3 minut	es or more without open-	
	ing these doors.					BF
		he vehicle and CON	SULT while waiting.			
		witch ON without dep		dal.		
	CAUTION:		0 1			0
		ehicle to READY.				
	Release brake p	edal by 100 mm (3.94	in) or more, and hold	a the position for 5 se	conds or more.	
		and perform "BRAKE	" self-diagnosis.			ŀ
	TC "C1A60" dete	•				
is D		ected?				
						1
I <u>s D</u> YE NC	S >> GO TO S	5.				
YE NC	S >> GO TO S >> INSPEC	5. TION END	RSUPPLY			I
YE NC 5.0	S >> GO TO S >> INSPEC CHECK POWER	5. TION END SWITCH ON POWEF				
YE NC 5.0	S >> GO TO S >> INSPEC CHECK POWER Connect 12V bat	5. TION END SWITCH ON POWEF ttery cable to negative	e terminal.			
YE NC 5.0	S >> GO TO S >> INSPEC CHECK POWER Connect 12V bat Turn the power s	5. TION END SWITCH ON POWEF ttery cable to negative switch OFF to exit CO	e terminal. NSULT.	, and wait for 3 minut	es or more without open-	
YE NC 5.0 1. 2. 3.	S >> GO TO S >> INSPEC CHECK POWER Connect 12V bat Turn the power s Get out of the ve ing these doors.	5. TION END SWITCH ON POWEF ttery cable to negative switch OFF to exit CO	e terminal. NSULT.	, and wait for 3 minut	es or more without open-	ľ
YE NC 5. C 1. 2. 3.	S >> GO TO S >> INSPEC CHECK POWER Connect 12V bar Turn the power s Get out of the ve ing these doors. CAUTION:	5. TION END SWITCH ON POWEF ttery cable to negative switch OFF to exit CO shicle, close all doors	e terminal. NSULT. (including back door)	, and wait for 3 minut	es or more without open-	ŀ
YE NC 5 .C 1. 2. 3.	S >> GO TO S >> INSPEC CHECK POWER Connect 12V bac Turn the power s Get out of the ve ing these doors. CAUTION: Never operate t	5. TION END SWITCH ON POWEF ttery cable to negative switch OFF to exit CO shicle, close all doors he vehicle and CON	e terminal. NSULT. (including back door) SULT while waiting.			ŀ
YE NC 5 .C 1. 2. 3.	S >> GO TO S >> INSPEC CHECK POWER Connect 12V bar Turn the power s Get out of the ver ing these doors. CAUTION: Never operate t Disconnect 12V	5. TION END SWITCH ON POWEF ttery cable to negative switch OFF to exit CO shicle, close all doors he vehicle and CON	e terminal. NSULT. (including back door) SULT while waiting.		es or more without open- ns for Removing Battery	ŀ
YE NC 5. C 1. 2. 3.	S >> GO TO S >> INSPEC CHECK POWER Connect 12V bar Turn the power s Get out of the ver ing these doors. CAUTION: Never operate t Disconnect 12V Terminal".	5. TION END SWITCH ON POWEF ttery cable to negative switch OFF to exit CO shicle, close all doors he vehicle and CON	e terminal. NSULT. (including back door) SULT while waiting. egative terminal. Refe	r to <u>BR-5, "Precautic</u>		ŀ
YE NC 5. 3. 4.	S >> GO TO S >> INSPEC CHECK POWER Connect 12V bar Turn the power s Get out of the ver ing these doors. CAUTION: Never operate t Disconnect 12V <u>Terminal</u> ". Disconnect the e Connect 12V bar	5. TION END SWITCH ON POWER ttery cable to negative switch OFF to exit CO chicle, close all doors he vehicle and CON battery cable from ne	e terminal. NSULT. (including back door) SULT while waiting. egative terminal. Refe ligent brake unit harn e terminal.	r to <u>BR-5, "Precautic</u> ess connector.	ns for Removing Battery	l
YE NC 5. 3. 4.	S >> GO TO S >> INSPEC CHECK POWER Connect 12V bar Turn the power s Get out of the ver ing these doors. CAUTION: Never operate t Disconnect 12V <u>Terminal</u> ". Disconnect the e Connect 12V bar	5. TION END SWITCH ON POWER ttery cable to negative switch OFF to exit CO chicle, close all doors he vehicle and CON battery cable from ne	e terminal. NSULT. (including back door) SULT while waiting. egative terminal. Refe ligent brake unit harn e terminal.	r to <u>BR-5, "Precautic</u> ess connector.		l
YE NC 5. 2. 3. 4.	S >> GO TO S >> INSPEC CHECK POWER Connect 12V bar Turn the power s Get out of the ver ing these doors. CAUTION: Never operate t Disconnect 12V Terminal". Disconnect the e Connect 12V bar Check the voltag	5. TION END SWITCH ON POWER ttery cable to negative switch OFF to exit CO shicle, close all doors he vehicle and CON battery cable from ne electrically-driven intel ttery cable to negative je between the electri	e terminal. NSULT. (including back door) SULT while waiting. egative terminal. Refe ligent brake unit harn e terminal.	r to <u>BR-5, "Precautic</u> ess connector. brake unit harness c	ns for Removing Battery	L
YE NC 5. 2. 3. 4.	S >> GO TO S >> INSPEC CHECK POWER Connect 12V bar Turn the power s Get out of the ver ing these doors. CAUTION: Never operate t Disconnect 12V Terminal". Disconnect the e Connect 12V bar Check the voltag	5. TION END SWITCH ON POWER ttery cable to negative switch OFF to exit CO whicle, close all doors he vehicle and CON battery cable from ne electrically-driven intel ttery cable to negative between the electric	e terminal. NSULT. (including back door) SULT while waiting. egative terminal. Refe ligent brake unit harn e terminal.	r to <u>BR-5, "Precautic</u> ess connector. brake unit harness c _{Voltage}	ns for Removing Battery	L
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YE NC 5. 5. 5. 5. 7.	S >> GO TO S >> INSPEC CHECK POWER Connect 12V bar Turn the power s Get out of the ver ing these doors. CAUTION: Never operate t Disconnect 12V Terminal". Disconnect 12V bar Check the voltag Electrically-driven Connector E34	5. TION END SWITCH ON POWEF Itery cable to negative switch OFF to exit CO whicle, close all doors he vehicle and CON battery cable from ne electrically-driven intel itery cable to negative je between the electri intelligent brake unit Terminal 26	e terminal. NSULT. (including back door) SULT while waiting. egative terminal. Refe ligent brake unit harn e terminal. cally-driven intelligent Ground	r to <u>BR-5, "Precautic</u> ess connector. brake unit harness c Voltage (Approx.) 0 V	ns for Removing Battery	L
YE NC 5.0 1. 2. 3. 4. 5. 6. 7.	S >> GO TO S >> INSPEC CHECK POWER Connect 12V bar Turn the power s Get out of the ver ing these doors. CAUTION: Never operate t Disconnect 12V Terminal". Disconnect the e Connect 12V bar Check the voltag Electrically-driven Connector E34 Turn the power s	5. TION END SWITCH ON POWER ttery cable to negative switch OFF to exit CO shicle, close all doors he vehicle and CON battery cable from ne electrically-driven intel ttery cable to negative ge between the electri intelligent brake unit Terminal	e terminal. NSULT. (including back door) SULT while waiting. egative terminal. Refe ligent brake unit harn e terminal. cally-driven intelligent Ground	r to <u>BR-5, "Precautic</u> ess connector. brake unit harness c Voltage (Approx.) 0 V	ns for Removing Battery	L N
YE NC 5.0 1. 2. 3. 4. 5. 6. 7.	S >> GO TO S >> INSPEC CHECK POWER Connect 12V bar Turn the power s Get out of the ver ing these doors. CAUTION: Never operate t Disconnect 12V Terminal". Disconnect the e Connect 12V bar Check the voltag Electrically-driven Connector E34 Turn the power s CAUTION:	5. TION END SWITCH ON POWER ttery cable to negative switch OFF to exit CO whicle, close all doors he vehicle and CON battery cable from ne electrically-driven intel ttery cable to negative je between the electri intelligent brake unit Terminal 26 switch ON without dep	e terminal. NSULT. (including back door) SULT while waiting. egative terminal. Refe ligent brake unit harn e terminal. cally-driven intelligent Ground	r to <u>BR-5, "Precautic</u> ess connector. brake unit harness c Voltage (Approx.) 0 V	ns for Removing Battery	L N
YE NC 5. 3. 4. 5. 5. 7.	S >> GO TO S >> INSPEC CHECK POWER Connect 12V bar Turn the power s Get out of the ver ing these doors. CAUTION: Never operate t Disconnect 12V Terminal". Disconnect the e Connect 12V bar Check the voltag Electrically-driven Connector E34 Turn the power s CAUTION: Never set the ver	5. TION END SWITCH ON POWER ttery cable to negative switch OFF to exit CO chicle, close all doors he vehicle and CON battery cable from ne electrically-driven intel ttery cable to negative je between the electri intelligent brake unit Terminal 26 switch ON without dep ehicle to READY.	e terminal. NSULT. (including back door) SULT while waiting. egative terminal. Refe ligent brake unit harn e terminal. cally-driven intelligent Ground	r to <u>BR-5, "Precautic</u> ess connector. brake unit harness c Voltage (Approx.) 0 V dal.	ns for Removing Battery	
YE NC 5. (1) 3. 4. 5. 6. 7.	S >> GO TO S >> INSPEC CHECK POWER Connect 12V bar Turn the power s Get out of the ver ing these doors. CAUTION: Never operate t Disconnect 12V Terminal". Disconnect the e Connect 12V bar Check the voltag Electrically-driven Connector E34 Turn the power s CAUTION: Never set the ver	5. TION END SWITCH ON POWER ttery cable to negative switch OFF to exit CO chicle, close all doors he vehicle and CON battery cable from ne electrically-driven intel ttery cable to negative je between the electri intelligent brake unit Terminal 26 switch ON without dep ehicle to READY.	e terminal. NSULT. (including back door) SULT while waiting. egative terminal. Refe ligent brake unit harn e terminal. cally-driven intelligent Ground	r to <u>BR-5, "Precautic</u> ess connector. brake unit harness c Voltage (Approx.) 0 V dal.	onnector and ground.	L N C
YE NC 5. (1) 3. 4. 5. 6. 7.	S >> GO TO S >> INSPEC CHECK POWER Connect 12V bar Turn the power s Get out of the ver ing these doors. CAUTION: Never operate t Disconnect 12V Terminal". Disconnect the e Connect 12V bar Check the voltag Electrically-driven Connector E34 Turn the power s CAUTION: Never set the ver Check the voltag	5. TION END SWITCH ON POWER ttery cable to negative switch OFF to exit CO chicle, close all doors he vehicle and CON battery cable from ne electrically-driven intel ttery cable to negative je between the electri intelligent brake unit Terminal 26 switch ON without dep ehicle to READY.	e terminal. NSULT. (including back door) SULT while waiting. egative terminal. Refe ligent brake unit harn e terminal. cally-driven intelligent Ground	r to <u>BR-5, "Precautic</u> ess connector. brake unit harness c Voltage (Approx.) 0 V dal.	onnector and ground.	L M C
YE NC 5.0 1. 2. 3. 4. 5. 6. 7. 8.	S >> GO TO S >> INSPEC CHECK POWER Connect 12V bar Turn the power s Get out of the ver ing these doors. CAUTION: Never operate t Disconnect 12V Terminal". Disconnect the e Connect 12V bar Check the voltag Electrically-driven Connector E34 Turn the power s CAUTION: Never set the ver Check the voltag	5. TION END SWITCH ON POWER ttery cable to negative switch OFF to exit CO whicle, close all doors he vehicle and CON battery cable from ne electrically-driven intel ttery cable to negative je between the electri intelligent brake unit Terminal 26 switch ON without dep ehicle to READY. je between the electri	e terminal. NSULT. (including back door) SULT while waiting. egative terminal. Refe ligent brake unit harn e terminal. cally-driven intelligent Ground	r to <u>BR-5</u> , <u>"Precautic</u> ess connector. brake unit harness c <u>Voltage</u> (Approx.) 0 V dal.	onnector and ground.	I I M N C C
YE NC 5.0 1. 2. 3. 4. 5. 6. 7. 8.	S >> GO TO S >> INSPEC CHECK POWER Connect 12V bar Turn the power s Get out of the ver ing these doors. CAUTION: Never operate t Disconnect 12V Terminal". Disconnect the e Connect 12V bar Check the voltag Electrically-driven Connector E34 Turn the power s CAUTION: Never set the ver Check the voltag Electrically-driven	5. TION END SWITCH ON POWER ttery cable to negative switch OFF to exit CO chicle, close all doors he vehicle and CON battery cable from ne electrically-driven intel ttery cable to negative je between the electri intelligent brake unit 26 switch ON without dep ehicle to READY. je between the electri intelligent brake unit	e terminal. NSULT. (including back door) SULT while waiting. egative terminal. Refe ligent brake unit harn e terminal. cally-driven intelligent Ground	r to <u>BR-5</u> , <u>"Precautic</u> ess connector. brake unit harness c <u>Voltage</u> (Approx.) 0 V dal. brake unit harness c <u>Voltage</u>	onnector and ground.	L M C

YES >> GO TO 8.

< DTC/CIRCUIT DIAGNOSIS >

NO >> GO TO 6.

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

- 1. Turn the power switch OFF to exit CONSULT.
- Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 CAUTION:

Never operate the vehicle and CONSULT while waiting.

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

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

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

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

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to <u>PG-62, "Wiring Diagram - ON</u> <u>POWER SUPPLY -"</u>.

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

7. PERFORM SELF-DIAGNOSIS (3)

(I)With CONSULT

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

Never set the vehicle to READY.

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

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

- 6. Turn the power switch OFF to exit CONSULT.
- 7. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 - CAUTION:

Never operate the vehicle and CONSULT 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.
- 11. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT while waiting.

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

Never set the vehicle to READY.

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

< DTC/CIRCUIT DIA	GNOSIS >					
s DTC "C1A60" detec						
YES >> GO TO 8 NO >> INSPECT						
•						
	ERY POWER SUPPI					
 Get out of the veh ing these doors. 	witch OFF to exit COI nicle, close all doors (NSULT. (including back door), and wait for 3 minutes or more without open-				
CAUTION: Never operate th	e vehicle and CON	SULT while waiting.				
Never operate the vehicle and CONSULT while waiting. B. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-5. "Precautions for Removing Battery</u>						
<u>Terminal</u> . Disconnect the el	actrically driven intell	ligent brake unit harness connector.				
	ery cable to negative					
		cally-driven intelligent brake unit harness connector terminals.				
Electrically-driven in	ntelligent brake unit	Voltage				
Connector	Terminal	(Approx.)				
	1 – 31					
E34	2 – 31	10 – 16 V				
	11 – 31					
Electrically-driven in	-	Voltage				
Connector	Terminal	(Approx.)				
	1 – 31					
E34	2 - 31	10 – 16 V				
	11 – 31					
the inspection resul	t normal?					
YES >> GO TO 1						
NO >> GO TO 9						
CHECK 12V BATT	ERY POWER SUPPI	'LY CIRCUIT				
Get out of the vel ing these doors.	witch OFF to exit CON hicle, close all doors (NSULT. (including back door), and wait for 3 minutes or more without open-				
CAUTION: Never operate th	e vehicle and CONS	SULT while waiting.				
Disconnect 12V t Terminal".	pattery cable from ne	egative terminal. Refer to <u>BR-5</u> , "Precautions for Removing Battery				
Check the 60A fu Check the continu		uit between harness connector terminal 1 of electrically-driven intel-				
ligent brake unit a	and 60A fusible link (#	#F).				
	uity and for short circu and 60A fusible link (#	uit between harness connector terminal 2 of electrically-driven intel- #F)				
Check the 10A fu	se (#78).					
Check the contin		ircuit between harness connector terminal 11 of electrically-driven 78).				
the inspection result	<u>t normal?</u>					

the insp <u>on result normal?</u> 1.

- YES >> Perform trouble diagnosis for 12V battery power supply. Refer to PG-16, "Wiring Diagram BAT-TERY POWER SUPPLY -"
- NO >> Repair or replace error-detected parts and GO TO 10.

< DTC/CIRCUIT DIAGNOSIS >

10. PERFORM SELF-DIAGNOSIS (4)

With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 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.
- 6. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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.
- 10. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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.

 Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT while waiting.

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

Electrically-driver	n intelligent brake unit		Continuity	
Connector	Connector Terminal		Continuity	
E34	31	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)

(B) With CONSULT

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

~ F	DTC/CIRCUIT DIAGNOSIS >	
	Never set the vehicle to READY.	
4.	Repeat step 3 two or more times.	А
	CAUTION:	
5.	Be sure to wait for 5 seconds or more after turning the power switch OFF. Turn the power switch OFF to exit CONSULT.	
5. 6.	Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open-	В
0.	ing these doors.	
	CAUTION:	
7	Never operate the vehicle and CONSULT while waiting.	С
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".	D
9. 10	Turn the power switch OFF to exit CONSULT. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open-	
10.	ing these doors.	Е
	CAUTION:	
	Never operate the vehicle and CONSULT while waiting.	
11.	Turn the power switch ON without depressing the brake pedal. CAUTION:	BR
	Never set the vehicle to READY.	
12.	Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.	
		G
	Start CONSULT and perform "BRAKE" self-diagnosis.	
	DTC "C1A60" detected?	Н
YI N	ES >> GO TO 13. O >> INSPECTION END	
	B .CHECK DATA MONITOR	
	With CONSULT	
1. 2.	Connect the electrically-driven intelligent brake unit harness connector. Connect 12V battery cable to negative terminal.	
2. 3.	Turn the power switch OFF to ON without depressing the brake pedal.	J
	CAUTION:	
	Never set the vehicle to READY.	LZ.
4.	Repeat step 3 two or more times. CAUTION:	K
	Be sure to wait for 5 seconds or more after turning the power switch OFF.	
5.	Start CONSULT and select "BRAKE" and "DATA MONITOR" according this order.	L
6.	Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER". Refer to <u>BR-24, "Reference</u>	
1- 4	Value".	
-	he inspection result normal?	M
Υ N	 S >> GO TO 14. S >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-261, "Removal and installation"</u>. 	
	PERFORM SELF-DIAGNOSIS (6)	
		Ν
<u> </u>	With CONSULT	
1.	Turn the power switch OFF to ON without depressing the brake pedal.	0
	Never set the vehicle to READY.	0
2.	Repeat step 1 two or more times.	
	CAUTION:	Р
3.	Be sure to wait for 5 seconds or more after turning the power switch OFF. Turn the power switch OFF to exit CONSULT.	
3. 4.	Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open-	
	ing these doors.	
	CAUTION:	
5.	Never operate the vehicle and CONSULT while waiting. Turn the power switch ON without depressing the brake pedal.	
5.	CAUTION:	

CAUTION:

< DTC/CIRCUIT DIAGNOSIS >

Never set the vehicle to READY.

- 6. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 7. Turn the power switch OFF to exit CONSULT.
- 8. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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 <u>BR-261, "Removal and installation"</u>.
- NO >> INSPECTION END

< DTC/CIRCUIT DIAGNOSIS >

C1A61 MOTOR

DTC Logic

INFOID:000000006960659

А

В

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. Motor power voltage: 9 V ≥ Motor power voltage Motor power voltage: 16 V ≥ Motor power voltage 	 Connector or harness Electrically-driven intelligent brake unit
TC RE	PRODUCTION PROCEI	DURE	
.PREC	ONDITIONING		
"DTC C	CONFIRMATION PROCED	URE" has been previously conducted, always	turn power switch OFF and
ait at le	ast 10 seconds before con	ducting the next test.	····· F · · · · · · · · · · · · · · · ·
	>> GO TO 2.		
.CHEC	K DTC DETECTION		
	ONSULT		
	TION:	N without depressing the brake pedal.	
Neve	er set the vehicle to READ		
	eat step 1 two or more time TION:	S.	
		or more after turning the power switch OFF	
Turn	the power switch OFF to e	xit CONSULT.	
	nese doors.	doors (including back door), and wait for 3 min	nutes or more without open-
	TION:		
		I CONSULT while waiting. but depressing the brake pedal.	
	TION:	di depressing the brake pedal.	
	er set the vehicle to REAL		
	the power switch OFF to e	diagnosis result of "BRAKE". xit CONSULT	
Get o	out of the vehicle, close all	doors (including back door), and wait for 3 min	utes or more without open-
	nese doors. TION:		
Neve	er operate the vehicle and	I CONSULT while waiting.	
Turn	the power switch ON witho	out depressing the brake pedal.	
	TION: er set the vehicle to READ	DY.	
). Depr	ess brake pedal by 100 mr	n (3.94 in) or more, and hold the position for 5	seconds or more.
	ase brake pedal. CONSULT and perform "B	RAKE" self-diagnosis	
	CONSOLT and perform B		
	>> Proceed to <u>BR-49, "Dia</u>	gnosis Procedure".	
	>> INSPECTION END		
iagno	sis Procedure		INFOID:00000006960660
	K 12V BATTERY		
.CHEC	N IZV BALLERY		

- 1. Turn the power switch OFF to exit CONSULT.
- Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 CAUTION:

< DTC/CIRCUIT DIAGNOSIS >

Never operate the vehicle and CONSULT while waiting.

- 3. Check the 12V battery terminal connections. Refer to <u>BR-5</u>, "Precautions for Removing Battery Terminal" and PG-105, "Work Flow".
- 4. Check the 12V battery. Refer to PG-105, "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.
- 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.
- 5. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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.
- 9. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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.
- 2. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT while waiting.

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

Is the inspection result normal?

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.

< C	TC/CIRCUIT DI	AGNOSIS >	• • • • • • • •	-		
3.	Turn the power CAUTION :	switch OFF to ON with	nout depressing the b	rake pedal.		
		whicle to READY.				А
4.		wo or more times.				
	CAUTION: Be sure to wait	for 5 seconds or mo	ore after turning the	nower switch OFF		В
5.		switch OFF to exit CO		power switch of f.		
6.	Get out of the v	ehicle, close all doors		, and wait for 3 minu	tes or more without open-	
	ing these doors.					С
		the vehicle and CON	SULT while waiting.			
7.		switch ON without dep	pressing the brake pe	dal.		D
	CAUTION: Never set the v	whicle to READY.				
8.	Start CONSULT	and erase self-diagno				
9.		switch OFF to exit CO		and wait for 2 minu	too or more without open	E
10.	ing these doors.		(including back door)	, and wait for 3 minu	tes or more without open-	
	CAUTION:					BR
11		the vehicle and CON switch ON without dep		dal		
	CAUTION:		hessing the blake per	udi.		
		ehicle to READY.				G
	Depress brake p Release brake p	bedal by 100 mm (3.94 bedal	1 in) or more, and hole	d the position for 5 s	econds or more.	
		and perform "BRAKE	" self-diagnosis.			Н
	DTC "C1A61" det	•	Ū			
	ES >> GO TO					
N						
<u>э</u> .	CHECK POWER	SWITCH ON POWER	RSUPPLY			
1.		ttery cable to negative				J
2. 3.		switch OFF to exit CO		and wait for 3 minu	tes or more without open-	0
0.	ing these doors.					
	CAUTION:	the vehicle and CON	SIII T while waiting			Κ
4.				er to BR-5, "Precauti	ons for Removing Battery	
_	Terminal".		-			I
5. 6.		electrically-driven intel attery cable to negative		ess connector.		
7.				t brake unit harness	connector and ground.	
		-			·	M
	Electrically-driven	intelligent brake unit		Voltage		
	Connector	Terminal		(Approx.)		N
	E34	26	Ground	0 V		IN
8.		switch ON without dep	pressing the brake pe	dal.		
	CAUTION:	ehicle to READY.				0
9.			cally-driven intelligent	t brake unit harness	connector and ground.	
		-	- 0			Р
	Electrically-driven	intelligent brake unit		Voltage		٢
	Connector	Terminal		(Approx.)		
_	E34	26	Ground	10 – 16 V		
			·			

Is the inspection result normal?

YES >> GO TO 8.

NO >> GO TO 6.

< DTC/CIRCUIT DIAGNOSIS >

6.CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

- 1. Turn the power switch OFF to exit CONSULT.
- Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 - CAUTION:

Never operate the vehicle and CONSULT while waiting.

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

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

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

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

Is the inspection result normal?

- YES >> Perform trouble diagnosis for power ON power supply. Refer to <u>PG-62, "Wiring Diagram ON</u> <u>POWER SUPPLY -"</u>.
- NO >> Repair or replace error-detected parts and GO TO 7.

7. PERFORM SELF-DIAGNOSIS (3)

With CONSULT

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

Never set the vehicle to READY.

- 5. Repeat step 4 two or more times.
- CAUTION: Be sure to wait for 5 seconds or more after turning the power switch OFF.
- 6. Turn the power switch OFF to exit CONSULT.
- 7. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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.
- Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 CAUTION:

Never operate the vehicle and CONSULT 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.

		CIAOIWOI	UN
< DTC/CIRCUIT D	IAGNOSIS >		
<u>s DTC "C1A61" de</u>			
YES >> GO TO NO >> INSPE	8. CTION END		
		V	
	TTERY POWER SUPPL		
Get out of the v ing these doors CAUTION:	5.	including back do	or), and wait for 3 minutes or more without open-
	the vehicle and CONS / battery cable from neg		g. efer to <u>BR-5, "Precautions for Removing Battery</u>
Disconnect the Connect 12V b	electrically-driven intelli attery cable to negative age between the electric	terminal.	rness connector. ent brake unit harness connector terminals.
Electrically-drive	n intelligent brake unit	Voltage	—
Connector	Terminal	(Approx.)	
	1 – 31		—
E34	4 2 – 31 10 – 16 V		
	11 – 31		
	n intelligent brake unit	Voltage	ent brake unit harness connector terminals
Connector	Terminal	(Approx.)	
	1 – 31		
E34	2 – 31	10 – 16 V	
	11 – 31		
the inspection re- YES >> GO TC NO >> GO TC CHECK 12V BA) 11.	Y CIRCUIT	
Get out of the ving these doors	5.	including back do	or), and wait for 3 minutes or more without open-
	 the vehicle and CONS V battery cable from neg 		g. efer to <u>BR-5, "Precautions for Removing Battery</u>
Check the 60A Check the cont ligent brake un	it and 60A fusible link (#	F).	s connector terminal 1 of electrically-driven intel-
ligent brake un Check the 10A	it and 60A fusible link (# fuse (#78).	F).	s connector terminal 2 of electrically-driven intel-
Check the con intelligent brake	tinuity and for short cir e unit and 10A fuse (#78		ness connector terminal 11 of electrically-driven
the inspection re			
	n trouble diagnosis for 1 POWER SUPPLY -".	2V battery power	supply. Refer to <u>PG-16, "Wiring Diagram - BAT-</u>

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

< DTC/CIRCUIT DIAGNOSIS >

10.PERFORM SELF-DIAGNOSIS (4)

With CONSULT

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

Never set the vehicle to READY.

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

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

- 5. Turn the power switch OFF to exit CONSULT.
- 6. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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.
- 10. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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.

 Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT while waiting.

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

Electrically-driven intelligent brake unit			Continuity
Connector	Connector Terminal		Continuity
E34	31	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.		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.	В
6.	Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open-	
	ing these doors. CAUTION:	
	Never operate the vehicle and CONSULT while waiting.	С
7.	Turn the power switch ON without depressing the brake pedal.	0
• •	CAUTION:	
	Never set the vehicle to READY.	
8.	Start CONSULT and erase self-diagnosis result of "BRAKE".	D
	Turn the power switch OFF to exit CONSULT.	
10.	Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open-	_
	ing these doors.	E
	CAUTION:	
	Never operate the vehicle and CONSULT while waiting.	
11.	Turn the power switch ON without depressing the brake pedal. CAUTION:	BF
	Never set the vehicle to READY.	
12	Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.	
	Release brake pedal.	G
	Start CONSULT and perform "BRAKE" self-diagnosis.	
	DTC "C1A61" detected?	
	ES >> GO TO 13.	Н
N		
I C	CHECK DATA MONITOR	1
	With CONSULT	
	Connect the electrically-driven intelligent brake unit harness connector.	
	Connect 12V battery cable to negative terminal.	J
3.	Turn the power switch OFF to ON without depressing the brake pedal.	J
	CAUTION:	
	Never set the vehicle to READY.	
4.	Repeat step 3 two or more times.	K
	CAUTION:	
~	Be sure to wait for 5 seconds or more after turning the power switch OFF.	
5.	Start CONSULT and select "BRAKE" and "DATA MONITOR" according this order. Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER". Refer to <u>BR-24</u> , "Reference	L
6.	Value".	
1 - 4		
	he inspection result normal?	N
	ES >> GO TO 14.	
N		
14	PERFORM SELF-DIAGNOSIS (6)	N
	With CONSULT	
1	Turn the power switch OFF to ON without depressing the brake pedal.	
	CAUTION:	C
	Never set the vehicle to READY.	0
2.	Repeat step 1 two or more times.	
	CAUTION:	_
	Be sure to wait for 5 seconds or more after turning the power switch OFF.	Ρ
3.	Turn the power switch OFF to exit CONSULT.	
4.		
	ing these doors.	
	CAUTION:	
_	Never operate the vehicle and CONSULT while waiting.	
5.	Turn the power switch ON without depressing the brake pedal.	
	CAUTION:	

< DTC/CIRCUIT DIAGNOSIS >

< DTC/CIRCUIT DIAGNOSIS >

Never set the vehicle to READY.

- 6. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 7. Turn the power switch OFF to exit CONSULT.
- 8. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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 <u>BR-261, "Removal and installation"</u>.
- NO >> INSPECTION END

< DTC/CIRCUIT DIAGNOSIS >

C1A62 CONTROL MODULE

DTC Logic

DTC DETECTION LOGIC

INFOID:000000006960661	

А

В

DTC	Display item	Malfunction detection condition	Possible causes
C1A62	CONTROL MODULE POWER SUPPLY	 Power voltage of control module that is integrated with electrically-driven intelligent brake unit is as shown below. Control module power voltage: 9 V ≥ Control module power voltage Control module power voltage: 16 V ≤ Control module power voltage After turning the power switch OFF, 12V battery terminals are disconnected with any door open (including back door). After turning the power switch OFF, 12V battery terminals are disconnected without waiting for 3 minutes or more after closing all doors (including back door). 	 Harness or connector Electrically-driven intelligent brake unit
TC RE	PRODUCTION PROCEDU	RE	
.PREC	ONDITIONING		
		E" has been previously conducted, always	turn power switch OFF and
alt at le	ast 10 seconds before conduc	ting the next test.	
	>> GO TO 2.		
CHEC	K DTC DETECTION		
	ONSULT		
	TION:	without depressing the brake pedal.	
	er set the vehicle to READY. CONSULT and perform "BRA	.KF" self-diagnosis	
	C1A62" detected?		
	>> Proceed to <u>BR-57, "Diagnation in the section and the section and the section and the section is the section and the section is the section and the section</u>	osis Procedure".	
	>> INSPECTION END		
	sis Procedure		INFOID:000000006960662
PERF	ORM SELF-DIAGNOSIS (1)		
Vith COI		without depressing the brake pedal.	
CAU	TION:	minour depressing the brane pedal.	
	er set the vehicle to READY. CONSULT and perform "BRA	KE" self-diagnosis.	
	r "CRNT" shown in self-diagn	-	
NO	RNT")>>GO TO 6. >> INSPECTION END		
2.INTEF	RVIEW FROM THE CUSTOM	ER (1)	
		bry of 12V battery or 12V battery terminals.	
	removal history of 12V batte	y or 12V battery terminals?	
YES	>> GO TO 3.		

YES >> GO TO 3. NO >> GO TO 6.

< 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.

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.
 Repeat step 1 two or more times.
- 2. Repeat step 1 two of 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.
- Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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.
- 8. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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 when12V battery terminals are disconnected after turning the power switch OFF with any door open (including back door) or without waiting 3 minutes after closing all doors (including back door).]

6.CHECK 12V BATTERY

- 1. Turn the power switch OFF to exit CONSULT.
- Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 CAUTION:

Never operate the vehicle and CONSULT while waiting.

- Check the 12V battery terminal connections. Refer to <u>BR-5</u>, "Precautions for Removing Battery Terminal" and <u>PG-105</u>, "Work Flow".
- 4. Check the 12V battery. Refer to PG-105, "Work Flow".
- Is the inspection result normal?
- YES >> GO TO 7.
- NO >> Repair or replace error-detected parts and GO TO 7.

< DTC/CIRCUIT DIAGNOSIS > 7.PERFORM SELF-DIAGNOSIS (3) А With CONSULT 1. Connect 12V battery cable to negative terminal. Turn the power switch OFF to ON without depressing the brake pedal. В CAUTION: Never set the vehicle to READY. Repeat step 2 two or more times. **CAUTION:** Be sure to wait for 5 seconds or more after turning the power switch OFF. Turn the power switch OFF to exit CONSULT. 5. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open-D ing these doors. CAUTION: Never operate the vehicle and CONSULT while waiting. Е 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". BR 8. Turn the power switch OFF to exit CONSULT. 9. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors. CAUTION: Never operate the vehicle and CONSULT while waiting. 10. Turn the power switch ON without depressing the brake pedal. **CAUTION:** Н 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 Turn the power switch OFF to exit CONSULT. 1. Κ 2. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors. **CAUTION:** L Never operate the vehicle and CONSULT while waiting. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-5. "Precautions for Removing Battery</u> Terminal". Μ Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections. Is the inspection result normal? Ν YES >> GO TO 9. NO >> Repair or replace error-detected parts and GO TO 9. **9.** PERFORM SELF-DIAGNOSIS (4) (B)With CONSULT 1. Connect the electrically-driven intelligent brake unit harness connector. 2. Connect 12V battery cable to negative terminal. Ρ Turn the power switch OFF to ON without depressing the brake pedal. CAUTION: Never set the vehicle to READY. Repeat step 3 two or more times. **CAUTION:**

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

5. Turn the power switch OFF to exit CONSULT.

< DTC/CIRCUIT DIAGNOSIS >

 Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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.
- 10. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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.
- 3. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT while waiting.

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

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

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

Never set the vehicle to READY.

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

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

Is the inspection result normal?

YES >> GO TO 13.

NO >> GO TO 11.

11. CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.

 Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 CAUTION:

Never operate the vehicle and CONSULT while waiting.

< DTC/CIRCUIT DIAGNOSIS >

Electric de la companya d	CONTRACTOR INC.			
Electrically-driven in	_		M E/R	Continuity
Connector	Terminal	Connector	Terminal	
E34	26	E15	62	Existed
. Check the continu	ity between electrically	y-driven intelligent	brake unit harness co	onnector and ground.
Electrically-driven in	telligent brake unit			
Connector	Terminal	—	Continuity	
E34	26	Ground	Not existed	
s the inspection result	t normal?			
•		ower ON power s	upply. Refer to PG-6	2, "Wiring Diagram - C
	SUPPLY -"			
	replace error-detected	I parts and GO TO	12.	
2.PERFORM SELF	-DIAGNOSIS (5)			
With CONSULT				
	rically-driven intelligen	t brake unit harnes	s connector.	
	R harness connector. ery cable to negative to	erminal		
	vitch OFF to ON without		orake pedal.	
CAUTION:				
Never set the vel				
 Repeat step 4 two CAUTION:) or more times.			
	or 5 seconds or more	e after turning the	power switch OFF.	
5. Turn the power sw	vitch OFF to exit CON	SULT.		
	icle, close all doors (ir	ncluding back door), and wait for 3 minut	tes or more without ope
ing these doors. CAUTION:				
	e vehicle and CONSU	JLT while waiting		
Turn the power sw	vitch ON without depre			
CAUTION:				
Never set the vel 5. Start CONSULT a	nd erase self-diagnosi	s result of "BRAKE	"	
	vitch OFF to exit CON			
1. Get out of the veh), and wait for 3 minut	tes or more without ope
ing these doors.				
CAUTION:	e vehicle and CONSU	II T while waiting		
	vitch ON without depre			
CAUTION:				
Never set the vel		\		
Depress brake pe	dal by 100 mm (3.94 ii	n) or more, and ho	ld the position for 5 se	econds or more.
4. Release brake pe		self-diagnosis		
 Release brake per Start CONSULT a 	nd perform "BRAKE" s	self-diagnosis.		
4. Release brake per 5. Start CONSULT a s DTC "C1A62" detect	nd perform "BRAKE" s s <u>ted?</u>	self-diagnosis.		
 Release brake per Start CONSULT a 	nd perform "BRAKE" s : <u>ted?</u> 3.	self-diagnosis.		

< DTC/CIRCUIT DIAGNOSIS >

 Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 CAUTION:

Never operate the vehicle and CONSULT while waiting.

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

Electrically-driven intelligent brake unit		Voltage	
Connector Terminal		(Approx.)	
	1 – 31		
E34	2 – 31	10 – 16 V	
-	11 – 31		

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

Never set the vehicle to READY.

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

Electrically-driven intelligent brake unit		Voltage
Connector Terminal		(Approx.)
	1 – 31	
E34	2 – 31	10 – 16 V
	11 – 31	

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.
- Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 CAUTION:

Never operate the vehicle and CONSULT while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-5</u>, "Precautions for Removing Battery <u>Terminal"</u>.
- 4. Check the 60A fusible link (#F).
- 5. Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).
- 6. Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).
- 7. Check the 10A fuse (#78).
- 8. Check the continuity and for short circuit between harness connector terminal 11 of electrically-driven intelligent brake unit and 10A fuse (#78).

Is the inspection result normal?

- YES >> Perform trouble diagnosis for 12V battery power supply. Refer to <u>PG-16, "Wiring Diagram BAT-</u> <u>TERY POWER SUPPLY -"</u>.
- 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:

< D	IC/CIRCUIT D	IAGNUSIS >				
4		vehicle to READY. wo or more times.				Δ
4.	CAUTION:	wo of more times.				А
		t for 5 seconds or mo	re after turning the	power switch OFF	<u>.</u>	
5.	Turn the power	switch OFF to exit CO	NSULT.	-		В
6.			(including back door)	, and wait for 3 min	utes or more without open-	D
	ing these doors	i.				
	CAUTION:	the vehicle and CON	SIII T while waiting			0
7.		the vehicle and CONS switch ON without dep				С
7.	CAUTION:	Switch Ora without dep	ressing the brake pe	uai.		
		vehicle to READY.				
8.	Start CONSULT	and erase self-diagno	sis result of "BRAKE			D
		switch OFF to exit CO				
10.			(including back door)	, and wait for 3 min	utes or more without open-	_
	ing these doors					E
	CAUTION:	the vehicle and CON	SI II T while waiting			
11		the vehicle and CONS switch ON without dep				
	CAUTION:	ownon or without dop	ressing the brane pe	dui.		BR
		vehicle to READY.				
12.	Depress brake	pedal by 100 mm (3.94	in) or more, and hol	d the position for 5	seconds or more.	
	Release brake					G
14.	Start CONSUL	and perform "BRAKE	' self-diagnosis.			
<u>Is D</u>	<u> </u>	tected?				
	ES >> GO TO					Н
N		CTION END				
16	CHECK GROU	JND CIRCUIT				
1.						
1. 2.		switch OFF to exit CO		and wait for 3 min	utes or more without open-	
۷.	ing these doors			, and wait for 5 min	ates of more without open	
	CAUTION:					J
		the vehicle and CON	SULT while waiting.			
3.		/ battery cable from ne	gative terminal. Refe	er to <u>BR-5, "Precau</u>	tions for Removing Battery	
	<u>Terminal"</u> .					K
4.		electrically-driven intell			I	
э.	Check the cont	inuity between electrica	iny-arriven intelligent i	brake unit and grou	na.	
					_	L
	Electrically-driver	n intelligent brake unit	_	Continuity		
	Connector	Terminal		Continuity		
	E34	31	Ground	Existed	_	M
ls ti	ne inspection res	sult normal?			-	
	ES >> GO TO					
N		or replace error-detecte	ad parts and GO TO	17		Ν
	_ '	•		17.		
17	.PERFORM SE	ELF-DIAGNOSIS (7)				
(P)V	Vith CONSULT					0
1.		ectrically-driven intellige	ent brake unit harnes	s connector.		
2.	Connect 12V ba	attery cable to negative	terminal.			
3.		switch OFF to ON with	out depressing the b	rake pedal.		Р
	CAUTION:					
4		vehicle to READY.				
4.		wo or more times.				
	CAUTION: Be sure to wai	t for 5 seconds or mo	re after turning the	nower switch OFF		
5.		switch OFF to exit CO			•	

< DTC/CIRCUIT DIAGNOSIS >

 Turn the power switch OFF to exit CONSULT.
 Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

< DTC/CIRCUIT DIAGNOSIS >

CAUTION:

Never operate the vehicle and CONSULT 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.
- 10. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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 this order.

 Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER". Refer to <u>BR-24, "Reference</u> <u>Value"</u>.

Is the inspection result normal?

- YES >> GO TO 19.
- NO >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-261, "Removal and installation"</u>.

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.
- 4. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 - CAUTION:

Never operate the vehicle and CONSULT 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.
- 8. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT while waiting.

< DTC/CIRCUIT DIAGNOSIS >	
 Turn the power switch ON without depressing the brake pedal. CAUTION: 	٨
Never set the vehicle to READY.	A
 Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more. Release brake pedal. 	
12. Start CONSULT and perform "BRAKE" self-diagnosis.	В
Is DTC "C1A62" detected?	
YES >> GO TO 20. NO >> INSPECTION END	С
20. СНЕСК ВСМ SYSTEM	
With CONSULT	D
Perform self-diagnosis for "BCM". Refer to <u>BCS-27, "BCM : CONSULT Function (BCM - BCM)"</u> .	
Is any DTC detected? YES >> Check the DTC. Refer to <u>BCS-55, "DTC_Index"</u> . GO TO 21.	Е
NO >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-261, "Removal and installation"</u> .	
21.PERFORM SELF-DIAGNOSIS (9)	BR
With CONSULT Turn the neuron quittee OFF to ON without depressing the broke nodel	
 Turn the power switch OFF to ON without depressing the brake pedal. CAUTION: 	0
Never set the vehicle to READY.2. Repeat step 1 two or more times.	G
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.	Н
4. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open-	
ing these doors. CAUTION:	
Never operate the vehicle and CONSULT while waiting.	
 Turn the power switch ON without depressing the brake pedal. CAUTION: 	J
Never set the vehicle to READY.	
 Start CONSULT and erase self-diagnosis result of "BRAKE". Turn the power switch OFF to exit CONSULT. 	К
8. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open-	
ing these doors. CAUTION:	
Never operate the vehicle and CONSULT while waiting.9. Turn the power switch ON without depressing the brake pedal.	L
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.	M
11. Release brake pedal.	
12. Start CONSULT and perform "BRAKE" self-diagnosis. Is DTC "C1A62" detected?	Ν
YES >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-261, "Removal and installation"</u> .	
NO >> INSPECTION END	0
	0

Ρ

< DTC/CIRCUIT DIAGNOSIS >

C1A63 BRAKE POWER SUPPLY BACKUP UNIT

DTC Logic

INFOID:000000006960663

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1A63	BACKUP POWER SUPPLY	Malfunction in the backup power circuit is detected.	 Harness or connector Electrically-driven intelligent brake unit

DTC REPRODUCTION PROCEDURE

1.PRECONDITIONING

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

>> GO TO 2.

2.check dtc detection

(I) With CONSULT

 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.
- 4. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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.
- 8. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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 <u>BR-66, "Diagnosis Procedure"</u>.
- NO >> INSPECTION END

Diagnosis Procedure

1.CHECK 12V BATTERY

- 1. Turn the power switch OFF to exit CONSULT.
- Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 CAUTION:

Never operate the vehicle and CONSULT while waiting.

BR-66

INFOID:000000006960664

< DTC/CIRCUIT DIAGNOSIS > 3. Check the 12V battery terminal connections. Refer to BR-5, "Precautions for Removing Battery Terminal" and PG-105, "Work Flow". А 4. Check the 12V battery. Refer to PG-105, "Work Flow". Is the inspection result normal? YES >> GO TO 2. В NO >> Repair or replace error-detected parts and GO TO 2. 2.PERFORM SELF-DIAGNOSIS (1) With CONSULT 1. Connect 12V battery cable to negative terminal. Turn the power switch OFF to ON without depressing the brake pedal. 2. D **CAUTION:** Never set the vehicle to READY. Repeat step 2 two or more times. **CAUTION:** Е Be sure to wait for 5 seconds or more after turning the power switch OFF. 4. Turn the power switch OFF to exit CONSULT. 5. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open-BR ing these doors. **CAUTION:** Never operate the vehicle and CONSULT while waiting. 6. Turn the power switch ON without depressing the brake pedal. **CAUTION:** Never set the vehicle to READY. Start CONSULT and erase self-diagnosis result of "BRAKE". Н 8. Turn the power switch OFF to exit CONSULT. 9. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors. **CAUTION:** Never operate the vehicle and CONSULT 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. Κ Is DTC "C1A63" detected? YES >> GO TO 3. NO >> INSPECTION END L ${f 3.}$ CHECK CONNECTOR TERMINALS Turn the power switch OFF to exit CONSULT. 1. Μ 2. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors. **CAUTION:** Ν Never operate the vehicle and CONSULT while waiting. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-5</u>, "Precautions for Removing Battery Terminal". 4. Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections. Disconnect the brake power supply backup unit harness connector, then check for failures of pin terminals and connections. Ρ 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)

(B)With CONSULT

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

< DTC/CIRCUIT DIAGNOSIS >

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

Never set the vehicle to READY.

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.
- 7. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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.
- 11. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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 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.
- 4. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT while waiting.

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

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

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

Never set the vehicle to READY.

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

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

< DTC/CIRCUIT DIAGNOSIS >

Is the inspection re YES >> GO TO				
NO >> GO TC				
6.CHECK POWER	R SWITCH ON POWER	R SUPPLY CIRCUIT		
 Get out of the ving these doors CAUTION: Never operate Disconnect 12ⁿ <u>Terminal</u>". Check the 15A Disconnect IPE 	 the vehicle and CON / battery cable from ne 	(including back door SULT while waiting egative terminal. Ref	ier to <u>BR-5, "Precautic</u>	es or more without open- ons for Removing Battery E/R.
Electrically-drive	n intelligent brake unit	IPD	DM E/R	
Connector	Terminal	Connector	Terminal	Continuity
E34	26	E15	62	Existed
7. Check the cont	inuity between electrica	ally-driven intelligent	brake unit harness co	nnector and ground.
Electrically-drive	n intelligent brake unit		Continuity	
Connector	Terminal		Continuity	
E34	26	Ground	Not existed	
	ectrically-driven intellige		ss connector.	
 Connect 12V b Turn the power CAUTION: 	E/R harness connector attery cable to negative switch OFF to ON with	e terminal.	brake pedal.	
5. Repeat step 4	vehicle to READY. two or more times.			
CAUTION: Be sure to wa	it for 5 seconds or mo	ore after turning the	power switch OFF.	
	switch OFF to exit CO		-	es or more without open-
ing these doors	-	(including back door), and wait for 5 minut	es of more without open-
	the vehicle and CON	SULT while waiting	J.	
CAUTION:	switch ON without dep	pressing the brake pe	edal.	
	vehicle to READY. I and erase self-diagno	sis result of "BRAK		
10. Turn the power	switch OFF to exit CO	NSULT.		es or more without open-
ing these doors			,,	
	the vehicle and CON switch ON without dep			
CAUTION:	vehicle to READY.	nessing the place pl	Judi.	
ivever set the	VEHICLE LO READT.			

< 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 "C1A63" detected?

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

8.CHECK 12V BATTERY POWER SUPPLY

- 1. Turn the power switch OFF to exit CONSULT.
- 2. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 - CAUTION:

Never operate the vehicle and CONSULT while waiting.

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

Electrically-driver	n intelligent brake unit	Voltage
Connector	Terminal	(Approx.)
	1 – 31	
E34	2 – 31	10 – 16 V
	11 – 31	

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

Never set the vehicle to READY.

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

Electrically-drive	n intelligent brake unit	Voltage
Connector	Terminal	(Approx.)
	1 – 31	
E34	2 – 31	10 – 16 V
	11 – 31	

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.
- Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 CAUTION:

Never operate the vehicle and CONSULT while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-5</u>, "<u>Precautions for Removing Battery</u> <u>Terminal</u>".
- 4. Check the 60A fusible link (#F).
- 5. Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).
- 6. Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).
- 7. Check the 10A fuse (#78).
- 8. Check the continuity and for short circuit between harness connector terminal 11 of electrically-driven intelligent brake unit and 10A fuse (#78).

Is the inspection result normal?

