

SECTION **BR** BRAKE SYSTEM

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PRECAUTIONS

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PRECAUTION

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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

INFOID:000000007635767

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

NOTE:

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

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

INFOID:000000007635768

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

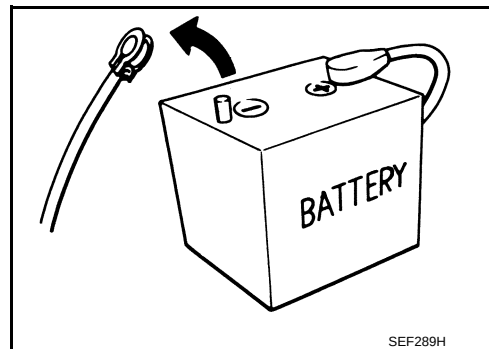
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- When removing the 12V battery terminal, turn OFF the power switch and wait at least 5 minutes.

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 → ON → OFF. Get out of the vehicle. Close all doors (including back door).
3. Check that the charge status indicator lamp does not blink and wait for 5 minutes or more.

NOTE:

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

4. Remove 12V battery terminal within 60 minutes after turning the power switch OFF → ON → 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 → OFF, the 12V battery automatic charge control does not start for approximately 1 hour.

PRECAUTIONS

< PRECAUTION >

- 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.

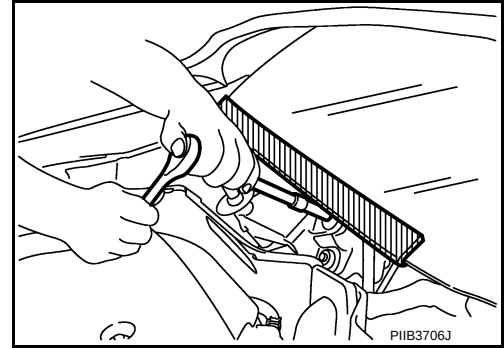
NOTE:

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.



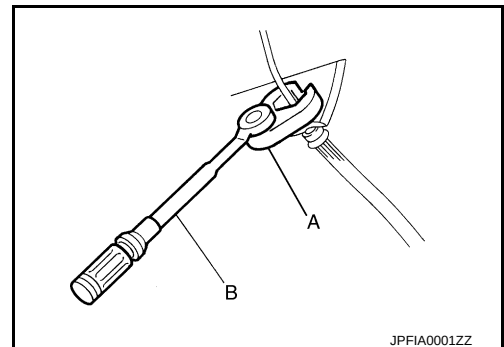
Precaution for Brake System

INFOID:000000007635771

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"](#) (for North America), [MA-14, "FOR BRAZIL : Fluids and Lubricants"](#) (for Brazil).
- Never reuse drained brake fluid.
- Never spill or splash brake fluid on painted surfaces. Brake fluid may seriously damage paint. Wipe it off immediately and wash with water if it gets on a painted surface. For brake component parts, never wash them with water.
- Always confirm the specified tightening torque when installing the brake pipes.
- After pressing the brake pedal more deeply or harder than normal driving, such as air bleeding, check each item of brake pedal. Adjust brake pedal if it is outside the standard value.
- Always clean with new brake fluid when cleaning the brake caliper and other components.
- Never use mineral oils such as gasoline or light oil to clean. They may damage rubber parts and cause improper operation.
- Always loosen the brake tube flare nut with a flare nut wrench.
- Tighten the brake tube flare nut to the specified torque with a crow-foot (A) and torque wrench (B).
- Turn the power switch OFF to exit CONSULT. 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 and electric unit (control unit) harness connector or the 12V battery negative terminal before performing the work. Refer to [BR-5, "Precautions for Removing Battery Terminal"](#).
- Check that no brake fluid leakage is present after replacing the parts.



CAUTION:

Never operate the vehicle and CONSULT while waiting.

- Burnish the brake contact surfaces after refinishing or replacing rotors, after replacing pads, or if a soft pedal occurs at very low mileage.
 - Front brake pad: Refer to [BR-244, "BRAKE PAD : Inspection and Adjustment"](#).
 - Front disc rotor: Refer to [BR-244, "DISC ROTOR : Inspection and Adjustment"](#).
 - Rear brake pad: Refer to [BR-246, "BRAKE PAD : Inspection and Adjustment"](#).
 - Rear disc rotor: Refer to [BR-246, "DISC ROTOR : Inspection and Adjustment"](#).