		UJ DIVANE			
< DT(C/CIRCUIT DIAGNO	SIS >			
YES	S >> Perform trouble TERY POWER		12V battery power su	pply. Refer to <u>PG-16, "Wiring I</u>	<u> Diagram - BAT-</u>
NO			ed parts and GO TO ²	0.	
10.	PERFORM SELF-DIA	GNOSIS (4)			
(D)Wi	th CONSULT				
	Connect the electrically			connector.	
	Connect 12V battery ca				
	urn the power switch (JFF to ON with	hout depressing the b	ake pedal.	
	lever set the vehicle	to READY.			
	Repeat step 3 two or m	ore times.			
	CAUTION:		we often turning the		
	Be sure to wait for 5 s Furn the power switch (bower switch OFF.	
				and wait for 3 minutes or more	e without open-
ir	ng these doors.				r -
	CAUTION:		<u> </u>		
	lever operate the veh furn the power switch (101	
	AUTION:				
	lever set the vehicle				
	Start CONSULT and er				
	urn the power switch (and wait for 3 minutes or more	e without open-
	ng these doors.			and wait for 5 minutes of more	s without open-
	AUTION:				
	lever operate the veh				
	urn the power switch (JN without dep	pressing the brake pe		
	lever set the vehicle	to READY.			
12. C	Pepress brake pedal by		4 in) or more, and hole	the position for 5 seconds or	more.
	Release brake pedal.				
	Start CONSULT and pe	fform "BRAKE	" self-diagnosis.		
	C "C1A63" detected?				
YES NO	S >> GO TO 11. >> INSPECTION E				
	CHECK GROUND CIR				
	urn the power switch (
	ng these doors.	close all doors	(including back door)	and wait for 3 minutes or more	e without open-
	AUTION:				
N	lever operate the veh				
		v cable from ne	egative terminal. Refe	r to <u>BR-5, "Precautions for Re</u>	moving Battery
	<u>erminal"</u> . Disconnect the electrica	allv-driven intel	ligent brake unit harn	ess connector	
	Check the continuity be				
	,			č	
	Electrically-driven intelliger	nt brake unit		Continuity	
		T		Continuity	
	Connector	Terminal			

Is the inspection result normal?

YES >> GO TO 13.

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

12.PERFORM SELF-DIAGNOSIS (5)

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

< DTC/CIRCUIT DIAGNOSIS >

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

Never set the vehicle to READY.

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

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

- 5. Turn the power switch OFF to exit CONSULT.
- 6. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 - CAUTION:

Never operate the vehicle and CONSULT 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.
- 10. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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.
- Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER". Refer to <u>BR-24, "Reference</u> <u>Value"</u>.

Is the inspection result normal?

YES >> GO TO 14.

NO >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-261, "Removal and installation"</u>.

14.PERFORM SELF-DIAGNOSIS (6)

With CONSULT

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

Never set the vehicle to READY.

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

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

- 3. Turn the power switch OFF to exit CONSULT.
- Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 CAUTION:

C1A63 BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

		witch ON without depr	SULT while waiting ressing the brake pe		
	CAUTION:				
		ehicle to READY.	aia requit of "DDAK	- >>	
		and erase self-diagnos witch OFF to exit CON		Ξ.	
				r), and wait for 3 minut	tes or more without ope
	ing these doors.				
	CAUTION: Never operate t	he vehicle and CONS	SUIT while waiting		
		witch ON without depr			
	CAUTION:				
		ehicle to READY. edal by 100 mm (3.94	in) or more and ho	ld the position for 5 se	conds or more
	Release brake p		ing of more, and no		
		and perform "BRAKE"	self-diagnosis.		
		A6B", "C1A6C" or "C1	A6D" detected?		
	S (C1A63)>>GO				
YE	5 (C1A6B)>>Rei	fer to <u>BR-140, "Diagno</u> fer to <u>BR-151, "Diagno</u>	<u>isis Procedure"</u> .		
		fer to <u>BR-159, "Diagno</u>			
NO	>> INSPEC	TION END			
15	CHECK CIRCL	JIT BETWEEN ELEC	TRICALLY-DRIVEN	N INTELLIGENT BRA	AKE UNIT AND BRA
	/ER SUPPLY BA				
-	Turn the power s	witch OFF to exit CON hicle, close all doors (r), and wait for 3 minu	tes or more without ope
- - - -	Turn the power s Get out of the ve ing these doors. CAUTION: Never operate t Disconnect 12V Terminal". Disconnect the e	hicle, close all doors (he vehicle and CONS	including back door SULT while waiting gative terminal. Ref igent brake unit han	fer to <u>BR-5, "Precaution</u> ness connector.	ons for Removing Batte
	Turn the power s Get out of the ve ing these doors. CAUTION: Never operate t Disconnect 12V <u>Terminal"</u> . Disconnect the e Check the contin	hicle, close all doors (he vehicle and CONS battery cable from neg	including back door SULT while waiting gative terminal. Ref igent brake unit han	fer to <u>BR-5, "Precaution</u> ness connector. brake unit and ground	ons for Removing Batte
	Turn the power s Get out of the ve ing these doors. CAUTION: Never operate t Disconnect 12V <u>Terminal"</u> . Disconnect the e Check the contin	hicle, close all doors (he vehicle and CONS battery cable from neg electrically-driven intelli buity between electrica	including back door SULT while waiting gative terminal. Ref igent brake unit han	fer to <u>BR-5, "Precaution</u> ness connector.	ons for Removing Batte
- - - -	Turn the power s Get out of the ve ing these doors. CAUTION: Never operate t Disconnect 12V Terminal". Disconnect the e Check the contin	hicle, close all doors (he vehicle and CONS battery cable from neg electrically-driven intelli uity between electrica	including back door SULT while waiting gative terminal. Ref igent brake unit han	fer to <u>BR-5, "Precaution</u> ness connector. brake unit and ground	ons for Removing Batte
	Turn the power s Get out of the vering these doors. CAUTION: Never operate t Disconnect 12V Terminal". Disconnect the e Check the contin Electrically-driven Connector E34	hicle, close all doors (he vehicle and CONS battery cable from neg electrically-driven intelli buity between electrica intelligent brake unit Terminal	including back door GULT while waiting gative terminal. Ref igent brake unit harr lly-driven intelligent — Ground	fer to <u>BR-5, "Precaution</u> ness connector. brake unit and ground Continuity Existed	ons for Removing Batte
1. 2. 3. 4.	Turn the power s Get out of the vering these doors. CAUTION: Never operate t Disconnect 12V Terminal". Disconnect the e Check the contine Electrically-driven Connector E34 Check the contine	hicle, close all doors (he vehicle and CONS battery cable from neg- electrically-driven intelli- nuity between electrica intelligent brake unit Terminal 31 nuity between electrica	including back door GULT while waiting gative terminal. Ref igent brake unit harr lly-driven intelligent — Ground	fer to <u>BR-5, "Precaution</u> ness connector. brake unit and ground Continuity Existed	ons for Removing Batte
1. 2. 3. 4. 5.	Turn the power s Get out of the vering these doors. CAUTION: Never operate t Disconnect 12V Terminal". Disconnect the e Check the contine Electrically-driven E34 Check the contine Electrically-driven	hicle, close all doors (he vehicle and CONS battery cable from neg- electrically-driven intelli buity between electrica intelligent brake unit 31 buity between electrica intelligent brake unit	including back door GULT while waiting gative terminal. Ref igent brake unit harr lly-driven intelligent — Ground	fer to <u>BR-5, "Precaution</u> ness connector. brake unit and ground Continuity Existed	ons for Removing Batte
1. 2. 3. 4. 5.	Turn the power s Get out of the vering these doors. CAUTION: Never operate t Disconnect 12V Terminal". Disconnect the e Check the contin Electrically-driven Connector E34 Check the contin	hicle, close all doors (he vehicle and CONS battery cable from neg- electrically-driven intelli- nuity between electrica intelligent brake unit 31 nuity between electrica intelligent brake unit Terminal	including back door SULT while waiting gative terminal. Ref igent brake unit han lly-driven intelligent Ground Ily-driven intelligent —	fer to <u>BR-5. "Precaution</u> ness connector. brake unit and ground Continuity Existed brake unit and ground Continuity	ons for Removing Batte
-	Turn the power s Get out of the vering these doors. CAUTION: Never operate t Disconnect 12V Terminal". Disconnect the e Check the contine Electrically-driven Connector E34 Check the contine Electrically-driven Connector E34 Electrically-driven Connector E34	hicle, close all doors (he vehicle and CONS battery cable from neg- electrically-driven intelli nuity between electrica intelligent brake unit 31 nuity between electrica intelligent brake unit Terminal 32	including back door SULT while waiting gative terminal. Ref igent brake unit han lly-driven intelligent Ground lly-driven intelligent Ground Ground	fer to <u>BR-5. "Precaution</u> ness connector. brake unit and ground Continuity Existed brake unit and ground Continuity Not existed	ons for Removing Batte
	Turn the power s Get out of the vering these doors. CAUTION: Never operate t Disconnect 12V Terminal". Disconnect the e Check the contine Electrically-driven Connector E34 Check the contine Electrically-driven Connector E34 Disconnect the b	hicle, close all doors (he vehicle and CONS battery cable from neg- electrically-driven intelli nuity between electrica intelligent brake unit Terminal 31 nuity between electrica intelligent brake unit Terminal 32 orake power supply bag	including back door SULT while waiting gative terminal. Ref igent brake unit har lly-driven intelligent Ground Ily-driven intelligent Ground ckup unit harness compares	fer to <u>BR-5, "Precaution</u> ness connector. brake unit and ground Continuity Existed brake unit and ground Continuity Not existed onnector.	ons for Removing Batte
-	Turn the power s Get out of the vering these doors. CAUTION: Never operate t Disconnect 12V Terminal". Disconnect the e Check the contine Electrically-driven Connector E34 Check the contine Electrically-driven Connector E34 Disconnect the b	hicle, close all doors (he vehicle and CONS battery cable from neg- electrically-driven intelli nuity between electrica intelligent brake unit Terminal 31 nuity between electrica intelligent brake unit Terminal 32 orake power supply bag	including back door SULT while waiting gative terminal. Ref igent brake unit har lly-driven intelligent Ground Ily-driven intelligent Ground ckup unit harness compares	fer to <u>BR-5, "Precaution</u> ness connector. brake unit and ground Continuity Existed brake unit and ground Continuity Not existed onnector.	ons for Removing Batte
-	Turn the power s Get out of the vering these doors. CAUTION: Never operate t Disconnect 12V Terminal". Disconnect the e Check the contine Electrically-driven Connector E34 Check the contine Electrically-driven Connector E34 Disconnect the b Check the contine	hicle, close all doors (he vehicle and CONS battery cable from neg- electrically-driven intelli nuity between electrica intelligent brake unit Terminal 31 nuity between electrica intelligent brake unit Terminal 32 orake power supply bag	including back door SULT while waiting gative terminal. Ref igent brake unit har lly-driven intelligent Ground Ily-driven intelligent Ground ckup unit harness cally-driven intelligent	fer to <u>BR-5, "Precaution</u> ness connector. brake unit and ground Continuity Existed brake unit and ground Continuity Not existed onnector.	d.
	Turn the power s Get out of the vering these doors. CAUTION: Never operate t Disconnect 12V Terminal". Disconnect the e Check the contine Electrically-driven Connector E34 Check the contine Electrically-driven Connector E34 Disconnect the b Check the contine	hicle, close all doors (he vehicle and CONS battery cable from neg- electrically-driven intelli auity between electrica intelligent brake unit Terminal 31 nuity between electrica intelligent brake unit Terminal 32 orake power supply bac- uity between electrical	including back door SULT while waiting gative terminal. Ref igent brake unit har lly-driven intelligent Ground Ily-driven intelligent Ground ckup unit harness cally-driven intelligent	fer to <u>BR-5</u> , <u>"Precaution</u> ness connector. brake unit and ground Continuity Existed brake unit and ground Continuity Not existed onnector. brake unit and brake p	ons for Removing Batte

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

 $16. {\sf check \ brake \ power \ supply \ backup \ unit \ ground \ circuit}$

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

C1A63 BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

Brake power	supply backup unit		Continuity	
Connector	Terminal		Continuity	
B15	1	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.
- Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 CAUTION:

Never operate the vehicle and CONSULT 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.
- 11. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 - CAUTION:

Never operate the vehicle and CONSULT 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 <u>BR-261</u>, "Removal and installation".
- NO >> INSPECTION END

< DTC/CIRCUIT DIAGNOSIS >

C1A64 STROKE SENSOR

DTC Logic

А

В

INFOID:000000006960665

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes	
C1A64	STROKE SENSOR	 Open circuit is detected in rear stroke sensor circuit. Short circuit is detected in stroke sensor circuit. Malfunction is detected in stroke sensor circuit. 	 Harness or connector Stroke sensor Electrically-driven intelligent brake unit Stroke sensor improper in- stallation 	C
	PRODUCTION PROCE	DURE		E
	CONFIRMATION PROCEE ast 10 seconds before cor	OURE" has been previously conducted, always iducting the next test.	turn power switch OFF and	BR
_	>> GO TO 2. K DTC DETECTION			G
1. Turn CAU	TION:	ON without depressing the brake pedal.		Н
2. Repe CAU	er set the vehicle to REA eat step 1 two or more time TION:	es.	F	I
 Turn Get of ing the second secon	the power switch OFF to a	s or more after turning the power switch OF exit CONSULT. doors (including back door), and wait for 3 mir		J
Neve 5. Turn	er operate the vehicle an	d CONSULT while waiting. out depressing the brake pedal.		К
6. Start 7. Turn	the power switch OFF to	-diagnosis result of "BRAKE". exit CONSULT.		L
ing th CAU	nese doors. <mark>TION:</mark>	doors (including back door), and wait for 3 min	nutes or more without open-	Μ
9. Turn CAU		d CONSULT while waiting. out depressing the brake pedal.		Ν
10. Depr 11. Relea 12. Start		m (3.94 in) or more, and hold the position for 5	seconds or more.	0
YES	>> Proceed to <u>BR-75, "Dia</u> >> INSPECTION END	agnosis Procedure".		Ρ
Diagno	sis Procedure		INFOID:00000006960666	
1.снес	K 12V BATTERY			

1. Turn the power switch OFF to exit CONSULT.

< DTC/CIRCUIT DIAGNOSIS >

 Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 CAUTION:

Never operate the vehicle and CONSULT while waiting.

- Check the 12V battery terminal connections. Refer to <u>BR-5</u>, "Precautions for Removing Battery Terminal" and <u>PG-105</u>, "Work Flow".
- 4. Check the 12V battery. Refer to <u>PG-105, "Work Flow"</u>.
- Is the inspection result normal?

YES >> GO TO 2.

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

2. PERFORM SELF-DIAGNOSIS (1)

(I) With CONSULT

- 1. Connect 12V battery cable to negative terminal.
- 2. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:
 - Never set the vehicle to READY.
- 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.
- 5. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 - CAUTION:

Never operate the vehicle and CONSULT 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.
- 9. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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 "C1A64" detected?

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

3.CHECK CONNECTOR TERMINALS

- 1. Turn the power switch OFF to exit CONSULT.
- 2. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-5</u>, "<u>Precautions for Removing Battery</u> <u>Terminal</u>".
- 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)

< DTC/CIRCUIT DI	AGNOSIS >			
With CONSULT				
	ctrically-driven intellige sensor harness conneo		s connector.	A
	ittery cable to negative			
	switch OFF to ON with		orake pedal.	В
CAUTION:		1 0		D
	ehicle to READY.			
	wo or more times.			С
CAUTION: Be sure to wait	for 5 seconds or mo	re after turning the	nower switch OFF	C
	switch OFF to exit CON			
), and wait for 3 minutes or more without c	pen-
ing these doors.				
CAUTION:	the vehicle and CONG	1 II T while weiting		
	the vehicle and CONS switch ON without dep			E
CAUTION:		essing the blake pe		
	ehicle to READY.			
	and erase self-diagnos			BR
	switch OFF to exit CON			
ing these doors.		Including back door), and wait for 3 minutes or more without c	pen-
CAUTION:				G
	the vehicle and CONS	SULT while waiting		
	switch ON without dep	ressing the brake pe	dal.	
CAUTION:	abiala ta DEADV			Н
	ehicle to READY.	in) or more and ho	d the position for 5 seconds or more.	
14. Release brake		ing of more, and not		
	and perform "BRAKE"	self-diagnosis.		
Is DTC "C1A64" det	ected?			
YES >> GO TO	5.			1
NO >> INSPEC	TION END			J
5.CHECK POWER	SWITCH ON POWER	SUPPLY		
-	sensor harness connec			K
	ittery cable to negative			1.
	switch OFF to exit COM			
		including back door), and wait for 3 minutes or more without c	pen-
ing these doors.				
CAUTION: Never operate	the vehicle and CONS	SIII T while waiting		
			er to <u>BR-5, "Precautions for Removing Ba</u>	atterv M
Terminal".		gan e termian i ter	<u> </u>	
	electrically-driven intelli		ness connector.	
	Ittery cable to negative		t broke unit berness somester and success	N
8. Check the voltage	ge between the electric	ally-driven intelligen	t brake unit harness connector and ground	а.
	intellinent busies and		1	
	intelligent brake unit	_	Voltage	0
Connector	Terminal		(Approx.)	
E34	26	Ground	0 V	_
	switch ON without dep	essing the brake pe	dal.	Р
CAUTION:	abiala ta DEADV			

Never set the vehicle to READY.

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

< DTC/CIRCUIT DIAGNOSIS >

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

Is the inspection result normal?

YES >> GO TO 8.

NO >> GO TO 6.

6. CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.

 Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 CAUTION:

Never operate the vehicle and CONSULT while waiting.

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

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

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

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

Is the inspection result normal?

- YES >> Perform trouble diagnosis for power ON power supply. Refer to <u>PG-62, "Wiring Diagram ON</u> <u>POWER SUPPLY -"</u>.
- NO >> Repair or replace error-detected parts and GO TO 7.

7.PERFORM SELF-DIAGNOSIS (3)

With CONSULT

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

Never set the vehicle to READY.

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

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

- 6. Turn the power switch OFF to exit CONSULT.
- Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 CAUTION:

Never operate the vehicle and CONSULT 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.
- 11. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

< DTC/CIRCUIT D	IAGNOSIS >			
12. Turn the power CAUTION:	the vehicle and CON switch ON without dep			А
 13. Depress brake 14. Release brake 	pedal.		old the position for 5 seconds or more.	В
Is DTC "C1A64" det	and perform "BRAKE	self-diagnosis.		С
YES >> GO TO				
	CTION END			_
8.CHECK 12V BA	TTERY POWER SUPP	PLY		D
 Get out of the v ing these doors CAUTION: 		(including back do	or), and wait for 3 minutes or more without open-	Е
			efer to <u>BR-5, "Precautions for Removing Battery</u>	BR
Terminal".	·	-		
5. Connect 12V ba	electrically-driven intel attery cable to negative age between the electri	e terminal.	arness connector. ent brake unit harness connector terminals.	G
Electrically-driver	n intelligent brake unit	Voltage	—	Н
Connector	Terminal	(Approx.)		
	1 – 31		_	
E34	2 – 31	10 – 16 V		
	11 – 31			
CAUTION: Never set the v	switch ON without dep vehicle to READY. Ige between the electri	-	pedal. ent brake unit harness connector terminals.	J
		I	_	K
	n intelligent brake unit	Voltage (Approx.)		
Connector	Terminal	(ηρμιοκ.)	_	
F04	1 - 31	10 10 1		
E34	2 – 31 11 – 31	10 – 16 V		M
Is the inspection res			_	
YES >> GO TO NO >> GO TO	11.			Ν
9. CHECK 12V BA	TTERY POWER SUPP	LY CIRCUIT		
2. Get out of the v ing these doors			or), and wait for 3 minutes or more without open-	0
 Disconnect 12\ <u>Terminal</u>". Check the 60A Check the continuitient brake unitipated bra	fusible link (#F). inuity and for short circ t and 60A fusible link (egative terminal. R uit between harnes #F).	efer to <u>BR-5, "Precautions for Removing Battery</u> as connector terminal 1 of electrically-driven intel-	Ρ
	inuity and for short circ t and 60A fusible link (s connector terminal 2 of electrically-driven intel-	

ligent brake unit and 60A fusible link (#F).

< DTC/CIRCUIT DIAGNOSIS >

- 7. Check the 10A fuse (#78).
- 8. Check the continuity and for short circuit between harness connector terminal 11 of electrically-driven intelligent brake unit and 10A fuse (#78).

Is the inspection result normal?

- YES >> Perform trouble diagnosis for 12V battery power supply. Refer to <u>PG-16, "Wiring Diagram BAT-</u> <u>TERY POWER SUPPLY -"</u>.
- NO >> Repair or replace error-detected parts and GO TO 10.

10.PERFORM SELF-DIAGNOSIS (4)

(I) With CONSULT

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

Never set the vehicle to READY.

4. Repeat step 3 two or more times. 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.
- 6. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CĂUTION:

Never operate the vehicle and CONSULT 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.
- 10. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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 "C1A64" detected?

YES >> GO TO 11.

NO >> INSPECTION END

11.CHECK GROUND CIRCUIT

- 1. Turn the power switch OFF to exit CONSULT.
- Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 CAUTION:

Never operate the vehicle and CONSULT while waiting.

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

Electrically-driver	n intelligent brake unit	— Continuity		
Connector	Connector Terminal		Continuity	
E34	31	Ground	Existed	

Is the inspection result normal?

YES >> GO TO 13.

< DTC/CIRCUIT DIAGNOSIS >	_
NO >> Repair or replace error-detected parts and GO TO 12.	-
12.PERFORM SELF-DIAGNOSIS (5)	
	-
Connect the electrically-driven intelligent brake unit harness connector.	
 Connect 12V battery cable to negative terminal. Turn the power switch OFF to ON without depressing the brake pedal. 	
CAUTION:	
Never set the vehicle to READY.	
. Repeat step 3 two or more times.	
CAUTION: Be sure to wait for 5 seconds or more after turning the power switch OFF.	
Turn the power switch OFF to exit CONSULT.	
Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open	-
ing these doors.	
CAUTION: Never operate the vehicle and CONSULT 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. b. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open	_
ing these doors.	
CAUTION:	
Never operate the vehicle and CONSULT 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.	
A. Start CONSULT and perform "BRAKE" self-diagnosis. DTC "C1AC4" detected?	
DTC "C1A64" detected?	
ÝES >> GO TO 13. IO >> INSPECTION END	
3. CHECK DATA MONITOR	
	_
With CONSULT	
Connect the electrically-driven intelligent brake unit harness connector. Connect 12V battery cable to negative terminal.	
Turn the power switch OFF to ON without depressing the brake pedal.	
CAUTION:	
Never set the vehicle to READY.	
Repeat step 3 two or more times. CAUTION:	
Be sure to wait for 5 seconds or more after turning the power switch OFF.	
Start CONSULT and select "BRAKE", "DATA MONITOR" according this order.	
Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER. Refer to BR-24, "Reference	2
Value".	
the inspection result normal?	
'ES >> GO TO 14.	
NO >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-261, "Removal and installation"</u>	
4.PERFORM SELF-DIAGNOSIS (6)	
With CONSULT	-
Turn the power switch OFF to ON without depressing the brake pedal.	
CAUTION: Never set the vehicle to READY	
Never set the vehicle to READY. Repeat step 1 two or more times	

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CAUTION:

2. Repeat step 1 two or more times.

< 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.
- 4. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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.
- 8. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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 "C1A64" 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 <u>BR-38, "Work Procedure"</u>.

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.
- 3. Turn the power switch OFF to exit CONSULT.
- 4. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 - CAUTION:

Never operate the vehicle and CONSULT 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.
- 8. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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.

< DTC/CIRCUIT DIAGNOSIS >	
12. Start CONSULT and perform "BRAKE" self-diagnosis.	^
<u>Is DTC "C1A64" detected?</u> YES >> GO TO 17.	A
NO >> INSPECTION END	
17. VISUALLY CHECK STROKE SENSOR	В
Check the stroke sensor for damage.	
Is the inspection result normal?	С
YES >> GO TO 18. NO >> Repair or replace error-detected parts and GO TO 21.	
18. CHECK STROKE SENSOR INSTALLATION	D
Check the stroke sensor for looseness and disconnection.	
Is the inspection result normal?	F
YES >> GO TO 19.	E
NO >> Repair or replace error-detected parts and GO TO 21.	
	BR
Check each brake pedal height. Refer to <u>BR-242, "Inspection and Adjustment"</u> . Is the inspection result normal?	
YES >> GO TO 20.	G
NO >> Adjust each height. Refer to <u>BR-242, "Inspection and Adjustment"</u> . GO TO 21.	
20.STROKE SENOR 0 POINT LEARNING (2)	Ц
Perform stroke sensor 0 point learning. Refer to <u>BR-38, "Work Procedure"</u> .	11
>> GO TO 21.	I
21.PERFORM SELF-DIAGNOSIS (8)	
 With CONSULT Turn the power switch OFF to ON without depressing the brake pedal. 	J
CAUTION:	
Never set the vehicle to READY.2. Repeat step 1 two or more times.	К
CAUTION:	
Be sure to wait for 5 seconds or more after turning the power switch OFF.3. Turn the power switch OFF to exit CONSULT.	
4. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open-	L
ing these doors. CAUTION:	
Never operate the vehicle and CONSULT while waiting.	M
 Turn the power switch ON without depressing the brake pedal. CAUTION: 	
Never set the vehicle to READY.	Ν
 Start CONSULT and erase self-diagnosis result of "BRAKE". Turn the power switch OFF to exit CONSULT. 	
8. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open-	
ing these doors. CAUTION:	0
Never operate the vehicle and CONSULT while waiting.	
 Turn the power switch ON without depressing the brake pedal. CAUTION: 	Ρ
Never set the vehicle to READY.	
 Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more. Release brake pedal. 	
12. Start CONSULT and perform "BRAKE" self-diagnosis.	
12. Olar General perform Drare dell'alagnosis.	
<u>Is DTC "C1A64" detected?</u> YES >> GO TO 22.	

< DTC/CIRCUIT DIAGNOSIS >

NO >> INSPECTION END

22.CHECK STROKE SENSOR CIRCUIT (1)

- 1. Turn the power switch OFF to exit CONSULT.
- 2. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 - CAUTION: Never operate the vehicle and CONSULT while waiting.
- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-5</u>, "<u>Precautions for Removing Battery</u> <u>Terminal</u>".
- 4. Disconnect the stroke sensor harness connector.
- 5. Disconnect the electrically-driven intelligent brake unit harness connector.
- 6. Check the continuity between stroke sensor harness connector and electrically-driven intelligent brake unit.

Stroke s	ensor	Electrically-driven in	ntelligent brake unit	Continuity
Connector Terminal		Connector	Terminal	Continuity
	3		19	Existed
-	3		35	Not existed
-	3		5	Not existed
-	3	_	37	Not existed
-	2	_	19	Not existed
	2	_	35	Existed
	2		5	Not existed
E36	2	E34	37	Not existed
E30	1	E34	19	Not existed
	1	_	35	Not existed
	1		5	Existed
	1	_	37	Not existed
	4	_	19	Not existed
	4		35	Not existed
	4		5	Not existed
	4		37	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.
- Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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	
Connector Terminal			(Approx.)	
E36	3	Ground	4.75 – 5.25 V	

Is the inspection result normal?

< DTC/CIRCUIT DIAGNOSIS >

- 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.
- Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 CAUTION:

Never operate the vehicle and CONSULT while waiting.

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

Stroke sensor			Continuity	
Connector	Terminal		Continuity	
E36	4	Ground	Existed	

Is the inspection result normal?

YES >> GO TO 25.

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

25.CHECK STROKE SENSOR RESISTANCE

- 1. Turn the power switch OFF to exit CONSULT.
- Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 - CAUTION:

Never operate the vehicle and CONSULT while waiting.

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

Electrically-driven intelligent brake unit		Condition	Resistance
Connector	Terminal	Condition	IVESISIAIICE
504	35 – 5	Gradually depress	Resistance value increases between $0.1 - 1.33 \text{ k}\Omega$, according to the depth of brake depression.
E34	37 – 5	the brake pedal.	Resistance value decreases between $0.1 - 1.33 \text{ k}\Omega$, according to the depth of brake depression.

Is the inspection result normal?

	>> GO TO 28.
	>> GO TO 26.
26.ri	EPLACE STROKE SENSOR

Replace the stroke sensor. Refer to <u>BR-251, "Removal and Installation"</u>.

>> GO TO 27.

27.STROKE SENOR 0 POINT LEARNING (3)

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

2. Perform stroke sensor 0 point learning. Refer to BR-38, "Work Procedure".

>> GO TO 28.

28. PERFORM SELF-DIAGNOSIS (9)

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< 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.
- Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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.
- 10. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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 "C1A64" detected?

- YES >> GO TO 22.
- NO >> INSPECTION END

< DTC/CIRCUIT DIAGNOSIS >

C1A65 INCOMPLETE STROKE SENSOR

DTC Logic

INFOID:000000006960667 DTC DETECTION LOGIC DTC Malfunction detection condition Possible causes Display item Stroke sensor 0 point learning has not been complet-Stroke sensor 0 point learning C1A65 STROKE SENSOR SET ed. 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. BR 2.CHECK DTC DETECTION With CONSULT Turn the power switch OFF to ON without depressing the brake pedal. 1. CAUTION: Never set the vehicle to READY. 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. 4. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors. **CAUTION:** Never operate the vehicle and CONSULT while waiting. 5. Turn the power switch ON without depressing the brake pedal. **CAUTION:** Never set the vehicle to READY. Start CONSULT and erase self-diagnosis result of "BRAKE". 7. Turn the power switch OFF to exit CONSULT. 8. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors. **CAUTION:** Never operate the vehicle and CONSULT while waiting. 9. Turn the power switch ON without depressing the brake pedal. **CAUTION:** Never set the vehicle to READY. 10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more. 11. Release brake pedal. 12. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A65" detected?

YES >> Proceed to <u>BR-87, "Diagnosis Proce</u>dure".

NO >> INSPECTION END

Diagnosis Procedure

1.CHECK 12V BATTERY

Turn the power switch OFF to exit CONSULT. 1.

2. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors. CAUTION:

Never operate the vehicle and CONSULT while waiting.

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< DTC/CIRCUIT DIAGNOSIS >

- Check the 12V battery terminal connections. Refer to <u>BR-5, "Precautions for Removing Battery Terminal"</u> and <u>PG-105, "Work Flow"</u>.
- 4. Check the 12V battery. Refer to PG-105, "Work Flow".

Is the inspection result normal?

- YES >> GO TO 2.
- NO >> Repair or replace error-detected parts and GO TO 2.
- **2.** PERFORM SELF-DIAGNOSIS (1)

With CONSULT

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

Never set the vehicle to READY.

3. Repeat step 2 two or more times.

CAUTION:

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

- 4. Turn the power switch OFF to exit CONSULT.
- 5. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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.
- 9. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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 "C1A65" detected?

YES >> GO TO 3.

NO >> INSPECTION END

3.CHECK CONNECTOR TERMINALS

- 1. Turn the power switch OFF to exit CONSULT.
- Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-5</u>, "Precautions for Removing Battery <u>Terminal"</u>.
- 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.
- 2. Connect stroke sensor harness connector.

< D	TC/CIRCUIT DI	AGNOSIS >				
3. 4.	Turn the power s	ttery cable to negative switch OFF to ON with		rake pedal.		А
	CAUTION: Never set the v	ehicle to READY.				
5.	Repeat step 4 tv	vo or more times.				В
	CAUTION: Be sure to wait	for 5 seconds or mo	re after turning the	power switch OFF.		D
6.	Turn the power s	switch OFF to exit CON	NSULT.			
7.	Get out of the ve ing these doors. CAUTION:	ehicle, close all doors (including back door)	, and wait for 3 minut	es or more without open-	С
_	Never operate t	he vehicle and CONS				D
8.	Turn the power s	switch ON without dep	ressing the brake pe	dal.		
	Never set the v	ehicle to READY.				
9.		and erase self-diagnos				Е
		switch OFF to exit CON whicle. close all doors (. and wait for 3 minut	es or more without open-	
	ing these doors.			,		BR
	CAUTION:	he vehicle and CONS	SIII T while waiting			
12.	Turn the power s	switch ON without depi		dal.		
	CAUTION:	abiala ta DEADV				G
13.		ehicle to READY. bedal by 100 mm (3.94	in) or more, and hole	d the position for 5 se	conds or more.	
14.	Release brake p	edal.				Н
		and perform "BRAKE"	self-diagnosis.			
	DTC "C1A65" dete					
N N	ES >> GO TO { O >> INSPEC					
_		SWITCH ON POWER	SUPPLY			
1.		sensor harness connec				J
		ttery cable to negative				
3.		switch OFF to exit CON			' 41 - 4	
4.	ing these doors.	enicle, close all doors (including back door)	, and wait for 3 minut	es or more without open-	K
	CAUTION:					
F		the vehicle and CONS		r to DD 5 "Drocoutic	no for Domoving Dotton	L
5.	<u>Terminal</u> ".	battery cable from neg	gative terminal. Refe	er to <u>BR-5, "Precautic</u>	ons for Removing Battery	
6.	Disconnect the e	electrically-driven intelli		ess connector.		
7. °		ttery cable to negative ge between the electric		throko unit hornooc o	oppostor and ground	M
8.	Check the voltag		any-unvernmenigen	Diake unit namess t	onnector and ground.	
	Electrically-driven	intelligent brake unit		Voltage		Ν
	Connector	Terminal	_	(Approx.)		
	E34	26	Ground	0 V		0
9.		switch ON without dep	ressing the brake pe	dal.		0
	CAUTION: Never set the v	ehicle to READY.				
10.		ge between the electric	ally-driven intelligent	brake unit harness o	connector and ground.	Ρ
					-	

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

Is the inspection result normal?

< DTC/CIRCUIT DIAGNOSIS >

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

NO >> GO TO 6.

6.CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

- 1. Turn the power switch OFF to exit CONSULT.
- Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 CAUTION:

Never operate the vehicle and CONSULT while waiting.

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

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

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

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

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to <u>PG-62, "Wiring Diagram - ON</u> <u>POWER SUPPLY -"</u>.

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

7. PERFORM SELF-DIAGNOSIS (3)

(D) 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.
- 7. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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.
- Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 CAUTION:

Never operate the vehicle and CONSULT while waiting.

12. 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 INC	OMPLETE ST	ROKE SENSOR	
< DTC/CIRCUIT D	IAGNOSIS >			
15. Start CONSULT	Γ and perform "BRAKE'	' self-diagnosis.		
Is DTC "C1A65" de				А
YES >> GO TO				
•				В
	TTERY POWER SUPP			
2. Get out of the v ing these doors CAUTION: Never operate	the vehicle and CON	(including back doo SULT while waitin		С
 Disconnect 12\ Terminal["]. 	/ ballery cable from he	galive terminal. Ro	efer to <u>BR-5. "Precautions for Removing Battery</u>	D
4. Disconnect the	electrically-driven intel		rness connector.	
	attery cable to negative			Е
6. Check the volta	age between the electric	cally-driven intellige	ent brake unit harness connector terminals.	
Electrically-drive	n intelligent brake unit	Voltage	- 1	DE
Connector	Terminal	(Approx.)		BR
	1 – 31			
E34	2 – 31	10 – 16 V		G
	11 – 31			
8. Check the volta			ent brake unit harness connector terminals.	I
	n intelligent brake unit	Voltage (Approx.)		
Connector	Terminal	(//pp/0x.)	_	J
F24	1 - 31	40 40.14		
E34	2 - 31	10 – 16 V		V
	11 – 31		_	K
Is the inspection res YES >> GO TO NO >> GO TO 9.CHECK 12V BA	11.	LY CIRCUIT		L
			or), and wait for 3 minutes or more without open-	N
	the vehicle and CON	SULT while waitin	g.	Ν
3. Disconnect 12			efer to <u>BR-5, "Precautions for Removing Battery</u>	
5. Check the cont	fusible link (#F). inuity and for short circl		s connector terminal 1 of electrically-driven intel-	(

- 6. Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intel-
- ligent brake unit and 60A fusible link (#F).
- 7. Check the 10A fuse (#78).
- 8. Check the continuity and for short circuit between harness connector terminal 11 of electrically-driven intelligent brake unit and 10A fuse (#78).

Is the inspection result normal?

YES >> Perform trouble diagnosis for 12V battery power supply. Refer to <u>PG-16, "Wiring Diagram - BAT-</u> <u>TERY POWER SUPPLY -"</u>. Ρ

< DTC/CIRCUIT DIAGNOSIS >

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

10.PERFORM SELF-DIAGNOSIS (4)

(B) With CONSULT

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

Never set the vehicle to READY.

4. Repeat step 3 two or more times. 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.
- 6. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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.
- 10. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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.

2. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT while waiting.

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

Electrically-driven intelligent brake unit			Continuity	
Connector	Terminal		Continuity	
E34	31	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)

(B) With CONSULT

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

< D	TC/CIRCUIT DIAGNOSIS >	
	CAUTION:	
	Never set the vehicle to READY.	А
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.	В
6.	Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open-	
	ing these doors.	0
	CAUTION: Never operate the vehicle and CONSULT while waiting.	С
7.	Turn the power switch ON without depressing the brake pedal.	
	CAUTION:	D
	Never set the vehicle to READY.	D
	Start CONSULT and erase self-diagnosis result of "BRAKE".	
	Turn the power switch OFF to exit CONSULT. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open-	Е
10.	ing these doors.	
	CAUTION:	
	Never operate the vehicle and CONSULT while waiting.	BR
TT.	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.	G
	Release brake pedal.	
	Start CONSULT and perform "BRAKE" self-diagnosis.	
	DTC "C1A65" detected?	Н
YE NC	ES >> GO TO 13. D >> INSPECTION END	
	CHECK DATA MONITOR	1
		I
	Vith CONSULT	
	Connect the electrically-driven intelligent brake unit harness connector.	J
	Connect 12V battery cable to negative terminal. Turn the power switch OFF to ON without depressing the brake pedal.	
0.	CAUTION:	
	Never set the vehicle to READY.	Κ
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.	L
6.	Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER. Refer to BR-24, "Reference	
	Value".	вл
	ne inspection result normal?	M
YE		
		Ν
14	PERFORM SELF-DIAGNOSIS (6)	
	Vith CONSULT	
1.	Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:	0
	Never set the vehicle to READY.	
2.	Repeat step 1 two or more times.	_
	CAUTION:	Ρ
~	Be sure to wait for 5 seconds or more after turning the power switch OFF.	
3. 4.	Turn the power switch OFF to exit CONSULT.	
4.	Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open- ing these doors.	
	CAUTION:	
	Never operate the vehicle and CONSULT while waiting.	
5.	Turn the power switch ON without depressing the brake pedal.	

< DTC/CIRCUIT DIAGNOSIS >

CAUTION:

Never set the vehicle to READY.

- 6. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 7. Turn the power switch OFF to exit CONSULT.
- 8. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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-38, "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.

- 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.
- Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 CAUTION:

Never operate the vehicle and CONSULT 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.
- 8. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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

< DTC/CIRCUIT DIAGNOSIS >	
Check the stroke sensor for damage.	
Is the inspection result normal?	А
YES >> GO TO 18.	
NO >> Repair or replace error-detected parts and GO TO 21.	
18. CHECK STROKE SENSOR INSTALLATION	В
Check the stroke sensor for looseness and disconnection.	
Is the inspection result normal?	С
YES >> GO TO 19.	0
NO >> Repair or replace error-detected parts and GO TO 21.	
19. CHECK BRAKE PEDAL HEIGHT	D
Check each brake pedal height. Refer to BR-242, "Inspection and Adjustment".	
Is the inspection result normal?	Е
YES >> GO TO 20.	
NO >> Adjust each height. Refer to <u>BR-242, "Inspection and Adjustment"</u> . GO TO 21.	
20.STROKE SENOR 0 POINT LEARNING (2)	BR
Perform stroke sensor 0 point learning. Refer to <u>BR-38, "Work Procedure"</u> .	
>> GO TO 21.	G
21.PERFORM SELF-DIAGNOSIS (8)	
With CONSULT	Н
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.	J
4. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open-	
ing these doors. CAUTION:	
Never operate the vehicle and CONSULT while waiting.	Κ
5. Turn the power switch ON without depressing the brake pedal.	
CAUTION: Never set the vehicle to READY.	1
6. Start CONSULT and erase self-diagnosis result of "BRAKE".	
7. Turn the power switch OFF to exit CONSULT.	
8. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open- ing these doors.	M
CAUTION:	
Never operate the vehicle and CONSULT while waiting.	NI
 Turn the power switch ON without depressing the brake pedal. CAUTION: 	Ν
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.	0
 Release brake pedal. Start CONSULT and perform "BRAKE" self-diagnosis. 	
Is DTC "C1A65" detected?	
YES >> GO TO 22.	Ρ
NO >> INSPECTION END	
22. CHECK STROKE SENSOR CIRCUIT (1)	
1. Turn the power switch OFF to exit CONSULT.	
2. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open-	
ing these doors.	
CAUTION:	

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Never operate the vehicle and CONSULT while waiting.

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

Stroke s	ensor	Electrically-driven in	ntelligent brake unit	Continuity
Connector	Terminal	Connector	Terminal	
	3		19	Existed
-	3	-	35	Not existed
-	3	-	5	Not existed
	3	-	37	Not existed
	2		19	Not existed
	2		35	Existed
E36	2	-	5	Not existed
	2	E34	37	Not existed
	1	E34	19	Not existed
	1		35	Not existed
	1		5	Existed
	1		37	Not existed
	4		19	Not existed
	4		35	Not existed
	4		5	Not existed
Ē	4		37	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.
- Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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.

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

Is the inspection result normal?

YES >> GO TO 24.

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

24. CHECK STROKE SENSOR CIRCUIT (2)

1. Turn the power switch OFF to exit CONSULT.

< DTC/CIRCUIT DIAGNOSIS >

 Cet out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors. CAUTION: Never operate the vehicle and CONSULT while waiting. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-5. "Precautions for Removing Battery Terminal"</u>. Disconnect the electrically-driven intelligent brake unit harness connector. Check the continuity between stroke sensor and ground. Terminal <u>and and and and and and and and and and </u>					
	JIS.				
Centrol of the vehicle, close all doors (including back door), and wait for 3 minutes or more without of ing these doors. CAUTION: Never operate the vehicle and CONSULT while waiting. Disconnect 12V battery cable from negative terminal. Refer to BR-5, "Precautions for Removing Bacterian. Disconnect track sensor harness connector. Connect tracks sensor harness connector. Connect tracks sensor harness connector. Connector Torminal — Continuity E36 4 Ground Existed Is the inspection result normal? YES >> GO T0 25. No >> Repair or replace error-detected parts and GO T0 25. Zef.CHECK STROKE SENSOR RESISTANCE Turn the power switch OFF to exit CONSULT Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without or ing these doors. CAUTION: Never operate the vehicle and CONSULT while waiting. Disconnect 12V battery cable from negative terminal. Refer to BR-5. "Precautions for Removing Batterminal." Connect is sensor harness connector. Connect is trave between stroke sensor connector pin terminals. Electrically-driven intelligent brake unit harness connector. Connect method for the sensor connector pin terminals. Electrically-driven intelligent brake unit harness connector. So GO T0 28. Yes >> GO T0 28. Yes Sign T0 28. Zef.EREPLACE SENOR O POINT LEARNING (3) Connect the electrically-driven intelligent brake unit harness connector. So GO T0 28. Zeform Stufe FoldeNOSIS (9) GWith CONSULT Connect the vehicle entrol Step eterminal.					
	2V battery cable	e from negative ter	minal. Refe	r to BR-5, "Precautions for Removing	Battery
			o unit harn	an connector	
2. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more wit ing these doors. CAUTION: Never operate the vehicle and CONSULT while waiting. 3. Disconnect 12V battery cable from negative terminal. Refer to BR-5. "Precautions for Removing terminal." 4. Disconnect the electrically-driven intelligent brake unit harness connector. 5. Obsconnect the vehicle and CONSULT while waiting. Stroke sensor <u>Connector Terminal - Continuity E38 4 Ground Existed Is the inspection result normal2 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 2. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more wit ing these doors. CAUTION: Never operate the vehicle and CONSULT while waiting. 3. Disconnect 12V battery cable from negative terminal. Refer to BR-5. "Precautions for Removing terminal". 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 harness connector. 6. Check the resistance between stroke sensor connector pin terminals. Electrically-driven intelligent brake unit harness connector. 6. Check the resistance between stroke sensor connector pin terminals. Ea4 <u>35 - 5</u> Gradually depress the brake pedal. Terminal So OT 0 28. 28.PERFORM SELF-DIAGNOSIS (9) []With CONSULT 1. Connect the electrically-driven intelligent brake unit harness connector. So OT 0 28. 28.PERFORM SELF-DIAGNOSIS (9) []With CONSULT </u>					
 2. Get out of the vehicle, close all doors (including back door ing these doors. CAUTION: Never operate the vehicle and CONSULT while waiting 3. Disconnect 12V battery cable from negative terminal. Ref Terminal". 4. Disconnect stroke sensor harness connector. 5. Disconnect the electrically-driven intelligent brake unit harne 6. Check the continuity between stroke sensor and ground. Stroke sensor Connector Terminal Ea6 4 Ground Is the inspection result normal? YES >> GO TO 25. NO >> Repair or replace error-detected parts and GO TO 25.CHECK STROKE SENSOR RESISTANCE 1. Turn the power switch OFF to exit CONSULT. 2. Get out of the vehicle, close all doors (including back door ing these doors. CAUTION: Never operate the vehicle and CONSULT while waiting 3. Disconnect 12V battery cable from negative terminal. Ref Terminal". 4. Connect stroke sensor harness connector. 5. Disconnect the electrically-driven intelligent brake unit harne 6. Check the resistance between stroke sensor connector pir Electrically-driven intelligent brake unit for a 35 - 5 Gradually depress the brake pedal. Esthe inspection result normal? YES >> GO TO 28. 26.REPLACE STROKE SENSOR Replace the stroke sensor. Refer to BR-251, "Removal and Ins >> GO TO 27. 27.STROKE SENOR 0 POINT LEARNING (3) 1. Connect the electrically-driven intelligent brake unit harnes 2. Perform stroke sensor 0 point learning. Refer to BR-38. "M > GO TO 28. 28.PERFORM SELF-DIAGNOSIS (9) With CONSULT 1. Connect the electrically-driven intelligent brake unit harnes 2. Connect 12V battery cable to negative terminal. 					
 2. Get out of the vehicle, close all doors (including these doors. CAUTION: Never operate the vehicle and CONSULT v. 3. Disconnect 12V battery cable from negative Terminal". 4. Disconnect stroke sensor harness connector 5. Disconnect the electrically-driven intelligent b. 6. Check the continuity between stroke sensor at the electrically-driven intelligent b. 6. Check the continuity between stroke sensor at the inspection result normal? YES >> GO TO 25. NO >> Repair or replace error-detected part 25. CHECK STROKE SENSOR RESISTANCE 1. Turn the power switch OFF to exit CONSULT v. 3. Disconnect 12V battery cable from negative Terminal". 4. Connect stroke sensor harness connector. 5. Disconnect 12V battery cable from negative Terminal". 4. Connect stroke sensor harness connector. 5. Disconnect the electrically-driven intelligent b. 6. Check the resistance between stroke sensor Electrically-driven intelligent brake unit Condition Connector Terminal at 35-5 Gradually depress the brake pedal. 15 the inspection result normal? YES >> GO TO 28. NO >> GO TO 28. NO >> GO TO 28. NO >> GO TO 27. 27.STROKE SENOR 0 POINT LEARNING (3) 1. Connect the electrically-driven intelligent bral 2. Perform stroke sensor 0 point learning. Reference the electrically-driven intelligent bral 2. Perform SELF-DIAGNOSIS (9) With CONSULT 1. Connect the electrically-driven intelligent bral 2. Connect the elect					
Connector	Termina	al		Continuity	
 2. Get out of the vehicle, cloring these doors. CAUTION: Never operate the vehicle. 3. Disconnect 12V battery of Terminal". 4. Disconnect stroke sensor 5. Disconnect the electricall 6. Check the continuity betwood the sensor Connector Terminal YES >> GO TO 25. NO >> Repair or replace 25. CHECK STROKE SENSE 1. Turn the power switch OF 2. Get out of the vehicle, cloring these doors. CAUTION: Never operate the vehicle 3. Disconnect 12V battery of Terminal". 4. Connect stroke sensor has 5. Disconnect the electricall 6. Check the resistance betwood the sensor has 5. Disconnect the electricall 6. Check the resistance betwood the sensor has 5. Disconnect the electricall 6. Check the resistance betwood the sensor has 5. Disconnect the electricall 6. Check the resistance betwood the sensor has 5. Disconnect the electricall 6. Check the resistance betwood the sensor has 5. Disconnect the electricall 6. Check the resistance betwood the sensor has 7. Stroke sensor has 8. So GO TO 28. 26. REPLACE STROKE SE 7. Replace the stroke sensor of the se	4	Gro	ound	Existed	
Image these doors. CAUTION: Never operate the vehicle and CONSULT while waiting. 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-5. "Precautions for Removing Terminal"</u> 4. Disconnect the electrically-driven intelligent brake unit harness connector. 5. Disconnect the electrically-driven intelligent brake unit harness connector. 6. Check the continuity between stroke sensor and ground. Terminal <u>Connector</u> Terminal <u>Continuity</u> E38 4 Ground E38 4 Ground E39 > GO TO 25. 25.CHECK STROKE SENSOR RESISTANCE 1. Turn the power switch OFF to exit CONSULT 2. 26 cut of the vehicle and CONSULT while waiting. 3. Disconnect 12/V battery cable from negative terminal. Refer to <u>BR-5. "Precautions for Removing Terminal"</u> . 4. Connect stroke sensor harness connector. 5. Disconnect the vehicle and CONSULT while waiting. 9. Disconnect the vehicle and Construction intelligent brake unit harness connector. 6. Check the resistance between stroke sensor connector pin terminals. Electrically-driven intelligent brake unit harness connector. 6. Check the resistance between stroke sensor connector pin terminals.					
		or-detected parts a	nd GO TO 2	25.	
5.CHECK ST	ROKE SENSOR	RESISTANCE			
CAUTION: Never operate the vehicle and CONSULT while waiting. 3. Disconnect 12V battery cable from negative terminal. Refer to BR-5, "Precautions for Terminal". 4. Disconnect the electrically-driven intelligent brake unit harness connector. 6. Check the continuity between stroke sensor and ground. Image: Stroke sensor Continuity Ease 4 Ground Existed Image: Stroke sensor Continuity Existed Existed Image: Stroke sensor Continuity Existed Existed Image: Stroke sensor Continuity Existed Existed Image: Stroke sensor Connect the cell control (Image: Stroke Sensor RESISTANCE) Existed 1. Turn the power switch OFF to exit CONSULT Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or ing these doors. CAUTION: Never operate the vehicle and CONSULT while waiting. 3. Disconnect track sensor harness connector. Connect stroke sensor harness connector. 6. Check the resistance between stroke sensor connector pin terminal. Resistance Electrically-driven intelligent brake unit Condition Resistance value increases between 0.1 - 1. the depth of brake depression. Electrically-driven intelligent brake unit Con	and wait for 3 minutes or more without	it open-			
CAUTION: Never operate the vehicle and CONSULT while waiting. 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-5. "Precautions for Removing Bat</u> <u>Terminal"</u> . 4. Disconnect stroke sensor harness connector. 5. Check the continuity between stroke sensor and ground. Image: the inspection result normal? YES > GO TO 25. NO >> Repair or replace error-detected parts and GO TO 25. 20.CHECK STROKE SENSOR RESISTANCE 1. Turn the power switch OFF to exit CONSULT 3. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without op ing these doors. CAUTION: Never operate the vehicle and CONSULT while waiting. 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-5. "Precautions for Removing Bat Terminal".</u> 4. Connect 12V battery cable from negative terminal. Refer to <u>BR-5. "Precautions for Removing Bat Terminal".</u> 4. Connect 12V battery cable from negative terminal. Refer to <u>BR-5. "Precautions for Removing Bat Terminal".</u> 4. Connect 12V battery cable from negative terminal. Refer to <u>BR-5. "Precautions for Removing Bat Terminal".</u> 5. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-5. "Precautions for Removing Bat Terminal".</u> 6. Check the resistance between stroke sensor connector. 6. Check the resistance between stroke sensor connector. <td></td>					
Image: the sector: CAUTION: Never operate the vehicle and CONSULT while waiting. 2. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-5. "Precautions for Removing Battery Terminal"</u> . 3. Disconnect the electrically-driven intelligent brake unit harness connector. 6. Check the continuity between stroke sensor and ground. Image: Check the continuity between stroke sensor and ground. Image: Check the continuity between stroke sensor and ground. Image: Check the continuity between stroke sensor and ground. Image: Check the continuity between stroke sensor and ground. Image: Check the continuity between stroke sensor and ground. Image: Check the continuity between stroke sensor and ground. Image: Check the continuity between stroke sensor and ground. Image: Check the continuity between stroke sensor and ground. Image: Check the continuity between stroke sensor and ground. Image: Check the continuity between stroke sensor consector. Scheek educts: Check the vehicle and CONSULT while waiting. Image: Check the resistance between stroke sensor connector. Image: Check the resistance between stroke sensor connector pin terminal. Image: Connect troke sensor harness connector. Image: Disconnect the vehicle and Consult the strake unit harness connector. Image: Connect troke sensor harness connector. <td></td>					
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	ess connector				
	Image lenses CAUTON: Never operate the vehicle and CONSULT while waiting. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-5. "Precautions for Removing Battery terminal."</u> Disconnect the electrically-driven intelligent brake unit harness connector. Check the continuity between stroke sensor and ground. Stroke sensor				
	2. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without ing these doors. CAUTION: Never operate the vehicle and CONSULT while waiting. 3. Disconnect 12V battery cable from negative terminal. Refer to BR-5. "Precautions for Removing Terminal". 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 terminal — Continuity E 36 4 Ground Existed is the inspection result normal? YES >> 60 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 Connect 12V battery cable from negative terminal. Refer to BR-5. "Precautions for Removing ing these doors. CAUTION: Nov = operate the vehicle and CONSULT while waiting. 3. Disconnect 12V battery cable from negative terminal. Refer to BR-5. "Precautions for Removing ing threse doors. CAUTION: Nov = operate the vehicle and CONSULT while waiting. 3. Disconnect 12V battery cable from negative terminal. Refer to BR-5. "Precautions for Removing ing threse doors. CAUTION: Nov = operate the vehicle and CONSULT while waiting. 3. Disconnect 12V battery cable from negative terminal. Refer to BR-5. "Precautions for Removing ing threse doors. CAUTION: Nov = operate the vehicle and CONSULT while waiting. So Connect 12V battery cable from sequence. Connect stroke sensor harness connector. Connect stroke sensor harness connector must terminal. Electrically-driven intelligent brake unit harness connector. Connect troke sensor harness connector put terminal. Electrically-driven intelligent brake unit harness connector. So GO TO 28. 26. REPLACE STROKE SENSOR Replace the stroke sensor. Refer to BR-51. "Removal and Instalation". >> GO TO 28. 28. PERFORM SELF-DIAGNOSIS (9)				
	2. Get out of the vehicle, close all doors (incluing these doors. CAUTION: Never operate the vehicle and CONSUL 3. Disconnect 12V battery cable from negative terminal. 4. Disconnect stroke sensor harness connect 5. Disconnect the electrically-driven intelligere 6. Check the continuity between stroke sensor Stroke sensor Connector Terminal E36 4 15. the inspection result normal? YES >> GO TO 25. NO >> Repair or replace error-detected pairs 25. CHECK STROKE SENSOR RESISTANC 1. Turn the power switch OFF to exit CONSUL 2. Get out of the vehicle, close all doors (incluing these doors. CAUTION: Never operate the vehicle and CONSUL 3. Disconnect 12V battery cable from negative treminal. 1. Turn the power switch OFF to exit CONSUL 3. Disconnect the electrically-driven intelligent 6. Check the resistance between stroke sensor 7. Disconnect the electrically-driven intelligent 8. Disconnect mesult normal? YES 9. GO TO 28. NO 9. GO TO 27. 27. STROKE SENOR	Condition		Resistance	
			Resistance	value increases between 0.1 – 1.33 k Ω . accord	ina to
E24	35 – 5	Gradually depress			
E34	37 – 5	the brake pedal.	Resistance	value decreases between 0.1 – 1.33 k Ω , accord	ding to
	37 - 3		the depth o	brake depression.	
the inspection	result normal?				
3. REPLACE \$	STROKE SENSC)R			
			val and Inst	allation"	
		to <u>bit zor, itemo</u>		anadori .	
Centrol of the vehicle, close all doors (including back door), and wait for 3 minutes or more without oper ing these doors. CAUTION: Never operate the vehicle and CONSULT while waiting. Bisconnect 12V battery cable from negative terminal. Refer to BR-5. "Precautions for Removing Batter Terminal". Disconnect stroke sensor harness connector. Concector terminal of the continuity between stroke sensor and ground. Stroke sensor terminal of the continuity between stroke sensor and ground. Stroke sensor terminal of the continuity between stroke sensor and ground. Stroke sensor terminal terminal. E36 d 4 Ground Existed Is the inspection result normal? YES ⇒ GO TO 25. 25 C-HCK STROKE SENSOR RESISTANCE 1. Turn the power switch OFF to exit CONSULT. 2. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without oper ing these doors. CAUTION: Never operate the vehicle and CONSULT while waiting. 3. Disconnect 12V battery cable from negative terminal. Refer to BR-5. "Precautions for Removing Batter Terminal". 3. Disconnect tait/ub battery cable from negative terminal. Refer to BR-5. "Precautions for Removing Batter Terminal". 3. Disconnect tait be the brake sensor connector. 3. Disconnect tait be the deficially-driven intelligent brake unit harness connector. 3. Connect the resistance between stroke sensor connector pin terminals. Electrically-driven intelligent brake unit harness connector. 3. Connect the electrically-driven intelligent brake unit harness connector. 3. Connect the sectrically-driven intelligent brake unit harness connector. 3. Connect the sectrically-driven intelligent brake unit harness connector. 3. Sector Sector SERSOR Replace the stroke sensor. Refer to BR-251. "Removal and Installation". >> GO TO 28. 28. PERFORM SELF-DIAGNOSIS (9) (With CONSULT 4. Connect the electrically-driven intelligent brake unit harness connector. 3. Connect the sector balk-torike terminal. 3. Connect the electrically-driven intelligent brake uni	ro 27				
Ing these doors. CAUTION: Never operate the vehicle and CONSULT while waiting. Disconnect 12V battery cable from negative terminal. Refer to BR-5. "Precautions for Removing E Terminal". Connect stroke sensor harness connector. Connect the electrically-driven intelligent brake unit harness connector. Constant the continuity between stroke sensor and ground. Stroke sensor Continuity Detween stroke sensor and ground. Stroke sensor Continuity Detween stroke sensor and ground. Stroke sensor Continuity Easter inspection result normal? YES >> GO TO 25. Stroke sensor neplace error-detected parts and GO TO 25. 25.CHECK STROKE SENSOR RESISTANCE 1 Turn the power switch OFF to exit CONSULT Connect of the vehicle, close all doors (including back door), and wait for 3 minutes or more without ing these doors. Currence stroke sensor harness connector. Disconnect the vehicle and CONSULT while waiting. Connect to the vehicle intelligent brake unit harness connector. Electrically-driven inte					
· · · · · · · · · · · · · · · · · · ·					
	electrically-drive		unit harness	connector.	
Connect 12V	electrically-driver	negative terminal.			

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

< DTC/CIRCUIT DIAGNOSIS >

Never set the vehicle to READY.

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

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

- 5. Turn the power switch OFF to exit CONSULT.
- 6. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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.
- 10. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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 22.
- NO >> INSPECTION END

< DTC/CIRCUIT DIAGNOSIS >

DTC DETECTION LOGIC

C1A66 PRESSURE SENSOR

DTC Logic

А

В

INFOID:000000006960669

DTC	Display item	Malfunction detection condition	Possible causes
C1A66	MASTER PRESSURE SEN-	 Open circuit is detected in master cylinder pressure sensor1 circuit. Short circuit is detected in master cylinder pressure 	 Harness or connector Master cylinder pressure sensor1 improper installation Master cylinder pressure
	SOR	 sensor1 circuit. Malfunction is detected in master cylinder pressure sensor1. 	sensor1Electrically-driven intelligent brake unit
	PRODUCTION PROCED	DURE	
	CONFIRMATION PROCEDU ast 10 seconds before cond	JRE" has been previously conducted, always lucting the next test.	turn power switch OFF and
	00 - 0 0		
-	>> GO TO 2. K DTC DETECTION		
Ĭ. Turn		N without depressing the brake pedal.	
	TION: er set the vehicle to READ	Y	
2. Repe	eat step 1 two or more times		
	TION: ure to wait for 5 seconds	or more after turning the power switch OFI	F.
3. Turn	the power switch OFF to ex	kit CONSULT.	
ing th	nese doors.	doors (including back door), and wait for 3 mir	nutes of more without open-
	TION: er operate the vehicle and	CONSLILT while waiting	
5. Turn	the power switch ON witho	ut depressing the brake pedal.	
	TION: er set the vehicle to READ	Y.	
		diagnosis result of "BRAKE".	
3. Get o		doors (including back door), and wait for 3 mir	nutes or more without open-
	nese doors. TION:		
Neve	er operate the vehicle and		
	the power switch ON witho TION:	ut depressing the brake pedal.	
Neve	er set the vehicle to READ		cocondo or more
	ase brake pedal.	n (3.94 in) or more, and hold the position for 5	
	CONSULT and perform "BI	RAKE" self-diagnosis.	
12. Start			
12. Start <u>s DTC "(</u>	C1A66" detected?	nosis Procedure"	
12. Start <u>s DTC "(</u> YES ::	<u>C1A66" detected?</u> >> Proceed to <u>BR-99, "Diac</u> >> INSPECTION END	<u>gnosis Procedure"</u> .	
12. Start <u>s DTC "(</u> YES NO	>> Proceed to <u>BR-99, "Diac</u>	<u>gnosis Procedure"</u> .	INF01D:000000006960670

1. Turn the power switch OFF to exit CONSULT.

< DTC/CIRCUIT DIAGNOSIS >

 Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 CAUTION:

Never operate the vehicle and CONSULT while waiting.

- Check the 12V battery terminal connections. Refer to <u>BR-5</u>, "Precautions for Removing Battery Terminal" and <u>PG-105</u>, "Work Flow".
- 4. Check the 12V battery. Refer to <u>PG-105, "Work Flow"</u>.
- Is the inspection result normal?

YES >> GO TO 2.

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

2. PERFORM SELF-DIAGNOSIS (1)

With CONSULT

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

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

- 4. Turn the power switch OFF to exit CONSULT.
- 5. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 - CAUTION:

Never operate the vehicle and CONSULT 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.
- 9. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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 "C1A66" detected?

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

3.CHECK CONNECTOR TERMINALS

- 1. Turn the power switch OFF to exit CONSULT.
- 2. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-5</u>, "Precautions for Removing Battery <u>Terminal"</u>.
- 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 sensor1 harness connector.

Is the inspection result normal?

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

< DTC/CIRCUIT DIAGNOSIS >

4. PERFORM SELF-DIAGNOSIS (2)	
--------------------------------------	--

	FERIORINI SELI -DIAGNOSIS (2)			Α
(<u>P</u>)\	With CONSULT			/ (
1.	, 3			
2.			or.	В
3.	, 0			
4.	Turn the power switch OFF to ON without dep	ressing the bra	ake pedal.	
	CAUTION: Never set the vehicle to READY.			С
5	Repeat step 4 two or more times.			0
5.	CAUTION:			
	Be sure to wait for 5 seconds or more after	turning the p	ower switch OFF.	D
6.				D
7.		g back door),	and wait for 3 minutes or more without open-	
	ing these doors.			_
	CAUTION:			E
	Never operate the vehicle and CONSULT w			
8.	1 1 0	the brake ped	al.	
	CAUTION: Never set the vehicle to READY.			BR
٥	Start CONSULT and erase self-diagnosis resu			
	. Turn the power switch OFF to exit CONSULT.	IL UI DIVANE .		
	. Get out of the vehicle, close all doors (includin	a back door).	and wait for 3 minutes or more without open-	G
	ing these doors.	.g,,		
	CAUTION:			
	Never operate the vehicle and CONSULT w	hile waiting.		Н
12.	. Turn the power switch ON without depressing	the brake ped	al.	
	CAUTION:			
40	Never set the vehicle to READY.			1
	. Depress brake pedal by 100 mm (3.94 in) or n	hore, and hold	the position for 5 seconds or more.	
	 Release brake pedal. Start CONSULT and perform "BRAKE" self-dia 	anosis		
	-	ign0313.		J
	DTC "C1A66" detected?			0
	'ES >> GO TO 5. IO >> INSPECTION END			
_				K
Э.	CHECK POWER SWITCH ON POWER SUPPL	<u>_Y</u>		
4	Connect master cylinder pressure sensor1 ha	mess connecto	or	
1.				
1. 2.		al.	51.	I
	Turn the power switch OFF to exit CONSULT.			L
2.	Turn the power switch OFF to exit CONSULT. Get out of the vehicle, close all doors (includin			L
2. 3.	Turn the power switch OFF to exit CONSULT. Get out of the vehicle, close all doors (includining these doors.			
2. 3.	Turn the power switch OFF to exit CONSULT. Get out of the vehicle, close all doors (includining these doors. CAUTION:	ig back door),		L
2. 3. 4.	Turn the power switch OFF to exit CONSULT. Get out of the vehicle, close all doors (includin ing these doors. CAUTION: Never operate the vehicle and CONSULT w	ig back door), hile waiting.	and wait for 3 minutes or more without open-	L
2. 3.	Turn the power switch OFF to exit CONSULT. Get out of the vehicle, close all doors (includining these doors. CAUTION: Never operate the vehicle and CONSULT w Disconnect 12V battery cable from negative t	ig back door), hile waiting.	and wait for 3 minutes or more without open-	
2. 3. 4. 5.	Turn the power switch OFF to exit CONSULT. Get out of the vehicle, close all doors (includining these doors. CAUTION: Never operate the vehicle and CONSULT w Disconnect 12V battery cable from negative t Terminal.	ig back door), hile waiting. erminal. Refer	and wait for 3 minutes or more without open-	
2. 3. 4. 5.	Turn the power switch OFF to exit CONSULT. Get out of the vehicle, close all doors (includining these doors. CAUTION: Never operate the vehicle and CONSULT w Disconnect 12V battery cable from negative t <u>Terminal</u> ". Disconnect the electrically-driven intelligent br	ig back door), hile waiting. erminal. Refer ake unit harne	and wait for 3 minutes or more without open-	
 2. 3. 4. 5. 6. 7. 	Turn the power switch OFF to exit CONSULT. Get out of the vehicle, close all doors (includining these doors. CAUTION: Never operate the vehicle and CONSULT w Disconnect 12V battery cable from negative to <u>Terminal</u> ". Disconnect the electrically-driven intelligent br Connect 12V battery cable to negative terminal	ng back door), hile waiting. erminal. Refer ake unit harne al.	and wait for 3 minutes or more without open- to <u>BR-5. "Precautions for Removing Battery</u> ss connector.	
2. 3. 4. 5.	Turn the power switch OFF to exit CONSULT. Get out of the vehicle, close all doors (includining these doors. CAUTION: Never operate the vehicle and CONSULT w Disconnect 12V battery cable from negative t <u>Terminal</u> ". Disconnect the electrically-driven intelligent br	ng back door), hile waiting. erminal. Refer ake unit harne al.	and wait for 3 minutes or more without open- to <u>BR-5. "Precautions for Removing Battery</u> ss connector.	Ν
 2. 3. 4. 5. 6. 7. 	Turn the power switch OFF to exit CONSULT. Get out of the vehicle, close all doors (includining these doors. CAUTION: Never operate the vehicle and CONSULT w Disconnect 12V battery cable from negative to Terminal. Disconnect the electrically-driven intelligent br Connect 12V battery cable to negative terminal Check the voltage between the electrically-driven	ng back door), hile waiting. erminal. Refer ake unit harne al.	and wait for 3 minutes or more without open- to <u>BR-5</u> , <u>"Precautions for Removing Battery</u> ss connector. brake unit harness connector and ground.	Ν
 2. 3. 4. 5. 6. 7. 	Turn the power switch OFF to exit CONSULT. Get out of the vehicle, close all doors (includining these doors. CAUTION: Never operate the vehicle and CONSULT we Disconnect 12V battery cable from negative to Terminal". Disconnect the electrically-driven intelligent br Connect 12V battery cable to negative terminate Check the voltage between the electrically-driven Electrically-driven intelligent brake unit	ng back door), hile waiting. erminal. Refer ake unit harne al.	and wait for 3 minutes or more without open- to <u>BR-5</u> , <u>"Precautions for Removing Battery</u> ss connector. brake unit harness connector and ground. <u>Voltage</u>	Ν
2. 3. 4. 5. 6. 7.	Turn the power switch OFF to exit CONSULT. Get out of the vehicle, close all doors (includining these doors. CAUTION: Never operate the vehicle and CONSULT w Disconnect 12V battery cable from negative to Terminal. Disconnect the electrically-driven intelligent br Connect 12V battery cable to negative terminal Check the voltage between the electrically-driven	ng back door), hile waiting. erminal. Refer ake unit harne al.	and wait for 3 minutes or more without open- to <u>BR-5</u> , <u>"Precautions for Removing Battery</u> ss connector. brake unit harness connector and ground.	L M N O

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

Never set the vehicle to READY.

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

< DTC/CIRCUIT DIAGNOSIS >

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

Is the inspection result normal?

YES >> GO TO 8.

NO >> GO TO 6.

6.CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.

 Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 CAUTION:

Never operate the vehicle and CONSULT while waiting.

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

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

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

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

Is the inspection result normal?

- YES >> Perform trouble diagnosis for power ON power supply. Refer to <u>PG-62, "Wiring Diagram ON</u> <u>POWER SUPPLY -"</u>.
- NO >> Repair or replace error-detected parts and GO TO 7.

7.PERFORM SELF-DIAGNOSIS (3)

()With CONSULT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect master cylinder pressure sensor1 harness connector.
- 3. Connect IPDM E/R harness connector.
- 4. Connect 12V battery cable to negative terminal.
- 5. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

 Repeat step 5 two or more times. CAUTION:

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

- 7. Turn the power switch OFF to exit CONSULT.
- Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 CAUTION:

Never operate the vehicle and CONSULT 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.

< DTC/CIRCUIT DIAGNOSIS > 12. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors. А CAUTION: Never operate the vehicle and CONSULT while waiting. 13. Turn the power switch ON without depressing the brake pedal. В 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 "C1A66" detected? YES >> GO TO 8. D NO >> INSPECTION END ${f 8.}$ CHECK 12V BATTERY POWER SUPPLY Е Turn the power switch OFF to exit CONSULT. 1. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors. BR CAUTION: Never operate the vehicle and CONSULT while waiting. 3. Disconnect 12V battery cable from negative terminal. Refer to BR-5. "Precautions for Removing Battery Terminal". Disconnect the electrically-driven intelligent brake unit harness connector. 5. Connect 12V battery cable to negative terminal. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals. Н Electrically-driven intelligent brake unit Voltage (Approx.) Connector Terminal 1 – 31 E34 2 - 3110 - 16 V 11 - 317. Turn the power switch ON without depressing the brake pedal. CAUTION: Κ 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 1 – 31 M E34 2 - 31 10 – 16 V 11 – 31 Ν 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. 1. 2. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open-P ing these doors. **CAUTION:** Never operate the vehicle and CONSULT while waiting. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-5. "Precautions for Removing Battery</u> Terminal". 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).

< 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 10A fuse (#78).
- 8. Check the continuity and for short circuit between harness connector terminal 11 of electrically-driven intelligent brake unit and 10A fuse (#78).

Is the inspection result normal?

- YES >> Perform trouble diagnosis for 12V battery power supply. Refer to <u>PG-16, "Wiring Diagram BAT-</u> <u>TERY POWER SUPPLY -"</u>.
- NO >> Repair or replace error-detected parts and GO TO 10.

10.PERFORM SELF-DIAGNOSIS (4)

() With CONSULT

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

Never set the vehicle to READY.

4. Repeat step 3 two or more times.

CAUTION:

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

- 5. Turn the power switch OFF to exit CONSULT.
- Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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.
- 10. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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 "C1A66" detected?

YES >> GO TO 11.

NO >> INSPECTION END

- **11.**CHECK GROUND CIRCUIT
- 1. Turn the power switch OFF to exit CONSULT.
- 2. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT while waiting.

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

Electrically-driven intelligent brake unit			Continuity
Connector	Terminal		Continuity
E34	31	Ground	Existed

< DTC/CIRCUIT DIAGNOSIS >	
< DTC/CIRCOTT 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)	
1. Connect the electrically-driven intelligent brake unit harness connector.	
2. Connect 12V battery cable to negative terminal.	
Turn the power switch OFF to ON without depressing the brake pedal.	
CAUTION: Never set the vehicle to READY.	
A. 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.	
 Turn the power switch OFF to exit CONSULT. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open- 	
ing these doors.	
CAUTION:	
Never operate the vehicle and CONSULT while waiting. 7. Turn the power switch ON without depressing the brake pedal.	E
CAUTION:	
Never set the vehicle to READY.	
 Start CONSULT and erase self-diagnosis result of "BRAKE". Turn the power switch OFF to exit CONSULT. 	
0. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open-	
ing these doors.	
CAUTION:	
Never operate the vehicle and CONSULT while waiting. 1. 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. 	
4. Start CONSULT and perform "BRAKE" self-diagnosis.	
s DTC "C1A66" detected?	
YES >> GO TO 13.	
NO >> INSPECTION END	
3. CHECK DATA MONITOR (1)	
With CONSULT	
Connect the electrically-driven intelligent brake unit harness connector.	
 Connect 12V battery cable to negative terminal. Turn the power switch OFF to ON without depressing the brake pedal. 	
CAUTION:	
Never set the vehicle to READY.	
. Repeat step 3 two or more times. CAUTION:	
Be sure to wait for 5 seconds or more after turning the power switch OFF.	
. Start CONSULT and select "BRAKE" and "DATA MONITOR" according this order.	
Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER". Refer to <u>BR-24, "Reference</u>	
Value".	
the inspection result normal?	
YES >> GO TO 14. NO >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-261, "Removal and installation"</u> .	
4. PERFORM SELF-DIAGNOSIS (6)	
With CONSULT	
. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:	
Nover set the vehicle to READY	

Never set the vehicle to READY.

< DTC/CIRCUIT DIAGNOSIS >

- 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.
- 4. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 - CAUTION:

Never operate the vehicle and CONSULT 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.
- 8. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT while waiting.

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

Never set the vehicle to READY.

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

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

Is DTC "C1A66" detected?

YES >> GO TO 15.

NO >> INSPECTION END

15.CHECK MASTER CYLINDER PRESSURE SENSOR1 INSTALLATION

- 1. Turn the power switch OFF to exit CONSULT.
- 2. Check the master cylinder pressure sensor1 for looseness and disconnection.

Is the inspection result normal?

YES >> GO TO 16.

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

 $16. {\tt PERFORM SELF-DIAGNOSIS} (7)$

() With CONSULT

- 1. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:
- Never set the vehicle to READY.

 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.
- 4. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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.
- Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 CAUTION:

Never operate the vehicle and CONSULT 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.

< DTC/CIRCUIT DIAGNOSIS >

11. Release brake pedal.

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

Is DTC "C1A66" detected?

YES >> GO TO 17.

NO >> INSPECTION END

17. CHECK MASTER CYLINDER PRESSURE SENSOR1 CIRCUIT

1. Turn the power switch OFF to exit CONSULT.

 Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-5, "Precautions for Removing Battery</u> <u>Terminal"</u>.
- 4. Disconnect master cylinder pressure sensor1 harness connector.
- 5. Disconnect the electrically-driven intelligent brake unit harness connector.
- Check the continuity between master cylinder pressure sensor1 harness connector and electrically-driven intelligent brake unit harness connector.

	Continuity	telligent brake unit	Electrically-driven in	Master cylinder pressure sensor1	
	Continuity	Terminal	Connector	Terminal	Connector
	Existed	21		3	
_	Not existed	7		3	
_	Not existed	38	-	3	
	Not existed	21		2	
_	Existed	7	E34	2	E31
	Not existed	38		2	
	Not existed	21	-	1	
-	Not existed	7		1	
	Existed	38		1	

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 SENSOR1 POWER CIRCUIT

- 1. Connect the electrically-driven intelligent brake unit harness connector.
- 2. Connect 12V battery cable to negative terminal.
- Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 CAUTION:

Never operate the vehicle and CONSULT while waiting.

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

Never set the vehicle to READY.

5. Check the master cylinder pressure sensor1 power voltage.

Master cylinder pressure sensor1			Voltage
Connector	Terminal		(Approx.)
E31	3	Ground	4.75 – 5.25V

Is the inspection result normal?

YES >> GO TO 19.

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

19.CHECK DATA MONITOR (2)

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< DTC/CIRCUIT DIAGNOSIS >

(I) With CONSULT

- 1. Turn the power switch OFF to exit CONSULT.
- 2. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 - CAUTION:

Never operate the vehicle and CONSULT while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-5</u>, "<u>Precautions for Removing Battery</u> <u>Terminal</u>".
- 4. Connect master cylinder pressure sensor1 harness connector.
- 5. Connect 12V battery cable to negative terminal.
- 6. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

 Repeat step 6 two or more times. CAUTION:

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

- 8. Start CONSULT and select "BRAKE" and "DATA MONITOR" according this order.
- 9. Check the "MASTER CYL PRESSURE". Refer to <u>BR-24, "Reference Value"</u>.

Is the inspection result normal?

YES >> GO TO 20.

```
NO >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-261, "Removal and installation"</u>.
```

20. CHECK MASTER CYLINDER PRESSURE SENSOR1

- 1. Turn the power switch OFF to exit CONSULT.
- 2. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-5</u>, "Precautions for Removing Battery <u>Terminal"</u>.
- 4. Disconnect master cylinder pressure sensor1 harness connector.
- 5. Connect following terminals between master cylinder pressure sensor1 and harness connector (test harness).

Master cylinder pressure	Harness connector		
sensor1	Connector	Terminal	
1		1	
2	E31	2	
3		3	

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

Never set the vehicle to READY.

7. Check that the voltage between master cylinder pressure sensor1 harness connector changes with the depth of pedal depression.

CAUTION:

Never short out the terminals while measuring voltage.

Master cylinder	Voltage	
Connector	Terminal	(Approx.)
E31	1 – 2	0.5 – 4.5 V

Is the inspection result normal?

YES >> GO TO 21.

```
NO >> Replace the master cylinder pressure sensor1. Refer to <u>BR-261, "Removal and installation"</u>.
```

21.PERFORM SELF-DIAGNOSIS (8)

With CONSULT

C1A66 PRESSURE SENSOR

< D	DTC/CIRCUIT DIAGNOSIS >	
1. 2.	Connect master cylinder pressure sensor1 harness connector. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:	А
3.	Never set the vehicle to READY.	В
4	Be sure to wait for 5 seconds or more after turning the power switch OFF.	
4. 5.	Turn the power switch OFF to exit CONSULT. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open- ing these doors. CAUTION:	С
6.	Never operate the vehicle and CONSULT while waiting. Turn the power switch ON without depressing the brake pedal. CAUTION:	D
_	Never set the vehicle to READY.	_
7. 8.	Start CONSULT and erase self-diagnosis result of "BRAKE". Turn the power switch OFF to exit CONSULT.	E
9.	Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open- ing these doors. CAUTION:	BR
	Never operate the vehicle and CONSULT while waiting.	
10.	Turn the power switch ON without depressing the brake pedal. CAUTION:	G
	Never set the vehicle to READY.	0
	Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.	
12.	Release brake pedal.	Н
	Start CONSULT and perform "BRAKE" self-diagnosis. <u>DTC "C1A66" detected?</u>	
YI	ES >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-261, "Removal and installation"</u> . O >> INSPECTION END	I
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< DTC/CIRCUIT DIAGNOSIS >

C1A67 STOP LAMP SWITCH

DTC Logic

INFOID:000000006960671

DTC DETECTION LOGIC

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

DTC REPRODUCTION PROCEDURE

1.PRECONDITIONING

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

>> GO TO 2.

2. CHECK DTC DETECTION

()With CONSULT

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

Never set the vehicle to READY.

- 2. Repeat step 1 two or more times.
- CAUTION: Be sure to wait for 5 seconds or more after turning the power switch OFF.
- 3. Turn the power switch OFF to exit CONSULT.
- Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 CAUTION:

Never operate the vehicle and CONSULT 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.
- 8. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT while waiting.

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

Never set the vehicle to READY.

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

Is DTC "C1A67" detected?

YES >> Proceed to <u>BR-110, "Diagnosis Procedure"</u>.

NO >> INSPECTION END

Diagnosis Procedure

1.CHECK STOP LAMP FOR ILLUMINATION (1)

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

Is the inspection result normal?

INFOID:000000006960672

< 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.
- Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 CAUTION:

Never operate the vehicle and CONSULT while waiting.

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

Electrically-driver	n intelligent brake unit	Test condition Voltage	Voltage	
Connector	Terminal	—	Test condition	(Approx.)
E34	13	Ground	Brake pedal is depressed.	10 – 16 V
L34	15	Ground	Brake pedal is not depressed.	0 V

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

Never set the vehicle to READY.

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

Electrically-driver	n intelligent brake unit		Test condition	Voltage
Connector	Terminal	_	Test condition	(Approx.)
E34	13	Ground	Brake pedal is depressed.	10 – 16 V
E34	13	Ground	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.
- 2. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT while waiting.

- Disconnect 12V battery cable from negative terminal. Refer to <u>BR-5, "Precautions for Removing Battery</u> M <u>Terminal"</u>.
- 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	Continuity	
E34	13	E102	2	Existed	

Is the inspection result normal?

- YES >> Perform trouble diagnosis for 12V battery power supply. Refer to <u>PG-16</u>, "Wiring Diagram <u>BAT-</u> <u>TERY POWER SUPPLY -"</u>.
- NO >> Repair or replace error-detected parts and GO TO 4.

4.CHECK 12V BATTERY

1. Turn the power switch OFF to exit CONSULT.

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< DTC/CIRCUIT DIAGNOSIS >

 Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 CAUTION:

Never operate the vehicle and CONSULT while waiting.

- Check the 12V battery terminal connections. Refer to <u>BR-5</u>, "Precautions for Removing Battery Terminal" and <u>PG-105</u>, "Work Flow".
- 4. Check the 12V battery. Refer to <u>PG-105, "Work Flow"</u>.
- Is the inspection result normal?

YES >> GO TO 5.

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

5. PERFORM SELF-DIAGNOSIS (1)

With CONSULT

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

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

- 4. Turn the power switch OFF to exit CONSULT.
- Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 - CAUTION:

Never operate the vehicle and CONSULT 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.
- 9. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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.
- 2. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT while waiting.

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

Is the inspection result normal?

YES >> GO TO 8.

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

PERFORM SELF-DIAGNOSIS (2)

<u>< D</u>	TC/CIRCUIT DI	AGNOSIS >			
	Vith CONSULT				
1.		ctrically-driven intellige	nt brake unit harnes	s connector.	А
2.		mp switch harness con			
3.		attery cable to negative			
4.		switch OFF to ON with	out depressing the b	orake pedal.	В
	CAUTION:				
-		vehicle to READY.			
5.	Repeat step 4 ty	wo or more times.			С
		for 5 seconds or mo	ro ofter turning the	nower switch OFF	C
6.		t for 5 seconds or more switch OFF to exit CON		power switch OFF.	
0. 7.), and wait for 3 minutes or more without oper	n- 🕞
1.	ing these doors.			, and wait for 5 minutes of more without open	D
	CAUTION:				
		the vehicle and CONS	SULT while waiting.		
8.		switch ON without dep			E
	CAUTION:	·	0		
		whicle to READY.			
9.		and erase self-diagnos			BR
		switch OFF to exit CO			
11.			including back door)), and wait for 3 minutes or more without oper	n-
	ing these doors.				G
	CAUTION:	the vehicle and CONS			0
12		the vehicle and CONS switch ON without dep			
12.	CAUTION:		lessing the blake pe	uai.	Н
		whicle to READY.			
13.			in) or more, and hol	d the position for 5 seconds or more.	
	Release brake		, ,		
15.	Start CONSULT	and perform "BRAKE"	self-diagnosis.		I
ls E	DTC "C1A67" det	ected?			
	ES >> GO TO				
Ň		CTION END			J
8.		SWITCH ON POWER	SUPPLY		
					_
1.		mp switch harness con			K
		attery cable to negative			
3. ⊿		switch OFF to exit CON		and wait for 2 minuton or more without one	~
4.	ing these doors.		including back door), and wait for 3 minutes or more without oper	I- L
	CAUTION:	•			
		the vehicle and CONS	SULT while waiting		
5.				er to <u>BR-5, "Precautions for Removing Batte</u>	rv M
•	Terminal".	,	g	·····	
6.		electrically-driven intelli	gent brake unit harr	ness connector.	
7.		attery cable to negative			Ν
8.	Check the voltage	ge between the electric	ally-driven intelligen	t brake unit harness connector and ground.	1.4
	Electrically-driven	intelligent brake unit		Voltage	0
	Connector	Terminal	—	(Approx.)	0
	E34	26	Ground	0 V	
9.	Turn the power	switch ON without dep	ressing the brake pe	dal.	Р
5.	CAUTION:				

Never set the vehicle to READY.

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

< DTC/CIRCUIT DIAGNOSIS >

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

Is the inspection result normal?

YES >> GO TO 11.

NO >> GO TO 9.

9.CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.

 Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 CAUTION:

Never operate the vehicle and CONSULT while waiting.

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

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

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

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

Is the inspection result normal?

- YES >> Perform trouble diagnosis for power ON power supply. Refer to <u>PG-62, "Wiring Diagram ON</u> <u>POWER SUPPLY -"</u>.
- NO >> Repair or replace error-detected parts and GO TO 10.

10. PERFORM SELF-DIAGNOSIS (3)

()With CONSULT

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

Never set the vehicle to READY.

 Repeat step 5 two or more times. CAUTION:

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

- 7. Turn the power switch OFF to exit CONSULT.
- Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 CAUTION:

Never operate the vehicle and CONSULT 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.

< DTC/CIRCUIT DIAGNOSIS >

12.	Get out of the v ing these doors CAUTION:		including back doo	r), and wait for 3 minutes or more without open-	А
13.	Never operate	the vehicle and CONS switch ON without dep	SULT while waiting ressing the brake p	j. edal.	В
15.	Never set the N Depress brake Release brake	pedal.		old the position for 5 seconds or more.	С
		and perform "BRAKE"	self-diagnosis.		
	<u>DTC "C1A67" det</u> ES >> GO TO				D
		CTION END			D
11		ATTERY POWER SUP	PLY		
1.		switch OFF to exit COI			Е
2.		ehicle, close all doors (r), and wait for 3 minutes or more without open-	BR
		the vehicle and CONS	SULT while waiting		DIX
3.	Disconnect 12V			fer to <u>BR-5. "Precautions for Removing Battery</u>	
4.	<u>Terminal</u> .	electrically-driven intell	igent brake unit ba	ness connector	G
4. 5.		attery cable to negative			
6.				nt brake unit harness connector terminals.	Н
				_	
	-	n intelligent brake unit	Voltage		
	Connector	Terminal	(Approx.)	_	1
	-	1 – 31			
	E34	2 – 31	10 – 16 V		
		11 – 31		_	J
7.	Turn the power CAUTION :	switch ON without dep	ressing the brake p	edal.	
		vehicle to READY.			Κ
8.	Check the volta	ge between the electric	ally-driven intellige	nt brake unit harness connector terminals.	
	Electrically-driver	n intelligent brake unit	Voltage	-	L
	Connector	Terminal	(Approx.)	_	
		1 – 31			Μ
	E34	2 – 31	10 – 16 V		
		11 – 31		_	
ls t	he inspection res	sult normal?		_	Ν
	ES >> GO TO				
					0
	CHECK 12V B	ATTERY POWER SUF	PLY CIRCUIT		0
1. 2.	Get out of the v ing these doors CAUTION:	•	including back doo	r), and wait for 3 minutes or more without open-	Ρ
3.		the vehicle and CONS / battery cable from ne		J. fer to <u>BR-5, "Precautions for Removing Battery</u>	
0.	<u>Terminal"</u> .				
4. 5.				s connector terminal 1 of electrically-driven intel-	

< 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 10A fuse (#78).
- 8. Check the continuity and for short circuit between harness connector terminal 11 of electrically-driven intelligent brake unit and 10A fuse (#78).

Is the inspection result normal?

- YES >> Perform trouble diagnosis for 12V battery power supply. Refer to <u>PG-16, "Wiring Diagram BAT-</u> <u>TERY POWER SUPPLY -"</u>.
- NO >> Repair or replace error-detected parts and GO TO 13.

13.PERFORM SELF-DIAGNOSIS (4)

(B) With CONSULT

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

Never set the vehicle to READY.

4. Repeat step 3 two or more times.

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.
- Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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.
- 10. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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.
- 2. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT while waiting.

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

Electrically-driver	n intelligent brake unit	— — Continuity	
Connector	Terminal		
E34	31	Ground	Existed

Is the inspection result normal? A YES >> GO TO 17. A NO >> Repair or replace error-detected parts and GO TO 15. A 15.PERFORM SELF-DIAGNOSIS (5) B Image: With CONSULT B 1. Connect the electrically-driven intelligent brake unit harness connector. B 2. Connect 12V battery cable to negative terminal. C 3. Turn the power switch OFF to ON without depressing the brake pedal. C
NO >> Repair or replace error-detected parts and GO TO 15. 15. PERFORM SELF-DIAGNOSIS (5) B Image: Second conduction of the second conduction
15.PERFORM SELF-DIAGNOSIS (5) B Image: Boundary Self Construction B 1. Connect the electrically-driven intelligent brake unit harness connector. B 2. Connect 12V battery cable to negative terminal. Connect to the electrical of the el
 With CONSULT Connect the electrically-driven intelligent brake unit harness connector. Connect 12V battery cable to negative terminal.
 Connect the electrically-driven intelligent brake unit harness connector. Connect 12V battery cable to negative terminal.
5. TUITI IIE DOWEL SWICH OFF ID ON WILLOUL DEDIESSIND IIE DIAKE DEDAL
CAUTION:
Never set the vehicle to READY.
4. Repeat step 3 two or more times.
Be sure to wait for 5 seconds or more after turning the power switch OFF.
 Turn the power switch OFF to exit CONSULT. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open-
ing these doors.
CAUTION: Never operate the vehicle and CONSULT while waiting.
7. Turn the power switch ON without depressing the brake pedal.
CAUTION: Never set the vehicle to READY.
8. Start CONSULT and erase self-diagnosis result of "BRAKE".
 Turn the power switch OFF to exit CONSULT. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open-
ing these doors.
CAUTION: Never operate the vehicle and CONSULT while waiting.
11. Turn the power switch ON without depressing the brake pedal.
CAUTION: Never set the vehicle to READY.
12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
13. Release brake pedal.
 Start CONSULT and perform "BRAKE" self-diagnosis. <u>Is DTC "C1A67" detected?</u>
YES >> GO TO 16.
NO >> INSPECTION END
16. CHECK DATA MONITOR
 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.
 Start CONSULT and select "BRAKE" and "DATA MONITOR" according this order. Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER". Refer to <u>BR-24, "Reference</u>
Value".
Is the inspection result normal?
YES >> GO TO 17. NO >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-261, "Removal and installation"</u> .
17.PERFORM SELF-DIAGNOSIS (6)
 With CONSULT Turn the power switch OFF to ON without depressing the brake pedal.
CAUTION:
 Never set the vehicle to READY. Repeat step 1 two or more times.
CAUTION:

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

- 3. Turn the power switch OFF to exit CONSULT.
- 4. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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.
- 8. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

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CAUTION:
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Never operate the vehicle and CONSULT while waiting.

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

Never set the vehicle to READY.

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

Is DTC "C1A67" detected?

YES >> GO TO 18.

NO >> INSPECTION END

18. VISUALLY CHECK STOP LAMP SWITCH

Check the stop lamp switch for damage.

Is the inspection result normal?

YES >> GO TO 19.

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

19.CHECK STOP LAMP SWITCH INSTALLATION

Check the stop lamp switch for looseness and disconnection.

Is the inspection result normal?

YES >> GO TO 20.

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

20. CHECK BRAKE PEDAL HEIGHT

Check the each brake pedal height. Refer to <u>BR-242, "Inspection and Adjustment"</u>.

Is the inspection result normal?

YES >> GO TO 21.

NO >> Adjust each brake pedal height. Refer to <u>BR-242</u>, "Inspection and Adjustment". GO TO 28.

21.STROKE SENOR 0 POINT LEARNING

Perform stroke sensor 0 point learning. Refer to <u>BR-38, "Work Procedure"</u>.

>> GO TO 22.

22.CHECK STOP LAMP FOR ILLUMINATION (2)

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

Is the inspection result normal?

- YES >> Repair or replace error-detected parts and GO TO 28.
- NO >> GO TO 23.

23. CHECK STOP LAMP SWITCH CLEARANCE

1. Turn the power switch OFF to exit CONSULT.

Check the stop lamp clearance. Refer to <u>BR-242</u>, "Inspection and Adjustment".

< DTC/CIRCUIT DIAGNOSIS >

Is the inspection result normal?

YES >> GO TO 24.

NO >> Adjust stop lamp switch clearance. Refer to <u>BR-242</u>, "Inspection and Adjustment". GO TO 28.

24. CHECK STOP LAMP SWITCH CIRCUIT (3)

- 1. Turn the power switch OFF to exit CONSULT.
- Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 - CAUTION:

Never operate the vehicle and CONSULT while waiting.

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

Electrically-driven intelligent brake unit			Test condition	Voltage	
Connector	Terminal	—	Test condition	(Approx.)	BR
E34	13	Ground	Brake pedal is depressed.	10 – 16 V	
E34	15	Ground	Brake pedal is not depressed.	0 V	

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

Never set the vehicle to READY.

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

Electrically-driven intelligent brake unit			Test condition	Voltage
Connector	Terminal	_	Test condition	(Approx.)
E34	10	Ground	Brake pedal is depressed.	10 – 16 V
⊏34	15	Ground	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.
- Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT while waiting.

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

Electrically-driven intelligent brake unit		Stop lamp switch		Continuity	0
Connector	Terminal	Connector	Terminal	Continuity	
E34	13	E102	2	Existed	Р

Is the inspection result normal?

- YES >> Perform trouble diagnosis for 12V battery power supply. Refer to <u>PG-16, "Wiring Diagram BAT-</u> <u>TERY POWER SUPPLY -"</u>.
- NO >> Repair or replace error-detected parts and GO TO 26.

26.CHECK STOP LAMP SWITCH

Check the stop lamp switch. Refer to BR-120, "Component Inspection".

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< DTC/CIRCUIT DIAGNOSIS >

Is the inspection result normal?

- YES >> GO TO 27.
- NO >> Replace the stop lamp switch. Refer to <u>BR-251, "Removal and Installation"</u>. GO TO 28.

27.CHECK STOP LAMP FOR ILLUMINATION (3)

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

Is the inspection result normal?

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

28.PERFORM SELF-DIAGNOSIS (7)

With CONSULT

- Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:
 - Never set the vehicle to READY.
- 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.
- 4. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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.
- Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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:000000006960673

1.CHECK STOP LAMP SWITCH

- 1. Turn the power switch OFF to exit CONSULT.
- Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 CAUTION:

Never operate the vehicle and CONSULT while waiting.

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

< DTC/CIRCUIT DIAGNOSIS >

			1
Stop lamp	switch		
Termir	nal	- Test condition	Continuity
1	2	When stop lamp switch is released (when brake pedal is depressed)	Existed
1 – 2		When stop lamp switch is pressed (when brake pedal is released)	Not existed
Is the inspection	on result no	<u>srmal?</u>	
-	SPECTION eplace the s	I END stop lamp switch. Refer to <u>BR-251, "I</u>	Removal and Installa

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< DTC/CIRCUIT DIAGNOSIS >

C1A69 MOTOR

DTC Logic

INFOID:000000006960674

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1A69	MOTOR	A malfunction has occurred in the motor inside 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.

 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.
- 4. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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.
- Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 CAUTION:

Never operate the vehicle and CONSULT 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 >> Proceed to <u>BR-122</u>, "Diagnosis Procedure".
- NO >> INSPECTION END

Diagnosis Procedure

1.CHECK 12V BATTERY

- 1. Turn the power switch OFF to exit CONSULT.
- Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 CAUTION:

Never operate the vehicle and CONSULT while waiting.

BR-122

INFOID:000000006960675

< D	DTC/CIRCUIT DIAGNOSIS >	
3.	Check the 12V battery terminal connections. Refer to <u>BR-5, "Precautions for Removing Battery Terminal"</u> and <u>PG-105, "Work Flow"</u> .	А
4.	· · · · · · · · · · · · · · · · · · ·	
	he inspection result normal?	
YI N(ES >> GO TO 2. O >> Repair or replace error-detected part and GO TO 2.	В
Ζ.	PERFORM SELF-DIAGNOSIS (1)	C
\sim	With CONSULT	0
1. 2.	Connect 12V battery cable to negative terminal. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:	D
	Never set the vehicle to READY.	
3.	Repeat step 2 two or more times.	
	CAUTION:	Ε
4	Be sure to wait for 5 seconds or more after turning the power switch OFF. Turn the power switch OFF to exit CONSULT.	
5.	Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open- ing these doors.	BR
	CAUTION:	
6.	Never operate the vehicle and CONSULT while waiting. Turn the power switch ON without depressing the brake pedal.	G
0.	CAUTION:	G
-	Never set the vehicle to READY.	
7. 8.	Start CONSULT and erase self-diagnosis result of "BRAKE". Turn the power switch OFF to exit CONSULT.	Н
9.	Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open-	
	ing these doors.	
	CAUTION:	
10	Never operate the vehicle and CONSULT while waiting. Turn the power switch ON without depressing the brake pedal.	
10.	CAUTION:	J
	Never set the vehicle to READY.	J
	Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.	
	Release brake pedal. Start CONSULT and perform "BRAKE" self-diagnosis.	Κ
	DTC "C1A69" detected?	1.4
	ES >> GO TO 3.	
N		L
3.	CHECK CONNECTOR TERMINALS	
1.	Turn the power switch OFF to exit CONSULT.	
2.	Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open-	Μ
	ing these doors.	
	CAUTION:	Ν
3.	Never operate the vehicle and CONSULT while waiting. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-5</u> , <u>"Precautions for Removing Battery</u> "	11
0.	Terminal".	
4.	Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.	0
	he inspection result normal?	
	ES >> GO TO 5.	Ρ
N(
4.	PERFORM SELF-DIAGNOSIS (2)	
	With CONSULT	
1.	Connect the electrically-driven intelligent brake unit harness connector.	