PRECAUTIONS

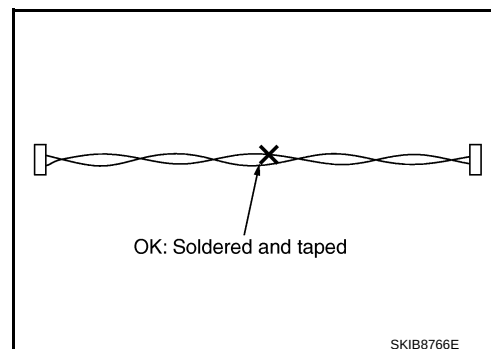
< PRECAUTION >

- 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.

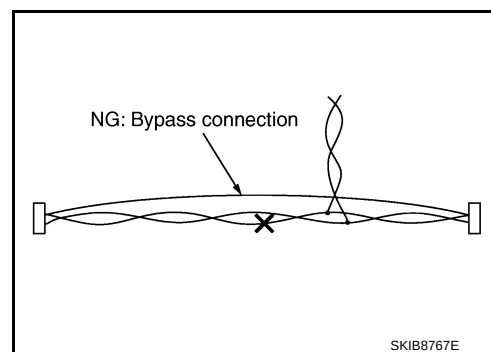
Precaution for Harness Repair

INFOID:000000007635772

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



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



PREPARATION

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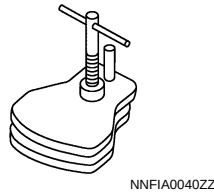
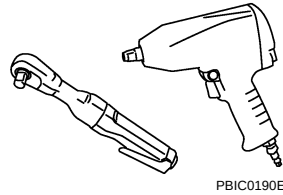
PREPARATION