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

< 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.
- 6. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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.
- 10. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CĂUTION:

Never operate the vehicle and CONSULT 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.
- 3. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT while waiting.

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

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

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

Never set the vehicle to READY.

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

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

Is the inspection result normal?

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

< DTC/CIRCUIT DIAGNOSIS >

6.CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

- 1. Turn the power switch OFF to exit CONSULT.
- 2. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 - CAUTION:

Never operate the vehicle and CONSULT while waiting.

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

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

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

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

Is the inspection result normal?

- YES >> Perform trouble diagnosis for power ON power supply. Refer to <u>PG-62, "Wiring Diagram ON</u> H <u>POWER SUPPLY -"</u>.
- NO >> Repair or replace error-detected part and GO TO 7.

7.PERFORM SELF-DIAGNOSIS (3)

(D)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.
- Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 CAUTION:

Never operate the vehicle and CONSULT while waiting.

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

Never set the vehicle to READY.

- 9. Start CONSULT and erase self-diagnosis result of "BRAKE".
- 10. Turn the power switch OFF to exit CONSULT.
- Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 CAUTION:

Never operate the vehicle and CONSULT 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.

BR-125

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< DTC/CIRCUIT DIAGNOSIS >

Is DTC "C1A69" detected?

YES >> GO TO 8.

NO >> INSPECTION END

8. CHECK 12V BATTERY POWER SUPPLY

- 1. Turn the power switch OFF to exit CONSULT.
- Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 - CAUTION:

Never operate the vehicle and CONSULT while waiting.

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

Electrically-driver	Voltage	
Connector	Terminal	(Approx.)
	1 – 31	
E34	2 – 31	10 – 16 V
	11 – 31	

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

Never set the vehicle to READY.

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

Electrically-drive	Voltage (Approx.)		
Connector	Connector Terminal		
	1 – 31		
E34	2 - 31	10 – 16 V	
	11 – 31		

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.
- 2. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-5</u>, "Precautions for Removing Battery <u>Terminal"</u>.
- 4. Check the 60A fusible link (#F).
- 5. Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).
- 6. Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).
- 7. Check the 10A fuse (#78).
- 8. Check the continuity and for short circuit between harness connector terminal 11 of electrically-driven intelligent brake unit and 10A fuse (#78).

Is the inspection result normal?

- YES >> Perform trouble diagnosis for 12V battery power supply. Refer to <u>PG-16, "Wiring Diagram BAT-</u> <u>TERY POWER SUPPLY -"</u>.
- NO >> Repair or replace the error-detected parts and GO TO 10.

< DTC/CIRCUIT DIAGNOSIS > **10.**PERFORM SELF-DIAGNOSIS (4) А With CONSULT 1. Connect the electrically-driven intelligent brake unit harness connector. Connect 12V battery cable to negative terminal. В 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. D 6. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors. **CAUTION:** Е Never operate the vehicle and CONSULT while waiting. 7. Turn the power switch ON without depressing the brake pedal. **CAUTION:** Never set the vehicle to READY. BR Start CONSULT and erase self-diagnosis result of "BRAKE". 9. Turn the power switch OFF to exit CONSULT. 10. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors. CAUTION: Never operate the vehicle and CONSULT while waiting. 11. Turn the power switch ON without depressing the brake pedal. Н CAUTION: Never set the vehicle to READY. 12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more. 13. Release brake pedal. 14. Start CONSULT and perform "BRAKE" self-diagnosis. Is DTC "C1A69" detected? YES >> GO TO 4. NO >> INSPECTION END 11.CHECK GROUND CIRCUIT Κ Turn the power switch OFF to exit CONSULT. 1. 2. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors. L **CAUTION:** Never operate the vehicle and CONSULT while waiting. 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-5, "Precautions for Removing Battery</u> M Terminal". Disconnect the electrically-driven intelligent brake unit harness connector. 5. Check the continuity between electrically-driven intelligent brake unit and ground. Ν Electrically-driven intelligent brake unit Continuity Connector Terminal F34 31 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:

< 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.
- 6. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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.
- 10. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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)

()With CONSULT

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

Never set the vehicle to READY.

4. Repeat step 3 two or more times.

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

- 5. Start CONSULT and select "BRAKE", "DATA MONITOR" according this order.
- 6. Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER". Refer to <u>BR-24, "Reference</u> <u>Value"</u>.

Is the inspection result normal?

YES >> GO TO 14.

NO >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-261, "Removal and installation"</u>.

14.PERFORM SELF-DIAGNOSIS (6)

()With CONSULT

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

Never set the vehicle to READY.

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

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

- 3. Turn the power switch OFF to exit CONSULT.
- 4. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT while waiting.

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

6. Sta 7. Tu	
7. Tu	ever set the vehicle to READY.
	art CONSULT and erase self-diagnosis result of "BRAKE". Irn the power switch OFF to exit CONSULT.
. Ge	et out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open-
	g these doors.
CĂ	AUTION:
	ever operate the vehicle and CONSULT while waiting.
	rn the power switch ON without depressing the brake pedal.
	AUTION:
	ever set the vehicle to READY.
	epress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
	elease brake pedal. art CONSULT and perform "BRAKE" self-diagnosis.
	C1A69" detected?
'ES IO	>> GO TO 15. >> INSPECTION END
-	
). C	HECK DATA MONITOR (2)
With	CONSULT
Tu	rn the power switch OFF to ON without depressing the brake pedal.
	AUTION:
	ever set the vehicle to READY.
	epeat step 1 two or more times.
	AUTION: Sure to wait for 5 seconds or more after turning the power switch OFF.
	art CONSULT and select "BRAKE", "DATA MONITOR" according this order.
	neck the "MOTOR TEMPERATURE". Refer to <u>BR-24, "Reference Value"</u> .
	DR TEMPERATURE" is 125 °C (257 °F) or more?
′ES	
10	>> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-261, "Removal and installation"</u> .
-	HECK MOTOR ROOM
	for any locations of abnormal heating around the electrically-driven intelligent brake unit.
<u>ə the</u>	ere any heated locations?
′ES	>> Perform diagnosis of the heated locations, and wait for the temperature to fall. GO TO 17.
0	>> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-261, "Removal and installation"</u> .
7.Р	ERFORM SELF-DIAGNOSIS (7)
	CONSULT
Nith	rn the power switch OFF to ON without depressing the brake pedal
With Tu	rn the power switch OFF to ON without depressing the brake pedal.
Vith Tu <mark>C</mark> A	
With Tu CA Ne Re	AUTION: ever set the vehicle to READY. epeat step 1 two or more times.
With Tu CA Ne Re CA	AUTION: ever set the vehicle to READY. epeat step 1 two or more times. AUTION:
With Tu CA Ne Re CA Be	AUTION: ever set the vehicle to READY. epeat step 1 two or more times. AUTION: a sure to wait for 5 seconds or more after turning the power switch OFF.
Vith Tu CA Ne Re CA Be Tu	AUTION: ever set the vehicle to READY. epeat step 1 two or more times. AUTION: e sure to wait for 5 seconds or more after turning the power switch OFF. Irn the power switch OFF to exit CONSULT.
With Tu CA Ne Re CA Be Tu Ge	AUTION: ever set the vehicle to READY. epeat step 1 two or more times. AUTION: e sure to wait for 5 seconds or more after turning the power switch OFF. Irrn the power switch OFF to exit CONSULT. et out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open-
Vith Tu CA Ne Re CA Be Tu Ge ing	AUTION: ever set the vehicle to READY. epeat step 1 two or more times. AUTION: e sure to wait for 5 seconds or more after turning the power switch OFF. Im the power switch OFF to exit CONSULT. et out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open- og these doors.
Vith Tu C Ne Re C Be Tu Ge ing	AUTION: ever set the vehicle to READY. epeat step 1 two or more times. AUTION: e sure to wait for 5 seconds or more after turning the power switch OFF. In the power switch OFF to exit CONSULT. et out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open- og these doors. AUTION:
With Tu C Ne Re C Be Tu Ge ing C Ne	AUTION: ever set the vehicle to READY. epeat step 1 two or more times. AUTION: e sure to wait for 5 seconds or more after turning the power switch OFF. In the power switch OFF to exit CONSULT. et out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open- to these doors. AUTION: ever operate the vehicle and CONSULT while waiting.
With Tu CA Ne Re CA Be Tu Ge ing CA Ne Tu	AUTION: ever set the vehicle to READY. epeat step 1 two or more times. AUTION: e sure to wait for 5 seconds or more after turning the power switch OFF. Im the power switch OFF to exit CONSULT. et out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open- og these doors. AUTION: ever operate the vehicle and CONSULT while waiting. Im the power switch ON without depressing the brake pedal.
With Tu CA Ne Re CA Be Tu Ge ing CA Ne Tu CA	AUTION: ever set the vehicle to READY. epeat step 1 two or more times. AUTION: e sure to wait for 5 seconds or more after turning the power switch OFF. In the power switch OFF to exit CONSULT. et out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open- to these doors. AUTION: ever operate the vehicle and CONSULT while waiting.
With Tu CA Re CA Be Tu Ge ing CA Ne Tu CA Ne	AUTION: ever set the vehicle to READY. epeat step 1 two or more times. AUTION: e sure to wait for 5 seconds or more after turning the power switch OFF. Irrn the power switch OFF to exit CONSULT. et out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open- g these doors. AUTION: ever operate the vehicle and CONSULT while waiting. Irrn the power switch ON without depressing the brake pedal. AUTION: ever set the vehicle to READY.
With Tu CA Ne CA Be Tu Ge ing CA Ne Sta	AUTION: ever set the vehicle to READY. epeat step 1 two or more times. AUTION: e sure to wait for 5 seconds or more after turning the power switch OFF. Irrn the power switch OFF to exit CONSULT. et out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open- g these doors. AUTION: ever operate the vehicle and CONSULT while waiting. Irrn the power switch ON without depressing the brake pedal. AUTION:
With Tu CA Nee CA Be Tu Ge ing CA Nee Sta Tu Ge	AUTION: ever set the vehicle to READY. epeat step 1 two or more times. AUTION: e sure to wait for 5 seconds or more after turning the power switch OFF. I'm the power switch OFF to exit CONSULT. et out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open- g these doors. AUTION: ever operate the vehicle and CONSULT while waiting. I'm the power switch ON without depressing the brake pedal. AUTION: ever set the vehicle to READY. art CONSULT and erase self-diagnosis result of "BRAKE". I'm the power switch OFF to exit CONSULT. et out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open- et out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open- et out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open- et out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open-
With Tu CA Nee Re CA Be Tu Ge ing CA Nee Stat Tu Ge ing	AUTION: ever set the vehicle to READY. epeat step 1 two or more times. AUTION: e sure to wait for 5 seconds or more after turning the power switch OFF. Irrn the power switch OFF to exit CONSULT. et out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open- g these doors. AUTION: ever operate the vehicle and CONSULT while waiting. Irrn the power switch ON without depressing the brake pedal. AUTION: ever set the vehicle to READY. art CONSULT and erase self-diagnosis result of "BRAKE". Irrn the power switch OFF to exit CONSULT. et out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open- g these doors.
With Tu Tu Re CA Be Tu Ge ing CA Ne Sta Tu Ge ing	AUTION: ever set the vehicle to READY. epeat step 1 two or more times. AUTION: e sure to wait for 5 seconds or more after turning the power switch OFF. I'm the power switch OFF to exit CONSULT. et out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open- g these doors. AUTION: ever operate the vehicle and CONSULT while waiting. I'm the power switch ON without depressing the brake pedal. AUTION: ever set the vehicle to READY. art CONSULT and erase self-diagnosis result of "BRAKE". I'm the power switch OFF to exit CONSULT. et out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open- et out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open- et out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open- et out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open- et out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open- et out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open- et out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open- et out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open- et out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open- et out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open- et out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open- et out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open- et out of the vehicle on th

Never operate the vehicle and CONSULT while waiting.

< DTC/CIRCUIT DIAGNOSIS >

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

Never set the vehicle to READY.

- 10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
- 11. Release brake pedal.
- 12. Start CONSULT and perform "BRAKE" self-diagnosis.
- Is DTC "C1A69" detected?
- YES >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-261, "Removal and installation"</u>.
- NO >> INSPECTION END

< DTC/CIRCUIT DIAGNOSIS >

DTC DETECTION LOGIC

C1A6A CONTROL MODULE

DTC Logic

А

В

INFOID:000000006960676

DTO	Disalawitan		Dessible severe	
DTC	Display item	Malfunction detection condition	Possible causes	0
C1A6A	CONTROL MODULE TEMPERA- TURE	 Temperature of control module that is integrated with electrically-driven intelligent brake unit is as shown below. Control module temperature: 150 °C (302 °F) ≤ Control module A malfunction is detected in the temperature detection circuit of the control module that is integrated with the electrically-driven intelligent brake unit. 	 Harness or connector Electrically-driven intelligent brake unit 	D
	PRODUCTION PROCEDUI			
		χ <u>ε</u>		BR
	ONDITIONING			DI
	CONFIRMATION PROCEDUR	E" has been previously conducted, always	turn power switch OFF and	
wall at le		ling the next test.		G
	>> GO TO 2.			
-	K DTC DETECTION			Н
				11
	ONSULT	without depressing the brake pedal.		
	TION:	minour depressing the brake pedal.		
	er set the vehicle to READY.			
	eat step 1 two or more times.			
		more after turning the power switch OF	F.	J
	the power switch OFF to exit (
		ors (including back door), and wait for 3 mi	nutes or more without open-	K
	nese doors. TION:			r\
	er operate the vehicle and C	ONSULT while waiting.		
5. Turn	the power switch ON without of			L
	TION:			
	er set the vehicle to READY. CONSULT and erase self-diag	phosis result of "BRAKE".		
7. Turn	the power switch OFF to exit	CONSULT.		M
		ors (including back door), and wait for 3 mi	nutes or more without open-	
	nese doors. TION:			Ν
	er operate the vehicle and Co	ONSULT while waiting.		IN
	the power switch ON without of	depressing the brake pedal.		
	TION: er set the vehicle to READY.			0
		8.94 in) or more, and hold the position for 5	seconds or more.	
11. Rele	ase brake pedal.	<i>·</i> · · ·		
	CONSULT and perform "BRA	KE" self-diagnosis.		Ρ
	C1A6A" detected?			
	>> Proceed to <u>BR-131, "Diagn</u> >> INSPECTION END	osis Procedure".		
agno	sis Procedure		INFOID:000000006960677	
1. CHEC	K 12V BATTERY			

< DTC/CIRCUIT DIAGNOSIS >

- 1. Turn the power switch OFF to exit CONSULT.
- 2. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT while waiting.

- Check the 12V battery terminal connections. Refer to <u>BR-5, "Precautions for Removing Battery Terminal"</u> and <u>PG-105, "Work Flow"</u>.
- 4. Check the 12V battery. Refer to PG-105, "Work Flow".

Is the inspection result normal?

YES >> GO TO 2.

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

2. PERFORM SELF-DIAGNOSIS (1)

With CONSULT

- T. Connect 12V battery cable to negative terminal.
- 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.
- 5. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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.
- 9. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT while waiting.

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

Never set the vehicle to READY.

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

Is DTC "C1A6A" detected?

YES >> GO TO 3.

NO >> INSPECTION END

3.CHECK CONNECTOR TERMINALS

- 1. Turn the power switch OFF to exit CONSULT.
- 2. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 - CAUTION:

Never operate the vehicle and CONSULT while waiting.

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

Is the inspection result normal?

YES >> GO TO 5.

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

4.PERFORM SELF-DIAGNOSIS (2)

< DTC/CIRCUI	T DIAGNOSIS >					
() With CONSU	LT					
	electrically-driven intellige	ent brake unit harness	connector.		А	
	V battery cable to negative					
	wer switch OFF to ON with	out depressing the bi	ake pedal.			
CAUTION:	he vehicle to READY.				В	
	3 two or more times.					
CAUTION:	o two of more times.					
	wait for 5 seconds or mo	re after turning the	oower switch OFF.		С	
	wer switch OFF to exit CO					
	ne vehicle, close all doors	(including back door),	and wait for 3 minu	tes or more without open-		
ing these de	oors.				D	
CAUTION:	ate the vehicle and CON					
	ate the vehicle and CON wer switch ON without dep		1al			
CAUTION:					Е	
	he vehicle to READY.					
	ULT and erase self-diagno					
	wer switch OFF to exit CO				BR	
	ne vehicle, close all doors	(including back door),	and wait for 3 minu	tes or more without open-		
ing these de CAUTION:	oors.					
	ate the vehicle and CON	SI II T while waiting			G	
	wer switch ON without dep		dal.			
CAUTION:						
	he vehicle to READY.				Н	
	12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.					
13. Release bra						
	 Start CONSULT and perform "BRAKE" self-diagnosis. <u>b DTC "C1A6A" detected?</u> 					
YES >> GO						
_	PECTION END				J	
D. CHECK POV	VER SWITCH ON POWER	R SUPPLY				
1. Connect 12	V battery cable to negative	e terminal.				
2. Turn the po	wer switch OFF to exit CO	NSULT.			Κ	
	ne vehicle, close all doors	(including back door),	and wait for 3 minu	tes or more without open-		
ing these de	oors.					
CAUTION:	ato the vehicle and CON	SLILT while waiting			L	
	ate the vehicle and CON 12V battery cable from ne		r to BR-5 "Precauti	ons for Removing Battery		
Terminal".			1 to <u>DIV 0, 1100ddi</u>	the removing battery		
	the electrically-driven intell	ligent brake unit harne	ess connector.		M	
	V battery cable to negative					
7. Check the v	oltage between the electric	cally-driven intelligent	brake unit harness	connector and ground.		
					Ν	
Electrically-	Iriven intelligent brake unit		Voltage			
Connector	Terminal		(Approx.)			
E34	26	Ground	0 V		0	
8. Turn the po	wer switch ON without dep	ressing the brake per	dal.			
CAUTION:	CAUTION:					
Never set t	Never set the vehicle to READY.					
9. Check the v	oltage between the electric	cally-driven intelligent	brake unit harness	connector and ground.		

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

< DTC/CIRCUIT DIAGNOSIS >

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.
- Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 - CAUTION:

Never operate the vehicle and CONSULT while waiting.

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

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

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

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

Is the inspection result normal?

- YES >> Perform trouble diagnosis for power ON power supply. Refer to <u>PG-62</u>, "Wiring Diagram ON <u>POWER SUPPLY -"</u>.
- NO >> Repair or replace error-detected parts and GO TO 7.

7. PERFORM SELF-DIAGNOSIS (3)

(I) With CONSULT

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

CAUTION:

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

- 6. Turn the power switch OFF to exit CONSULT.
- 7. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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.
- 11. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT while waiting.

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

Never set the vehicle to READY.

< DTC/CIRCUIT D			NODOLL		
		in) or more, and h	old the position for 5 seconds or more.		
 Release brake pedal. Start CONSULT and perform "BRAKE" self-diagnosis. 					
Is DTC "C1A6A" de	•	sell-ulagriosis.			
YES >> GO TO				В	
•	CTION END				
8. CHECK 12V BA	TTERY POWER SUPP	LY			
			r), and wait for 3 minutes or more without open-	C	
Never operate	the vehicle and CON			D	
	/ battery cable from ne	gative terminal. Re	fer to <u>BR-5. "Precautions for Removing Battery</u>		
4. Disconnect the	electrically-driven intell	igent brake unit ha	ness connector.	Е	
5. Connect 12V ba	attery cable to negative	terminal.	_		
6. Check the volta	ige between the electric	cally-driven intellige	nt brake unit harness connector terminals.	BR	
Electrically-drive	n intelligent brake unit	Voltage	-		
Connector	Terminal	(Approx.)			
	1 – 31		-	G	
E34	2 – 31	10 – 16 V			
	11 – 31			Н	
	switch ON without dep	ressing the brake p	edal.		
CAUTION: Never set the y	vehicle to READY.			I	
		cally-driven intellige	nt brake unit harness connector terminals.		
			_		
	n intelligent brake unit	Voltage		J	
Connector	Terminal	(Approx.)	_		
	1 – 31			Κ	
E34	2 - 31	10 – 16 V			
la the increation rea	11 – 31		_	I	
<u>Is the inspection res</u> YES >> GO TO				L	
NO >> GO TO					
9.CHECK 12V BA	TTERY POWER SUPP	LY CIRCUIT		M	
			r), and wait for 3 minutes or more without open-	Ν	
CAUTION:					
	the vehicle and CON / battery cable from ne		fer to <u>BR-5. "Precautions for Removing Battery</u>	0	
5. Check the conti	fusible link (#F). inuity and for short circu t and 60A fusible link (#		connector terminal 1 of electrically-driven intel-	Ρ	
6. Check the conti ligent brake uni	inuity and for short circi t and 60A fusible link (#	uit between harness	s connector terminal 2 of electrically-driven intel-		
			ess connector terminal 11 of electrically-driven		
Is the inspection res		,			

< DTC/CIRCUIT DIAGNOSIS >

- YES >> Perform trouble diagnosis for 12V battery power supply. Refer to <u>PG-16, "Wiring Diagram BAT-</u> <u>TERY POWER SUPPLY -"</u>.
- NO >> Repair or replace error-detected parts and GO TO 10.

10.PERFORM SELF-DIAGNOSIS (4)

With CONSULT

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

Never set the vehicle to READY.

- Repeat step 3 two or more times.
 CAUTION: Be sure to wait for 5 seconds or more after turning the power switch OFF.
- 5. Turn the power switch OFF to exit CONSULT.
- 6. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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.
- 10. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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 "C1A6A" detected?

YES >> GO TO 11.

NO >> INSPECTION END

- 11.CHECK GROUND CIRCUIT
- 1. Turn the power switch OFF to exit CONSULT.
- Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT while waiting.

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

Electrically-driven intelligent brake unit			Continuity	
Connector	Terminal		Continuity	
E34	31	Ground	Existed	

Is the inspection result normal?

YES >> GO TO 13.

- NO >> Repair or replace error-detected parts and GO TO 12.
- 12.PERFORM SELF-DIAGNOSIS (5)

With CONSULT

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

< DTC/CIRCUIT DIAGNOSIS >	
2. Connect 12V battery cable to negative terminal.	_
 Turn the power switch OFF to ON without depressing the brake pedal. CAUTION: 	А
Never set the vehicle to READY.	
4. Repeat step 3 two or more times. CAUTION:	В
Be sure to wait for 5 seconds or more after turning the power switch OFF.	
 Turn the power switch OFF to exit CONSULT. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without oper 	0
ing these doors.	I- C
CAUTION:	
Never operate the vehicle and CONSULT 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.	
 Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without oper ing these doors. 	
CAUTION:	BR
Never operate the vehicle and CONSULT while waiting.	
 Turn the power switch ON without depressing the brake pedal. CAUTION: 	G
Never set the vehicle to READY.	
 Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more. Release brake pedal. 	Н
14. Start CONSULT and perform "BRAKE" self-diagnosis.	П
Is DTC "C1A6A" detected?	
YES >> GO TO 13. NO >> INSPECTION END	
13. CHECK DATA MONITOR (1)	
With CONSULT	- J
1. Connect the electrically-driven intelligent brake unit harness connector.	
2. Connect 12V battery cable to negative terminal.	IZ.
 Turn the power switch OFF to ON without depressing the brake pedal. CAUTION: 	K
Never set the vehicle to READY.	
4. Repeat step 3 two or more times. CAUTION:	L
Be sure to wait for 5 seconds or more after turning the power switch OFF.	
 Start CONSULT and select "BRAKE" and "DATA MONITOR" according this order. Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER". Refer to <u>BR-24</u>, "Reference" 	e M
Value".	-
Is the inspection result normal?	
 YES >> GO TO 14. NO >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-261, "Removal and installation"</u> 	Ν
14. PERFORM SELF-DIAGNOSIS (6)	•
	- 0
With CONSULT Turn the power switch OFF to ON without depressing the brake pedal. 	
CAUTION:	Р
Never set the vehicle to READY.2. Repeat step 1 two or more times.	å
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.	
4. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without oper)-
ing these doors. CAUTION:	

< DTC/CIRCUIT DIAGNOSIS >

Never operate the vehicle and CONSULT 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.
- 8. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT while waiting.

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

Never set the vehicle to READY.

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

Is DTC "C1A6A" detected?

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

15. CHECK DATA MONITOR (2)

(D) With CONSULT

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

Never set the vehicle to READY.

Repeat step 1 two or more times.
 CAUTION:

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

- 3. Start CONSULT and select "BRAKE" and "DATA MONITOR" according this order.
- 4. Check the "CONTROL MODULE TEMP". Refer to <u>BR-24, "Reference Value"</u>.

"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 <u>BR-261, "Removal and installation"</u>

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.
- Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 CAUTION:

Never operate the vehicle and CONSULT 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.

< DTC/CIRCUIT DIAGNOSIS >

8.	Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open- ing these doors.	А
	CAUTION:	7.
	Never operate the vehicle and CONSULT while waiting.	
9.	Turn the power switch ON without depressing the brake pedal.	D
	CAUTION:	В
	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.	С
12.	. Start CONSULT and perform "BRAKE" self-diagnosis.	
<u>Is E</u>	DTC "C1A6A" detected?	
YI N(>> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-261, "Removal and installation"</u>. >> INSPECTION END 	D

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< DTC/CIRCUIT DIAGNOSIS >

C1A6B BRAKE POWER SUPPLY BACKUP UNIT

DTC Logic

INFOID:000000006960678

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1A6B	POWER SUPPLY BACKUP UNIT	A malfunction of the brake power supply backup unit is detected.	 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.

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.
- Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 - CAUTION:

Never operate the vehicle and CONSULT 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.
- 8. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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 <u>BR-140, "Diagnosis Procedure"</u>.
- NO >> INSPECTION END

Diagnosis Procedure

1.CHECK 12V BATTERY

1. Turn the power switch OFF to exit CONSULT.

INFOID:000000006960679

< DTC/CIRCUIT DIAGNOSIS >

2.	Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open- ing these doors. CAUTION:	А
	Never operate the vehicle and CONSULT while waiting.	
3.	Check the 12V battery terminal connections. Refer to <u>BR-5</u> , "Precautions for Removing Battery Terminal"	В
4	and <u>PG-105, "Work Flow"</u> . Check the 12V battery. Refer to <u>PG-105, "Work Flow"</u> .	D
	ne inspection result normal?	
	$ES \Rightarrow GO TO 2.$	С
N		
2.	PERFORM SELF-DIAGNOSIS (1)	D
	Vith CONSULT	
1.	Connect 12V battery cable to negative terminal.	
2.	Turn the power switch OFF to ON without depressing the brake pedal.	E
	Never set the vehicle to READY.	
3.		BR
	CAUTION: Be sure to wait for 5 seconds or more after turning the power switch OEE	DIX
4.	Be sure to wait for 5 seconds or more after turning the power switch OFF. Turn the power switch OFF to exit CONSULT.	
5.	Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open-	G
	ing these doors.	
	CAUTION: Never operate the vehicle and CONSULT while waiting.	
6.	Turn the power switch ON without depressing the brake pedal.	Н
•	CAUTION:	
_	Never set the vehicle to READY.	
	Start CONSULT and erase self-diagnosis result of "BRAKE". Turn the power switch OFF to exit CONSULT.	
o. 9.	Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open-	
•	ing these doors.	J
	CAUTION:	J
10	Never operate the vehicle and CONSULT while waiting. Turn the power switch ON without depressing the brake pedal.	
10.	CAUTION:	Κ
	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.	L
	TC "C1A6B" detected?	
YE		
N		Μ
3.0	CHECK CONNECTOR TERMINALS	
		N
1. 2.	Turn the power switch OFF to exit CONSULT. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open-	IN
	ing these doors.	
	CAUTION:	0
2	Never operate the vehicle and CONSULT while waiting.	
5.	Disconnect 12V battery cable from negative terminal. Refer to <u>BR-5</u> , " <u>Precautions for Removing Battery</u> <u>Terminal</u> ".	
4.	Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin	Ρ
_	terminals and connections.	
5.	Disconnect the brake power supply backup unit harness connector, then check for failures of pin terminals and connections.	
c +1	ne inspection result normal?	
-	$ES \rightarrow GO TO 5.$	
NC		

< DTC/CIRCUIT DIAGNOSIS >

4.PERFORM SELF-DIAGNOSIS (2)

With CONSULT

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

Never set the vehicle to READY.

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

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

- 6. Turn the power switch OFF to exit CONSULT.
- 7. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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.
- 11. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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.
- 4. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT while waiting.

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

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

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

Never set the vehicle to READY.

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

< DTC/CIRCUIT DIAGNOSIS >

	ectrically-driven in	telligent brake unit		Valtaga	
	Connector	Terminal	—	Voltage (Approx.)	
	E34	26	Ground	10 – 16 V	
Is the in	nspection result	normal?			
YES	>> GO TO 8.				
NO	>> GO TO 6.				
6. CHE	ECK POWER S	WITCH ON POWER S	SUPPLY CIRCUIT		
2. Ge ing		vitch OFF to exit CON icle, close all doors (ir		and wait for 3 minute	es or more without open-
Ne	ever operate the	e vehicle and CONSU			
		attery cable from neg	ative terminal. Refe	r to <u>BR-5, "Precautio</u>	ns for Removing Battery
	<u>rminal"</u> . leck the 15A fus	se (#62).			
5. Dis	sconnect IPDM	E/R harness connecto			
6. Ch	eck the continu	ity between electrically	/-driven intelligent b	rake unit and IPDM E	E/R.
	Electrically-driven in		IPDN	-	Continuity
	Connector	Terminal	Connector	Terminal	
	E34	26 ity between electrically	E15	62	Existed
	Electrically-driven in	telligent brake unit	_	Continuity	
	E34	26	Ground	Not existed	
I.a. (b. a.).	nspection result	-	Ground	NUL EXISTED	
YES NO 7. PEF	POWER S	<u>SUPPLY -"</u> replace error-detected	·		2, "Wiring Diagram - ON
With 1. Co 2. Co	onnect IPDM E/F	rically-driven intelligen R harness connector.		connector.	
With 1. Co 2. Co 3. Co 4. Tu CA	onnect the electronnect IPDM E/F onnect IPDM E/F onnect 12V battern rn the power sw	R harness connector. ery cable to negative to vitch OFF to ON without	erminal.		
With 1. Co 2. Co 3. Co 4. Tu CA 5. Re CA	onnect the electronnect IPDM E/Fornect IPDM E/Fornect 12V battern the power sw AUTION: Ever set the ver Expeat step 4 two AUTION:	R harness connector. ery cable to negative to vitch OFF to ON without nicle to READY. o or more times.	erminal. ut depressing the br	ake pedal.	
 With 1. Co 2. Co 3. Co 4. Tu CA 5. Re 6. Tu 7. Ge ing 	onnect the electro onnect IPDM E/F onnect 12V batter onnect 12V batter onnect 12V batter onnect 12V batter on the power sw on the power sw of out of the veh of these doors.	R harness connector. ery cable to negative to vitch OFF to ON without nicle to READY. o or more times. or 5 seconds or more vitch OFF to exit CON	erminal. ut depressing the br after turning the p SULT.	ake pedal. Dower switch OFF.	es or more without open-
 With 1. Co 2. Co 3. Co 4. Tui 6. Tui 7. Ge 6. Tui 7. Ge 8. Tui 	onnect the electronnect IPDM E/Fornect I2V batter onnect 12V batter onnect 12V batter onnect 12V batter onnect 12V batter on the power sw ever set the veh opeat step 4 two outlon: e sure to wait for on the power sw et out of the veh of these doors. Outlon: ever operate the orn the power sw	R harness connector. ery cable to negative to vitch OFF to ON without nicle to READY. o or more times. or 5 seconds or more vitch OFF to exit CON	erminal. ut depressing the br e after turning the p SULT. ncluding back door), JLT while waiting.	rake pedal. Dower switch OFF. and wait for 3 minute	es or more without open-
With 1. Co 2. Co 3. Co 4. Tul CA 5. Re 5. Re 6. Tul 7. Ge 8. Tul CA Ne 8. Tul CA Ne	onnect the electronnect IPDM E/Formect IPDM E/Formect 12V battern the power sweet the vertex exercises and the power sweet out of the vertex exercises and the power sweet out of the vertex exercises and the power sweet out of the vertex exercises and the power sweet the power sweet the vertex exercises and the vertex exer	R harness connector. ery cable to negative to vitch OFF to ON without o or more times. or 5 seconds or more vitch OFF to exit CONS icle, close all doors (in e vehicle and CONSU	erminal. ut depressing the br e after turning the p SULT. ncluding back door), JLT while waiting. essing the brake peo	rake pedal. Dower switch OFF. and wait for 3 minute	es or more without open-

< DTC/CIRCUIT DIAGNOSIS >

CAUTION:

Never operate the vehicle and CONSULT 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.

- 2. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 - CAUTION:

Never operate the vehicle and CONSULT while waiting.

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

Electrically-drive	Electrically-driven intelligent brake unit	
Connector	Terminal	(Approx.)
	1 – 31	
E34	2 – 31	10 – 16 V
	11 – 31	

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	Electrically-driven intelligent brake unit	
Connector	Terminal	(Approx.)
	1 – 31	
E34	2 – 31	10-16 V
	11 – 31	

Is the inspection result normal?

YES >> GO TO 11.

9.CHECK 12V BATTERY POWER SUPPLY CIRCUIT

- 1. Turn the power switch OFF to exit CONSULT.
- Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 CAUTION:

Never operate the vehicle and CONSULT while waiting.

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

- D				
	TC/CIRCUIT DIAGNOSIS >			
	Check the 10A fuse (#78). Check the continuity and for short circuit be intelligent brake unit and 10A fuse (#78).	etween harne	ss connector terminal 11 of electrically-driven	А
<u>Is t</u>	ne inspection result normal?			
YE	•	ttery power s	upply. Refer to <u>PG-16, "Wiring Diagram - BAT-</u>	В
N		and GO TO	10.	
10	PERFORM SELF-DIAGNOSIS (4)			С
				0
1.	Vith CONSULT Connect the electrically-driven intelligent brak	e unit harnes	es connector	
2.	Connect 12V battery cable to negative termin			D
3.	Turn the power switch OFF to ON without dep		orake pedal.	
	CAUTION:			
4	Never set the vehicle to READY.			Ε
4.	Repeat step 3 two or more times.			
	Be sure to wait for 5 seconds or more afte	r turning the	power switch OFF.	
	Turn the power switch OFF to exit CONSULT.			BR
6.		ng back door), and wait for 3 minutes or more without open-	
	ing these doors.			_
	Never operate the vehicle and CONSULT w	vhile waiting		G
7.	Turn the power switch ON without depressing			
	CAUTION:	, p		
	Never set the vehicle to READY.			Н
	Start CONSULT and erase self-diagnosis results			
	Turn the power switch OFF to exit CONSULT.) and wait for 2 minutes or more without anon	
10.	ing these doors.	ng back door), and wait for 3 minutes or more without open-	I
	CAUTION:			
	Never operate the vehicle and CONSULT w	while waiting		
11.	Turn the power switch ON without depressing			J
	CAUTION:			
10	Never set the vehicle to READY. Depress brake pedal by 100 mm (3.94 in) or 1	more and he	ld the position for E seconds or more	K
	Release brake pedal.	more, and no	ia the position for 5 seconds of more.	r
	Start CONSULT and perform "BRAKE" self-di	agnosis.		
	TC "C1A6B" detected?	5		1
YE				
N				
11	CHECK GROUND CIRCUIT			N
1.	Turn the power switch OFF to exit CONSULT	_		
2.), and wait for 3 minutes or more without open-	
	ing these doors.	0	,,	Ν
	CAUTION:			
2	Never operate the vehicle and CONSULT w			
3.		terminal. Ref	er to <u>BR-5</u> , "Precautions for Removing Battery	С
4.	<u>Terminal</u> . Disconnect the electrically-driven intelligent b	rake unit har	ness connector	
т . 5.	Check the continuity between electrically-driv			
	,,,,,	5	5	Ρ
	Electrically-driven intelligent brake unit			
		_	Continuity	

Electrically-driver	n intelligent brake unit		Continuity	
Connector	Terminal		Continuity	
E34	31	Ground	Existed	

Is the inspection result normal?

YES >> GO TO 13.

< DTC/CIRCUIT DIAGNOSIS >

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

12.PERFORM SELF-DIAGNOSIS (5)

(B) With CONSULT

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

Never set the vehicle to READY.

 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.
- 6. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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.
- 10. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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 (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 <u>BR-24, "Reference</u> <u>Value"</u>.

Is the inspection result normal?

YES >> GO TO 14.

NO >> Replace the electrically-driven intelligent brake unit. Refer to BR-261, "Removal and installation".

14.PERFORM SELF-DIAGNOSIS (6)

With CONSULT

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

Never set the vehicle to READY.

 Repeat step 1 two or more times. CAUTION:

< DTC/CIRCUIT DIAGNOSIS > Be sure to wait for 5 seconds or more after turning the power switch OFF. Turn the power switch OFF to exit CONSULT. А 4. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors. CAUTION: В Never operate the vehicle and CONSULT while waiting. Turn the power switch ON without depressing the brake pedal. 5. CAUTION: Never set the vehicle to READY. Start CONSULT and erase self-diagnosis result of "BRAKE". 6 7. Turn the power switch OFF to exit CONSULT. 8. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open-D ing these doors. **CAUTION:** Never operate the vehicle and CONSULT while waiting. Е 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. BR 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 Н Turn the power switch OFF to exit CONSULT. 1. 2. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors. **CAUTION:** Never operate the vehicle and CONSULT while waiting. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-5</u>, "Precautions for <u>Removing Battery</u> Terminal". 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. Κ Electrically-driven intelligent brake unit Brake power supply backup unit Continuity L Connector Terminal Connector Terminal 32 2 Existed

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

32

32

8

8

8

10

10

10

E34

B15

Not existed

Not existed

Not existed

Existed

Not existed

Not existed

Not existed

Existed

M

Ν

C

Ρ

6

4

2

6

4

2

6

4

< DTC/CIRCUIT DIAGNOSIS >

Electrically-driven intelligent brake unit			Continuity
Connector	Terminal	—	Continuity
	32	Ground	Not existed
E34	8		Not existed
E34	10	Giouna	Not existed
-	31		Existed

Is the inspection result normal?

- YES >> GO TO 16.
- NO >> Repair or replace error-detected parts and GO TO 16.
- **16.**CHECK DATA MONITOR (2)

(P)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.
- Repeat step 4 two or more times. **CAUTION:**

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

- 6. Start CONSULT and select "BRAKE" and "DATA MONITOR" according this order.
- 7. Check the "BACKUP UNIT DIAG RESULT". Refer to BR-24, "Reference Value".

What was the displayed data monitor result?

"NORMAL">>INSPECTION END

"ERR1">> GO TO 17.

"ERR2">> GO TO 18.

"ERR3">> Replace the brake power supply backup unit. Refer to <u>BR-264, "Removal and Installation"</u>.

- "ERR4">> Replace the brake power supply backup unit. Refer to <u>BR-264, "Removal and Installation"</u>. "ERR5">> Replace the brake power supply backup unit. Refer to <u>BR-264, "Removal and Installation"</u>.

"ERR6">> Replace the brake power supply backup unit. Refer to BR-264. "Removal and Installation".

- "ERR7">> GO TO 19.
- "ERR8">> GO TO 17.
- "ERR9">> Replace the brake power supply backup unit. Refer to <u>BR-264, "Removal and Installation"</u>.
- "ERR10">>Replace the brake power supply backup unit. Refer to <u>BR-264, "Removal and Installation"</u>.
- "ERR11">>Replace the brake power supply backup unit. Refer to <u>BR-264, "Removal and Installation"</u>.
- "ERR12">>GO TO 17.

"ERR13">>Replace the brake power supply backup unit. Refer to BR-264, "Removal and Installation". "ERR14">>Replace the brake power supply backup unit. Refer to <u>BR-264, "Removal and Installation"</u>. "ERR15">>GO TO 20.

17. CHECK CIRCUIT BETWEEN ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT AND BRAKE POWER SUPPLY BACKUP UNIT (1)

- Turn the power switch OFF to exit CONSULT. 1.
- Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open-2. ing these doors.
 - **CAUTION:**

Never operate the vehicle and CONSULT while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-5</u>, "Precautions for Removing Battery Terminal".
- 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 ground.

< DTC/CIRCUIT DIAGNOSIS >

	n intelligent brake unit			
Connector	Terminal		Continuity	
E34	8	Ground	Not existed	
	<u>sult normal?</u> e the brake power supp or replace error-detecte		r to <u>BR-264, "Remov</u>	al and Installation".
18. CHECK CIRC	OIT BETWEEN ELEC ACKUP UNIT (2)	CTRICALLY-DRIVEN	INTELLIGENT BR/	AKE UNIT AND BRAKE
 Get out of the v ing these doors CAUTION: 		(including back door		tes or more without open-
 Never operate Disconnect 12\ Terminal". 	the vehicle and CON / battery cable from ne	sult while waiting egative terminal. Ref	er to <u>BR-5, "Precaution</u>	ons for Removing Battery
4. Disconnect the	electrically-driven intel brake power supply ba			
				oower supply backup unit.
Electrically-drive	n intelligent brake unit	Brake power s	upply backup unit	Continuity
Connector	Terminal	Connector	Terminal	Continuity
E34	10	B15	4	Existed
-	n intelligent brake unit Terminal		Continuity	
Connector	Terminai			
E34	10	Ground	Not existed	
E34 <u>s the inspection res</u> YES >> Replac NO >> Repair 19. CHECK CIRC	10 sult normal? e the brake power supp or replace error-detecto CUIT BETWEEN ELEC	bly backup unit. Refe ed parts.	r to <u>BR-264, "Remov</u>	<u>al and Installation"</u> . AKE UNIT AND BRAKE
E34 <u>s the inspection res</u> YES >> Replac NO >> Repair 19. CHECK CIRC POWER SUPPLY E . Turn the power 2. Get out of the v ing these doors CAUTION:	10 sult normal? e the brake power suppor replace error-detecto CUIT BETWEEN ELEC ACKUP UNIT (3) switch OFF to exit CO rehicle, close all doors	oly backup unit. Refe ed parts. CTRICALLY-DRIVEN NSULT. (including back door	r to <u>BR-264, "Remova</u> I INTELLIGENT BR <i>I</i>), and wait for 3 minu	
E34 <u>s the inspection res</u> YES >> Replac NO >> Repair 19. CHECK CIRC POWER SUPPLY E . Turn the power 2. Get out of the v ing these doors CAUTION: Never operate 3. Disconnect 12V <u>Terminal</u> ".	10 sult normal? e the brake power suppor replace error-detected CUIT BETWEEN ELEC ACKUP UNIT (3) switch OFF to exit CO rehicle, close all doors the vehicle and CON / battery cable from ne	bly backup unit. Refe ed parts. CTRICALLY-DRIVEN NSULT. (including back door SULT while waiting egative terminal. Ref	r to <u>BR-264, "Remove</u> INTELLIGENT BR/), and wait for 3 minur er to <u>BR-5, "Precaution</u>	AKE UNIT AND BRAKE
E34 S the inspection res YES >> Replac NO >> Repair 19. CHECK CIRC POWER SUPPLY E 1. Turn the power 2. Get out of the v ing these doors CAUTION: Never operate 3. Disconnect 12V <u>Terminal"</u> . 4. Disconnect the 5. Disconnect the	10 sult normal? e the brake power suppor replace error-detecto CUIT BETWEEN ELEC ACKUP UNIT (3) switch OFF to exit CO rehicle, close all doors the vehicle and CON battery cable from ne electrically-driven intel brake power supply ba	bly backup unit. Refe ed parts. CTRICALLY-DRIVEN NSULT. (including back door SULT while waiting egative terminal. Refe ligent brake unit harr	r to <u>BR-264, "Remove</u> INTELLIGENT BR/), and wait for 3 minur er to <u>BR-5, "Precaution</u> mess connector.	AKE UNIT AND BRAKE
E34 Is the inspection res YES >> Replac NO >> Repair 19. CHECK CIRC POWER SUPPLY E 1. Turn the power 2. Get out of the v ing these doors CAUTION: Never operate 3. Disconnect 12V <u>Terminal"</u> . 4. Disconnect the 5. Disconnect the 6. Check the cont	10 sult normal? e the brake power suppor replace error-detecto CUIT BETWEEN ELEC ACKUP UNIT (3) switch OFF to exit CO rehicle, close all doors the vehicle and CON battery cable from ne electrically-driven intel brake power supply ba	bly backup unit. Refe ed parts. CTRICALLY-DRIVEN NSULT. (including back door SULT while waiting egative terminal. Refe ligent brake unit harr ackup unit harness co ally-driven intelligent	r to <u>BR-264, "Remove</u> INTELLIGENT BR/), and wait for 3 minur er to <u>BR-5, "Precaution</u> mess connector.	AKE UNIT AND BRAKE tes or more without open- ons for Removing Battery
E34 Sthe inspection res YES >> Replac NO >> Repair 19.CHECK CIRC POWER SUPPLY E 1. Turn the power 2. Get out of the v ing these doors CAUTION: Never operate 3. Disconnect 12V Terminal". 4. Disconnect the 5. Disconnect the 6. Check the cont	10 sult normal? e the brake power suppor replace error-detected CUIT BETWEEN ELEC ACKUP UNIT (3) switch OFF to exit CO rehicle, close all doors witch off to exit co rehicle, close all doors the vehicle and CON battery cable from ne electrically-driven intel brake power supply batterica	bly backup unit. Refe ed parts. CTRICALLY-DRIVEN NSULT. (including back door SULT while waiting egative terminal. Refe ligent brake unit harr ackup unit harness co ally-driven intelligent	r to <u>BR-264, "Remove</u> INTELLIGENT BR/), and wait for 3 minur er to <u>BR-5, "Precaution</u> ness connector. onnector. orake unit and brake p	AKE UNIT AND BRAKE

< DTC/CIRCUIT DIAGNOSIS >

Electrically-driven intelligent brake unit			Continuity	
Connector	Connector Terminal			
E34	32	Ground	Not existed	

Is the inspection result normal?

- YES >> Replace the brake power supply backup unit. Refer to <u>BR-264, "Removal and Installation"</u>.
- NO >> Repair or replace error-detected parts.

20. CHECK BRAKE POWER SUPPLY BACKUP UNIT POWER

- 1. Turn the power switch OFF to exit CONSULT.
- Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 CAUTION:

Never operate the vehicle and CONSULT while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-5, "Precautions for Removing Battery</u> <u>Terminal"</u>.
- 4. Disconnect the brake power supply backup unit harness connector.
- 5. Turn the power switch ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

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

Brake power	supply backup unit		Voltage (Approx.)
Connector	Terminal	Terminal	
B15	3	Ground	9 – 16 V

Is the inspection result normal?

YES >> Replace the brake power supply backup unit. Refer to <u>BR-264, "Removal and Installation"</u>. NO >> GO TO 21.

21. CHECK BRAKE POWER SUPPLY BACKUP UNIT POWER CIRCUIT

- 1. Check the 15A fuse (#82).
- 2. Check the continuity and for short circuit between harness connector terminal 3 of brake power supply backup unit and 15A fuse (#82).

Is the inspection result normal?

- YES >> Perform trouble diagnosis for 12V battery power supply. Refer to <u>PG-16, "Wiring Diagram BAT-</u> <u>TERY POWER SUPPLY -"</u>.
- NO >> Repair or replace error-detected parts.