PREPARATION

Commercial Service Tools

INFOID:000000007635773

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



COMPONENT PARTS

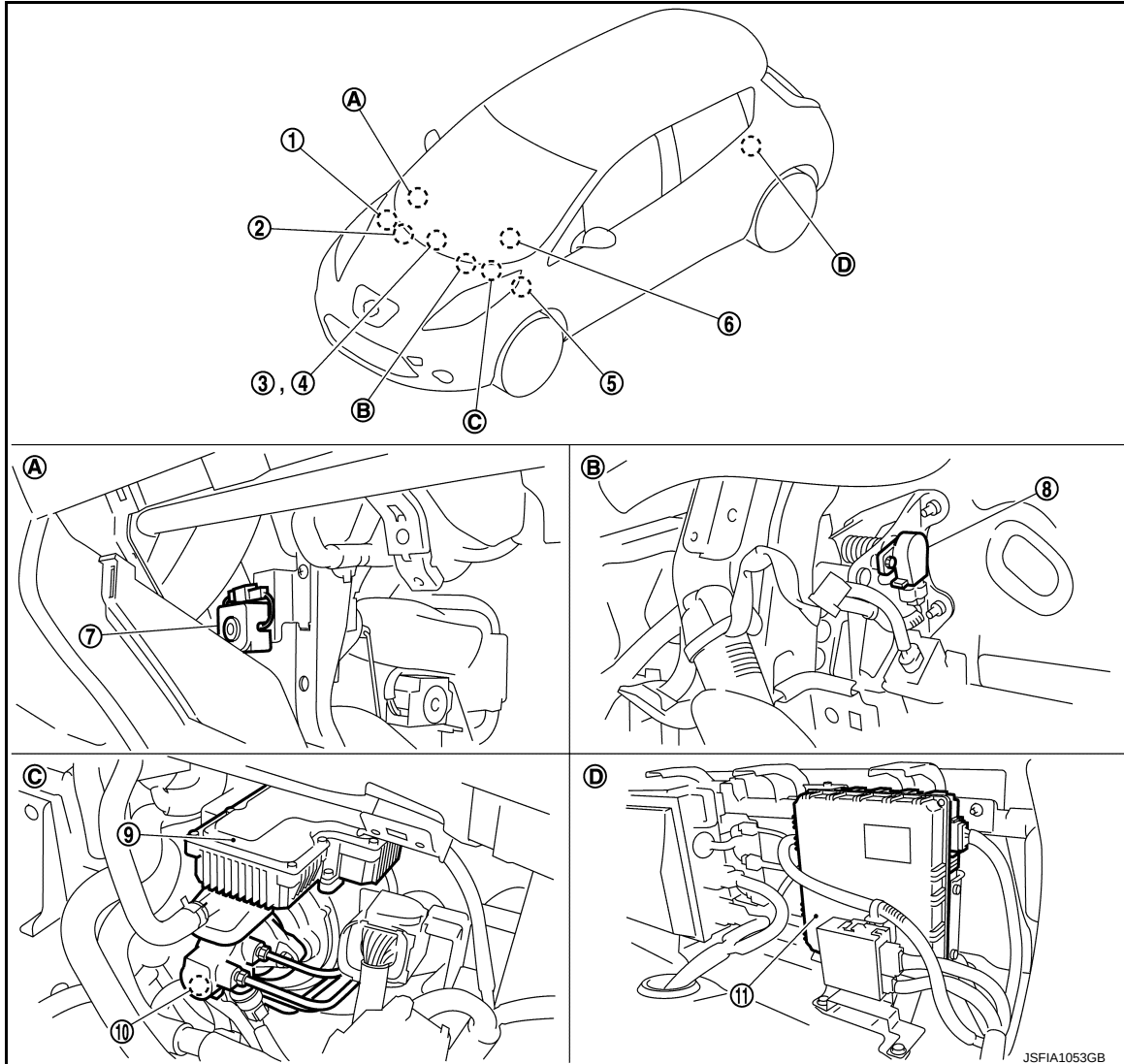
< SYSTEM DESCRIPTION >

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

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

COMPONENT PARTS

< SYSTEM DESCRIPTION >

No.	Component parts	Function
1.	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 • Rear RH wheel speed signal • Yaw rate 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 • Electrically-driven intelligent brake control signal Refer to BRC-10, "Component Parts Location" for detailed installation location.
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 EVC-17, "Component Parts Location" for detailed installation location.
3.	Brake warning lamp (in combination meter) Brake system warning lamp (in combination 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 MWI-7, "METER SYSTEM : Component Parts Location" for detailed installation location.
5.	BCM	Mainly transmits the following signals to electrically-driven intelligent brake unit via CAN communication. • Power switch ON signal • Door switch signal Refer to BCS-6, "BODY CONTROL SYSTEM : Component Parts Location" 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 BRC-10, "Component Parts Location" 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"