< DTC/CIRCUIT DIAGNOSIS >

C1A6C BRAKE POWER SUPPLY BACKUP UNIT

DTC Logic

INFOID:000000006960680

DTC DETECTION LOGIC

А

DTC	Display item	Malfunction detection condition	Possible causes	
C1A6C	POWER SUPPLY BACKUP UNIT VOLT	 Power voltage of brake power supply backup unit is as shown below. Power voltage of brake power supply backup unit: 9 V ≥ Power voltage of brake power supply backup unit Power voltage of brake power supply backup unit: 16 V ≤ Power voltage of brake power supply backup unit 	 Harness or connector Fuse Brake power supply backup unit Electrically-driven intelligent brake unit 12V battery is low DC/DC-J/B is overvoltage 	C

DTC REPRODUCTION PROCEDURE

1.PRECONDITIONING	BR
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.	G
2. CHECK DTC DETECTION	Ц
 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.	J
4. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open-	
ing these doors.	К
CAUTION: Never operate the vehicle and CONSULT while waiting.	
5. Turn the power switch ON without depressing the brake pedal.	
CAUTION:	L
Never set the vehicle to READY.	
 Start CONSULT and erase self-diagnosis result of "BRAKE". Turn the power switch OFF to exit CONSULT. 	
8. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open-	Μ
ing these doors.	
CAUTION:	NI
Never operate the vehicle and CONSULT while waiting. 9. Turn the power switch ON without depressing the brake pedal.	Ν
CAUTION:	
Never set the vehicle to READY.	0
 Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more. Release brake pedal. 	
12. Start CONSULT and perform "BRAKE" self-diagnosis.	
Is DTC "C1A6C" detected?	Ρ
YES >> Proceed to <u>BR-151, "Diagnosis Procedure"</u> .	
NO >> INSPECTION END	
Diagnosis Procedure	
1.CHECK 12V BATTERY	

< DTC/CIRCUIT DIAGNOSIS >

- 1. Turn the power switch OFF to exit CONSULT.
- 2. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 - CAUTION:

Never operate the vehicle and CONSULT while waiting.

- Check the 12V battery terminal connections. Refer to <u>BR-5</u>, "Precautions for Removing Battery Terminal" and <u>PG-105</u>, "Work Flow".
- 4. Check the 12V battery. Refer to PG-105, "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.
- 5. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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.
- 9. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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.

2. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-5</u>, "Precautions for Removing Battery <u>Terminal"</u>.
- 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.

< DTC/CIRCUIT DIAGNOSIS >

	ing these doors. CAUTION:			
	CAUTION: Never operate the vehicle and CON	SULT while waiting.		
8.	Turn the power switch ON without de		dal.	
	CAUTION: Never set the vehicle to READY.			E
9.	Start CONSULT and erase self-diagn	osis result of "BRAKE	и -	
10.	Turn the power switch OFF to exit CC	ONSULT.		
11.		(including back door)	, and wait for 3 minutes or more without open-	
	ing these doors. CAUTION:			
	Never operate the vehicle and CON	SULT while waiting.		
12.	Turn the power switch ON without de	pressing the brake pe	dal.	
	CAUTION: Never set the vehicle to READY.			
13.	Depress brake pedal by 100 mm (3.9	4 in) or more, and hole	d the position for 5 seconds or more.	
14.	Release brake pedal.			
	Start CONSULT and perform "BRAKE	" self-diagnosis.		
	DTC "C1A6C" detected?			
YE N(ES >> GO TO 5. D >> INSPECTION END			
_	CHECK POWER SWITCH ON POWE			
<u></u>				
1. 2.	Connect the brake power supply back		ector.	
z. 3.	Connect 12V battery cable to negativ Turn the power switch OFF to exit CC			
4.			, and wait for 3 minutes or more without open-	
	ing these doors.	- ,		
	CAUTION:	ISI II T while weiting		
5.	Never operate the vehicle and CON Disconnect 12V battery cable from n		er to BR-5, "Precautions for Removing Battery	
	Terminal".		. to <u>or</u> ocadions for Removing Ballory	
6.	Disconnect the electrically-driven inte		ess connector.	
7. 8.	Connect 12V battery cable to negativ		throke unit herpess connector and stored	
~	Check the voltage between the electr	ically-driven intelligent	t brake unit harness connector and ground.	
υ.				
<u> </u>				
<u> </u>	Electrically-driven intelligent brake unit		Voltage	
	Electrically-driven intelligent brake unit Connector Terminal		Voltage (Approx.)	

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

Never set the vehicle to READY.

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

< DTC/CIRCUIT DIAGNOSIS >

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

Is the inspection result normal?

YES >> GO TO 8.

NO >> GO TO 6.

6.CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

- 1. Turn the power switch OFF to exit CONSULT.
- Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 CAUTION:

Never operate the vehicle and CONSULT while waiting.

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

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

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

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

Is the inspection result normal?

- YES >> Perform trouble diagnosis for power ON power supply. Refer to <u>PG-62, "Wiring Diagram ON</u> <u>POWER SUPPLY -"</u>.
- NO >> Repair or replace error-detected parts and GO TO 7.

7.PERFORM SELF-DIAGNOSIS (3)

With CONSULT

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

Never set the vehicle to READY.

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

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

- 6. Turn the power switch OFF to exit CONSULT.
- Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 CAUTION:

Never operate the vehicle and CONSULT 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.
- 11. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

< DTC/CIRCUIT DIAGNOSIS >

CAUTION:				
	the vehicle and CONS switch ON without dep			A
CAUTION:		ressing the blake	pedal.	
Never set the v	ehicle to READY.			В
		in) or more, and h	nold the position for 5 seconds or more.	D
4. Release brake p	edal. and perform "BRAKE"	self-diagnosis		
s DTC "C1A6C" det		sell-ulagriosis.		С
YES >> GO TO 8				0
NO >> INSPEC				
•	TERY POWER SUPPI	v		D
	switch OFF to exit CON			
		including back do	or), and wait for 3 minutes or more without open-	E
ing these doors.				
CAUTION:		SULT while waitir	ng.	
CAUTION: Never operate f Disconnect 12V	the vehicle and CONS	SULT while waitir gative terminal. R	ng. efer to <u>BR-5, "Precautions for Removing Battery</u>	BF
CAUTION: Never operate 1 B. Disconnect 12V Terminal ["] .	the vehicle and CONS battery cable from ne	gative terminal. R	efer to <u>BR-5, "Precautions for Removing Battery</u>	BR
CAUTION: Never operate f Disconnect 12V <u>Terminal</u> ". Disconnect the e	the vehicle and CONS battery cable from ne electrically-driven intell	gative terminal. R igent brake unit ha	efer to <u>BR-5, "Precautions for Removing Battery</u>	BR
CAUTION: Never operate f Disconnect 12V <u>Terminal</u> ". Disconnect the e Connect 12V ba	the vehicle and CONS battery cable from ne electrically-driven intell ttery cable to negative	gative terminal. R igent brake unit ha terminal.	efer to <u>BR-5, "Precautions for Removing Battery</u> arness connector.	BR
CĂUTION: Never operate f Disconnect 12V <u>Terminal</u> ". Disconnect the e Connect 12V ba	the vehicle and CONS battery cable from ne electrically-driven intell ttery cable to negative	gative terminal. R igent brake unit ha terminal.	efer to <u>BR-5, "Precautions for Removing Battery</u>	
CĂUTION: Never operate f Disconnect 12V <u>Terminal"</u> . Disconnect the e Connect 12V ba Check the voltag	the vehicle and CONS battery cable from ne electrically-driven intell ttery cable to negative ge between the electric	gative terminal. R igent brake unit ha terminal. cally-driven intellig	efer to <u>BR-5, "Precautions for Removing Battery</u> arness connector.	G
CAUTION: Never operate f Disconnect 12V <u>Terminal"</u> . Disconnect the e Connect 12V ba Check the voltag	the vehicle and CONS battery cable from ne electrically-driven intell ttery cable to negative	gative terminal. R igent brake unit ha terminal.	efer to <u>BR-5, "Precautions for Removing Battery</u> arness connector.	
CAUTION: Never operate for Disconnect 12V <u>Terminal</u> ". Disconnect the e Connect 12V ba Check the voltage Electrically-driven	the vehicle and CONS battery cable from ne electrically-driven intell ttery cable to negative ge between the electric intelligent brake unit	gative terminal. R igent brake unit ha terminal. cally-driven intellig Voltage	efer to <u>BR-5, "Precautions for Removing Battery</u> arness connector.	0
CAUTION: Never operate f Disconnect 12V <u>Terminal"</u> . Disconnect the e Connect 12V ba Check the voltag	the vehicle and CONS battery cable from ne electrically-driven intell ttery cable to negative ge between the electric intelligent brake unit Terminal	gative terminal. R igent brake unit ha terminal. cally-driven intellig Voltage	efer to <u>BR-5, "Precautions for Removing Battery</u> arness connector.	0
CAUTION: Never operate f Disconnect 12V <u>Terminal"</u> . Disconnect the e Connect 12V ba Check the voltag Electrically-driven Connector	the vehicle and CONS battery cable from ne electrically-driven intell ttery cable to negative ge between the electric intelligent brake unit Terminal 1 – 31	gative terminal. R igent brake unit ha terminal. cally-driven intellig Voltage (Approx.)	efer to <u>BR-5, "Precautions for Removing Battery</u> arness connector.	0

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

E34 1 - 31 10 -	Electrically-driven	Voltage	
E34 2 - 31 10 -	Connector	Terminal	(Approx.)
		1 – 31	
11 – 31	E34	2 – 31	10 – 16 V
11 - 51		11 – 31	

Is the inspection result normal?

YES >> GO TO 11.

9.CHECK 12V BATTERY POWER SUPPLY CIRCUIT

- 1. Turn the power switch OFF to exit CONSULT.
- Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 CAUTION:

Never operate the vehicle and CONSULT while waiting.

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

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< DTC/CIRCUIT DIAGNOSIS >

- 7. Check the 10A fuse (#78).
- 8. Check the continuity and for short circuit between harness connector terminal 11 of electrically-driven intelligent brake unit and 10A fuse (#78).

Is the inspection result normal?

- YES >> Perform trouble diagnosis for 12V battery power supply. Refer to <u>PG-16, "Wiring Diagram BAT-</u> <u>TERY POWER SUPPLY -"</u>.
- NO >> Repair or replace error-detected parts and GO TO 10.

10.PERFORM SELF-DIAGNOSIS (4)

With CONSULT

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

Never set the vehicle to READY.

 Repeat step 3 two or more times. CAUTION:

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

- 5. Turn the power switch OFF to exit CONSULT.
- 6. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CĂUTION:

Never operate the vehicle and CONSULT 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.
- 10. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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.

 Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 CAUTION:

Never operate the vehicle and CONSULT while waiting.

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

Electrically-driver	n intelligent brake unit		Continuity	
Connector	Terminal		Continuity	
E34	31	Ground	Existed	

Is the inspection result normal?

YES >> GO TO 13.

< DTC/CIRCUIT DIAGNOSIS >	
NO >> Repair or replace error-detected parts and GO TO 12.	
12.PERFORM SELF-DIAGNOSIS (5)	
I. Connect the electrically-driven intelligent brake unit harness connector.	
2. Connect 12V battery cable to negative terminal.	
 Turn the power switch OFF to ON without depressing the brake pedal. CAUTION: 	
Never set the vehicle to READY.	
Repeat step 3 two or more times.	
Be sure to wait for 5 seconds or more after turning the power switch OFF.	
Turn the power switch OFF to exit CONSULT.	
Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open-	
ing these doors. CAUTION:	
Never operate the vehicle and CONSULT 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.	
Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open- ing these doors.	
CAUTION:	
Never operate the vehicle and CONSULT while waiting.	
 Turn the power switch ON without depressing the brake pedal. CAUTION: 	
Never set the vehicle to READY.	
. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.	
 Release brake pedal. Start CONSULT and perform "BRAKE" self-diagnosis. 	
DTC "C1A6C" detected?	
'ES >> GO TO 13.	
NO >> INSPECTION END	
3. CHECK DATA MONITOR	
With CONSULT	
Connect the electrically-driven intelligent brake unit harness connector. Connect 12V battery cable to negative terminal.	
Turn the power switch OFF to ON without depressing the brake pedal.	
CAUTION:	
Never set the vehicle to READY.	
Repeat step 3 two or more times. CAUTION:	
Be sure to wait for 5 seconds or more after turning the power switch OFF.	
Start CONSULT and select "BRAKE", "DATE MONITOR" according this order. Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER". Refer to <u>BR-24</u> , "Reference	
Value".	
the inspection result normal?	
ES >> GO TO 14.	
IO >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-261, "Removal and installation"</u> .	
4. PERFORM SELF-DIAGNOSIS (6)	
With CONSULT	
Turn the power switch OFF to ON without depressing the brake pedal.	
CAUTION: Never set the vehicle to READY.	
Repeat step 1 two or more times.	
CAUTION	

CAUTION:

< DTC/CIRCUIT DIAGNOSIS >

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

- 3. Turn the power switch OFF to exit CONSULT.
- 4. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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.
- 8. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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

1. Turn the power switch OFF to exit CONSULT.

 Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 CAUTION:

Never operate the vehicle and CONSULT while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-5</u>, "<u>Precautions for Removing Battery</u> <u>Terminal</u>".
- 4. Disconnect the brake power supply backup unit harness connector.
- 5. Connect 12V battery cable to negative terminal.
- Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

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

Never set the vehicle to READY.

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

Brake power	supply backup unit		Voltage	
Connector	Terminal		(Approx.)	
B15	3	Ground	9 – 16 V	

Is the inspection result normal?

YES >> Replace the brake power supply backup unit. Refer to <u>BR-264, "Removal and Installation"</u>.

NO (9 V or less) >>Perform trouble diagnosis for 12V battery power supply. Refer to <u>PG-16, "Wiring Diagram</u> <u>- BATTERY POWER SUPPLY -"</u>.

NO (16 V or more) >>Perform diagnosis of the DC/DC-J/B. Refer to EVC-55. "CONSULT Function".

< DTC/CIRCUIT DIAGNOSIS >

C1A6D BRAKE POWER SUPPLY BACKUP UNIT

DTC Logic

INFOID:000000006960682

DTC DETECTION LOGIC

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DTC	Display item	Malfunction detection condition	Possible causes	
C1A6D	POWER SUPPLY BACKUP UNIT OUTPUT	 Output current of brake power supply backup unit backup line is as shown below. Output current of brake power supply backup unit: 60A ≤ Output current of brake power supply backup unit Input current of brake power supply backup unit: 30A ≤ Output current of brake power supply backup unit: 30A ≤ Output current of brake power supply backup unit 	 Harness or connector Brake power supply backup unit Electrically-driven intelligent brake unit 	(

DTC REPRODUCTION PROCEDURE

1.PRECONDITIONING	BR
If "DTC CONFIRMATION PROCEDURE" has been previously conducted, always turn power switch OFF and wait at least 10 seconds before conducting the next test.	
wait at least to seconds before conducting the next test.	G
>> GO TO 2.	0
2. CHECK DTC DETECTION	
(P)With CONSULT	Н
1. Turn the power switch OFF to ON without depressing the brake pedal.	
CAUTION:	I
Never set the vehicle to READY.2. Repeat step 1 two or more times.	1
CAUTION:	
Be sure to wait for 5 seconds or more after turning the power switch OFF.	J
3. Turn the power switch OFF to exit CONSULT.	
4. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open- ing these doors.	
CAUTION:	K
Never operate the vehicle and CONSULT while waiting.	
 Turn the power switch ON without depressing the brake pedal. CAUTION: 	1
Never set the vehicle to READY.	
6. Start CONSULT and erase self-diagnosis result of "BRAKE".	
 Turn the power switch OFF to exit CONSULT. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open- 	M
ing these doors.	
CAUTION:	
Never operate the vehicle and CONSULT while waiting.	Ν
 Turn the power switch ON without depressing the brake pedal. CAUTION: 	
Never set the vehicle to READY.	0
10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.	0
 Release brake pedal. Start CONSULT and perform "BRAKE" self-diagnosis. 	
Is DTC "C1A6D" detected?	Ρ
YES >> Proceed to <u>BR-159</u> , "Diagnosis Procedure".	
NO >> INSPECTION END	
Diagnosis Procedure	
1.CHECK 12V BATTERY	

< DTC/CIRCUIT DIAGNOSIS >

- 1. Turn the power switch OFF to exit CONSULT.
- 2. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT while waiting.

- Check the 12V battery terminal connections. Refer to <u>BR-5, "Precautions for Removing Battery Terminal"</u> and <u>PG-105, "Work Flow"</u>.
- 4. Check the 12V battery. Refer to PG-105, "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.
- 5. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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.
- 9. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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.

 Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-5</u>, "Precautions for Removing Battery <u>Terminal"</u>.
- 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.

< DTC/CIRCUIT DIAGNOSIS >

4		F-DIAGNOSIS (2)			
	/ith CONSULT	ectrically-driven intellige	ant brake unit barnes	s connector	
		ake power supply back			
		attery cable to negative			
		switch OFF to ON with		rake pedal.	
	CAUTION:			•	
		vehicle to READY.			
		wo or more times.			
	CAUTION:				
		t for 5 seconds or mo switch OFF to exit CO		power switch OFF.	
				, and wait for 3 minutes or more without ope	m-
	ing these doors			, and wait for 5 minutes of more without ope	-11-
	CAUTION:				
		the vehicle and CON	SULT while waiting.		
		switch ON without dep			
	CAUTION:		•		В
		vehicle to READY.			
		and erase self-diagno			
		switch OFF to exit CO			n
			(including back door)	, and wait for 3 minutes or more without ope	en-
	ing these doors CAUTION:) .			
		the vehicle and CON	SULT while waiting.		
		switch ON without dep			
	CAUTION:				
	Never set the	vehicle to READY.			
			l in) or more, and hol	d the position for 5 seconds or more.	
	Release brake				
		and perform "BRAKE	" self-diagnosis.		
s D	<u>TC "C1A6D" de</u>	tected?			
YΕ	S >> GO TO				
NC	>> INSPE	CTION END			
5 .0	HECK POWER	SWITCH ON POWER	R SUPPLY		
		ake power supply back		ector.	
		attery cable to negative			
		switch OFF to exit CO		, and wait for 3 minutes or more without ope	m-
	ing these doors		(including back 0001)	, and wait for 5 minutes of more without ope	41 ⁻⁴
	CAUTION:				
		the vehicle and CON	SULT while waiting.		
	Disconnect 12\			er to BR-5. "Precautions for Removing Batte	ery
	<u>Terminal"</u> .			-	
		electrically-driven intel		ess connector.	
		attery cable to negative			
	Check the volta	ige between the electric	cally-driven intelligen	t brake unit harness connector and ground.	
	Electrically-driver	n intelligent brake unit		Voltage	
	Connector	Terminal		(Approx.)	
			0		
	E34	26	Ground	0 V	

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

Never set the vehicle to READY.

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

< DTC/CIRCUIT DIAGNOSIS >

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

Is the inspection result normal?

YES >> GO TO 8.

NO >> GO TO 6.

6.CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

- 1. Turn the power switch OFF to exit CONSULT.
- Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 CAUTION:

Never operate the vehicle and CONSULT while waiting.

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

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

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

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

Is the inspection result normal?

- YES >> Perform trouble diagnosis for power ON power supply. Refer to <u>PG-62, "Wiring Diagram ON</u> <u>POWER SUPPLY -"</u>.
- NO >> Repair or replace error-detected parts and GO TO 7.

7.PERFORM SELF-DIAGNOSIS (3)

()With CONSULT

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

Never set the vehicle to READY.

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

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

- 6. Turn the power switch OFF to exit CONSULT.
- Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 CAUTION:

Never operate the vehicle and CONSULT 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.
- 11. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

< DTC/CIRCUIT DIAGNOSIS >

CAUTION:				
	the vehicle and CON	UII T while weiting		٥
	e the vehicle and CONS r switch ON without dep	ressing the brake pedal.		A
CAUTION:		0		
	vehicle to READY. pedal by 100 mm (3.94	in) or more and hold the	e position for 5 seconds or more.	В
4. Release brake	pedal.	,		
	T and perform "BRAKE"	self-diagnosis.		0
s DTC "C1A6D" de				С
YES >> GO TC NO >> INSPE) 8. CTION END			
•	TTERY POWER SUPP	v		D
	r switch OFF to exit COI		d wait for 3 minutes or more without open-	
ing these doors		including back door), and	a wait for 5 minutes of more without open-	E
CAUTION:				
	e the vehicle and CONS		PD 5 "Drocoutions for Domoving Pottony	BR
 Disconnect 12' <u>Terminal</u>". 	v ballery cable from he	galive lerminal. Refer to	BR-5, "Precautions for Removing Battery	
	electrically-driven intell	gent brake unit harness	connector.	
 Disconnect the Connect 12V b 	attery cable to negative	terminal.		G
 Disconnect the Connect 12V b 	attery cable to negative	terminal.	connector. ke unit harness connector terminals.	G
 Disconnect the Connect 12V b Check the volta 	attery cable to negative age between the electric	terminal. ally-driven intelligent bra		
Disconnect the Connect 12V b Check the volta Electrically-drive	attery cable to negative	terminal.		
Disconnect the Connect 12V b Check the volta	eattery cable to negative age between the electric	terminal. ally-driven intelligent bra 		
Disconnect the Connect 12V b Check the volta Electrically-drive	eattery cable to negative age between the electric en intelligent brake unit Terminal	terminal. ally-driven intelligent bra 		
Disconnect the Connect 12V b Check the volta Electrically-drive Connector	eattery cable to negative age between the electric en intelligent brake unit Terminal 1 – 31	terminal. ally-driven intelligent bra Voltage (Approx.)		G H

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

Electrically-driven	Electrically-driven intelligent brake unit	
Connector	Terminal	(Approx.)
	1 – 31	
E34	2 – 31	10 – 16 V
	11 – 31	

Is the inspection result normal?

YES >> GO TO 11.

9.CHECK 12V BATTERY POWER SUPPLY CIRCUIT

- 1. Turn the power switch OFF to exit CONSULT.
- Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 CAUTION:

Never operate the vehicle and CONSULT while waiting.

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

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< DTC/CIRCUIT DIAGNOSIS >

- 7. Check the 10A fuse (#78).
- 8. Check the continuity and for short circuit between harness connector terminal 11 of electrically-driven intelligent brake unit and 10A fuse (#78).

Is the inspection result normal?

- YES >> Perform trouble diagnosis for 12V battery power supply. Refer to <u>PG-16, "Wiring Diagram BAT-</u> <u>TERY POWER SUPPLY -"</u>.
- NO >> Repair or replace error-detected parts and GO TO 10.

10.PERFORM SELF-DIAGNOSIS (4)

With CONSULT

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

Never set the vehicle to READY.

 Repeat step 3 two or more times. CAUTION:

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

- 5. Turn the power switch OFF to exit CONSULT.
- 6. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CĂUTION:

Never operate the vehicle and CONSULT 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.
- 10. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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.

 Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 CAUTION:

Never operate the vehicle and CONSULT while waiting.

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

Electrically-driver	Electrically-driven intelligent brake unit		Continuity	
Connector	Terminal		Continuity	
E34	31	Ground	Existed	

Is the inspection result normal?

YES >> GO TO 13.

< DTC/CIRCUIT DIAGNOSIS >
NO >> Repair or replace error-detected parts and GO TO 12.
12.PERFORM SELF-DIAGNOSIS (5)
Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:
Never set the vehicle to READY.
Repeat step 3 two or more times. CAUTION:
Be sure to wait for 5 seconds or more after turning the power switch OFF.
Turn the power switch OFF to exit CONSULT.
Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open- ing these doors.
CAUTION:
Never operate the vehicle and CONSULT 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. . Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open-
ing these doors.
CAUTION:
Never operate the vehicle and CONSULT while waiting. . Turn the power switch ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY.
. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more. . Release brake pedal.
. Start CONSULT and perform "BRAKE" self-diagnosis.
DTC "C1A6D" detected?
(ES >> GO TO 13.
NO >> INSPECTION END
3. CHECK DATA MONITOR
With CONSULT Connect the electrically-driven intelligent brake unit harness connector.
Connect the electrically-driven intelligent brake unit harness connector. Connect 12V battery cable to negative terminal.
Turn the power switch OFF to ON without depressing the brake pedal.
CAUTION: Never set the vehicle to READY.
Repeat step 3 two or more times.
CAUTION:
Be sure to wait for 5 seconds or more after turning the power switch OFF. Start CONSULT and select "BRAKE", "DATE MONITOR" according this order.
Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER". Refer to <u>BR-24</u> , "Reference
Value".
the inspection result normal?
 >> GO TO 14. >> Replace the electrically-driven intelligent brake unit. Refer to BR-261, "Removal and installation".
IO >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-261, "Removal and installation"</u> . 4. PERFORM SELF-DIAGNOSIS (2)
With CONSULT Turn the power switch OFF to ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY.
. Repeat step 1 two or more times.

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CAUTION:

< DTC/CIRCUIT DIAGNOSIS >

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

- 3. Turn the power switch OFF to exit CONSULT.
- 4. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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.
- 8. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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 CIRCUIT BETWEEN ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT AND BRAKE POWER SUPPLY BACKUP UNIT

- 1. Turn the power switch OFF to exit CONSULT.
- 2. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-5</u>, "<u>Precautions for Removing Battery</u> <u>Terminal</u>".
- 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 harness connector and ground.

Electrically-driven intelligent brake unit			Continuity	
Connector	Connector Terminal			
E34	32	Ground	Not existed	

Is the inspection result normal?

YES >> Replace the brake power supply backup unit. Refer to <u>BR-264, "Removal and Installation"</u>.

NO >> Repair or replace error-detected parts.

< DTC/CIRCUIT DIAGNOSIS >

C1A6E EV SYSTEM

DTC Logic

INFOID:000000006960684

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DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1A6E	EV/HEV SYSTEM	Malfunction is detected in the VCM system.	 Harness or connector VCM Electrically-driven intelligent brake unit
TC REI	PRODUCTION PROC	EDURE	
PREC	ONDITIONING		
DTC C	ONFIRMATION PROCE	DURE" has been previously conducted, alwa	vs turn power switch OFF and
	ast 10 seconds before co		
	>> GO TO 2. K DTC DETECTION		
	ONSULT the power switch OFF to	ON without depressing the brake pedal.	
CAU	TION:		
	er set the vehicle to REA at step 1 two or more time		
CAU	TION:		
	u re to wait for 5 second the power switch OFF to	Is or more after turning the power switch C exit CONSULT.)FF.
Get c	out of the vehicle, close a	Ill doors (including back door), and wait for 3 r	minutes or more without open-
	iese doors. TION:		
Neve	r operate the vehicle a	nd CONSULT while waiting.	
	the power switch ON wit TION:	hout depressing the brake pedal.	
Neve	r set the vehicle to RE		
	CONSULI and erase se the power switch OFF to	lf-diagnosis result of "BRAKE". exit CONSULT.	
Get c	out of the vehicle, close a	Il doors (including back door), and wait for 3 r	minutes or more without open-
	iese doors. TION:		
		nd CONSULT while waiting.	
	the power switch ON wit TION:	hout depressing the brake pedal.	
	r set the vehicle to RE		
	ess brake pedal by 100 r ase brake pedal.	nm (3.94 in) or more, and hold the position for	r 5 seconds or more.
. Start	CONSULT and perform	'BRAKE" self-diagnosis.	
	21A6E" detected?		
	>> Proceed to <u>BR-167, "I</u> >> INSPECTION END	Diagnosis Procedure".	
ayno	sis Procedure		INFOID:00000006960685
PERF	ORM VCM SELF DIAGN	OSIS	

Start CONSULT and perform self-diagnosis for "EV/HEV". Refer to <u>EVC-55, "CONSULT Function"</u>. Is any DTC detected?

YES >> Check the DTC. Refer to EVC-84, "DTC Index".

< DTC/CIRCUIT DIAGNOSIS >

NO >> GO TO 2.

2.PERFORM SELF-DIAGNOSIS (1)

With CONSULT

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

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

- 3. Turn the power switch OFF to exit CONSULT.
- 4. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CĂUTION:

Never operate the vehicle and CONSULT 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.
- Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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.
- 2. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION: Never operate the vehicle and CONSULT while waiting.

- 3. Check the 12V battery terminal connections. Refer to <u>BR-5</u>, "<u>Precautions for Removing Battery Terminal</u>" and <u>PG-105</u>, "<u>Work Flow</u>".
- 4. Check the 12V battery. Refer to PG-105, "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.
- Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 CAUTION:

< DTC/CIRCUIT DIAGNOSIS >
Never operate the vehicle and CONSULT while waiting.Turn the power switch ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY.
7. Start CONSULT and erase self-diagnosis result of "BRAKE".
 Turn the power switch OFF to exit CONSULT. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open-
ing these doors.
CAUTION:
Never operate the vehicle and CONSULT while waiting.
 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.
s DTC "C1A6E" detected?
YES >> GO TO 5. NO >> INSPECTION END
D.CHECK CONNECTOR TERMINALS
I. Turn the power switch OFF to exit CONSULT.
 Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open- ing these doors.
CAUTION:
Never operate the vehicle and CONSULT while waiting.
B. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-5. "Precautions for Removing Battery</u>
Terminal".
 Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.
s the inspection result normal?
YES >> GO TO 7.
NO >> Repair or replace error-detected parts and GO TO 6.
D.PERFORM SELF-DIAGNOSIS (3)
1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
 Turn the power switch OFF to ON without depressing the brake pedal.
CAUTION: Never set the vehicle to READY.
. Repeat step 3 two or more times.
CAUTION:
Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT. 5. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open-
5. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open- ing these doors.
CAUTION:
Never operate the vehicle and CONSULT while waiting.
7. 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".
D. Turn the power switch OFF to exit CONSULT.
10. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open-
ing these doors.
CAUTION: Never operate the vehicle and CONSULT while waiting.
11. Turn the power switch ON without depressing the brake pedal.

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

< DTC/CIRCUIT DIAGNOSIS >

Never set the vehicle to READY.

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

Is DTC "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.
- Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT while waiting.

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

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

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

Never set the vehicle to READY.

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

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

Is the inspection result normal?

YES >> GO TO 10.

NO >> GO TO 8.

8.CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

- 1. Turn the power switch OFF to exit CONSULT.
- Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 CAUTION:

Never operate the vehicle and CONSULT while waiting.

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

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

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

< DTC/CIRCUIT DIAGNOSIS >

Electrically-driven inte	elligent brake unit		Continuity	
Connector	Terminal	—	Continuity	
E34	26	Ground	Not existed	
the inspection result i	normal?			
POWER SI	<u>JPPLY -"</u> . eplace error-detecte			<u>"Wiring Diagram - ON</u>
	AGNUSIS (4)			
With CONSULT Connect the electric	cally-driven intelliger	ot brake unit barne	ss connector	
	harness connector.			
	y cable to negative			
 Turn the power swi CAUTION: 	tch OFF to ON witho	out depressing the	orake pedal.	
Never set the vehi	cle to READY.			
. Repeat step 4 two	or more times.			
CAUTION: Be sure to wait for	r 5 seconds or mor	e after turning the	power switch OFF.	-
Turn the power swi				
	cle, close all doors (i	ncluding back doo), and wait for 3 minute	s or more without open-
ing these doors. CAUTION:				
	vehicle and CONS	ULT while waiting		
	tch ON without depr	essing the brake p	edal.	
CAUTION: Never set the vehi	cle to READY.			
Start CONSULT an	d erase self-diagnos			
). Turn the power swi) and wait for 2 minute	a ar mara without anon
ing these doors.		Including back doo		s or more without open-
CAUTION:				
Never operate the 2. Turn the power swi	vehicle and CONS			
CAUTION:		essing the blake p	eual.	
Never set the vehi				
 Depress brake ped Release brake ped 		in) or more, and ho	ld the position for 5 sec	onds or more.
5. Start CONSULT and		self-diagnosis.		
DTC "C1A6E" detected	ed?	-		
(ES >> GO TO 10.				
NO >> INSPECTIO				
O. CHECK 12V BATT	ERY POWER SUP	PLY		
	tch OFF to exit CON			
Get out of the vehic ing these doors.	cie, close all doors (i	ncluding back doo), and wait for 3 minute	s or more without open-
CAUTION:				
	vehicle and CONS			o for Domestics Dette
Disconnect 12V ba <u>Terminal</u> ".	mery cable from neg	jative terminal. Re	er to BR-5, "Precaution	is for Removing Battery
Disconnect the elec	ctrically-driven intellig		ness connector.	
	ry cable to negative			
			nt brake unit harness co	

< DTC/CIRCUIT DIAGNOSIS >

Electrically-drive	Electrically-driven intelligent brake unit	
Connector	Terminal	(Approx.)
	1 – 31	
E34	2 – 31	10 – 16 V
	11 – 31	

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

Never set the vehicle to READY.

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

Electrically-drive	n intelligent brake unit	Voltage	
Connector	Terminal	(Approx.)	
	1 – 31		
E34	2 – 31	10 – 16 V	
	11 – 31		

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.
- 2. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-5</u>, "Precautions for Removing Battery <u>Terminal"</u>.
- 4. Check the 60A fusible link (#F).
- 5. Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).
- 6. Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).
- 7. Check the 10A fuse (#78).
- 8. Check the continuity and for short circuit between harness connector terminal 11 of electrically-driven intelligent brake unit and 10A fuse (#78).

Is the inspection result normal?

- YES >> Perform trouble diagnosis for 12V battery power supply. Refer to <u>PG-16, "Wiring Diagram BAT-</u> <u>TERY POWER SUPPLY -"</u>.
- NO >> Repair or replace error-detected parts and GO TO 12.

12. PERFORM SELF-DIAGNOSIS (5)

(D) With CONSULT

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

Never set the vehicle to READY.

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

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

- 5. Turn the power switch OFF to exit CONSULT.
- 6. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT while waiting.

< DTC/CIRCUIT DI			
7. Turn the power	switch ON without dep	ressing the brake pe	dal.
CAUTION:	vehicle to READY.		
	and erase self-diagno	sis result of "BRAKE'	
9. Turn the power	switch OFF to exit COI	NSULT.	
		(including back door)	, and wait for 3 minutes or more without open-
ing these doors CAUTION:			
	the vehicle and CON	SULT while waiting.	
11. Turn the power	switch ON without dep		dal.
CAUTION:	rahiala ta DEADV		
	rehicle to READY. Dedal by 100 mm (3.94	in) or more and hole	d the position for 5 seconds or more.
3. Release brake			
	and perform "BRAKE"	' self-diagnosis.	
s DTC "C1A6E" det			
YES >> GO TO			
	CTION END		
3. CHECK GROU	IND CIRCUIT		
	switch OFF to exit CO		
		(including back door)	, and wait for 3 minutes or more without open-
ing these doors CAUTION:			
	the vehicle and CON	SULT while waiting.	
	battery cable from ne	gative terminal. Refe	er to <u>BR-5</u> , "Precautions for Removing Battery
<u>Terminal"</u> .	electrically-driven intell	ligant braka unit harn	ana appartar
	nuity between electrica		
			J.
Electrically-driver	n intelligent brake unit		
Connector	Terminal		Continuity
E34	31	Ground	Existed
the inspection res	ult normal?		
YES >> GO TO			
	or replace error-detecte	ed parts and GO TO	14.
4.PERFORM SE	LF-DIAGNOSIS (6)		
-			
With CONSULT . Connect the ele	ctrically-driven intellige	ent brake unit harness	s connector
Connect 12V ba	attery cable to negative	e terminal.	
	switch OFF to ON with	out depressing the b	rake pedal.
CAUTION:	vehicle to READY.		
	wo or more times.		
CAUTION:			
	t for 5 seconds or mo	ro offer turning the	power switch OFF.
	switch OFF to exit CO	NSULT.	-
	ehicle, close all doors (NSULT.	, and wait for 3 minutes or more without open-
ing these doors CAUTION:	ehicle, close all doors (NSULT. (including back door)	-
ing these doors CAUTION: Never operate	ehicle, close all doors (the vehicle and CON	NSULT. (including back door) SULT while waiting.	, and wait for 3 minutes or more without open-
ing these doors CAUTION: Never operate Turn the power	ehicle, close all doors (NSULT. (including back door) SULT while waiting.	, and wait for 3 minutes or more without open-
ing these doors CAUTION: Never operate . Turn the power CAUTION:	ehicle, close all doors (the vehicle and CON switch ON without dep	NSULT. (including back door) SULT while waiting.	, and wait for 3 minutes or more without open-
ing these doors CAUTION: Never operate Turn the power CAUTION: Never set the v	ehicle, close all doors (the vehicle and CON	NSULT. (including back door) SULT while waiting. ressing the brake pe	, and wait for 3 minutes or more without open-
ing these doors CAUTION: Never operate Turn the power CAUTION: Never set the v Start CONSULT Turn the power	ehicle, close all doors (the vehicle and CONS switch ON without dep vehicle to READY. and erase self-diagno switch OFF to exit COI	NSULT. (including back door) SULT while waiting. Tressing the brake per sis result of "BRAKE" NSULT.	, and wait for 3 minutes or more without open-

ing these doors.

< DTC/CIRCUIT DIAGNOSIS >

CAUTION:

Never operate the vehicle and CONSULT 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.
- Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER". Refer to <u>BR-24, "Reference</u> <u>Value"</u>.

Is the inspection result normal?

YES >> GO TO 16.

NO	>> Replace the electrical	y-driven intelligent brake unit.	Refer to BR-261,	"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.
- 4. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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.
- 8. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 - CAUTION:

Never operate the vehicle and CONSULT 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.

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< DTC/CIRCUIT DIAGNOSIS >

C1A6F VCM SYSTEM

DTC Logic

INFOID:000000006960686

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1A6F	TCM/VCM SYSTEM	Malfunction is detected in the VCM system.	 Harness or connector VCM Electrically-driven intelligent brake unit

DTC REPRODUCTION PROCEDURE

1.PRECONDITIONING

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

>> GO TO 2.

2. CHECK DTC DETECTION

()With CONSULT

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

Never set the vehicle to READY.

- 2. Repeat step 1 two or more times.
- CAUTION: Be sure to wait for 5 seconds or more after turning the power switch OFF.
- 3. Turn the power switch OFF to exit CONSULT.
- Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 CAUTION:

Never operate the vehicle and CONSULT 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.
- 8. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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 <u>BR-176, "Diagnosis Procedure"</u>.
- NO >> INSPECTION END

Diagnosis Procedure

1.PERFORM VCM SELF DIAGNOSIS

Start CONSULT and perform self-diagnosis for "EV/HEV". Refer to EVC-55, "CONSULT Function". Is any DTC detected?

YES >> Check the DTC. Refer to EVC-84, "DTC Index".

BR-176

INFOID:000000006960687

C1A6F VCM SYSTEM

< DTC/CIRCUIT DIAGNOSIS >	
NO >> GO TO 2.	
2.PERFORM SELF-DIAGNOSIS (1)	А
 With CONSULT 1. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION: 	В
 Never set the vehicle to READY. 2. Repeat step 1 two or more times. CAUTION: 	С
Be sure to wait for 5 seconds or more after turning the power switch OFF. 3. Turn the power switch OFF to exit CONSULT.	
 Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors. CAUTION: 	D
 Never operate the vehicle and CONSULT while waiting. 5. Turn the power switch ON without depressing the brake pedal. CAUTION: 	Е
 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. 8. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors. 	BR
CAUTION:	G
 Never operate the vehicle and CONSULT while waiting. 9. Turn the power switch ON without depressing the brake pedal. CAUTION: 	Н
Never set the vehicle to READY.	
10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more. 11. Release brake pedal.	
12. Start CONSULT and perform "BRAKE" self-diagnosis.	I
Is DTC "C1A6F" detected?	
YES >> GO TO 3. NO >> INSPECTION END	J
3. CHECK 12V BATTERY	
 Turn the power switch OFF to exit CONSULT. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors. 	Κ
CAUTION:	L
 Never operate the vehicle and CONSULT while waiting. Check the 12V battery terminal connections. Refer to <u>BR-5</u>, "<u>Precautions for Removing Battery Terminal</u>" and <u>PG-105</u>, "<u>Work Flow</u>". 	
4. Check the 12V battery. Refer to PG-105, "Work Flow".	M
Is the inspection result normal?	
YES >> GO TO 4. NO >> Repair or replace error-detected parts and GO TO 4.	Ν
4.PERFORM SELF-DIAGNOSIS (2)	
With CONSULT	0
 Connect 12V battery cable to negative terminal. Turn the power switch OFF to ON without depressing the brake pedal. 	
CAUTION:	Р
 Never set the vehicle to READY. 3. Repeat step 2 two or more times. CAUTION: 	
 Be sure to wait for 5 seconds or more after turning the power switch OFF. Turn the power switch OFF to exit CONSULT. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open- 	
ing these doors. CAUTION:	

< DTC/CIRCUIT DIAGNOSIS >

Never operate the vehicle and CONSULT 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.
- 9. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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.
- 2. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION: Never operate the vehicle and CONSULT while waiting.

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

Is the inspection result normal?

- YES >> GO TO 7.
- NO >> Repair or replace error-detected parts and GO TO 6.

6. PERFORM SELF-DIAGNOSIS (3)

(B) With CONSULT

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

Never set the vehicle to READY.

 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.
- 6. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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.
- 10. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT while waiting.

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

C1A6F VCM SYSTEM

< DTC/CIRCUIT DIA	GNOSIS >			
Never set the ve	hicle to READY.			
 Depress brake period Release brake period 		in) or more, and hole	d the position for 5 se	econds or more.
14. Start CONSULT a		' self-diagnosis.		
s DTC "C1A6F" dete	cted?			
YES >> GO TO 7				
NO >> INSPECT				
	SWITCH ON POWER			
	tery cable to negative witch OFF to exit CO			
			, and wait for 3 minu	tes or more without open-
Never operate the Disconnect 12V	ne vehicle and CON battery cable from ne		er to <u>BR-5, "Precaution</u>	ons for Removing Battery
<u>Terminal"</u> . 5. Disconnect the e	lectrically-driven intell	ligent brake unit harn	ess connector	
Connect 12V bat	tery cable to negative	e terminal.		connector and ground.
Electrically-driven i	ntelligent brake unit		Voltage	
Connector	Terminal		(Approx.)	
E34	26	Ground	0 V	
	e between the electric	cally-driven intelligent		connector and ground.
Connector	Terminal		Voltage (Approx.)	
E34	26	Ground	10 – 16 V	
the inspection resu	-	Ground	10 - 10 v	
YES >> GO TO 1				
NO >> GO TO 8				
CHECK POWER	SWITCH ON POWER	SUPPLY CIRCUIT		
Turn the power s	witch OFF to exit CO	NSULT.	, and wait for 3 minu	tes or more without open-
ing these doors.				
	ne vehicle and CON	SULT while waiting.		
Disconnect 12V			r to <u>BR-5, "Precaution</u>	ons for Removing Battery
Terminal". Check the 15A fu	ISE (#62)			
Disconnect IPDN	I E/R harness connec uity between electrica		prake unit and IPDM	E/R.
Electrically-driven i	ntelligent brake unit	וחסו	/ E/R	
Connector	Terminal	Connector	Terminal	Continuity
E34	26	E15	62	Existed
L 07	20	210	52	EXISTOR

E3426E1562Existed7. 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		Continuity	
E34	26	Ground	Not existed	
s the inspection result	normal?			

- YES >> Perform trouble diagnosis for power ON power supply. <u>PG-62, "Wiring Diagram ON POWER</u> <u>SUPPLY -"</u>.
- 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.
- 7. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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.
- 11. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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.
- 2. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT while waiting.

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

< DTC/CIRCUIT DIAGNOSIS >

Electrically-driven i	ntelligent brake unit	Voltage	—
Connector	Terminal	(Approx.)	
	1 – 31		
E34	2 – 31	10 – 16 V	
11 – 31			
Turn the power s CAUTION: Never set the ve	witch ON without dep	ressing the brake	pedal.
Check the voltage	e between the electric	cally-driven intelli	gent brake unit harness connector terminals.
Electrically-driven i	ntelligent brake unit	Voltage	—
Connector	Terminal	(Approx.)	
	1 – 31		
E34	2 – 31	10 – 16 V	
	11 – 31		
the inspection resu	It normal?		—
/ES >> GO TO 1	-		
NO >> GO TO 1			
I.CHECK 12V BA	TTERY POWER SUP	PLY CIRCUIT	
	witch OFF to exit CO		
	nicle, close all doors	(including back d	oor), and wait for 3 minutes or more without open-
ing these doors.			
	ne vehicle and CON	SULT while wait	ing.
Disconnect 12V I	pattery cable from ne	gative terminal. I	Refer to <u>BR-5, "Precautions for Removing Battery</u>
Terminal". Check the 60A fu	sible link (#E)		
		uit between harne	ess connector terminal 1 of electrically-driven intel-
	and 60A fusible link (#		
	uity and for short circu and 60A fusible link (#		ess connector terminal 2 of electrically-driven intel-
Check the 10A fu		+1).	
		rcuit between ha	rness connector terminal 11 of electrically-driven
-	unit and 10A fuse (#7	8).	
the inspection resu			
		12V battery powe	er supply. Refer to <u>PG-16, "Wiring Diagram - BAT-</u>
	<u>DWER SUPPLY -"</u> . replace error-detecte	ed parts and GO	TO 12
2.PERFORM SEL	-		
With CONSULT	trically driven intellige	ont broke unit ber	noon connector
	trically-driven intellige tery cable to negative		
	witch OFF to ON with		ne brake pedal.
CAUTION:			
Never set the ve Repeat step 3 tw			
Repeat step 3 tw CAUTION:			
Be sure to wait			the power switch OFF.
	witch OFF to exit CO		
 Get out of the vel ing these doors. 	nicie, close all doors ((including back d	oor), and wait for 3 minutes or more without open-

CAUTION: Never operate the vehicle and CONSULT while waiting.

BR-181

< 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.
- 10. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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.

2. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT while waiting.

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

Electrically-drive	n intelligent brake unit		Continuity	
Connector	Terminal		Continuity	
E34	31	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.
- Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 CAUTION:

Never operate the vehicle and CONSULT 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.
- 10. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

BR-182

< DTC/CIRCUIT DIAGNOSIS >	
CAUTION: Never operate the vehicle and CONSULT while waiting. 11. Turn the power switch ON without depressing the brake pedal. CAUTION:	А
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.	В
14. Start CONSULT and perform "BRAKE" self-diagnosis. <u>Is DTC "C1A6F" detected?</u>	С
YES >> GO TO 15. NO >> INSPECTION END	
15. CHECK DATA MONITOR	D
 With CONSULT Connect the electrically-driven intelligent brake unit harness connector. Connect 12V battery cable to negative terminal. 	E
 Turn the power switch OFF to ON without depressing the brake pedal. CAUTION: 	DD
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. Start CONSULT and select "BRAKE" and "DATA MONITOR" according this order. 6. Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER". Refer to <u>BR-24</u>, "<u>Reference</u> 	G
Value". Is the inspection result normal?	Н
YES >> GO TO 16. NO >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-261, "Removal and installation"</u> .	I
16.PERFORM SELF-DIAGNOSIS (7)	
 With CONSULT Turn the power switch OFF to ON without depressing the brake pedal. CAUTION: 	J
 Never set the vehicle to READY. 2. Repeat step 1 two or more times. CAUTION: 	Κ
Be sure to wait for 5 seconds or more after turning the power switch OFF.3. Turn the power switch OFF to exit CONSULT.	
 Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open- ing these doors. CAUTION: 	L
 Never operate the vehicle and CONSULT while waiting. 5. Turn the power switch ON without depressing the brake pedal. CAUTION: 	Μ
 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. 	Ν
 B. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors. CAUTION: 	0
 Never operate the vehicle and CONSULT while waiting. 9. Turn the power switch ON without depressing the brake pedal. CAUTION: 	Ρ
Never set the vehicle to READY. 10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more. 11. Release brake pedal.	
 Start CONSULT and perform "BRAKE" self-diagnosis. <u>Is DTC "C1A6F" or "U1000" detected?</u> 	
YES ("C1A6F")>>GO TO 1.	

< DTC/CIRCUIT DIAGNOSIS >

YES ("U1000")>>Refer to <u>BR-205, "Diagnosis Procedure"</u>.

NO >> INSPECTION END

< DTC/CIRCUIT DIAGNOSIS >

DTC DETECTION LOGIC

C1A70 BRAKE CONTROL SYSTEM

DTC Logic

INFOID:000000006960688

А

В

DTC Malfunction detection condition Possible causes Display item Harness or connector · ABS actuator and electric unit Malfunction is detected in ABS actuator control C1A70 BRAKE CONTROL SYSTEM (control unit) unit system. Electrically-driven intelligent D brake unit DTC REPRODUCTION PROCEDURE Е 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. BR >> GO TO 2. 2. CHECK DTC DETECTION (P)With CONSULT Turn the power switch OFF to ON without depressing the brake pedal. 1. Н CAUTION: Never set the vehicle to READY. Repeat step 1 two or more times. **CAUTION:** Be sure to wait for 5 seconds or more after turning the power switch OFF. Turn the power switch OFF to exit CONSULT. 4. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors. **CAUTION:** Never operate the vehicle and CONSULT while waiting. 5. Turn the power switch ON without depressing the brake pedal. Κ CAUTION: Never set the vehicle to READY. Start CONSULT and erase self-diagnosis result of "BRAKE". L 7. Turn the power switch OFF to exit CONSULT. 8. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors. **CAUTION:** М Never operate the vehicle and CONSULT while waiting. Turn the power switch ON without depressing the brake pedal. **CAUTION:** Ν 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-185, "Diagnosis Procedure". >> INSPECTION END NO Diagnosis Procedure INFOID:000000006960689 1. PERFORM SELF-DIAGNOSIS OF ABS ACTUATOR AND CONTROL UNIT

Start CONSULT and perform self-diagnosis for "ABS". Refer to <u>BRC-40, "CONSULT Function"</u>. Is any DTC detected?

< DTC/CIRCUIT DIAGNOSIS >

YES >> Check the DTC. Refer to <u>BRC-50, "DTC Index"</u>.

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 offer

- Be sure to wait for 5 seconds or more after turning the power switch OFF.Turn the power switch OFF to exit CONSULT.
- Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without openis a three doors

ing these doors.

Never operate the vehicle and CONSULT 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.
- 8. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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.
- Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 CAUTION:

Never operate the vehicle and CONSULT while waiting.

- Check the 12V battery terminal connections. Refer to <u>BR-5</u>, "<u>Precautions for Removing Battery Terminal</u>" and <u>PG-105, "Work Flow"</u>.
- 4. Check the 12V battery. Refer to PG-105, "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.
- 5. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

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< D	TC/CIRCUIT DIAGNOSIS >	
	CAUTION:	
	Never operate the vehicle and CONSULT while waiting.	А
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".	В
	Turn the power switch OFF to exit CONSULT.	
9.	Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open-	
	ing these doors.	С
	CAUTION:	
10	Never operate the vehicle and CONSULT while waiting. Turn the power switch ON without depressing the brake pedal.	
10.	CAUTION:	D
	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.	
	Release brake pedal.	E
	Start CONSULT and perform "BRAKE" self-diagnosis.	
ls D	DTC "C1A70" detected?	
	ES >> GO TO 5.	BR
5.0	CHECK CONNECTOR TERMINALS	
1.	Turn the power switch OFF to exit CONSULT.	G
2.	Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open-	
	ing these doors.	
	CAUTION:	Η
~	Never operate the vehicle and CONSULT while waiting.	
3.	, , , , , , , , , , , , , , , , , , , ,	
4	<u>Terminal</u> . Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin	
ч.	terminals and connections.	
ls tł	ne inspection result normal?	
	ES >> GO TO 7.	J
N		
6.	PERFORM SELF-DIAGNOSIS (3)	K
		I.V.
	Vith CONSULT	
1. 2.	Connect the electrically-driven intelligent brake unit harness connector. Connect 12V battery cable to negative terminal.	L
	Turn the power switch OFF to ON without depressing the brake pedal.	-
0.	CAUTION:	
	Never set the vehicle to READY.	M
4.	Repeat step 3 two or more times.	1 1 1
	CAUTION:	
~	Be sure to wait for 5 seconds or more after turning the power switch OFF.	Ν
5. 6.	Turn the power switch OFF to exit CONSULT.	IN
0.	Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open- ing these doors.	
	CAUTION:	\circ
	Never operate the vehicle and CONSULT while waiting.	0
7.	Turn the power switch ON without depressing the brake pedal.	
	CAUTION:	P
~	Never set the vehicle to READY.	Ρ
	Start CONSULT and erase self-diagnosis result of "BRAKE".	
	Turn the power switch OFF to exit CONSULT. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open-	
10.	ing these doors.	
	CAUTION:	
	Never operate the vehicle and CONSULT while waiting.	
11.	Turn the power switch ON without depressing the brake pedal.	

< 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.
- Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT while waiting.

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

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

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

Never set the vehicle to READY.

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

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

Is the inspection result normal?

YES >> GO TO 10.

NO >> GO TO 8.

8.CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

- 1. Turn the power switch OFF to exit CONSULT.
- 2. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT while waiting.

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

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

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

< DTC/CIRCUIT DIAGNOSIS >

Electrically-driven int	telligent brake unit			
Connector	Terminal	—	Continuity	
E34	26	Ground	Not existed	
the inspection result	normal?			
POWER S	<u>SUPPLY -"</u> . replace error-detecte		upply. Refer to <u>PG-62.</u> 9.	<u>"Wiring Diagram - ON</u>
With CONSULT				
	ically-driven intellige	nt brake unit harnes	s connector.	
	R harness connector.	te media e l		
	ery cable to negative vitch OFF to ON witho		orake pedal.	-
Never set the veh				
Repeat step 4 two CAUTION:	or more times.			
	or 5 seconds or mor	e after turning the	power switch OFF.	
	vitch OFF to exit CON icle, close all doors (i), and wait for 3 minutes	or more without open-
CAUTION:	a vahiala and CONS			
	e vehicle and CONS vitch ON without depr			
CAUTION:		J P -		
Never set the veh Start CONSULT ar	nicle to READY. Ind erase self-diagnos		_,,	
). Turn the power sw				
ing these doors.	icle, close all doors (i	including back door), and wait for 3 minutes	or more without open-
CAUTION: Never operate the	e vehicle and CONS	UIT while waiting		
	vitch ON without depr			
CAUTION:	iale to DEADY			
Never set the veh 3. Depress brake peo		in) or more, and ho	ld the position for 5 seco	nds or more.
 Release brake peo 	dal.			
	nd perform "BRAKE"	self-diagnosis.		
DTC "C1A70" detect 'ES >> GO TO 10				
NO >> INSPECTI				
0.CHECK 12V BAT	TERY POWER SUP	PLY		
	itch OFF to exit CON			
), and wait for 3 minutes	or more without open-
	e vehicle and CONS attery cable from nec		er to <u>BR-5, "Precautions</u>	for Removing Battery
Disconnect the ele	ectrically-driven intelli		ness connector.	
	ery cable to negative		nt brake unit harness con	nector terminals
Shook the voltage				

< DTC/CIRCUIT DIAGNOSIS >

Electrically-drive	Electrically-driven intelligent brake unit		
Connector	Terminal	(Approx.)	
	1 – 31		
E34	2 – 31	10 – 16 V	
	11 – 31		

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

Never set the vehicle to READY.

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

Electrically-drive	Voltage	
Connector	Connector Terminal	
	1 – 31	
E34	2 – 31	10 – 16 V
	11 – 31	

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.
- 2. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-5</u>, "Precautions for Removing Battery <u>Terminal"</u>.
- 4. Check the 60A fusible link (#F).
- 5. Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).
- 6. Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).
- 7. Check the 10A fuse (#78).
- 8. Check the continuity and for short circuit between harness connector terminal 11 of electrically-driven intelligent brake unit and 10A fuse (#78).

Is the inspection result normal?

- YES >> Perform trouble diagnosis for 12V battery power supply. Refer to <u>PG-16, "Wiring Diagram BAT-</u> <u>TERY POWER SUPPLY -"</u>.
- NO >> Repair or replace error-detected parts and GO TO 12.

12. PERFORM SELF-DIAGNOSIS (5)

(D) With CONSULT

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

Never set the vehicle to READY.

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

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

- 5. Turn the power switch OFF to exit CONSULT.
- 6. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT while waiting.

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< Г	TC/CIRCUIT DI				
-		switch ON without dep	ressing the brake pe	dal	
	CAUTION:				A
~		ehicle to READY.			
8. a	Start CONSULT and erase self-diagnosis result of "BRAKE". Turn the power switch OFF to exit CONSULT.				
				and wait for 3 minutes or more wit	hout open-
	ing these doors.		(
	CAUTION: Never operate the vehicle and CONSULT while waiting.				
11		switch ON without dep			С
	CAUTION:		ressing the blake per		
		ehicle to READY.			D
			in) or more, and hole	d the position for 5 seconds or more	e.
	Release brake p	edal. and perform "BRAKE"	' colf diagnosis		
	DTC "C1A70" dete	•	sell-ulaynosis.		E
	ES >> GO TO				
N					
	B. CHECK GROU				BR
1.		switch OFF to exit COI		and wait for 2 minutes or more wit	hout onon
2.	ing these doors.		(including back door)	and wait for 3 minutes or more wit	nout open-
	CAUTION:				
	Never operate f	the vehicle and CONS			
3.		battery cable from ne	gative terminal. Refe	r to <u>BR-5, "Precautions for Remov</u>	ing Battery
4.	<u>Terminal</u> . Disconnect the	electrically-driven intell	igent brake unit harn	ess connector	
 5.		nuity between electrica			1
		-			
	Electrically-driven	intelligent brake unit		Continuity	
	Connector	Terminal			J
	E34	31	Ground	Existed	
ls t	he inspection res	ult normal?			ķ
	ES >> GO TO				I
N	• '	or replace error-detecte	ed parts and GO TO	14.	
14	PERFORM SE	LF-DIAGNOSIS (6)			L
	With CONSULT				
1.		ctrically-driven intellige	ent brake unit harness	s connector.	
2.		ttery cable to negative			Ν
3.		switch OFF to ON with	out depressing the b	rake pedal.	
	CAUTION: Never set the v	ehicle to READY.			
4.		vo or more times.			ľ
	CAUTION:				
-		for 5 seconds or mo		power switch OFF.	C
5. 6.		switch OFF to exit COI		and wait for 3 minutes or more wit	bout open-
0.	ing these doors.			and wait for 5 minutes of more wit	inout open-
	CAUTION:				F
		the vehicle and CONS			I
7.		switch ON without dep	ressing the brake pe	dal.	
	CAUTION: Never set the v	ehicle to READY.			
8.					
		and erase self-diagno	sis result of "BRAKE	•	
9.	Turn the power s	and erase self-diagno switch OFF to exit COI	NSULT.		
	Turn the power s	switch OFF to exit COI	NSULT.	and wait for 3 minutes or more wit	hout open-

ing these doors.

< DTC/CIRCUIT DIAGNOSIS >

CAUTION:

Never operate the vehicle and CONSULT 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.
- Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER". Refer to <u>BR-24, "Reference</u> <u>Value"</u>.

Is the inspection result normal?

YES >> GO TO 16.

NO	>> Replace the electrical	y-driven intelligent brake unit.	. Refer to BR-261, "Removal and installation".
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16.PERFORM SELF-DIAGNOSIS (7)

With CONSULT

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

CAUTION: Never set the vehicle to READY.

2. Repeat step 1 two or more times.

CAUTION:

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

- 3. Turn the power switch OFF to exit CONSULT.
- 4. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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.
- 8. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 - CAUTION:

Never operate the vehicle and CONSULT 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.

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< DTC/CIRCUIT DIAGNOSIS >	
YES ("U1000")>>Refer to <u>BR-205, "Diagnosis Procedure"</u> . NO >> INSPECTION END	A
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< DTC/CIRCUIT DIAGNOSIS >

C1A74 STEERING ANGLE SENSOR

DTC Logic

INFOID:000000006960690

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.	 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

 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.
- 4. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

- Never operate the vehicle and CONSULT 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.
- Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION: Never operate the vehicle and CONSULT while waiting.

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

Never set the vehicle to READY.

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

Is DTC "C1A74" detected?

- YES >> Proceed to <u>BR-194</u>, "Diagnosis Procedure".
- NO >> INSPECTION END

Diagnosis Procedure

1.CHECK 12V BATTERY

1. Turn the power switch OFF to exit CONSULT.

INFOID:000000006960691

< DTC/CIRCUIT DIAGNOSIS > 2. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors. А **CAUTION:** Never operate the vehicle and CONSULT while waiting. 3. Check the 12V battery terminal connections. Refer to BR-5, "Precautions for Removing Battery Terminal" В and PG-105, "Work Flow". 4. Check the 12V battery. Refer to PG-105, "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) D (P)With CONSULT 1. Connect 12V battery cable to negative terminal. Turn the power switch OFF to ON without depressing the brake pedal. Е CAUTION: Never set the vehicle to READY. 3. Repeat step 2 two or more times. BR **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. 5. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors. **CAUTION:** Never operate the vehicle and CONSULT while waiting. Н 6. 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. 9. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors. CAUTION: Never operate the vehicle and CONSULT while waiting. 10. Turn the power switch ON without depressing the brake pedal. CAUTION: Κ 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. M NO >> INSPECTION END ${
m 3.}$ CHECK CONNECTOR TERMINALS 1. Ν Turn the power switch OFF to exit CONSULT. 2. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors. **CAUTION:** Never operate the vehicle and CONSULT while waiting. 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-5. "Precautions for Removing Battery</u> Terminal". Ρ 4. Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections. Is the inspection result normal? YES >> GO TO 5. NO >> Repair or replace error-detected parts and GO TO 4.

4.PERFORM SELF-DIAGNOSIS (2)

< DTC/CIRCUIT DIAGNOSIS >

() With CONSULT

- 1. Connect the electrically-driven 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.
- Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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.
- 10. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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 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.
- 3. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT while waiting.

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

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

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

Never set the vehicle to READY.

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

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

< DTC/CIRCUIT DIAGNOSIS >

<u>Is the inspection resu</u> YES >> GO TO 8				
NO >> GO TO 6				
6.CHECK POWER				
	witch OFF to exit COI) and wait for 3 minut	es or more without open-
ing these doors.		including back abor		
CAUTION:				
	he vehicle and CONS			ons for Removing Battery
<u>Terminal</u> ".		galive terminal. Ref	er to <u>br-5, Frecaulic</u>	<u>Ins for Removing Dattery</u>
4. Check the 15A fu				
	1 E/R harness connec		broke unit and IDDM	
6. Check the contin	uity between electrica	iny-anven menigent	brake unit and IPDM I	E/K.
Electrically-driven	ntelligent brake unit	IPD	M E/R	
Connector	Terminal	Connector	Terminal	Continuity
E34	26	E15	62	Existed
		_	_	
7. Check the contin		ing-driven intelligent	brake unit harness co	nnecior and ground.
Electrically-driven	ntelligent brake unit			
Connector	Terminal	—	Continuity	
E34	26	Ground	Not existed	
Is the inspection resu	-	Groand	Not existed	
PERFORM SELF- With CONSULT				
	trically-driven intellige /R harness connector		s connector.	
	tery cable to negative			
4. Turn the power s	witch OFF to ON with		orake pedal.	
CAUTION:	hicle to READY.			
5. Repeat step 4 tw CAUTION:				
	for 5 seconds or mo		power switch OFF.	
	witch OFF to exit CO) and wait for 3 minut	es or more without open-
ing these doors.			, and wait for 5 minut	es of more without open-
CĂUTION:				
	he vehicle and CON			
 Turn the power s CAUTION: 	witch ON without dep	ressing the blake pe	ual.	
	hicle to READY.			
	and erase self-diagno			
	witch OFF to exit COI hicle. close all doors (). and wait for 3 minut	es or more without open-
ing these doors.				
CAUTION:	a vahiele ard OON			
	he vehicle and CON witch ON without dep			
CAUTION:				
Never set the ve	ehicle to READY.			

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< DTC/CIRCUIT DIAGNOSIS >

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

14. Release brake pedal.

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

Is DTC "C1A74" detected?

YES >> GO TO 8.

NO >> INSPECTION END

8.CHECK 12V BATTERY POWER SUPPLY

- 1. Turn the power switch OFF to exit CONSULT.
- 2. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 - CAUTION:

Never operate the vehicle and CONSULT while waiting.

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

Electrically-driven intelligent brake unit		Voltage
Connector	Terminal	(Approx.)
	1 – 31	
E34	2 – 31	10 – 16 V
	11 – 31	

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

Never set the vehicle to READY.

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

Electrically-driven intelligent brake unit		Voltage
Connector	Terminal	(Approx.)
	1 – 31	
E34	2 – 31	10 – 16 V
	11 – 31	

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.
- Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 CAUTION:

Never operate the vehicle and CONSULT while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-5</u>, "<u>Precautions for Removing Battery</u> <u>Terminal</u>".
- 4. Check the 60A fusible link (#F).
- 5. Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).
- 6. Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).
- 7. Check the 10A fuse (#78).
- 8. Check the continuity and for short circuit between harness connector terminal 11 of electrically-driven intelligent brake unit and 10A fuse (#78).

Is the inspection result normal?

1. Connect the electrically-driven intelligent brake unit harness connector. 2. Connect 12V battery cable to negative terminal. C 2. Turn the power switch OFF to ON without depressing the brake pedal. C A. Repeat step 3 two or more times. D 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. E 6. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors. E 7. Turn the power switch ON without depressing the brake pedal. CAUTION: Never operate the vehicle and CONSULT while waiting. B 7. Turn the power switch ON without depressing the brake pedal. CAUTION: Never operate the vehicle to READY. G 9. Turn the power switch ON without depressing the brake pedal. CAUTION: Never set the vehicle to READY. G 9. Turn the power switch OFF to exit CONSULT. G 10. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors. Here Set the vehicle and CONSULT while waiting. 11. Turn the power switch ON without depressing the brake pedal. CAUTION: Here Set the vehicle to READY. 12. Depress brake pedal. I Meer set the vehicle to RE			EERING ANGL	E JENJUK	
TERY POWER SUPPLY-**. A NO >>> Repair or replace error-detected parts and GO TO 10. 10.PERFORM SELF-DIAGNOSIS (4) (Bwith CONSULT B 1. Connect the electrically-driven intelligent brake unit harness connector. C 2. Connect 12V battery cable to negative terminal. C 3. Turn the power switch OFF to ON without depressing the brake pedal. 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. B 6. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors. BR CAUTION: Never operate the vehicle to READY. B 8. Start CONSULT and erase self-diagnosis result of "BRAKE". G 9. Turn the power switch OFF to exit CONSULT. G 9. Turn the power switch ON without depressing the brake pedal. CAUTION: Never operate the vehicle to READY. G 8. Start CONSULT and erase self-diagnosis result of "BRAKE". G 9. Turn the power switch ON without depressing the brake pedal. CAUTION: Never operate the vehicle to READY. I 10. There the power switch ON without depressing the brake pedal. CAUTION: Neve					
10.PERFORM SELF-DIAGNOSIS (4) ■ ●With CONSULT ■ 1. Connect the electrically-driven intelligent brake unit harness connector. ■ 2. Connect TVe battery cable to negative terminal. □ 3. Turn the power switch OFF to ON without depressing the brake pedal. □ CAUTION: ■ Repeat step 3 two or more times. □ CAUTION: ■ Be sure to wait for 5 seconds or more after turning the power switch OFF. □ Turn the power switch OFF to exit CONSULT. ■ G at out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors. ■ CAUTION: ■ ■ Never oparate the vehicle and CONSULT while waiting. ■ Never set the vehicle on READY. ■ Start CONSULT and erase self-diagnosis result of "BRAKE". ■ 9. Turn the power switch OFF to exit CONSULT. ■ 10. Get out of the vehicle and CONSULT while waiting. ■ 11. Turn the power switch ON without depressing the brake pedal. ■ CAUTION: ■ ■ Never operate the vehicle and CONSULT while waiting. ■ 12. Depress brake pedal by 100 mm (3.94 in) or			12V battery power su	pply. Refer to <u>PG-16, "Wiring Diagram - BAT-</u>	А
B B With CONSULT 1. Connect the electrically-driven intelligent brake unit harness connector. 2. Connect 12V battery cable to negative terminal. C CAUTION: Never set the vehicle to READY. 0. Repeat step 3 two or more times. 0. AUTION: B sure to wait for 5 seconds or more after turning the power switch OFF. 0. Turn the power switch OFF to exit CONSULT. 0. 0. 6. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors. 0. 7. Turn the power switch ON without depressing the brake pedal. 0. CAUTION: Never operate the vehicle and CONSULT while waiting. 0. 8. Start CONSULT and erase self-diagnosis result of "BRAKE". 0. 9. Turn the power switch OFF to exit CONSULT. 0. 9. Start CONSULT and erase self-diagnosis result of "BRAKE". 0. 9. Turn the power switch ON without depressing the brake pedal. 0. CAUTION: Never operate the vehicle and CONSULT while waiting. 1. 10. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors. 1. 11. Turn the power switch ON without depressing the brake pedal. 1. <t< td=""><td></td><td>•</td><td>ed parts and GO TO 1</td><td>10.</td><td></td></t<>		•	ed parts and GO TO 1	10.	
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1. Turn the power switch OFF to exit CONSULT. L 2. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors. M 2. CAUTION: M Never operate the vehicle and CONSULT while waiting. M 3. Disconnect 12V battery cable from negative terminal. Refer to BR-5. "Precautions for Removing Battery Terminal". N 4. Disconnect the electrically-driven intelligent brake unit harness connector. N 5. Check the continuity between electrically-driven intelligent brake unit and ground. O Electrically-driven intelligent brake unit — Continuity Connector Terminal — Continuity E34 31 Ground Existed P					
 2. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors. CAUTION: Never operate the vehicle and CONSULT while waiting. 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-5</u>, "Precautions for Removing Battery <u>Terminal"</u>. 4. Disconnect the electrically-driven intelligent brake unit harness connector. 5. Check the continuity between electrically-driven intelligent brake unit and ground. Electrically-driven intelligent brake unit Connector Terminal Gonnector Terminal Gonnector Terminal Gonnector Terminal P 	-				L
ing these doors. CAUTION: Never operate the vehicle and CONSULT while waiting. 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-5</u> , "Precautions for Removing Battery <u>Terminal</u> ". 4. Disconnect the electrically-driven intelligent brake unit harness connector. 5. Check the continuity between electrically-driven intelligent brake unit and ground. O <u>Electrically-driven intelligent brake unit</u> <u>Connector</u> Terminal <u>Elad</u> 31 Ground Existed P				and wait for 3 minutes or more without open-	
Never operate the vehicle and CONSULT while waiting. 3. Disconnect 12V battery cable from negative terminal. Refer to BR-5, "Precautions for Removing Battery Terminal". N 4. Disconnect the electrically-driven intelligent brake unit harness connector. N 5. Check the continuity between electrically-driven intelligent brake unit and ground. O Electrically-driven intelligent brake unit — Continuity Electrically-driven intelligent brake unit — Continuity E34 31 Ground Existed	ing these doors.				B. 4
3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-5. "Precautions for Removing Battery Terminal"</u> . N 4. Disconnect the electrically-driven intelligent brake unit harness connector. S 5. Check the continuity between electrically-driven intelligent brake unit and ground. O Electrically-driven intelligent brake unit — Continuity Electrically-driven intelligent brake unit — Continuity E34 31 Ground Existed		ne vehicle and CONS	SI II T while waiting		IVI
Terminal". N 4. Disconnect the electrically-driven intelligent brake unit harness connector. 5. Check the continuity between electrically-driven intelligent brake unit and ground. Electrically-driven intelligent brake unit Connector Terminal E34 31 Ground Existed				r to BR-5, "Precautions for Removing Battery	
5. Check the continuity between electrically-driven intelligent brake unit and ground. O Electrically-driven intelligent brake unit — Continuity Connector Terminal — Continuity E34 31 Ground Existed P	<u>Terminal"</u> .		-		Ν
Electrically-driven intelligent brake unit—ContinuityConnectorTerminal—ContinuityE3431GroundExisted					
Electrically-driven intelligent brake unitContinuityConnectorTerminalContinuityE3431GroundExisted			ing any on intelligent b		_
ConnectorTerminalContinuityE3431GroundExisted	Electrically-driven i	ntelligent brake unit			0
	Connector	Terminal	—	Continuity	
Is the inspection result normal?	E34	31	Ground	Existed	Р
	Is the inspection resu	It normal?			

YES >> GO TO 13.

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

12.PERFORM SELF-DIAGNOSIS (5)

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

< DTC/CIRCUIT DIAGNOSIS >

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

Never set the vehicle to READY.

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

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

- 5. Turn the power switch OFF to exit CONSULT.
- 6. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 - CĂUTION:

Never operate the vehicle and CONSULT 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.
- 10. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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 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 from negative terminal
- 3. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:

Never set the vehicle to READY.

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

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

- 5. Start CONSULT and select "BRAKE" and "DATA MONITOR" according this order.
- Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER". Refer to <u>BR-24, "Reference</u> <u>Value"</u>.

Is the inspection result normal?

YES >> GO TO 14.

NO >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-261, "Removal and installation"</u>.

14.PERFORM SELF-DIAGNOSIS (6)

With CONSULT

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

Never set the vehicle to READY.

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

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

- 3. Turn the power switch OFF to exit CONSULT.
- Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 CAUTION:

BR-200

DTC/CIRCUIT DIAGNOSIS >	
Never operate the vehicle and CONSULT 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. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open 	
 Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open ing these doors. 	-
CAUTION:	
Never operate the vehicle and CONSULT while waiting.	
Turn the power switch ON without depressing the brake pedal.	
CAUTION:	
Never set the vehicle to READY.	
0. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.	
1. Release brake pedal.	
2. Start CONSULT and perform "BRAKE" self-diagnosis.	
DTC "C1A74" or "U1000" detected?	-
YES ("C1A74")>>GO TO 15.	
(ES ("U1000")>>Refer to <u>BR-205, "Diagnosis Procedure"</u> .	
NO >> INSPECTION END	1
5. PERFORM SELF-DIAGNOSIS OF ABS ACTUATOR AND CONTROL UNIT	
art CONSULT and perform self-diagnosis for "ABS". Refer to BRC-40, "CONSULT Function".	-
any DTC detected?	
ES >> Check the DTC. Refer to <u>BRC-50, "DTC Index"</u> . GO TO 16.	
IO >> GO TO 16.	
6. 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. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open	
ing these doors.	-
CAUTION:	
Never operate the vehicle and CONSULT 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. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open	
······································	•
ing these doors. CAUTION:	
Never operate the vehicle and CONSULT 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. 	
 Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more. Release brake pedal. 	
 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. 	
Never set the vehicle to READY. 0. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more. 1. Release brake pedal. 2. Start CONSULT and perform "BRAKE" self-diagnosis. 5 DTC "C1A74" detected? YES >> GO TO 15. NO >> INSPECTION END	

< DTC/CIRCUIT DIAGNOSIS >

U1000 CAN COMM CIRCUIT

Description

INFOID:000000006960692

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:000000006960693

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
U1000	CAN COMM CIRCUIT	Electrically-driven intelligent brake unit did not receive / transmit the CAN communication signal for 2 sec- onds or more.	CAN communication system mal- function

DTC REPRODUCTION PROCEDURE

1.PRECONDITIONING

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

>> GO TO 2.

2. CHECK DTC DETECTION

With CONSULT

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

Never set the vehicle to READY.

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.
- 4. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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.
- 8. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT while waiting.

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

Never set the vehicle to READY.

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

Is DTC "U1000" detected?

- YES >> Proceed to <u>BR-203, "Diagnosis Procedure"</u>.
- NO >> INSPECTION END

< DTC/CIRCUIT DIAGNOSIS >		
Diagnosis Procedure	INFOID:00000006960694	А
Proceed to LAN-15, "Trouble Diagnosis Flow Chart".		/ \
		В

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< DTC/CIRCUIT DIAGNOSIS >

U1010 CONTROL UNIT (CAN)

Description

INFOID:000000006960695

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:000000006960696

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

(B) With CONSULT

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

Never set the vehicle to READY.

 Repeat step 1 two or more times. CAUTION:

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

- 3. Turn the power switch OFF to exit CONSULT.
- 4. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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.
- Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT while waiting.

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

Never set the vehicle to READY.

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

Is DTC "U1010" detected?

YES >> Proceed to <u>BR-205. "Diagnosis Procedure"</u>.

NO >> INSPECTION END

U1010 CONTROL UNIT (CAN)

< DTC/CIRCUIT DIAGNOSIS >

Diagnosis Procedure A 1.CHECK SELF-DIAGNOSIS RESULTS A Check for failures in the pin terminals and connections of the electrically-driven intelligent brake unit harness connector. B Is the inspection result normal? YES >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-261, "Removal and installation"</u>. C

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< DTC/CIRCUIT DIAGNOSIS >

U1510 ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) COMMU-NICATION

DTC Logic

INFOID:000000006960698

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
U1510	BRAKE CONTROL COMMUNI- CATION	Signals from brake communications line [*] are not sent or received continuously for 4 seconds or more.	 Harness or connector Electrically-driven intelligent brake unit ABS actuator and electric unit (control unit)

*: 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.
- 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.
- 4. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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.
- Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT while waiting.

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

Never set the vehicle to READY.

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

Is DTC "U1510" detected?

- YES >> Proceed to <u>BR-206, "Diagnosis Procedure"</u>.
- NO >> INSPECTION END

Diagnosis Procedure

1.CHECK 12V BATTERY

< DTC/CIRCUIT DIAGNOSIS >

	Turn the power switch OFF to exit CONSULT. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open- ing these doors.	А
	CAUTION:	
3.	Never operate the vehicle and CONSULT while waiting. Check the 12V battery terminal connections. Refer to <u>BR-5</u> , "Precautions for Removing Battery Terminal" and <u>PG-105</u> , "Work Flow".	В
4.	Check the 12V battery. Refer to <u>PG-105, "Work Flow"</u> .	
ls t	he inspection result normal?	С
	ES >> GO TO 2.	
N		D
Ζ.	PERFORM SELF-DIAGNOSIS (1)	
	With CONSULT	
	Connect 12V battery cable to negative terminal. Turn the power switch OFF to ON without depressing the brake pedal.	Е
Ζ.	CAUTION:	
	Never set the vehicle to READY.	BR
3.	Repeat step 2 two or more times. CAUTION:	DK
	Be sure to wait for 5 seconds or more after turning the power switch OFF.	
	Turn the power switch OFF to exit CONSULT.	G
5.	Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open-	
	ing these doors. CAUTION:	
	Never operate the vehicle and CONSULT while waiting.	Н
6.	Turn the power switch ON without depressing the brake pedal.	
	CAUTION: Never set the vehicle to READY.	1
7.	Start CONSULT and erase self-diagnosis result of "BRAKE".	
	Turn the power switch OFF to exit CONSULT.	
9.	Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open- ing these doors.	J
	CAUTION:	
	Never operate the vehicle and CONSULT while waiting.	
10.	Turn the power switch ON without depressing the brake pedal. CAUTION:	Κ
	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.	L
	Release brake pedal. Start CONSULT and perform "BRAKE" self-diagnosis.	
	OTC "U1510" detected?	
	ES >> GO TO 3.	M
N		
3.	CHECK CONNECTOR TERMINALS	Ν
1.	Turn the power switch OFF to exit CONSULT.	14
2.	Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open-	
	ing these doors. CAUTION:	0
	Never operate the vehicle and CONSULT while waiting.	
3.	Disconnect 12V battery cable from negative terminal. Refer to BR-5, "Precautions for Removing Battery	
л	<u>Terminal</u> .	Ρ
4.	Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.	
<u>ls t</u>	he inspection result normal?	
	ES >> GO TO 5.	
N 1		
4.	PERFORM SELF-DIAGNOSIS (2)	

Revision: 2014 June

< 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.
- 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.
- Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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.
- 10. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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.
- 3. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

- Never operate the vehicle and CONSULT while waiting.
 4. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-5</u>, "<u>Precautions for Removing Battery</u> <u>Terminal</u>".
- 5. Disconnect the electrically-driven intelligent brake unit harness connector.
- 6. Connect 12V battery cable to negative terminal.
- 7. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

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

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

Never set the vehicle to READY.

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

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

< DTC/CIRCUIT DIAGNOSIS >

the inspection result YES >> GO TO 8.	normal?			
NO >> GO TO 6.				
CHECK POWER S	WITCH ON POWER	SUPPLY CIRCUIT		
. Get out of the veh ing these doors. CAUTION: Never operate the	e vehicle and CONS	including back door) SULT while waiting.		es or more without open-
Terminal".		gative terminal. Refe	er to <u>BR-5, "Precautio</u>	ns for Removing Battery
	E/R harness connect		brake unit and IPDM I	E/R.
Electrically-driven in	telligent brake unit	IPD	M E/R	
Connector	Terminal	Connector	Terminal	Continuity
E34	26	E15	62	Existed
Check the continu	ity between electrical	lly-driven intelligent	brake unit harness co	nnector and ground.
Electrically-driven in	telligent brake unit	_	Continuity	
Connector	Terminal			
E34	26	Ground	Not existed	
	ically-driven intellige		s connector.	
Connect 12V batte Turn the power sw	R harness connector. ery cable to negative vitch OFF to ON with	terminal.	rake pedal.	
CAUTION: Never set the veh Repeat step 4 two				
CAUTION: Be sure to wait fo	or 5 seconds or mo	re after turning the	power switch OFF.	
Turn the power sw	vitch OFF to exit CON	NSULT.		
ing these doors.	·	-		es or more without open-
Turn the power sw CAUTION:	e vehicle and CONS <i>v</i> itch ON without depr			
Never set the ver		sis result of "BRAKE	"	
 Turn the power sw Get out of the veh 	itch OFF to exit CON		, and wait for 3 minute	es or more without open-
 Turn the power sw Get out of the veh ing these doors. CAUTION: 	vitch OFF to exit CON icle, close all doors (e vehicle and CONS	including back door) SULT while waiting.		es or more without open-

< 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.
- 2. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 - CAUTION:

Never operate the vehicle and CONSULT while waiting.

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

Electrically-driver	Voltage	
Connector	Terminal	(Approx.)
	1 – 31	
E34	2 – 31	10 – 16 V
	11 – 31	

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

Never set the vehicle to READY.

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

Electrically-drive	Voltage			
Connector	Terminal	(Approx.)		
	1 – 31			
E34	2 – 31	10 – 16 V		
	11 – 31			

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.
- Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 CAUTION:

Never operate the vehicle and CONSULT while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-5</u>, "Precautions for Removing Battery <u>Terminal"</u>.
- 4. Check the 60A fusible link (#F).
- 5. Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).
- 6. Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).
- 7. Check the 10A fuse (#78).
- 8. Check the continuity and for short circuit between harness connector terminal 11 of electrically-driven intelligent brake unit and 10A fuse (#78).

Is the inspection result normal?

			HON		
< DTC/C	IRCUIT DIAG	GNOSIS >			
YES		ouble diagnosis for ' WER SUPPLY -".	2V battery power s	upply. Refer to <u>PG-16, "Wiring Diagram - B</u>	
NO		replace error-detecte	d parts and GO TO	10.	A
	•	- DIAGNOSIS (4)	·		
	ONSULT				В
\sim		ically-driven intellige	nt brake unit harnes	ss connector.	
2. Conr	nect 12V batte	ery cable to negative	terminal.		
		vitch OFF to ON with	out depressing the t	orake pedal.	С
	TION: er set the ver	nicle to READY.			
4. Repe	eat step 3 two	or more times.			D
	TION:	-			
		vitch OFF to exit CON		power switch OFF.	
), and wait for 3 minutes or more without or	oen- E
ing tl	hese doors.	, ,	0	,, , , , , , , , , , , , , , , , , , , ,	
	TION:	a vahiala and CONG			
		e vehicle and CONS vitch ON without dep			BR
	TION:				
		nicle to READY.		- 11	G
		nd erase self-diagnos /itch OFF to exit CON		<u>:</u> ".	0
), and wait for 3 minutes or more without or	oen-
ing tl	nese doors.	, ,	0	,, , , , , , , , , , , , , , , , , , , ,	Н
	TION:	a vahiala and CONS	LII T while waiting		
		e vehicle and CONS vitch ON without dep			
CAU	TION:		5		
		nicle to READY.	in) or more and he	ld the position for 5 accords or more	
	ase brake pe		in) or more, and no	ld the position for 5 seconds or more.	J
		nd perform "BRAKE"	self-diagnosis.		0
	J1510" detect	•	0		
YES	>> GO TO 11				K
	>> INSPECTI				
11.сне	ECK GROUNI	O CIRCUIT			
1. Turn	the power sw	vitch OFF to exit CON	NSULT.		L
		icle, close all doors (including back door), and wait for 3 minutes or more without or	ben-
	hese doors. TION:				M
		e vehicle and CONS	SULT while waiting		1 1 1
3. Disc	onnect 12V b			er to <u>BR-5. "Precautions for Removing Bat</u>	<u>tery</u>
	<u>iinal"</u> . annact tha als	atrically driven intell	a ont broke unit here		Ν
		ectrically-driven intell		brake unit and ground.	
J. 0160			ing anyon intelligent	State and ground.	
Elec	ctrically-driven in	telligent brake unit			0
	nector	Terminal	—	Continuity	
	E34	31	Ground	Existed	Р
Is the ins	pection result	normal?		1	-
<u></u>					

YES >> GO TO 13.

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

12.PERFORM SELF-DIAGNOSIS (5)

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

< DTC/CIRCUIT DIAGNOSIS >

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

Never set the vehicle to READY.

4. Repeat step 3 two or more times.

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

- 5. Turn the power switch OFF to exit CONSULT.
- 6. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 - CAUTION:

Never operate the vehicle and CONSULT 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.
- 10. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT while waiting.

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

Never set the vehicle to READY.

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

Is DTC "U1510" detected?

YES >> GO TO 13.

NO >> INSPECTION END

13.CHECK DATA MONITOR

() With CONSULT

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

Never set the vehicle to READY.

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

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

- 5. Start CONSULT and select "BRAKE" and "DATA MONITOR" according this order.
- Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER". Refer to <u>BR-24, "Reference</u> <u>Value"</u>.

Is the inspection result normal?

YES >> GO TO 14.

NO >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-261, "Removal and installation"</u>.

14.PERFORM SELF-DIAGNOSIS (6)

With CONSULT

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

Never set the vehicle to READY.

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

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

- 3. Turn the power switch OFF to exit CONSULT.
- Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 CAUTION:

< DTC/CIRCUIT DIAGNOSIS >

	_
Never operate the vehicle and CONSULT while waiting.	-
Turn the power switch ON without depressing the brake pedal.	ŀ
CAUTION:	
Never set the vehicle to READY.	
6. Start CONSULT and erase self-diagnosis result of "BRAKE".	E
7. Turn the power switch OFF to exit CONSULT.	
8. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open-	-
ing these doors.	6
CAUTION:	C
 Never operate the vehicle and CONSULT while waiting. 9. Turn the power switch ON without depressing the brake pedal. 	
 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.	E
Is DTC "U1510" detected?	
YES >> GO TO 15. NO >> INSPECTION END	BF
15. PERFORM SELF-DIAGNOSIS OF ABS ACTUATOR AND CONTROL UNIT	
Start CONSULT and perform self-diagnosis for "ABS". Refer to BRC-40, "CONSULT Function".	
Is DTC "U110D" detected?	
YES >> Perform diagnosis. Refer to <u>BRC-130, "Diagnosis Procedure"</u> .	
NO >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-261, "Removal and installation"</u> .	F
	1

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U1511 BRAKE POWER SUPPLY BACKUP UNIT COMMUNICATION < DTC/CIRCUIT DIAGNOSIS >

U1511 BRAKE POWER SUPPLY BACKUP UNIT COMMUNICATION

DTC Logic

INFOID:000000006960700

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
U1511	POWER SUPPLY BACKUP UNIT COMM	Signals from power backup communications line [*] are not sent or received continuously for 4 seconds or more.	 Harness or connector Electrically-driven intelligent brake unit Brake power supply backup unit

*: Communications line between electrically-driven intelligent brake unit and brake power supply backup unit.

DTC REPRODUCTION PROCEDURE

1.PRECONDITIONING

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

>> GO TO 2.

2. CHECK DTC DETECTION

(I) With CONSULT

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

Never set the vehicle to READY.

2. Repeat step 1 two or more times.

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

- 3. Turn the power switch OFF to exit CONSULT.
- 4. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT while waiting.

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

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.
- 8. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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 <u>BR-214, "Diagnosis Procedure"</u>.

NO >> INSPECTION END

Diagnosis Procedure

1.CHECK 12V BATTERY

1. Turn the power switch OFF to exit CONSULT.

INFOID:000000006960701

U1511 BRAKE POWER SUPPLY BACKUP UNIT COMMUNICATION

< DTC/CIRCUIT DIAGNOSIS >

2	Cat out of the vehicle, close all deers (including back deer), and wait for 2 minutes or more without onen	
Ζ.	Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open-	^
	ing these doors. CAUTION:	A
	Never operate the vehicle and CONSULT while waiting.	
3.	Check the 12V battery terminal connections. Refer to <u>BR-5</u> , "Precautions for Removing Battery Terminal"	
0.	and <u>PG-105, "Work Flow"</u> .	В
4	Check the 12V battery. Refer to <u>PG-105, "Work Flow"</u> .	
	ne inspection result normal?	
		С
	S >> GO TO 2.	
N		
2.	PERFORM SELF-DIAGNOSIS (1)	D
		D
	Vith CONSULT	
1.	Connect 12V battery cable to negative terminal.	
2.	Turn the power switch OFF to ON without depressing the brake pedal.	E
	CAUTION:	
~	Never set the vehicle to READY.	
3.		BR
	CAUTION:	BR
	Be sure to wait for 5 seconds or more after turning the power switch OFF.	
	Turn the power switch OFF to exit CONSULT.	
5.	Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open-	G
	ing these doors.	
	CAUTION:	
~	Never operate the vehicle and CONSULT while waiting.	Н
6.	Turn the power switch ON without depressing the brake pedal.	
	CAUTION:	
7	Never set the vehicle to READY.	
	Start CONSULT and erase self-diagnosis result of "BRAKE".	
	Turn the power switch OFF to exit CONSULT.	
9.	Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open-	
	ing these doors.	J
	CAUTION:	
40	Never operate the vehicle and CONSULT while waiting.	
10.	Turn the power switch ON without depressing the brake pedal.	IZ.
	CAUTION:	Κ
11	Never set the vehicle to READY.	
	Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.	
	Release brake pedal.	
	Start CONSULT and perform "BRAKE" self-diagnosis.	
ls L	DTC "U1511" detected?	
YE		M
N	D >> INSPECTION END	1 V 1
3	CHECK CONNECTOR TERMINALS	
1.	Turn the power switch OFF to exit CONSULT.	Ν
2.	Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open-	
	ing these doors.	
	CAUTION:	0
	Never operate the vehicle and CONSULT while waiting.	
3.	Disconnect 12V battery cable from negative terminal. Refer to <u>BR-5</u> , "Precautions for Removing Battery	
	<u>Terminal"</u> .	
4.	Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin	Р
	terminals and connections.	
5.	Disconnect the brake power supply backup unit harness connector, then check for failures of pin terminals	
	and connections.	
ls th	ne inspection result normal?	
	ES >> GO TO 5.	
N		
111	$\sim \sim 10$ Mepair of replace entri-deletied parts and GO TO 4.	

U1511 BRAKE POWER SUPPLY BACKUP UNIT COMMUNICATION

< DTC/CIRCUIT DIAGNOSIS >

4.PERFORM SELF-DIAGNOSIS (2)

With CONSULT

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

Never set the vehicle to READY.

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

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

- 6. Turn the power switch OFF to exit CONSULT.
- 7. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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.
- 11. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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.
- 3. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT while waiting.

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

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

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

Never set the vehicle to READY.

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

< DTC/CIRCUIT DIAGNOSIS >

Electrically-driven ir	ntelligent brake unit			
Connector	Terminal	_	Voltage (Approx.)	
E34	26	Ground	10 – 16 V	
Is the inspection resul	t normal?			
YES >> GO TO 8.				
NO >> GO TO 6.				
6. CHECK POWER S	WITCH ON POWER	SUPPLY CIRCUIT		
2. Get out of the veh ing these doors.	witch OFF to exit COI hicle, close all doors (, and wait for 3 minute	es or more without open-
CAUTION: Never operate th	e vehicle and CON	SI II T while waiting		
			r to <u>BR-5, "Precautio</u>	ns for Removing Battery
<u>Terminal"</u> .		•		
 Check the 15A function Disconnect IPDM 	se (#62). E/R harness connec	tor		
			brake unit and IPDM E	E/R.
Electrically-driven in	ntelligent brake unit	IPDI	/IE/R	Continuity
Connector	Terminal	Connector	Terminal	Continuity
E34	26	E15	62	Existed
7. Check the continu	uity between electrica	Illy-driven intelligent b	orake unit harness coi	nnector and ground.
Electrically-driven in	ntelligent brake unit		Continuity	
Connector	Terminal	_	Continuity	
E34	26	Ground	Not existed	
Is the inspection resul	t normal?			
		power ON power su	pply. Refer to PG-62	<u>2. "Wiring Diagram - ON</u>
	SUPPLY -". replace error-detecte	ed parts and GO TO ⁻	7	
7.PERFORM SELF-I	•			
With CONSULT	riaally, drivan intalliga	nt broke unit bernee	appagtar	
	rically-driven intellige R harness connector		s connector.	
3. Connect 12V batt	ery cable to negative	terminal.		
	witch OFF to ON with	out depressing the b	rake pedal.	
CAUTION: Never set the ve	hicle to READY.			
5. Repeat step 4 two				
CAUTION:				
	or 5 seconds or mo witch OFF to exit COI		power switch OFF.	
			, and wait for 3 minute	es or more without open-
ing these doors.		,		
CAUTION: Never operate th	e vehicle and CON	SIII T while waiting		
	witch ON without dep		dal.	
CAUTION:		U 14		
Never set the ve				
Start CONSULT a		aid regult of "DDAVE"	,	
		sis result of "BRAKE [:] NSULT.	; -	
10. Turn the power sv	witch OFF to exit CO	NSULT.		es or more without open-
10. Turn the power sv	witch OFF to exit CO	NSULT.		es or more without open-

< DTC/CIRCUIT DIAGNOSIS >

CAUTION:

Never operate the vehicle and CONSULT 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.

- 2. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 - CAUTION:

Never operate the vehicle and CONSULT while waiting.

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

Electrically-drive	Voltage (Approx.)		
Connector	Connector Terminal		
	1 – 31		
E34	2 – 31	10 – 16 V	
	11 – 31		

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

Never set the vehicle to READY.

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

Electrically-driver	Electrically-driven intelligent brake unit		
Connector	Connector Terminal		
	1 – 31		
E34	2 – 31	10 – 16 V	
	11 – 31		

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.
- Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 CAUTION:

Never operate the vehicle and CONSULT while waiting.

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

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< DTC/CIRCUIT DIAGNOSIS >

	Check the 10A Check the con intelligent brake		rcuit between harnes 8).	ss connector terminal 11 of electrically-driven	А
ls tł	ne inspection res		,		
	S >> Perform		12V battery power su	upply. Refer to <u>PG-16, "Wiring Diagram - BAT-</u>	В
NC		or replace error-detecte	ed parts and GO TO	10.	
10	.PERFORM SE	ELF-DIAGNOSIS (4)			С
	Vith CONSULT				
1.	Connect the ele	ectrically-driven intellige		s connector.	
2.		attery cable to negative			D
3.	I urn the power CAUTION :	switch OFF to ON with	out depressing the b	rake pedal.	
		vehicle to READY.			_
4.		wo or more times.			Е
	CAUTION:			_	
		t for 5 seconds or mo		power switch OFF.	пп
		switch OFF to exit CO			BR
6.			(including back door)	, and wait for 3 minutes or more without open-	
	ing these doors				0
		the vehicle and CON	SULT while waiting.		G
7.		switch ON without dep			
	CAUTION:				Н
~		vehicle to READY.		n	11
		F and erase self-diagno			
		switch OFF to exit CO		, and wait for 3 minutes or more without open-	
10.	ing these doors			, and wait for 5 minutes of more without open-	1
	CAUTION:				
	Never operate	the vehicle and CON	SULT while waiting.		J
11.		switch ON without dep	ressing the brake pe	dal.	J
	CAUTION:				
10		vehicle to READY.	lin) or more and hel	d the position for 5 seconds or more	К
	Release brake		Fin) of more, and not	d the position for 5 seconds or more.	N.
		F and perform "BRAKE'	" self-diagnosis.		
	TC "U1511" det	•			1
YE					
N		CTION END			
11	.CHECK GROU				M
					1 V I
1.		switch OFF to exit CO		and weit for 2 minutes or more without on an	
2.	ing these doors		(including back door)	, and wait for 3 minutes or more without open-	Ν
	CAUTION:				
		the vehicle and CON	SULT while waiting.		
3.	Disconnect 12			er to BR-5, "Precautions for Removing Battery	0
	<u>Terminal"</u>				
4. 5		electrically-driven intell			
5.		inuity between electrica		Jiake unit anu giounu.	Ρ
		a lata Blazart I. et al. 24			
		n intelligent brake unit		Continuity	
	Connector	Terminal		-	

Is the inspection result normal?

31

YES >> GO TO 13.

E34

Ground

Existed

< DTC/CIRCUIT DIAGNOSIS >

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

12.PERFORM SELF-DIAGNOSIS (5)

With CONSULT

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

Never set the vehicle to READY.

 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.
- 6. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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.
- 10. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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 <u>BR-24, "Reference</u> <u>Value"</u>.

Is the inspection result normal?

YES >> GO TO 14.

NO >> Replace the electrically-driven intelligent brake unit. Refer to BR-261, "Removal and installation".

14.PERFORM SELF-DIAGNOSIS (6)

With CONSULT

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

Never set the vehicle to READY.

 Repeat step 1 two or more times. CAUTION:

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< DTC/CIRCUIT DIAGNOSIS >

3.		or 5 seconds or mo witch OFF to exit COI		power switch OFF.		А		
4.				and wait for 3 minu	ites or more without open-			
	ing these doors.	,	J					
	CĂUTION:					В		
		e vehicle and CONS				D		
5.	Turn the power sw CAUTION:	witch ON without dep	ressing the brake peo	dal.				
	Never set the ve	hicle to READY.				С		
		and erase self-diagno		•				
		witch OFF to exit CO						
8.	8. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open-							
	ing these doors.							
		e vehicle and CONS	SULT while waiting					
9.		witch ON without dep		dal.		Е		
-	CAUTION:		5					
	Never set the ve							
		dal by 100 mm (3.94	in) or more, and hold	the position for 5 s	econds or more.	BR		
	Release brake pe							
		ind perform "BRAKE"	self-diagnosis.					
	DTC "U1511" detec					G		
	ES >> GO TO 1							
N								
15	D. CHECK BRAKE	POWER SUPPLY BA	ACKUP UNIT CIRCU	IT		Н		
1.	Turn the power sy	witch OFF to exit CO	NSULT.					
2.				and wait for 3 minu	ites or more without open-			
	ing these doors.				-			
	CAUTION:							
~		e vehicle and CONS						
3.	Terminal".	battery cable from he	gative terminal. Refe	r to <u>BR-5, "Precaut</u>	ions for Removing Battery	J		
4		ectrically-driven intell	igent brake unit harne	ess connector				
 5.		ake power supply ba						
6.					power supply backup unit.	К		
			, 0					
	Electrically-driven ir	ntelligent brake unit	Brake power su	pply backup unit	Continuity			
	Connector	Terminal	Connector	Terminal	- Continuity	L		
		32		2	Existed			
		32		6	Not existed	M		
		32		4	Not existed			
		8		2	Not existed			
	E34	8	B15	6	Existed	Ν		
		8		4	Not existed			
		10		2	Not existed			

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

10

10

6

4

Not existed

Existed

Ο

Ρ

< DTC/CIRCUIT DIAGNOSIS >

Electrically-driven intelligent brake unit			Continuity
Connector	Terminal		Continuity
	32		Not existed
E34	8	Ground	Not existed
⊏34	10	Ground	Not existed
	31		Existed

Is the inspection result normal?

YES >> GO TO 16.

NO >> Repair or replace error-detected parts.

16.CHECK BRAKE POWER SUPPLY BACKUP UNIT POWER SUPPLY

- 1. Connect 12V battery cable to negative terminal.
- 2. Check the voltage between the brake power supply backup unit harness connector and ground.

Brake power	supply backup unit		Voltage	
Connector	Terminal	_	(Approx.)	
B15	3	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 s	supply backup unit	_	Voltage
Connector	Terminal		(Approx.)
B15	3	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.
- Disconnect 12V battery cable from negative terminal. Refer to <u>BR-5</u>, "Precautions for Removing Battery <u>Terminal</u>".
- 3. Check the 15A fuse (#82)
- 4. Check the continuity and for short circuit between harness connector terminal 3 of brake power supply backup unit and 15A fuse (#82).

Is the inspection result normal?

YES >> GO TO 18.

NO >> Perform trouble diagnosis for 12V battery power supply. Refer to <u>PG-16. "Wiring Diagram - BAT-</u> <u>TERY POWER SUPPLY -"</u>.

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.

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< DTC/CIRCUIT DIAGNOSIS >

	Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open- ing these doors.
	CAUTION:
3.	Never operate the vehicle and CONSULT 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.
	Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open-
	ing these doors.
	CAUTION:
	Never operate the vehicle and CONSULT while waiting. Turn the power switch ON without depressing the brake pedal.
	CAUTION:
	Never set the vehicle to READY.
3.	Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
	Release brake pedal.
	Start CONSULT and perform "BRAKE" self-diagnosis.
D	TC "U1511" detected?
	S >> GO TO 19.
10	
9	REPLACE BRAKE POWER SUPPLY BACKUP UNIT
	ith CONSULT
	Replace the brake power supply backup unit. Refer to <u>BR-264, "Removal and Installation"</u> .
	Connect the electrically-driven intelligent brake unit harness connector.
	Connect 12V battery cable to negative terminal.
	Turn the power switch OFF to ON without depressing the brake pedal.
	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.
	Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open-
	ing these doors.
	CAUTION:
	Novar aparata the vehicle and CONSULT while waiting
	Never operate the vehicle and CONSULT while waiting.
	Turn the power switch ON without depressing the brake pedal.
	Turn the power switch ON without depressing the brake pedal. CAUTION:
	Turn the power switch ON without depressing the brake pedal. CAUTION: Never set the vehicle to READY.
	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 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. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open-
	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. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open- ing these doors.
	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. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open- ing these doors. CAUTION:
	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. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open- ing these doors. CAUTION: Never operate the vehicle and CONSULT 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. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open- ing these doors. CAUTION: Never operate the vehicle and CONSULT while waiting. Turn the power switch ON without depressing the brake pedal.
).	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. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open- ing these doors. CAUTION: Never operate the vehicle and CONSULT while waiting. Turn the power switch ON without depressing the brake pedal. CAUTION:
). ·	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. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open- ing these doors. CAUTION: Never operate the vehicle and CONSULT while waiting. Turn the power switch ON without depressing the brake pedal. CAUTION: Never set the vehicle to READY.
). 3.	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. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open- ing these doors. CAUTION: Never operate the vehicle and CONSULT 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.
). 2. 3.	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. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open- ing these doors. CAUTION: Never operate the vehicle and CONSULT 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.
). 1. 2. 3. 4. 5.	Turn the power switch ON without depressing the brake pedal. CAUTION: Never set the vehicle to READY. Start CONSULT and erase self-diagnosis result of "BRAKE". Turn the power switch OFF to exit CONSULT. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open- ing these doors. CAUTION: Never operate the vehicle and CONSULT 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.
). 2. 3. 4. 5.	Turn the power switch ON without depressing the brake pedal. CAUTION: Never set the vehicle to READY. Start CONSULT and erase self-diagnosis result of "BRAKE". Turn the power switch OFF to exit CONSULT. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open- ing these doors. CAUTION: Never operate the vehicle and CONSULT 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. IC "U1511" detected?

< DTC/CIRCUIT DIAGNOSIS >

POWER SUPPLY AND GROUND CIRCUIT

Diagnosis Procedure

INFOID:000000006960702

1. CHECK POWER OF ELECTRICALLY-DRIVEN BRAKE UNIT WHEN POWER SWITCH IS ON

- 1. Turn the power switch OFF to exit CONSULT.
- 2. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT while waiting.

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

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

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

Never set the vehicle to READY.

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

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

Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 2.

2. CHECK POWER CIRCUIT OF ELECTRICALLY-DRIVEN BRAKE UNIT WHEN POWER SWITCH IS ON

- 1. Turn the power switch OFF to exit CONSULT.
- 2. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT while waiting.

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

•	n intelligent brake nit	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

< DTC/CIRCUIT DIAGNOSIS >

Is the inspection result normal?

- YES >> Perform trouble diagnosis for power ON power supply. Refer to <u>PG-62, "Wiring Diagram ON</u> A <u>POWER SUPPLY -"</u>.
- NO >> Repair or replace error-detected parts.

3.CHECK 12V BATTERY POWER SUPPLY OF ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT

- 1. Turn the power switch OFF to exit CONSULT.
- 2. Connect 12V battery cable to negative terminal.

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

	n intelligent brake nit	_	Voltage (Approx.)
Connector	Terminal		(Approx.)
	1		
E34	2	Ground	10 – 16 V
	11		

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		(Applox.)
	1		
E34	2	Ground	10 – 16 V
	11		

Is the inspection result normal?

YES >> GO TO 5.

NO >> GO TO 4.

4.CHECK 12V BATTERY POWER SUPPLY CIRCUIT OF ELECTRICALLY-DRIVEN INTELLIGENT BRAKE K

- 1. Turn the power switch OFF to exit CONSULT.
- Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 CAUTION:

Never operate the vehicle and CONSULT while waiting.

- Disconnect 12V battery cable from negative terminal. Refer to <u>BR-5</u>, "<u>Precautions for Removing Battery</u>
- 4. Check the 60A fusible link (#F).
- 5. Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).
- 6. Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).
- 7. Check the 10A fuse (#78).
- 8. Check the continuity and for short circuit between harness connector terminal 11 of electrically-driven intelligent brake unit and 10A fuse (#78).

Is the inspection result normal?

- YES >> Perform trouble diagnosis for 12V battery power supply. Refer to <u>PG-16, "Wiring Diagram BAT-</u> <u>TERY POWER SUPPLY -"</u>.
- NO >> Repair or replace error-detected parts.

 ${f 5.}$ CHECK 12V BATTERY POWER SUPPLY OF BRAKE POWER SUPPLY BACKUP UNIT

1. Turn the power switch OFF to exit CONSULT.

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< DTC/CIRCUIT DIAGNOSIS >

 Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 CAUTION:

Never operate the vehicle and CONSULT while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-5</u>, "Precautions for Removing Battery <u>Terminal"</u>.
- 4. Disconnect brake power supply backup unit harness connector.
- 5. Connect 12V battery cable to negative terminal.
- 6. Check the voltage between brake power supply backup unit harness connector and ground.

Brake power su	pply backup unit		Voltage
Connector	Terminal		(Approx.)
B15	3	Ground	10 – 16 V

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

Never set the vehicle to READY.

8. Check the voltage between brake power supply backup unit harness connector and ground.

Brake power su	pply backup unit		Voltage
Connector	Terminal		(Approx.)
B15	3	Ground	10 – 16 V

Is the inspection result normal?

YES >> GO TO 7.

NO >> GO TO 6.

6.CHECK 12V BATTERY POWER CIRCUIT OF BRAKE POWER SUPPLY BACKUP UNIT

- 1. Turn the power switch OFF to exit CONSULT.
- Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 CAUTION:

Never operate the vehicle and CONSULT while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-5</u>, "Precautions for Removing Battery <u>Terminal"</u>.
- 4. Check the 15A fuse (#82).
- 5. Check the continuity and for short circuit between harness connector terminal 3 of brake power supply backup unit and 15A fuse (#82).

Is the inspection result normal?

- YES >> Perform trouble diagnosis for 12V battery power supply. Refer to <u>PG-16, "Wiring Diagram BAT-</u> <u>TERY POWER SUPPLY -"</u>.
- 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	31	Ground	Existed

Is the inspection result normal?

YES >> GO TO 8.

NO >> Repair or replace error-detected parts.

 \mathbf{S} . CHECK BRAKE POWER SUPPLY BACKUP UNIT GROUND

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

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< DTC/CIRCUIT DIAGNOSIS >

Brake power sup			Continuity	
Connector	Terminal			
B15	1	Ground	Existed	
<u>s the inspection resu</u> YES >> GO TO S NO >> Repair o CHECK TERMIN/	9. or replace error-det	ected parts.		
Check for failures in connector. Check that there is	n the pin terminals	pin terminal and	d connection of IPD	-driven intelligent brake unit harr M E/R harness connector. ly backup unit harness connecto
s the inspection resu				
YES >> INSPEC	TION END			
NO >> Repair o	or replace error-det	ected parts.		

< DTC/CIRCUIT DIAGNOSIS >

WARNING BUZZER

Diagnosis Procedure

INFOID:000000006960703

1. CHECK POWER AND GROUND CIRCUITS OF ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT

Perform diagnosis of electrically-driven intelligent brake unit power and ground circuits. <u>BR-224, "Diagnosis</u> <u>Procedure"</u>.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace error-detected parts.

2.CHECK WARNING BUZZER CIRCUIT

- 1. Turn the power switch OFF to exit CONSULT.
- Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 CAUTION:

Never operate the vehicle and CONSULT while waiting.

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

•	n intelligent brake nit	Warning	g buzzer	Continuity
Connector	Terminal	Connector	Terminal	
	22		1	Existed
E34	25	M12	1	Not existed
E34	22	M13	2	Not existed
	25		2	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace error-detected parts.

3.WARNING BUZZER INSPECTION

Check the warning buzzer. Refer to BR-228, "Component Inspection".

Is the inspection result normal?

- YES >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-261, "Removal and installation"</u>.
- NO >> Replace the warning buzzer. Refer to <u>BR-265, "Removal and Installation"</u>.

Component Inspection

INFOID:000000006960704

1.WARNING BUZZER INSPECTION

- 1. Turn the power switch OFF to exit CONSULT.
- Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 CAUTION:

Never operate the vehicle and CONSULT while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-5</u>, "Precautions for Removing Battery <u>Terminal"</u>.
- 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 res	ult normal?	-
YES >> INSPEC	TION END	
NO >> Replace	e the warning buzzer	r. Refer to <u>BR-265, "Removal and Installation"</u> .

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< DTC/CIRCUIT DIAGNOSIS >

BRAKE WARNING LAMP

Component Function Check

INFOID:000000006960705

1.CHECK BRAKE WARNING LAMP FUNCTION (1)

Check that brake warning lamp turns ON for approximately several second after power switch is turned ON. CAUTION:

Never set the vehicle to READY.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Refer to <u>BR-230, "Diagnosis Procedure"</u>.

2.CHECK BRAKE WARNING LAMP FUNCTION (2)

Check that brake warning lamp in combination meter turns ON or OFF when brake fluid level switch is operated while brake fluid level in reservoir tank is at the specified level. **NOTE:**

Brake warning lamp turns ON when brake fluid is less than the specified level (when brake fluid level switch is ON).

Is the inspection result normal?

YES >> INSPECTION END

NO >> Check the brake fluid level switch system. Refer to <u>BRC-111, "Diagnosis Procedure"</u>.

Diagnosis Procedure

INFOID:000000006960706

1.CHECK POWER AND GROUND CIRCUITS OF ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT

Perform diagnosis of electrically-driven intelligent brake unit power and ground circuits. Refer to <u>BR-224</u>, <u>"Diagnosis Procedure"</u>.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace error-detected parts.

2.PERFORM SELF-DIAGNOSIS

With CONSULT

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

Is malfunction detected?

YES >> Check the error-detected system.

- "BRAKE": Refer to <u>BR-27, "DTC Index"</u>.
- "ABS": Refer to <u>BRC-50, "DTC Index"</u>.

NO >> GO TO 3.

 $\mathbf{3.}$ CHECK THAT BRAKE WARNING LAMP TURNS ON

Check the combination meter. Refer to <u>MWI-51, "CONSULT Function"</u>.

Is the inspection result normal?

- YES >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-261, "Removal and installation"</u>.
- NO >> Replace combination meter. Refer to MWI-101, "Removal and Installation".

BRAKE SYSTEM WARNING LAMP

< DTC/CIRCUIT DIAGNOSIS >	
BRAKE SYSTEM WARNING LAMP	Δ
Component Function Check	A
1. CHECK BRAKE SYSTEM WARNING LAMP FUNCTION	В
Check that brake system warning lamp turns ON for approximately several second after power switch is	D
turned ON. CAUTION: Never set the vehicle to READY.	С
Is the inspection result normal?	
YES >> INSPECTION END NO >> Proceed to <u>BR-231, "Diagnosis Procedure"</u> .	D
Diagnosis Procedure	_
1. CHECK POWER AND GROUND CIRCUITS OF ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT	E
Perform diagnosis of electrically driven intelligent brake unit newer and ground sirguite PP 224 "Diagnosis	BR
Is the inspection result normal?	
YES >> GO TO 2. NO >> Repair or replace error-detected parts.	G
2. PERFORM SELF-DIAGNOSIS	
With CONSULT Short CONSULT	Н
Start CONSULT and perform "BRAKE" and "ABS" self-diagnosis. Is a malfunction detected?	
YES >> Check the error-detected system.	
 "BRAKE": Refer to <u>BR-27, "DTC Index"</u>. "ABS": Refer to <u>BRC-50, "DTC Index"</u>. 	
NO \rightarrow GO TO 3. 3. CHECK BRAKE SYSTEM WARNING LAMP ILLUMINATION	J
Check the combination meter. Refer to <u>MWI-51, "CONSULT Function"</u> .	
Is the inspection result normal?	Κ
 YES >> Replace the electrically-driven intelligent brake unit. Refer to <u>BR-261, "Removal and installation"</u>. NO >> Replace combination meter. Refer to <u>MWI-101, "Removal and Installation"</u>. 	L
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UNEXPECTED BRAKE PEDAL REACTION

< SYMPTOM DIAGNOSIS >

SYMPTOM DIAGNOSIS UNEXPECTED BRAKE PEDAL REACTION

Description

INFOID:000000006960709

INFOID:000000006960710

A malfunction of brake pedal feel (height or others) is detected when the brake pedal is depressed.

Diagnosis Procedure

1.CHECK AXLE

Check that there is no significant looseness of axle.

- Front axle: Refer to <u>FAX-8</u>, "Inspection".
 Rear axle: Refer to <u>RAX-5</u>, "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 <u>BR-247</u>, "DISC ROTOR : Inspection and Adjustment".

• Rear: Refer to BR-249, "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 <u>BR-257, "FRONT : Inspection"</u>.
Rear: Refer to <u>BR-260, "REAR : Inspection"</u>.

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-242, "Inspection and Adjustment".

Is the inspection result normal?

YES >> GO TO 5.

NO >> Adjust the brake pedal items. Refer to BR-242, "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.

Ó.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.

< SYMPTOM DIAGNOSIS > THE BRAKING DISTANCE IS LONG
А
Description INFOLD:000000008960711
Brake stopping distance is long when ABS function is operated.
Diagnosis Procedure
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
 Turn the power switch OFF to exit CONSULT. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors. CAUTION: Never operate the vehicle and CONSULT while waiting.
 Check the 12V battery terminal connections. Refer to <u>BR-5, "Precautions for Removing Battery Terminal"</u> and <u>PG-105, "Work Flow"</u>. Check the 12V battery. Refer to <u>PG-105, "Work Flow"</u>.
Is the inspection result normal?
YES >> GO TO 2. NO >> Repair or replace error-detected parts and GO TO 2.
2 PERFORM SELE-DIAGNOSIS (1)
With CONSULT
 Connect 12V battery cable to negative terminal. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:
 Never set the vehicle to READY. 3. Repeat step 2 two or more times. CAUTION:
Be sure to wait for 5 seconds or more after turning the power switch OFF.
 Turn the power switch OFF to exit CONSULT. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open- ing these doors. CAUTION:
Never operate the vehicle and CONSULT 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.
 Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open- ing these doors.
CAUTION: Never operate the vehicle and CONSULT while waiting. 10. Turn the power switch ON without depressing the brake pedal.
CAUTION: O 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 "C1A74" detected?
YES >> GO TO 3. NO >> INSPECTION END
3. CHECK CONNECTOR TERMINALS

1. Turn the power switch OFF to exit CONSULT.

< SYMPTOM DIAGNOSIS >

 Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION: Never operate the vehicle and CONSULT while waiting.

- Disconnect 12V battery cable from negative terminal. Refer to <u>BR-5</u>, "<u>Precautions for Removing Battery</u> Terminal".
- 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.
- 6. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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.
- 10. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT while waiting.

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

Never set the vehicle to READY.

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

Is any DTC detected?

- YES >> Check the DTC. Refer to <u>BR-27, "DTC Index"</u>. 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.
- 3. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT while waiting.

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

BR-234

< SYMPTOM DIAGNOSIS >

	n intelligent brake unit		Valtaga	
Connector	Terminal		Voltage (Approx.)	
E34	26	Ground	0 V	
8. Turn the power CAUTION:	switch ON without dep		_	
	<pre>/ehicle to READY. ge between the electri</pre>	cally-driven intelliger	t brake unit harness	connector and ground.
Electrically-driver	n intelligent brake unit		Voltage	
Connector	Terminal		(Approx.)	
E34	26	Ground	10 – 16 V	
Is the inspection res YES >> GO TO NO >> GO TO 6.CHECK POWER	8.	R SUPPLY CIRCUIT		E
2. Get out of the v ing these doors CAUTION:		(including back door		tes or more without open-
				ons for Removing Battery
5. Disconnect IPD	M E/R harness connection in the second connection of the second connect		brake unit and IPDM	E/R.
Electrically-drive	n intelligent brake unit	IPD	M E/R	Continuity
Electrically-drive Connector	n intelligent brake unit Terminal	IPD Connector	M E/R Terminal	Continuity
	_			- Continuity Existed
Connector E34 7. Check the cont	Terminal 26 Inuity between electrica	Connector E15	Terminal 62	Existed
Connector E34 7. Check the conti Electrically-driver	Terminal 26 Inuity between electrica	Connector E15	Terminal 62	Existed
Connector E34 7. Check the conti Electrically-driver Connector	Terminal 26 inuity between electrica in intelligent brake unit Terminal	Connector E15 ally-driven intelligent	Terminal 62 brake unit harness co Continuity	Existed
Connector E34 7. Check the conti Electrically-driver Connector E34	Terminal 26 Inuity between electrica in intelligent brake unit Terminal 26	Connector E15	Terminal 62 brake unit harness co	Existed
Connector E34 7. Check the contribution Electrically-driver Connector E34 Is the inspection res YES >> Perform POWER	Terminal 26 inuity between electrica initelligent brake unit Terminal 26 Sult normal? in trouble diagnosis for <u>R SUPPLY -"</u> . or replace error-detect	Connector E15 ally-driven intelligent Ground	Terminal 62 brake unit harness co Continuity Not existed upply. Refer to <u>PG-6</u>	Existed
Connector E34 7. Check the continue Electrically-driver Connector E34 Is the inspection rest YES YES Perform POWEI NO PERFORM SELI Image: Second connect the election of the consult	Terminal 26 inuity between electrica initelligent brake unit Terminal 26 Sult normal? in trouble diagnosis for <u>R SUPPLY -"</u> . or replace error-detect	Connector E15 ally-driven intelligent Ground power ON power s ed parts and GO TO ent brake unit harnes r. e terminal.	Terminal 62 brake unit harness concentry Continuity Not existed upply. Refer to PG-6 7. es connector.	Existed onnector and ground.

< SYMPTOM DIAGNOSIS >

7. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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.
- 11. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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 <u>BR-27, "DTC Index"</u>. GO TO 8.
- NO >> INSPECTION END

8.CHECK 12V BATTERY POWER SUPPLY

- 1. Turn the power switch OFF to exit CONSULT.
- Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT while waiting.

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

Electrically-driven intelligent brake unit		Voltage
Connector	Terminal	(Approx.)
E34	1 – 31	
	2 – 31	10 – 16 V
	11 – 31	

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

Never set the vehicle to READY.

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

Electrically-driven intelligent brake unit		Voltage	
Connector	Terminal	(Approx.)	
E34	1 – 31		
	2 – 31	10 – 16 V	
	11 – 31	_	
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.

< SYMPTOM DIAGNOSIS >

2.	Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open- ing these doors. CAUTION:	А
3.	Never operate the vehicle and CONSULT while waiting. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-5</u> , "Precautions for Removing Battery Terminal".	В
	Check the 60A fusible link (#F). Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intel- ligent brake unit and 60A fusible link (#F).	С
6. 7.	Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intel- ligent brake unit and 60A fusible link (#F). Check the 10A fuse (#78).	
7. 8.	Check the continuity and for short circuit between harness connector terminal 11 of electrically-driven intelligent brake unit and 10A fuse (#78).	D
<u>ls t</u>	he inspection result normal?	E
	ES >> Perform trouble diagnosis for 12V battery power supply. Refer to <u>PG-16, "Wiring Diagram - BAT-TERY POWER SUPPLY -"</u> .	
N		BR
10	PERFORM SELF-DIAGNOSIS (4)	
1.	With CONSULT Connect the electrically-driven intelligent brake unit harness connector.	G
2. 3.	Connect 12V battery cable to negative terminal. Turn the power switch OFF to ON without depressing the brake pedal. CAUTION:	Н
4.	Never set the vehicle to READY. Repeat step 3 two or more times. CAUTION:	
5. 6.	Be sure to wait for 5 seconds or more after turning the power switch OFF. Turn the power switch OFF to exit CONSULT. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open-	I
•	ing these doors. CAUTION:	J
7.	Never operate the vehicle and CONSULT while waiting. Turn the power switch ON without depressing the brake pedal. CAUTION:	k
	Never set the vehicle to READY. Start CONSULT and erase self-diagnosis result of "BRAKE". Turn the power switch OFF to exit CONSULT.	L
10.	Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open- ing these doors. CAUTION:	
11.	Never operate the vehicle and CONSULT while waiting. Turn the power switch ON without depressing the brake pedal. CAUTION:	N
	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.	Ν
	Release brake pedal. Start CONSULT and perform "BRAKE" self-diagnosis.	
		С
	any DTC detected? ES >> Check the DTC. Refer to <u>BR-27, "DTC Index"</u> . GO TO 11. O >> INSPECTION END	
	.CHECK GROUND CIRCUIT	F
1. 2.	Turn the power switch OFF to exit CONSULT. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open- ing these doors.	

ing these do **CAUTION:**

Never operate the vehicle and CONSULT while waiting.

< SYMPTOM DIAGNOSIS >

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

Electrically-driven intelligent brake unit			Continuity	
Connector	Terminal		Continuity	
E34	31	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.
- 6. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT 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.
- 10. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT while waiting.

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

Never set the vehicle to READY.

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

Is any DTC detected?

- YES >> Check the DTC. Refer to <u>BR-27, "DTC Index"</u>. 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 R

- Never set the vehicle to READY.
 Repeat step 3 two or more times.
- CAUTION: Be sure to wait for 5 seconds or

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

- 5. Start CONSULT and select "BRAKE" and "DATA MONITOR" according this order.
- Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER". Refer to <u>BR-24, "Reference</u> <u>Value"</u>.

BR-238

	MPTOM DIAGNOSIS >
YES	·
NO	
14.	PERFORM SELF-DIAGNOSIS (6)
-	th CONSULT
	Furn the power switch OFF to ON without depressing the brake pedal.
	CAUTION:
	Never set the vehicle to READY. Repeat step 1 two or more times.
	CAUTION:
	Be sure to wait for 5 seconds or more after turning the power switch OFF.
3. 1	Furn the power switch OFF to exit CONSULT.
	Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open-
	ng these doors.
	CAUTION: Never operate the vehicle and CONSULT while waiting.
	Furn 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".
	Furn the power switch OFF to exit CONSULT.
	Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without open- ng these doors.
	CAUTION:
	Never operate the vehicle and CONSULT while waiting.
9. 1	Furn the power switch ON without depressing the brake pedal.
	CAUTION:
	Never set the vehicle to READY.
	Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more. Release brake pedal.
	Start CONSULT and perform "BRAKE" self-diagnosis.
	v DTC detected?
YES	•
NO	
	CHECK BRAKING FORCE
	k the braking force.
	e inspection result normal?
YES	
NO	
16.	CHECK BRAKE PERFORMANCE
Turn	the power switch OFF to exit CONSULT. Disconnect ABS actuator control unit harness connector so that
	does not operate. Check the brake stopping distance in this condition. Connect harness connectors after
chec	
ls the	e inspection result normal?
YES	S >> Normal
NO	

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< SYMPTOM DIAGNOSIS >

VEHICLE JERKS DURING

Description

The vehicle jerks when VDC function, TCS function, ABS function, EBD function, brake limited slip differential (BLSD) function or brake assist function operates.

Diagnosis Procedure

INFOID:000000006960714

INFOID:000000006960713

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

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

Is any DTC detected?

- YES >> Check the DTC. Refer to <u>BR-27, "DTC Index"</u>.
- 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 <u>BRC-147, "Diagnosis</u> <u>Procedure"</u>. GO TO 3.

3. CHECK CONNECTOR

With CONSULT

- 1. Turn the power switch OFF to exit CONSULT.
- 2. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

CAUTION:

Never operate the vehicle and CONSULT while waiting.

- 3. Disconnect 12V battery cable from negative terminal. Refer to <u>BR-5</u>, "Precautions for Removing Battery <u>Terminal"</u>.
- 4. Disconnect ABS actuator and electric unit (control unit) harness connector.
- 5. Disconnect electrically-driven intelligent brake unit harness connector.
- 6. Check the connector terminal for deformation, disconnection, or looseness.
- 7. 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-55. "CONSULT Function".

Is any DTC detected?

- YES >> Check the DTC. Refer to EVC-84, "DTC Index".
- NO >> Replace ABS actuator and electric unit (control unit). Refer to <u>BRC-154, "Removal and Installa-</u> tion".

< SYMPTOM DIAGNOSIS >

NORMAL OPERATING CONDITION

Description

INFOID:000000006960715

А

Symptom	Result	
The brake pedal may move during braking.		
When the brake pedal is depressed while the power switch is OFF, an operating sound may occur or the pedal stroke may feel short.	-	
There may be an operating noise or the brake pedal may move after the brake pedal is op- erated.	and is not a malfunction.	
An operating noise may occur when the power switch is turned OFF (system stop sound).		
The brake pedal may move when ABS is activated immediately after the READY state of the vehicle.	-	
After turning the power switch OFF and waiting for a few minutes in the car (with all doors closed and brake pedal not depressed), the electrically-driven intelligent brake unit goes	This is not a malfunction. Depress the	
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.	brake pedal fully.	

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< PERIODIC MAINTENANCE >

PERIODIC MAINTENANCE BRAKE PEDAL

Inspection and Adjustment

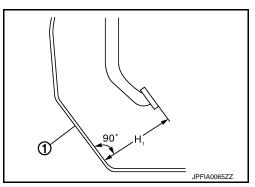
INSPECTION

Brake Pedal Height Check the height from the dash lower panel (1) to the top face of the brake pedal (H1).

H1 : Refer to <u>BR-282, "Brake Pedal"</u>.

CAUTION:

Perform with the floor trim pulled up.



Stop Lamp Switch and ASCD Brake Switch

Check the clearance (C) between brake pedal lever (1) and the threaded end of stop lamp switch and ACSD brake switch (2).

C : Refer to <u>BR-282, "Brake Pedal"</u>.

CAUTION:

The stop lamp must turn OFF when the brake pedal is released. NOTE:

When checking the clearance between the brake pedal lever and threaded end of stop lamp switch and ACSD brake switch, check with the brake pedal (pad) pulled gently toward you.

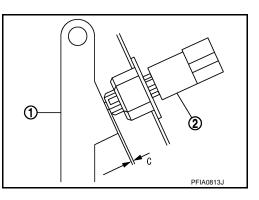
Pedal Height When Depressed

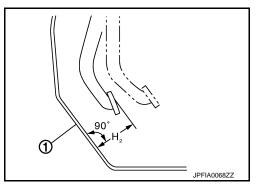
Check the height from the dash lower panel (1) to the top face of the brake pedal (H₂) when depressing the brake pedal with a force of 196 N (20 kg, 44 lb) while the vehicle is in READY state.

H2 : Refer to <u>BR-282, "Brake Pedal"</u>.

CAUTION:

Perform with the floor trim pulled up.





ADJUSTMENT

Brake Pedal Height

- 1. Remove the instrument lower panel. Refer to IP-14. "Removal and Installation".
- 2. Disconnect the stop lamp switch and ASCD brake switch harness connectors.
- 3. Rotate the stop lamp switch and ASCD brake switch counterclockwise by 45° to loosen them.

INFOID:000000006960716

BRAKE PEDAL

< PERIODIC MAINTENANCE >

- 4. Loosen the input rod lock nut (1).
- 5. Rotate the input rod (2), and adjust the brake pedal to the specified height (H1).

CAUTION:

H₁

View".

6.

The threaded part of the input rod end must project to the inside of the crevice (3).

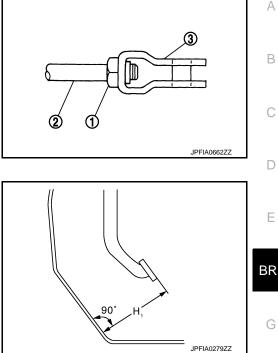
Tighten the lock nut to the specified torque. BR-261, "Exploded

between the stopper rubber and threaded end of stop lamp

assembly is removed and installed, or replaced. Refer to BR-38,

7. After adjusting the brake pedal height, adjust the clearance

8. Perform stroke sensor 0 point learning when the brake pedal



Stop Lamp Switch and ASCD Brake Switch

"Work Procedure".

switch and ASCD brake switch.

1. Remove the instrument lower panel. Refer to IP-14, "Removal and Installation".

: Refer to BR-282, "Brake Pedal".

- 2. Disconnect the stop lamp switch and ASCD brake switch harness connectors.
- 3. Rotate the stop lamp switch and ASCD brake switch counterclockwise by 45° to loosen them.
- 4. With the brake pedal (pad) pulled gently toward you, press in until the threaded end of stop lamp switch and ASCD brake switch (2) contacts the brake pedal lever (1). Under those conditions, rotate 45° to the right to fasten it in place. CAUTION:
 - Clearance (C) between the brake pedal lever and threaded end of stop lamp switch and ASCD brake switch must be the specified value.

C : Refer to BR-282, "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 <u>BR-38</u>, "Work Procedure".

Pedal Height When Depressed

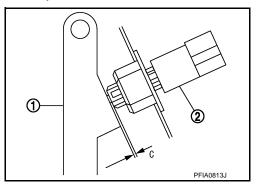
- 1. Perform air bleeding. <u>BR-245, "Bleeding Brake System"</u>.
- 2. Check the height from the dash lower panel (1) to the top face of the brake pedal (H2) when depressing the brake pedal with a force of 196 N (20 kg, 44 lb) while the vehicle is in READY state.

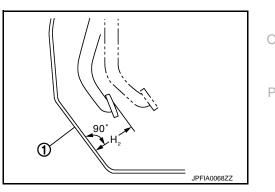
H2 : Refer to <u>BR-282, "Brake Pedal"</u>.

CAUTION:

Perform with the floor trim pulled up.

- 3. Adjust the brake pedal height, and the clearance with the stop lamp switch and ASCD brake switch.
- 4. Perform stroke sensor 0 point learning when the brake pedal assembly is removed and installed, or replaced. Refer to <u>BR-38.</u> <u>"Work Procedure"</u>.







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BRAKE FLUID

< PERIODIC MAINTENANCE > BRAKE FLUID

Inspection

INFOID:000000006960717

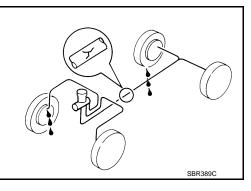
CHECK BRAKE FLUID LEVEL

- Check that the brake fluid level in the reservoir tank is within the standard (between MAX MIN lines).
- Visually check around the reservoir tank for brake fluid leakage.
- If the brake fluid level is extremely low (below the MIN line), check the amount of brake fluid and check for brake fluid leaks in the brake system.
- Check for dirt or other foreign material inside the reservoir tank, and check that no oil other than the designated brake fluid has entered the system.

BRAKE PIPING

- 1. Check for cracking and damage to brake piping (tubes and hoses). If any abnormality is found, replace the pipe.
- With the vehicle in READY state, depress the brake pedal with a force of 785 N (80 kg) and hold down the pedal for approximately 5 seconds. Check for any brake fluid leakage.
 CAUTION:

If brake fluid leakage has occurred, retighten all parts to the specified torque. If any abnormalities are found, replace the part.

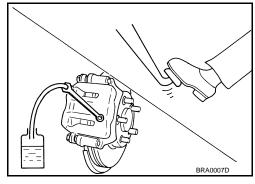


Draining

INFOID:000000006960718

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. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors. Disconnect the electrically-driven intelligent brake unit, the ABS actuator control unit harness connector or disconnect the 12V battery cable from the negative terminal. Refer to <u>BR-5, "Precautions for Removing Battery Terminal"</u>.
- Never operate the vehicle and CONSULT while waiting.
- If brake fluid contacts the disc rotor or brake caliper assembly, wipe it off immediately.
- 1. Connect a vinyl tube to air bleeder.
- 2. Depress the brake pedal and loosen the air bleeder to gradually discharge brake fluid.



Refilling

CAUTION:

If brake fluid contacts the disc rotor or brake caliper assembly, wipe it off immediately.

- 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.

BR-244

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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.	А
3.	Perform air bleeding. <u>BR-245, "Bleeding Brake System"</u> .	
Bl	eeding Brake System	В
• T • N • N	AUTION: Furn the power switch ON 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. f it contacts a painted surface, wipe it off immediately and wash with water. However avoid washing	C
	prake components with water. f brake fluid contacts the disc rotor or brake caliper assembly, wipe it off immediately.	
1.		
	CAUTION:	E
	Never reuse drained brake fluid.	
	 Never allow any oils other than the designated brake fluid to enter the system. 	
2.	,	BR
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.	G
5.	Repeat steps 2 to 3 until all of the air is out of the brake line.	
6.	 Tighten the air bleeder to the specified torque. Front disc brake: Refer to <u>BR-268, "BRAKE CALIPER ASSEMBLY : Exploded View"</u>. Rear disc brake: Refer to <u>BR-276, "BRAKE CALIPER ASSEMBLY : Exploded View"</u>. 	Η
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 \rightarrow front left brake \rightarrow rear left brake \rightarrow front right brake.	I
8.		
9.	Check the brake pedal items, and adjust if any are not within the standard values. Refer to <u>BR-242</u> , <u>"Inspection and Adjustment"</u> .	J
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ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT

< PERIODIC MAINTENANCE >

ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT

Inspection

INFOID:000000006960721

Brake fluid leakage

Check for brake fluid leakage from the brake tube connections and the electrically-driven intelligent brake unit.

< PERIODIC MAINTENANCE >

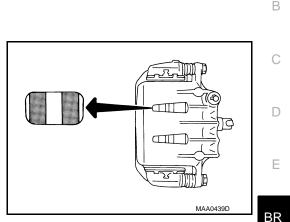
FRONT DISC BRAKE BRAKE PAD

BRAKE PAD : Inspection and Adjustment

Brake pad wear inspection

Check the brake pad thickness from the inspection hole in the cylinder body. Use a scale to check if necessary.

Wear limit: Refer to BR-282, "Front DiscthicknessBrake".



ADJUSTMENT

If the brake pad is ground or replaced, or if there is an abnormal feel to the braking force, follow the procedure below and perform break-in work. CAUTION:

- Because the brake effectiveness is reduced, pay sufficient attention to the vehicle speed.
- Perform checks on a safe road and be careful of the traffic conditions.
- 1. Drive on straight and flat roads.
- 2. Stop the vehicle by depressing the brake pedal to generate braking force that stops the vehicle in 3 to 5 seconds.
- 3. Cool the brakes.
- 4. Repeat steps 1 to 3 until the abnormal feel in braking force disappears.

DISC ROTOR

DISC ROTOR : Inspection and Adjustment

Visual inspection

Check surface of the disc rotor for uneven wear, cracks, and serious damage. Replace if necessary. Refer to <u>FAX-10, "Removal and Installation"</u>.

RUNOUT INSPECTION

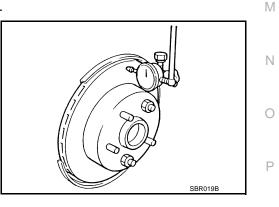
- 1. Use the wheel nuts and fasten the disc rotor to the wheel hub assembly (minimum 2 positions).
- 2. Check axial end play of wheel hub assembly. FAX-8. "Inspection".
- 3. Check runout using a dial indicator [at 10 mm (0.39 in) from outer edge of disc rotor].

Maximum runout (vehicle stopped) : Refer to <u>BR-282, "Front Disc</u> Brake".

- 4. If runout is outside the specified value, find the minimum runout point by shifting mounting positions of the disc rotor and wheel hub by one hole.
- Perform grinding of disc rotor if runout is outside the specified value after performing the above operation. [When refinishing, use the Pro-Cut PEM On-Car brake Lathe (Tool No. 38-PFM90.5) or equivalent.]

CAUTION:

 Perform grinding of disc rotor if disc rotor thickness is 0.3 mm (0.012 in) or more above the wear limit thickness.



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FRONT DISC BRAKE

< PERIODIC MAINTENANCE >

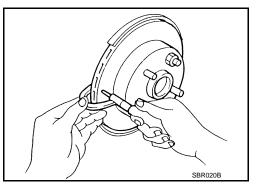
• Replace disc rotor if disc rotor thickness is less than 0.3 mm (0.012 in) above the wear limit thickness. Refer to <u>FAX-10, "Removal and Installation"</u>.

Wear limit : Refer to <u>BR-282, "Front Disc Brake"</u>. thickness

THICKNESS INSPECTION

Check thickness of the disc rotor using a micrometer. Replace disc rotor if thickness is under the wear limit. <u>FAX-10, "Removal and Installation"</u>.

Wear limit: Refer to BR-282, "Front DiscthicknessBrake".



ADJUSTMENT

If the brake pad is ground or replaced, or if there is an abnormal feel to the braking force, follow the procedure below and perform break-in work.

CAUTION:

- Because the brake effectiveness is reduced, pay sufficient attention to the vehicle speed.
- Perform checks on a safe road and be careful of the traffic conditions.
- 1. Drive on straight and flat roads.
- 2. Stop the vehicle by depressing the brake pedal to generate braking force that stops the vehicle in 3 to 5 seconds.
- 3. Cool the brakes.
- 4. Repeat steps 1 to 3 until the abnormal feel in braking force disappears.

< PERIODIC MAINTENANCE >

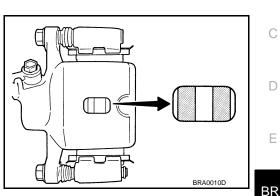
REAR DISC BRAKE BRAKE PAD

BRAKE PAD : Inspection and Adjustment

Brake pad wear inspection

Check the brake pad thickness from the inspection hole in the cylinder body. Use a scale to check it if necessary.

Wear limit : Refer to <u>BR-282, "Rear Disc Brake"</u>. thickness



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ADJUSTMENT

If the brake pad is ground or replaced, or if there is an abnormal feel to the braking force, follow the procedure below and perform break-in work.

- 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

Visual inspection

Check surface of the disc rotor for uneven wear, cracks, and serious damage. Replace if necessary. Refer to RAX-6, "Removal and Installation".

RUNOUT INSPECTION

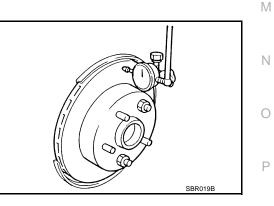
- 1. Use the wheel nuts and fasten the disc rotor to the wheel hub assembly (minimum 2 positions).
- 2. Check axial end play of wheel hub assembly. RAX-5, "Inspection".
- 3. Check runout using a dial indicator [at 10 mm (0.39 in) from outer edge of disc rotor].

Maximum runout (ve-	: Refer to <u>BR-282, "Rear Disc</u>
hicle stopped)	<u>Brake"</u> .

- 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.
- Perform grinding of disc rotor if runout is outside the specified value after performing the above operation. [When refinishing, use the Pro-Cut PEM On-Car brake Lathe (Tool No. 38-PFM90.5) or equivalent.]

CAUTION:

 Perform grinding of disc rotor if disc rotor thickness is 0.3 mm (0.012 in) or more above the wear limit thickness.



REAR DISC BRAKE

< PERIODIC MAINTENANCE >

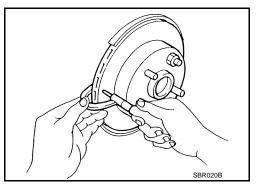
• Replace disc rotor if disc rotor thickness is less than 0.3 mm (0.012 in) above the wear limit thickness. Refer to <u>RAX-6, "Removal and Installation"</u>.

Wear limit : Refer to <u>BR-282, "Rear Disc Brake"</u>. thickness

THICKNESS INSPECTION

Check thickness of the disc rotor using a micrometer. Replace disc rotor if thickness is under the wear limit. Refer to <u>RAX-6, "Removal and Installation"</u>.

Wear limit : Refer to <u>BR-282, "Rear Disc Brake"</u>. thickness



ADJUSTMENT

If the brake pad is ground or replaced, or if there is an abnormal feel to the braking force, follow the procedure below and perform break-in work.

CAUTION:

- Because the brake effectiveness is reduced, pay sufficient attention to the vehicle speed.
- Perform checks on a safe road and be careful of the traffic conditions.
- 1. Drive on straight and flat roads.
- 2. Stop the vehicle by depressing the brake pedal to generate braking force that stops the vehicle in 3 to 5 seconds.
- 3. Cool the brakes.
- 4. Repeat steps 1 to 3 until the abnormal feel in braking force disappears.

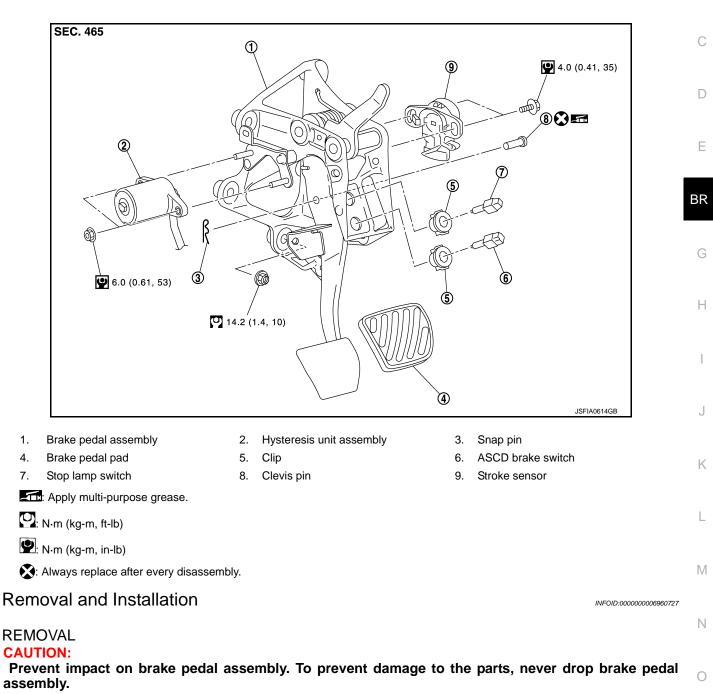
BRAKE PEDAL

< REMOVAL AND INSTALLATION > REMOVAL AND INSTALLATION BRAKE PEDAL

Exploded View

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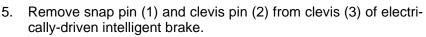
- 1. Remove instrument lower panel. Refer to IP-14, "Removal and Installation".
- 2. Disconnect stop lamp switch and ASCD brake switch harness connector.
- 3. Disconnect stroke sensor harness connector.

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BRAKE PEDAL

< REMOVAL AND INSTALLATION >

4. Rotate the stop lamp switch and the ASCD brake switch (1) counter clockwise to remove.



- 6. Disconnect the accelerator pedal harness connector.
- 7. Slide the steering column assembly downward.
- With heated steering wheel: Refer to <u>ST-31, "Removal and Instal-</u><u>lation"</u>.
- Without heated steering wheel: Refer to <u>ST-53</u>, "Removal and <u>Installation</u>".
- 8. Remove the brake pedal assembly. CAUTION:
 - To prevent damage to the parts, hold the electrically-
 - To prevent damage to the parts, never allow the stroke of brake pedal after removal.
 - If the brake pedal is displaced, move it by 100 mm (3.94 in) to check that the hysteresis unit assembly moves in conjunction with brake pedal. If a malfunction exists, replace hysteresis unit assembly.
- 9. Remove hysteresis unit assembly from brake pedal assembly. CAUTION:

To prevent damage to the parts, never drop hysteresis unit assembly.

10. Remove the stroke sensor from brake pedal assembly. CAUTION:

To prevent damage to the parts, never 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 <u>BR-252</u>, "Inspection and Adjustment".

INSTALLATION

Note the following, and install in the reverse order of removal.

- Never 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:

Never reuse the clevis pin NOTE:

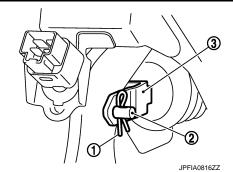
The clevis pin may be inserted in either direction.

- Perform stroke sensor 0 point learning when brake pedal assembly removed and installed, or replaced. Refer to <u>BR-38, "Work Procedure"</u>.
- Perform stroke sensor 0 point learning when stroke sensor removed and installed, or replaced. Refer to <u>BR-</u> <u>38, "Work Procedure"</u>.
- Perform adjustment after installation. Refer to <u>BR-252, "Inspection and Adjustment"</u>.

Inspection and Adjustment

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INSPECTION AFTER REMOVAL



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BRAKE PEDAL

- Check the brake pedal assembly for bend, damage, and cracks on the welded parts. If any is found, replace brake pedal assembly.
- Move it by 100 mm (3.94 in) to check that the hysteresis unit assembly moves in conjunction with brake pedal. If a malfunction exists, replace hysteresis unit assembly.

ADJUSTMENT AFTER INSTALLATION

- Adjust each item of brake pedal after installing the brake pedal assembly to the vehicle. Refer to <u>BR-242</u>, <u>"Inspection and Adjustment"</u>.
- Perform the release position learning of the accelerator pedal. Refer to EVC-108, "Work Procedure".
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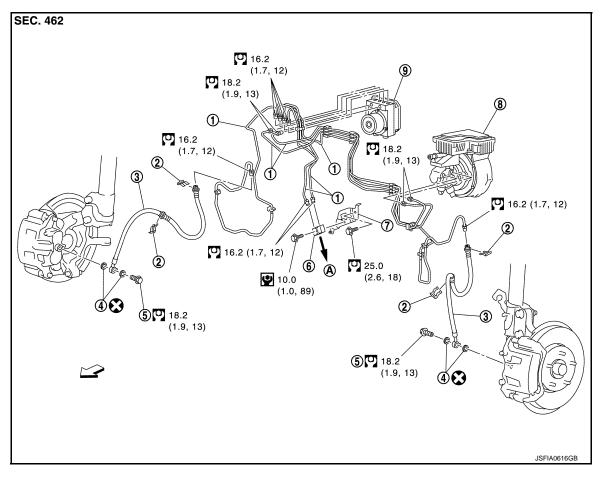
Revision: 2014 June

< REMOVAL AND INSTALLATION >

BRAKE PIPING FRONT

FRONT : Exploded View

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- 1. Brake tube
- 4. Copper washer
- 7. Connector bracket
- A. To rear brake tube
- : N·m (kg-m, ft-lb)
- E: N·m (kg-m, in-lb)
- S: Always replace after every disassembly.
- C: Vehicle front

- 2. Lock plate
- 5. Union bolt
- 8. Electrically-driven intelligent brake unit
- 3. Brake hose
- 6. Connector

9.

ABS actuator and electric unit (control unit)

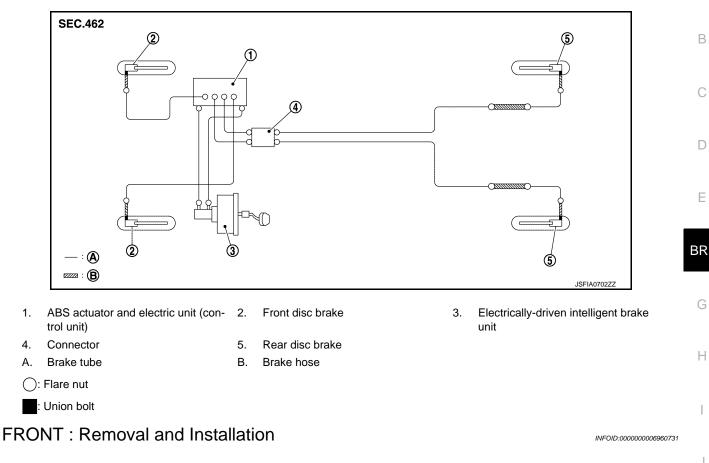
< REMOVAL AND INSTALLATION >

FRONT : Hydraulic Piping

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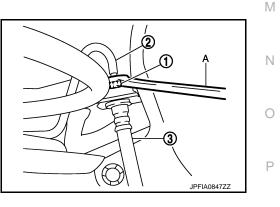
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REMOVAL

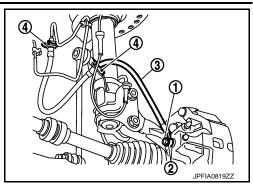
CAUTION:

- 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,
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 never wash them with water.
- Never 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. Remove tires with power tool.
- 2. Drain brake fluid. Refer to <u>BR-244, "Draining"</u>.
- 3. Loosen the flare nut (1) with a flare nut wrench (A) and separate the brake tube (2) from the brake hose (3). CAUTION:
 - To prevent damage to the parts, never scratch the flare nut and the brake tube.
 - To prevent damage to the parts, never bend sharply, twist or strongly pull out the brake hoses and tubes.
 - To prevent the inclusion of foreign matter, cover open end of brake tubes and hoses when disconnecting to prevent entrance of dirt.



< REMOVAL AND INSTALLATION >

- 4. Remove the union bolt (1) and copper washers (2), and remove the brake hose (3) from the brake caliper assembly.
- 5. Remove the lock plate (4) and remove the brake hose.



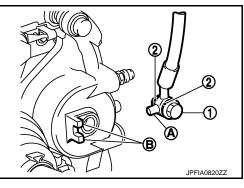
INSTALLATION

CAUTION:

- 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.
- Never depress brake pedal. While removing the brake hose or brake tube. If this is not complied with, brake fluid may splash.
- If the brake fluid or grease adheres to the disc rotor, quickly wipe it off.
- Assemble the union bolt (1) and the copper washer (2) to the brake hose.
 CAUTION:

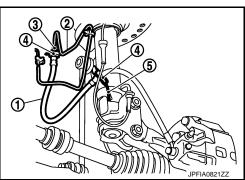
To prevent leakage of brake fluid, never reuse the copper washer.

2. Align the brake hose pin (A) with the brake caliper assembly projection (B), and tighten the union bolt (1) 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.



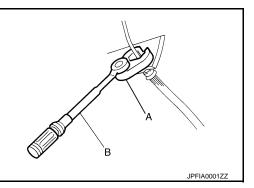
 Tighten the flare nut to the specified torque with a crowfoot (A) and torque wrench (B).
 CAUTION:

To prevent damage to the parts, never scratch the flare nut and the brake tube.

 Refill with new brake fluid and perform the air bleeding. Refer to <u>BR-245, "Bleeding Brake System"</u>. CAUTION: Never reuse drained brake fluid.

6. Install tires with power tool. Refer to <u>WT-47</u>, "Removal and <u>Installation</u>".

7. Perform inspection after installation. Refer to <u>BR-257, "FRONT :</u> <u>Inspection"</u>.



< REMOVAL AND INSTALLATION >

FRONT : Inspection

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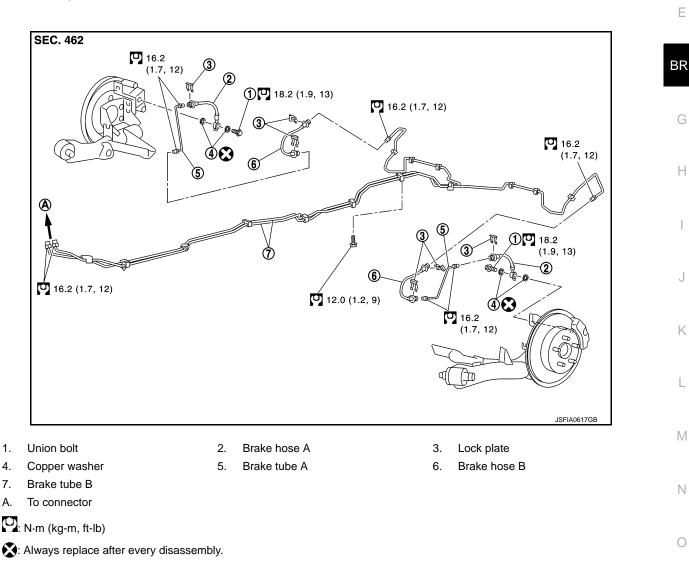
INSPECTION AFTER INSTALLATION

- 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

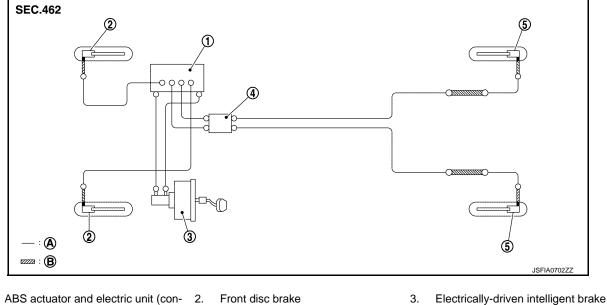
REAR : Exploded View



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< REMOVAL AND INSTALLATION >

REAR : Hydraulic Piping



- 1. ABS actuator and electric unit (con- 2. trol unit)
 - 5. Rear disc brake
 - B. Brake hose

: Flare nut

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: Union bolt

Connector

Brake tube

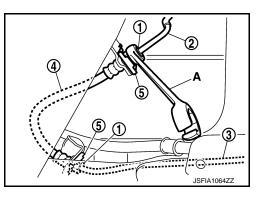
REAR : Removal and Installation

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REMOVAL

CAUTION:

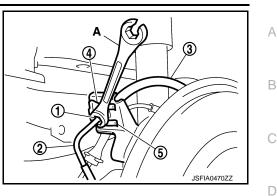
- Never spill or splash brake fluid on painted surfaces. Brake fluid may seriously damage paint. Wipe it off immediately and wash with water if it gets on a painted surface. For brake component parts, never wash them with water.
- Never depress brake pedal. While removing the brake hose or brake tube. 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. Remove tires with power tool.
- 2. Drain brake fluid. Refer to BR-244, "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:
 - To prevent damage to the parts, never scratch the flare nut and the brake tube.
 - To prevent damage to the parts, never 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.

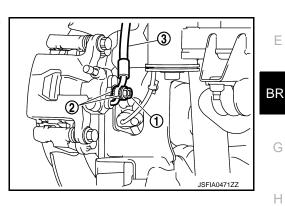


unit

< 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:
 - To prevent damage to the parts, never scratch the flare nut and the brake tube.
 - To prevent damage to the parts, never 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 washers (2), and remove the brake hose A (3) from the brake caliper assembly.





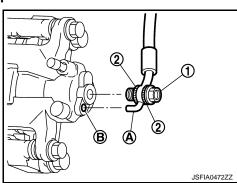
INSTALLATION

CAUTION:

- 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.
- Never depress brake pedal. While removing the brake hose or brake tube. If this is not complied with, brake fluid may splash.
- If the brake fluid or grease adheres to the disc rotor, quickly wipe it off.
- Assemble the union bolt (1) and the copper washer (2) to the brake hose A.
 CAUTION:

To prevent leakage of brake fluid, never reuse the copper washer.

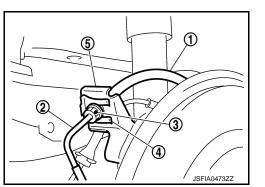
2. Align the brake hose B L-pin (A) with the brake caliper assembly hole (B), and tighten the union bolt (1) to the specified torque.



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.



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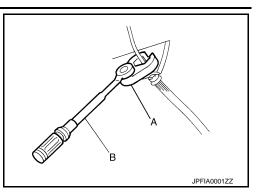
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< REMOVAL AND INSTALLATION >

Tighten the flare nut to the specified torque with a crowfoot (A) and torque wrench (B).
 CAUTION:

To prevent damage to the parts, never 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.

 Tighten the flare nut to the specified torque with a crowfoot (A) and torque wrench (B).
 CAUTION:

To prevent damage to the parts, never scratch the flare nut and the brake tube.

 Refill with new brake fluid and perform the air bleeding. Refer to <u>BR-245, "Bleeding Brake System"</u>. CAUTION:

Never reuse drained brake fluid.

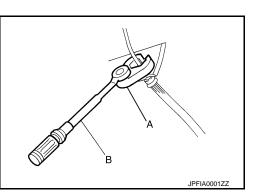
- 8. Install tires with power tool. Refer to <u>WT-47</u>, "<u>Removal and</u> <u>Installation</u>".
- 9. Perform inspection after installation. Refer to <u>BR-260, "REAR :</u> <u>Inspection"</u>.

REAR : Inspection

INSPECTION AFTER INSTALLATION

- 1. Check the brake hoses and tubes for the following: no scratches; no twist and deformation; no looseness at connections.
- Depress the brake pedal with a force of 785 N (80 kg, 176 lb) and hold down the pedal for approximately 5 seconds with set the vehicle to READY. Check for any fluid leakage.
 CAUTION:

Retighten the applicable connection to the specified torque and repair any abnormal (damaged, worn or deformed) part if any brake fluid leakage is present.



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ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT

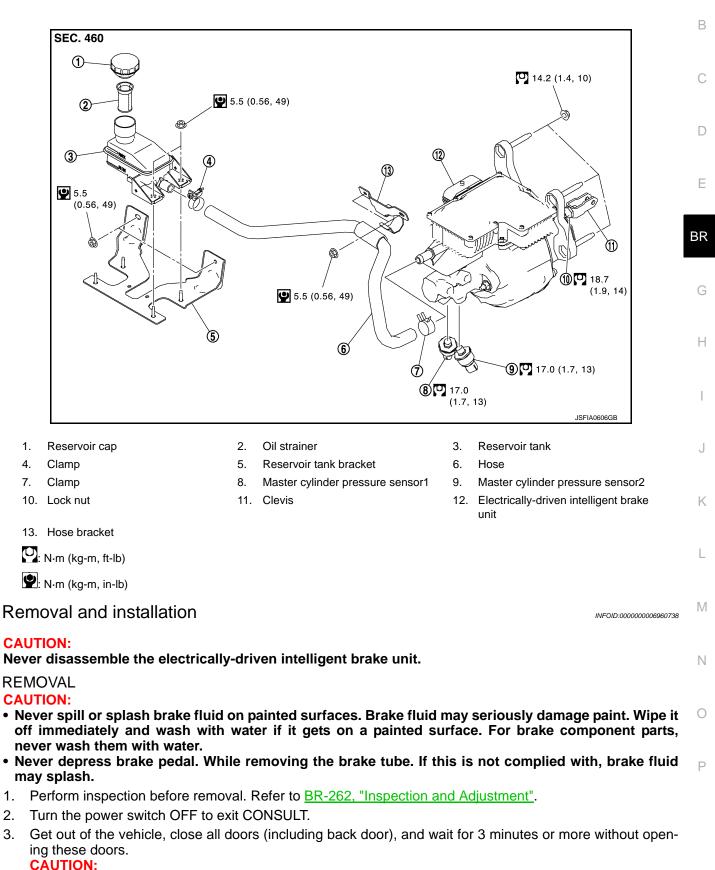
< REMOVAL AND INSTALLATION >

ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT

Exploded View

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Never operate the vehicle and CONSULT while waiting.

BR-261

ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT

< REMOVAL AND INSTALLATION >

- 4. Remove 12V battery. Refer to PG-108, "Removal and Installation".
- 5. Move the fuse box.
- 6. Drain brake fluid. Refer to <u>BR-244, "Draining"</u>.
- 7. Disconnect the brake fluid level switch harness connector.
- 8. Remove reservoir tank and hose.
- 9. Remove reservoir tank bracket.
- 10. Disconnect the electrically-driven intelligent brake unit harness connector.
- 11. Disconnect the master cylinder pressure sensor1 and master cylinder pressure sensor2 harness connector.
- 12. Separate the brake tube from electrically-driven intelligent brake unit with a flare nut wrench. CAUTION:

To prevent damage to the parts, never scratch the flare nut and the brake tube.

- 13. Remove snap pin (1) and clevis pin (2). Refer to <u>BR-251</u>. <u>"Removal and Installation"</u>.
- 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.

- 15. Remove electrically-driven intelligent brake unit.
 CAUTION:
 To prevent damage to the parts, never deform or bend the brake tubes.
- 16. Remove master cylinder pressure sensor1 and master cylinder pressure sensor2.
- 17. Perform inspection after removal. Refer to <u>BR-262</u>, "Inspection and Adjustment".

INSTALLATION

CAUTION:

- 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.
- Never depress brake pedal. While removing the brake tube. If this is not complied with, brake fluid may splash.

Note the following, and install in the reverse order of removal.

- 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.
- Never deform or bend the brake tubes when installing the electrically-driven intelligent brake unit.
- Temporarily tighten the brake tube flare nut to the electrically-driven intelligent brake unit by hand. Then tighten it to the specified torque with a crowfoot and torque wrench.
- Never reuse the clevis pin.
- Perform the air bleeding. Refer to <u>BR-245, "Bleeding Brake System"</u>.
- Check each item of brake pedal. Adjust it if the measurement value is not the standard. Refer to <u>BR-242</u>, <u>"Inspection and Adjustment"</u>.
- Perform stroke sensor 0 point learning when electrically-driven intelligent brake unit is removed and installed, or replaced. Refer to <u>BR-38</u>, "Work Procedure".

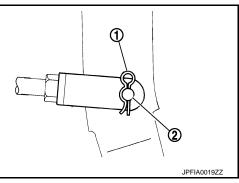
Inspection and Adjustment

INSPECTION BEFORE REMOVAL

Check the brake fluid level switch. Refer to BRC-113. "Component Inspection".

INSPECTION AFTER REMOVAL

Input Rod Length Inspection

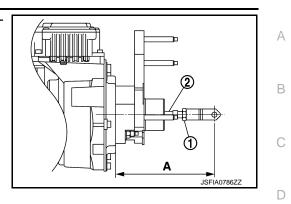


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ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT

< REMOVAL AND INSTALLATION >

- 1. Loosen the lock nut (1) and adjust the input rod (2) to the specified length (A).
 - A : Refer to <u>BR-282</u>, "Electrically-driven Intelligent Brake".
- 2. Tighten the lock nut to the specified torque.



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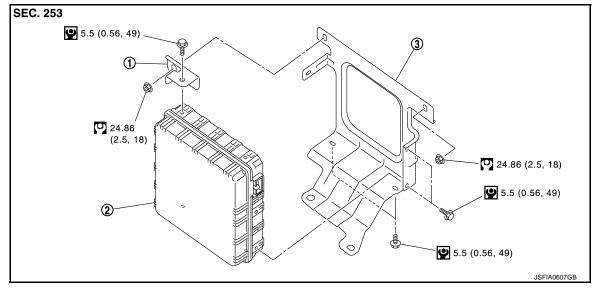
BRAKE POWER SUPPLY BACKUP UNIT

< REMOVAL AND INSTALLATION >

BRAKE POWER SUPPLY BACKUP UNIT

Exploded View

INFOID:000000006960740



1. Bracket

- 2. Brake power supply backup unit
- 3. Brake power supply backup unit bracket

: N·m (kg-m, ft-lb)

L N·m (kg-m, in-lb)

Removal and Installation

INFOID:000000006960741

REMOVAL

- 1. Turn the power switch OFF to exit CONSULT.
- Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
 CAUTION:

Never operate the vehicle and CONSULT while waiting.

- 3. Remove electric parking control module. Refer to PB-84, "Removal and Installation".
- 4. Disconnect brake power supply backup unit harness connector.
- 5. Remove brake power supply backup unit, bracket and brake power supply backup unit bracket. CAUTION:

To prevent damage to the parts, never drop removed parts.

6. Remove bracket and brake power supply backup unit bracket from brake power supply backup unit.

INSTALLATION

Install in the reverse order of removal.

	< REMOVAL	AND	INSTAL	_ATION >
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WARNING BUZZER

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Re	moval and Installation	INFOID:000000007462015	A
RE	MOVAL		В
1.	Remove glove box cover assembly. Refer to IP-14, "Removal and Installation".		
2.	Disconnect warning buzzer harness connector.		
3.	Remove warning buzzer.		С
INS	STALLATION		
Ins	tall in the reverse order of removal.		D

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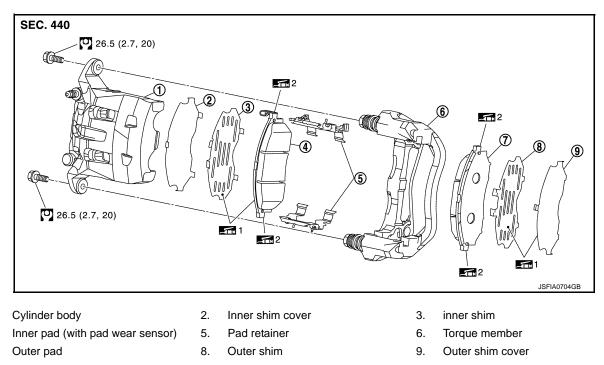
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< REMOVAL AND INSTALLATION >

FRONT DISC BRAKE BRAKE PAD

BRAKE PAD : Exploded View

INFOID:000000006960742



1: Apply MOLYKOTE[®] AS880N or silicone-based grease.

2: Apply MOLYKOTE[®] 7439 or equivalent.

: N·m (kg-m, ft-lb)

BRAKE PAD : Removal and Installation

INFOID:000000006960743

REMOVAL

1.

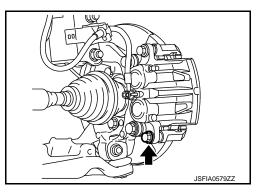
4.

7.

WARNING:

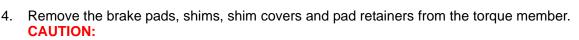
Since dust covering the front and rear brakes has an affect on human body, the dust must be removed with a dust collector. Never splatter the dust with an air blow gun. CAUTION:

- Never depress brake pedal. While removing the brake pads because the piston may pop out.
- To prevent damage to the parts, never 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 tires with power tool.
- 2. Remove lower sliding pin bolt.

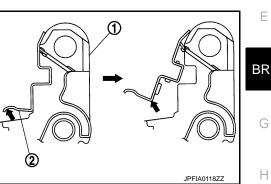


< REMOVAL AND INSTALLATION >

3. Remove cylinder body from torque member, and suspend the cylinder body with suitable wire so that the brake hose will not stretch.



- To prevent damage to the parts, never deform the pad retainer (2) when removing the pad retainer from the torque member (1).
- Never damage the piston boot.
- To prevent damage to the parts, never 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-268, "BRAKE PAD : Inspection".

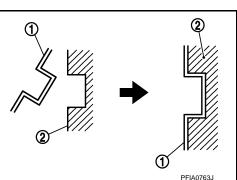


INSTALLATION

WARNING:

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

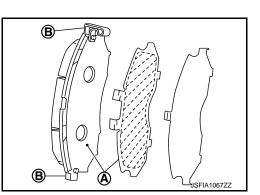
- Never depress brake pedal. While removing the brake pads or the cylinder body because the piston may pop out.
- To prevent damage to the parts, never spill or splash brake fluid on the disc rotor.
- To prevent damage to the parts, if the brake fluid or grease adheres to the disc rotor, quickly wipe it off.
- Install the pad retainers (1) to the torque member (2) if the pad 1. retainers has been removed. **CAUTION:**
 - Securely assemble the pad retainers so that it will not be lifted up from the torque member.
 - To prevent damage to the parts, never deform the pad retainers.



2. Apply MOLYKOTE[®] AS880N or silicone-based grease to the mating faces (A) between the inner pad and the inner shim, and install the inner shim and inner shim cover to the inner pad. CAUTION:

Always replace the shim together with the shim cover when replacing the brake pad.

3. Apply MOLYKOTE[®] 7439 or equivalent to the mating faces (B) between the inner pad and the pad retainers.



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< REMOVAL AND INSTALLATION >

 Apply MOLYKOTE[®] AS880N or silicone-based grease to the mating faces (A) between the outer shim cover and the outer shim, and install the outer shim and outer shim cover to the outer pad.

CAUTION:

Always replace the shim together with the shim cover when replacing the brake pad.

- 5. Apply MOLYKOTE[®] 7439 or equivalent to the mating faces (B) between the outer pad and the pad retainers.
- 6. Install the brake pads to the torque member.

To prevent damage to the parts, never deform the pad retainers.

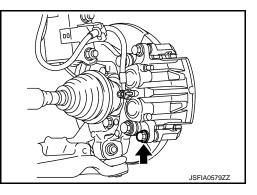
7. Install cylinder body to torque member.

CAUTION:

- Never 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 reservoir tank when pressing piston in.
 NOTE:

Use a disc brake piston tool to easily press piston.

- 8. 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 front disc brake. Refer to <u>BR-268</u>, "<u>BRAKE</u> <u>PAD</u>: <u>Inspection</u>".
- 10. Install tires with power tool. Refer to <u>WT-47, "Removal and</u> <u>Installation"</u>.



INFOID:000000006960744

BRAKE PAD : Inspection

INSPECTION AFTER REMOVAL

- Replace the shims and the shim covers if rust is excessively attached.
- Eliminate rust on the pad retainers and the torque member. Replace them if rust is excessively attached.

INSPECTION AFTER INSTALLATION

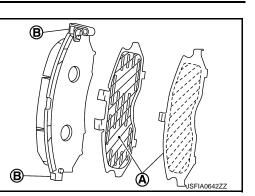
- Check a drag of front disc brake. If any drag is found, follow the procedure described below.
- 1. Remove brake pads. Refer to <u>BR-266, "BRAKE PAD : Removal and Installation"</u>.
- 2. Press the pistons. Refer to <u>BR-266, "BRAKE PAD : Removal and Installation"</u>.
- 3. Install brake pads. Refer to <u>BR-266, "BRAKE PAD : Removal and Installation"</u>.
- 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 <u>BR-271, "BRAKE CALIPER ASSEMBLY : Disassembly and Assembly"</u>
- Burnish contact surfaces brake pads and disc rotor after refinishing or replacing brake pads, or if a soft pedal occurs at very low mileage. Refer to <u>BR-247</u>, "<u>BRAKE PAD</u> : <u>Inspection and Adjustment</u>".

BRAKE CALIPER ASSEMBLY

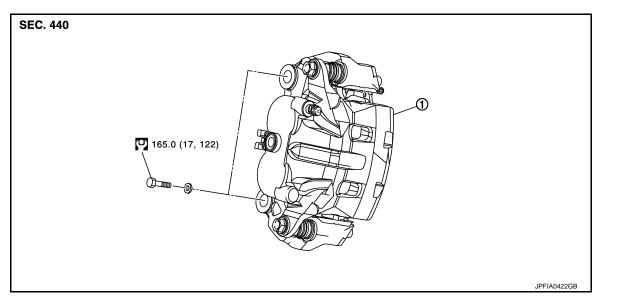
BRAKE CALIPER ASSEMBLY : Exploded View

INFOID:000000006960745

REMOVAL

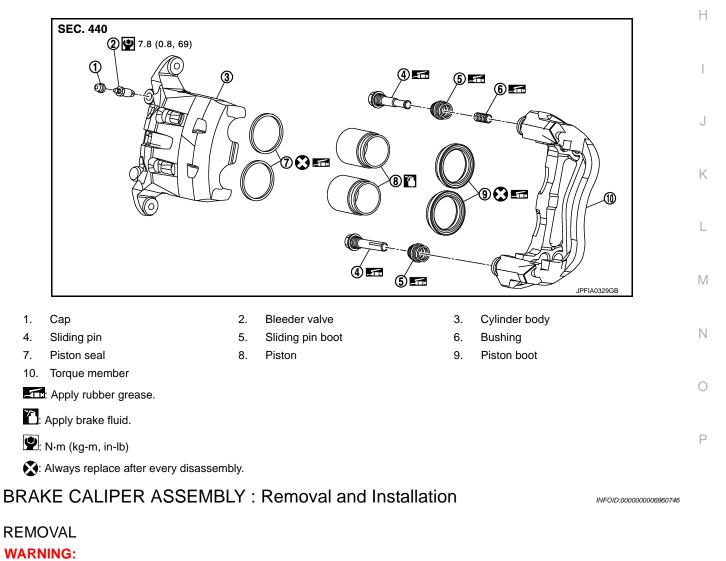


< REMOVAL AND INSTALLATION >



- 1. Brake caliper assembly
- : N·m (kg-m, ft-lb)





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< REMOVAL AND INSTALLATION >

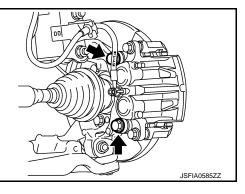
Since dust covering the front and rear brakes has an affect on human body, the dust must be removed with a dust collector. Never splatter the dust with an air blow gun. CAUTION:

- Never 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, never wash them with water.
- Never depress brake pedal. While removing the brake hose. If this is not complied with, brake fluid may splash.
- To prevent damage to the parts, never drop removed parts.
- To prevent damage to the parts, never 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 tires with power tool.
- 2. Fix the disc rotor using wheel nuts.
- 3. Drain brake fluid. Refer to <u>BR-244</u>, "Draining".
- 4. Separate brake hose from caliper assembly. Refer to <u>BR-255, "FRONT : Removal and Installation"</u>.
- 5. Remove torque member mounting bolts, and remove brake caliper assembly.

CAUTION:

To prevent damage to the parts, never drop brake pad and caliper assembly.

6. When removing disc rotor. Refer to <u>FAX-10, "Removal and</u> <u>Installation"</u>.



INSTALLATION

WARNING:

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

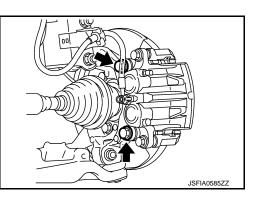
CAUTION:

- Never 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, never wash them with water.
- Never depress brake pedal. While removing the brake hose. If this is not complied with, brake fluid may splash.
- To prevent damage to the parts, never 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 FAX-10, "Removal and Installation".
- 2. Install the brake caliper assembly to the steering knuckle and tighten the torque member mounting bolts to the specified torque.

CAUTION:

Never spill or splash any grease and moisture on the brake caliper assembly mounting face, threads, mounting bolts and washers. Wipe out any grease and moisture.

- 3. Install brake hose. Refer to <u>BR-255, "FRONT : Removal and</u> <u>Installation"</u>.
- 4. Perform the air bleeding. Refer to <u>BR-245</u>, "<u>Bleeding Brake System</u>".
- 5. Check a drag of front disc brake. If any drag is found, refer to <u>BR-273, "BRAKE CALIPER ASSEMBLY : Inspection"</u>.
- 6. Install tires with power tool. Refer to WT-47, "Removal and Installation".
- 7. Perform inspection after installation. Refer to <u>BR-273, "BRAKE CALIPER ASSEMBLY : Inspection"</u>.



< REMOVAL AND INSTALLATION >

BRAKE CALIPER ASSEMBLY : Disassembly and Assembly

DISASSEMBLY

NOTE:

Never remove the torque member, brake pad and pad retainers when disassembling and assembling the cylinder body.

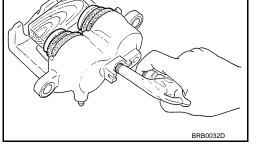
 Remove the sliding pin bolt, and remove the cylinder body from the torque member. Refer to <u>BR-266.</u> <u>"BRAKE PAD : Removal and Installation"</u>. CAUTION:

To prevent damage to the parts, fix the brake pad at suitable tape so that the brake pad will not drop.

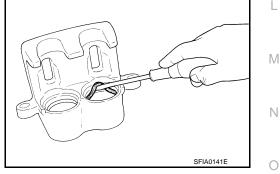
- 2. Remove sliding pins and sliding pin boots from torque member.
- 3. Remove bushing (1) from sliding pin (2).

 Place a wooden block as shown in the figure, and blow air from union bolt mounting hole to remove pistons and piston boots. CAUTION:

To prevent injury, never get fingers caught in the pistons.



- Remove piston seal from cylinder body using seal pick tool.
 CAUTION: To prevent damage to the parts, be careful not to damage a cylinder inner wall.
- 6. Remove bleeder valve and cap.
- 7. Perform inspection after disassembly. Refer to <u>BR-273</u>, "<u>BRAKE</u> <u>CALIPER ASSEMBLY</u> : <u>Inspection</u>".



ASSEMBLY

1. Install bleeder valve and cap.

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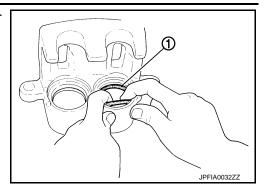
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< REMOVAL AND INSTALLATION >

Apply rubber grease to piston seals (1), and install them to cylinder body.
 CAUTION:

Never reuse piston seals.



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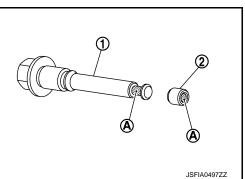
3. Apply rubber grease to piston boots (1). Cover the piston (2) end with piston boot, and then install cylinder side lip on piston boot securely into a groove on cylinder body. CAUTION:

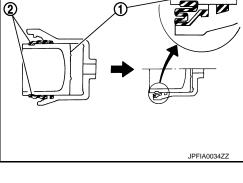
Never reuse piston boots.

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- Apply new brake fluid to pistons (1). Push piston into cylinder body by hand and push piston boot (2) piston-side lip into the piston groove.
 CAUTION:

To prevent damage to the parts, press the pistons evenly and vary the pressing point to prevent cylinder inner wall from being rubbed.

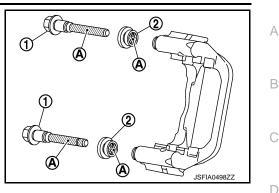
5. Apply rubber grease to mating faces (A) between sliding pin (1) and bushing (2), and install bushing to sliding pin.





< REMOVAL AND INSTALLATION >

- 6. Apply rubber grease to mating faces (A) between sliding pin (1) and sliding pin boot (2), and install sliding pin and sliding pin boot to sliding torque member.
- Install the cylinder body to tighten cylinder body mounting bolts to the specified torque. Refer to <u>BR-266, "BRAKE PAD :</u> <u>Exploded View"</u>.



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BRAKE CALIPER ASSEMBLY : Inspection

INSPECTION AFTER DISASSEMBLY

Check the following items and replace if necessary.

Cylinder Body Check the inner wall of the cylinder for rust, wear, cracks or damage. BR **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. Н 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. Remove brake pads. Refer to BR-266, "BRAKE PAD : Removal and Installation". 1. Press the pistons. Refer to <u>BR-266, "BRAKE PAD : Removal and Installation".</u> Κ Install brake pads. Refer to <u>BR-266, "BRAKE PAD : Removal and Installation".</u> Securely depress the brake pedal several times. 4. Check a drag of front disc brake again. If any drag is found, disassemble the cylinder body and replace if 5. necessary. Refer to BR-271, "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-247, "DISC ROTOR : Inspection and Adjustment". Μ Ν

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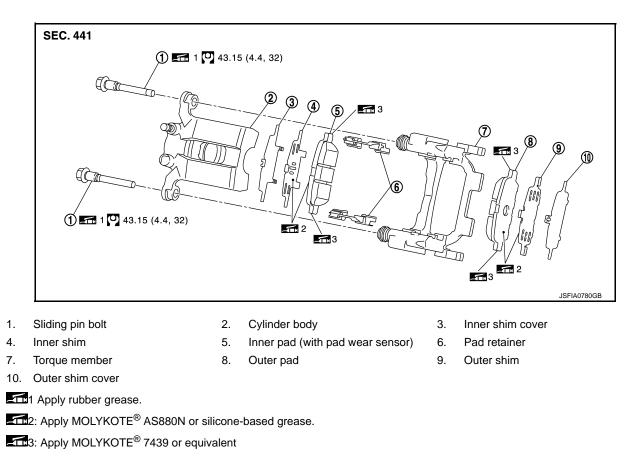
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< REMOVAL AND INSTALLATION >

REAR DISC BRAKE BRAKE PAD

BRAKE PAD : Exploded View

INFOID:000000006960749



: N·m (kg-m, ft-lb)

BRAKE PAD : Removal and Installation

INFOID:000000006960750

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. Never splatter the dust with an air blow gun. CAUTION:

- Never depress brake pedal. While removing the brake pads because the piston may pop out.
- To prevent damage to the parts, never 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 tires with power tool.

< 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.

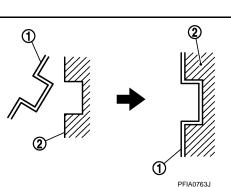
- 4. Remove the brake pads, shims, shim covers and pad retainers from the torque member. CAUTION:
 - To prevent damage to the parts, never deform the pad retainer (2) when removing the pad retainer from the torque member (1).
 - To prevent damage to the parts, never damage the piston boot.
 - To prevent damage to the parts, never drop the brake pads, shims, and the shim covers.
 - Remember each position of the removed brake pads.
- 5. Perform inspection after removal. Refer to <u>BR-276, "BRAKE</u> <u>PAD : Inspection"</u>.

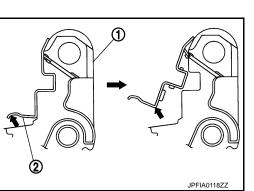


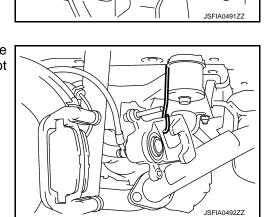
WARNING:

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. CAUTION:

- Never depress brake pedal. While removing the brake pads or the cylinder body because the piston may pop out.
- To prevent damage to the parts, never spill or splash brake fluid on the disc rotor.
- To prevent damage to the parts, if the brake fluid or grease adheres to the disc rotor, quickly wipe it off.
- Install the pad retainers (1) to the torque member (2) if the pad retainers has been removed.
 CAUTION:
 - Securely assemble the pad retainers so that it will not be lifted up from the torque member.
 - To prevent damage to the parts, never deform the pad retainers.







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< REMOVAL AND INSTALLATION >

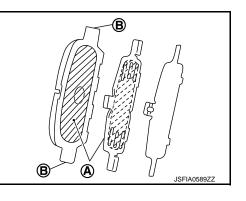
Apply MOLYKOTE[®] AS880N or silicone-based grease to the mating faces (A) between the brake pads and the shims, and install the shims to the brake pad.
 CAUTION:

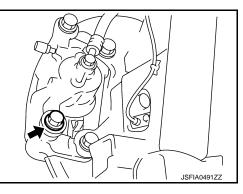
Always replace the shim together with the shim cover when replacing the brake pad.

- 3. Apply MOLYKOTE[®] 7439 or equivalent to the mating faces (B) between the brake pads and the pad retainers.
- Install the brake pads to the torque member.
 CAUTION:
 To prevent damage to the parts, never deform the pad retainers.
- 5. Install cylinder body to torque member. CAUTION:
 - To prevent damage to the parts, never damage the piston boot.
 - When replacing brake pad with new one, check a brake fluid level in the reservoir tank because brake fluid returns to master cylinder reservoir tank when pressing piston in.
 NOTE:

Use a disc brake piston tool to easily press piston.

- 6. Apply rubber grease to the sliding pin bolt, install the lower sliding pin bolt and tighten it to the specified torque.
- Depress the brake pedal several times to check that no drag feel is present for the rear disc brake. Refer to <u>BR-276</u>, "<u>BRAKE</u> <u>PAD</u>: Inspection</u>".
- 8. Install tires with power tool. Refer to <u>WT-47, "Removal and</u> <u>Installation"</u>.





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BRAKE PAD : Inspection

INSPECTION AFTER REMOVAL

- Replace the shims and the shim covers if rust is excessively attached.
- Eliminate rust on the pad retainers and the torque member. Replace them if rust is excessively attached.

INSPECTION AFTER INSTALLATION

- Check a drag of rear disc brake. If any drag is found, follow the procedure described below.
- 1. Remove brake pads. Refer to <u>BR-274, "BRAKE PAD : Removal and Installation"</u>.
- 2. Press the pistons. Refer to BR-274, "BRAKE PAD : Removal and Installation".
- 3. Install brake pads. Refer to BR-274, "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 <u>BR-279</u>, "<u>BRAKE CALIPER ASSEMBLY</u>: <u>Disassembly and Assembly</u>"
- Burnish contact surfaces brake pads and disc rotor after refinishing or replacing brake pads, or if a soft pedal occurs at very low mileage. Refer to <u>BR-249</u>, "<u>BRAKE PAD</u> : <u>Inspection and Adjustment</u>".

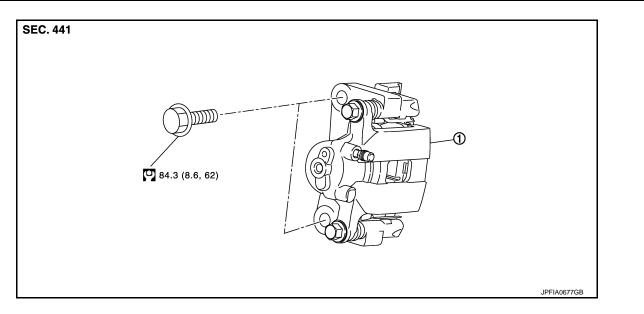
BRAKE CALIPER ASSEMBLY

BRAKE CALIPER ASSEMBLY : Exploded View

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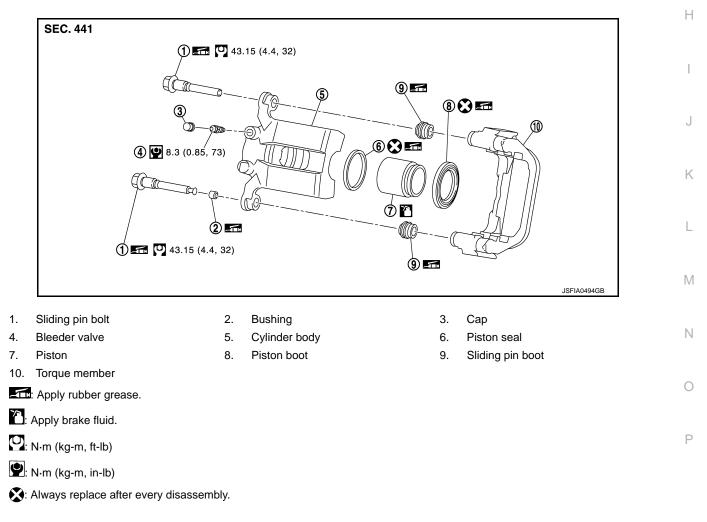
REMOVAL

< REMOVAL AND INSTALLATION >



- 1. Brake caliper assembly
- : N·m (kg-m, ft-lb)





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< REMOVAL AND INSTALLATION >

BRAKE CALIPER ASSEMBLY : Removal and Installation

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. Never splatter the dust with an air blow gun.

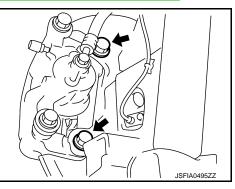
CAUTION:

- Never 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, never wash them with water.
- Never depress brake pedal. While removing the brake hose. If this is not complied with, brake fluid may splash.
- To prevent damage to the parts, never drop removed parts.
- To prevent damage to the parts, never 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 tires with power tool.
- 2. Fix the disc rotor using wheel nuts.
- 3. Drain brake fluid. Refer to <u>BR-244, "Draining"</u>.
- 4. Separate brake hose from caliper assembly. Refer to <u>BR-258</u>, "REAR : Removal and Installation".
- 5. Remove torque member mounting bolts, and remove brake caliper assembly.

CAUTION:

To prevent damage to the parts, never drop brake pad and caliper assembly.

6. When removing disc rotor. Refer to <u>RAX-6, "Removal and Instal-</u><u>lation"</u>.



INSTALLATION

WARNING:

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

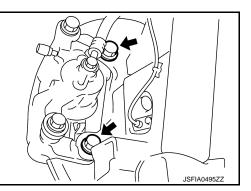
CAUTION:

- Never 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,
 never wash them with water.
- Never depress brake pedal. While removing the brake hose. If this is not complied with, brake fluid may splash.
- To prevent damage to the parts, never 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-6, "Removal and Installation".
- 2. Install the brake caliper assembly to the axle housing and tighten the torque member mounting bolts to the specified torque.

CAUTION:

Never spill or splash any grease and moisture on the brake caliper assembly mounting face, threads, mounting bolts and washers. Wipe out any grease and moisture.

- 3. Install brake hose. Refer to <u>BR-258, "REAR : Removal and</u> <u>Installation"</u>.
- 4. Perform the air bleeding. Refer to <u>BR-245</u>, "<u>Bleeding Brake System</u>".



< REMOVAL AND INSTALLATION >

- 5. Check a drag of rear disc brake. If any drag is found, refer to <u>BR-276, "BRAKE PAD : Inspection"</u>.
- 6. Install tires with power tool. Refer to WT-47, "Removal and Installation".
- 7. Perform inspection after installation. Refer to <u>BR-281, "BRAKE CALIPER ASSEMBLY : Inspection"</u>.

BRAKE CALIPER ASSEMBLY : Disassembly and Assembly

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DISASSEMBLY

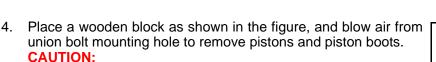
NOTE:

Never remove the torque member, brake pad and pad retainers when disassembling and assembling the cylinder body.

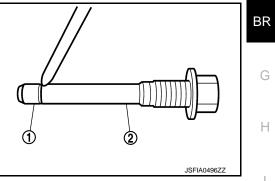
 Remove the sliding pin bolt, and remove the cylinder body from the torque member. Refer to <u>BR-274</u>. <u>"BRAKE PAD : Removal and Installation"</u>. CAUTION:

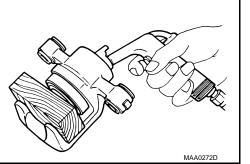
To prevent damage to the parts, fix the brake pad at suitable tape so that the brake pad will not drop.

- 2. Remove sliding pin boots from torque member.
- 3. Remove bushing (1) from sliding pin bolt (2).



To prevent injury, never get fingers caught in the pistons.

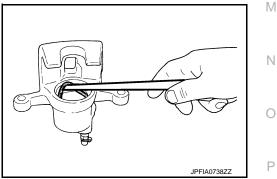




5. Remove piston seal from cylinder body using seal pick tool. CAUTION:

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 <u>BR-281, "BRAKE</u> <u>CALIPER ASSEMBLY : Inspection"</u>.



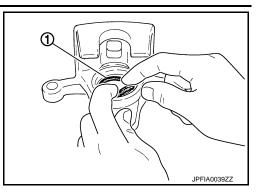
ASSEMBLY

1. Install bleeder valve and cap.

< REMOVAL AND INSTALLATION >

2. Apply rubber grease to piston seals (1), and install them to cylinder body. **CAUTION:**

Never reuse piston seals.



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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:

Never reuse piston boots.

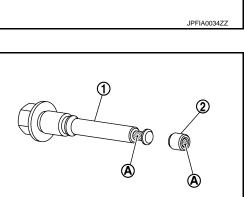
4.

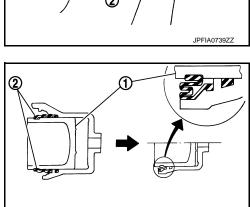
piston groove. **CAUTION:**

Apply new brake fluid to pistons (1). Push piston into cylinder body by hand and push piston boot (2) piston-side lip into the 2 To prevent damage to the parts, press the pistons evenly

and vary the pressing point to prevent cylinder inner wall from being rubbed.

5. Apply rubber grease to mating faces (A) between sliding pin bolt (1) and bushing (2), and install bushing to sliding pin.

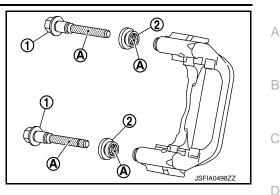




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< REMOVAL AND INSTALLATION >

- 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.
- Install the cylinder body to tighten sliding pin bolts to the specified torque. Refer to <u>BR-274, "BRAKE PAD : Exploded View"</u>.



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BRAKE CALIPER ASSEMBLY : Inspection

INSPECTION AFTER DISASSEMBLY

Check the following items and replace if necessary.

Cylinder Body

Check the inner wall of the cylinder for rust, wear, cracks or damage. CAUTION: Always clean with new brake fluid. Never clean with mineral oil such as gasoline and light oil.	BR
Torque Member Check the torque member for rust, wear, cracks or damage.	G
Pistons Check the surface of the piston for rust, wear, cracks or damage. CAUTION: A piston sliding surface is plated. Never polish with sandpaper.	Н
Sliding Pin, Sliding Pin Boot and Bushing Check the sliding pins, sliding boots and bushing for rust, wear, cracks or damage.	I
INSPECTION AFTER INSTALLATION • Check a drag of rear disc brake. If any drag is found, follow the procedure described below.	J

- Check a drag of rear disc brake. If any drag is found, follow the procedure described below.
 Remove brake pads. Refer to BR-274, "BRAKE PAD : Removal and Installation".
- Remove blace paus. Relet to <u>BR-274, BRARE PAD. Removal and Installation</u>
 Press the mistage Defente DD 074 "DD 0//E DAD. Demoved end lestallation"
- 2. Press the pistons. Refer to <u>BR-274, "BRAKE PAD : Removal and Installation"</u>.
- Install brake pads. Refer to <u>BR-274, "BRAKE PAD : Removal and Installation"</u>.
- 4. Securely depress the brake pedal several times.
- 5. Check a drag of rear disc brake again. If any drag is found, disassemble the cylinder body and replace if necessary. Refer to <u>BR-279</u>, "<u>BRAKE CALIPER ASSEMBLY</u>: <u>Disassembly and Assembly</u>".
- Burnish contact surface between disc rotor and brake pads after refinishing or replacing disc rotor, or if a soft pedal occurs at very low mileage. Refer to <u>BR-249</u>, "<u>DISC ROTOR</u> : <u>Inspection and Adjustment</u>".

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SERVICE DATA AND SPECIFICATIONS (SDS)

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General Specifications

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Linite mana (in)

		Unit: mm (in)
	Cylinder bore diameter	45.0 (1.772) × 2
Front brake	Pad length \times width \times thickness	140.0 × 48.0 × 9.5 (5.51 × 1.890 × 0.374)
	Rotor outer diameter × thickness	283 × 28.0 (11.14 × 1.102)
	Cylinder bore diameter	38.1 (1.500)
Rear brake	Pad length \times width \times 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 flu	id	Refer to MA-13, "FOR NORTH AMERICA : Flu- ids and Lubricants".

Brake Pedal

INFOID:000000006960757

	Unit: mm (in)
Item	Standard
Brake pedal height	159.9 – 169.9 (6.30 – 6.69)
Depressed brake pedal height Depressing 196 N (20 kg, 44 lb) while set the vehicle to READY]	93.0 (3.661) or more
Clearance between stop lamp switch and ASCD brake switch 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:000000006960758

Unit: mm (in)

Item	Standard
Input rod length	154.5 – 155.5 (6.08 – 6.12)

Front Disc Brake

INFOID:000000006960759

Unit: mm (in)

	Item	Limit
Brake pad	Wear thickness	2.0 (0.079)
Disc rotor	Wear thickness	26.0 (1.024)
	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:000000006960760

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 (0.04)