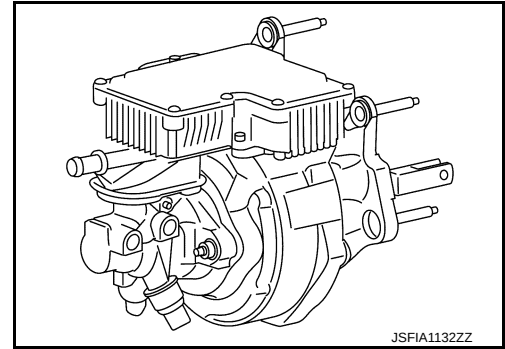
COMPONENT PARTS

< SYSTEM DESCRIPTION >

Electrically-driven Intelligent Brake Unit

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



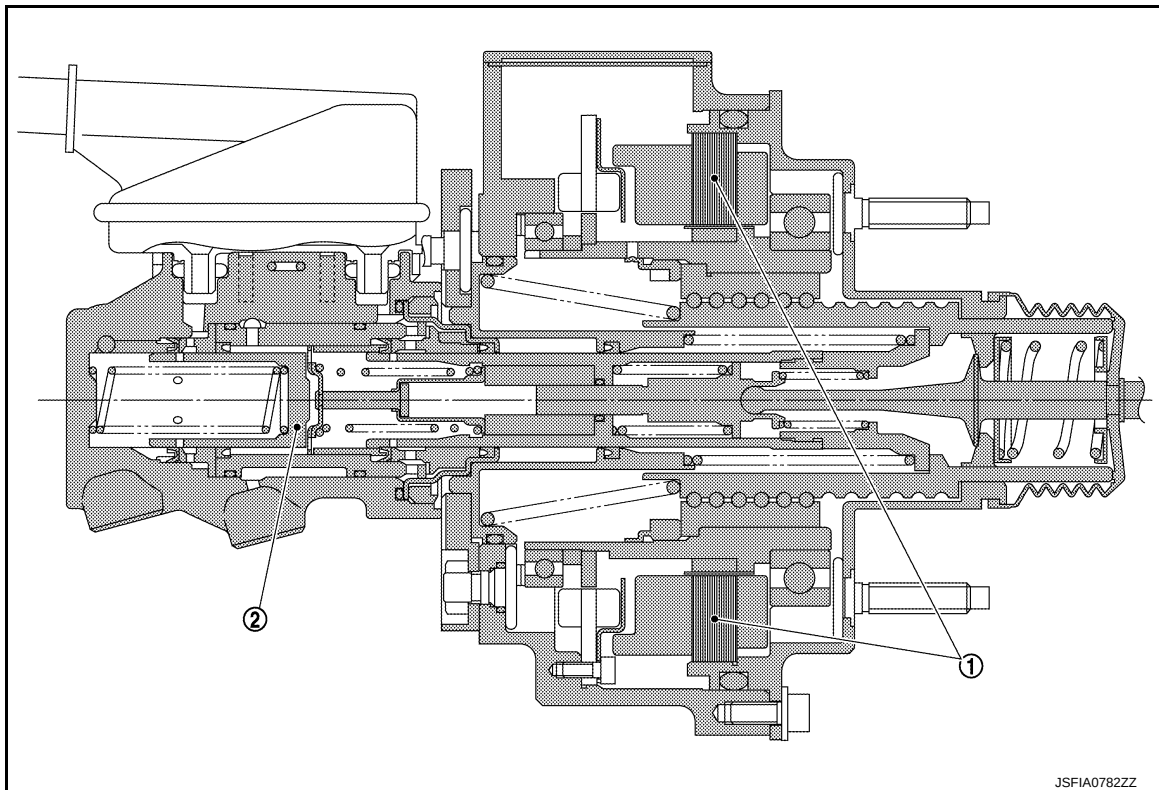
CONTROL MODULE

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

MASTER CYLINDER

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

BRAKE BOOSTER



1. Motor

2. Piston

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

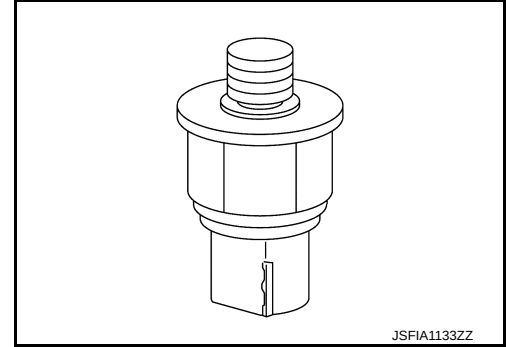
COMPONENT PARTS

< SYSTEM DESCRIPTION >

Master Cylinder Pressure Sensor1

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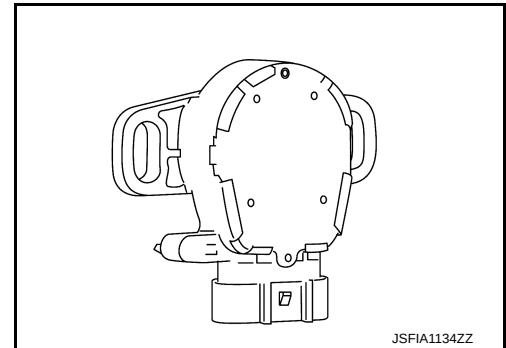
Detects the brake fluid pressure and transmits signals to the electrically-driven intelligent brake unit.



Stroke Sensor

INFOID:000000007635777

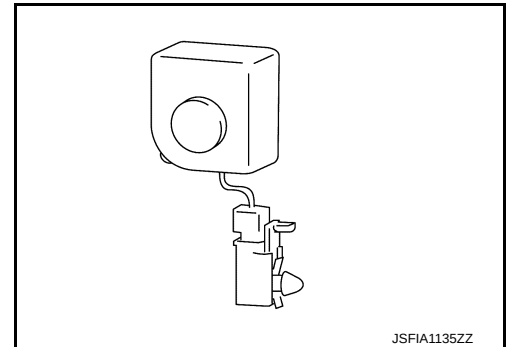
Detects the amount that the brake pedal is depressed and sends it to the electrically-driven intelligent brake unit.



Warning Buzzer

INFOID:000000007635778

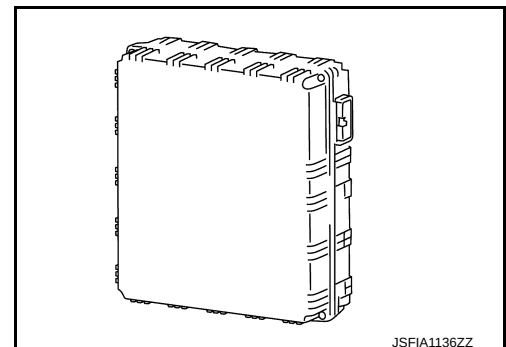
The warning buzzer operates based on the signal from the electrically-driven intelligent brake unit to notify the driver of the change in power supply circuits.



Brake Power Supply Backup Unit

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



SYSTEM

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SYSTEM

System Description

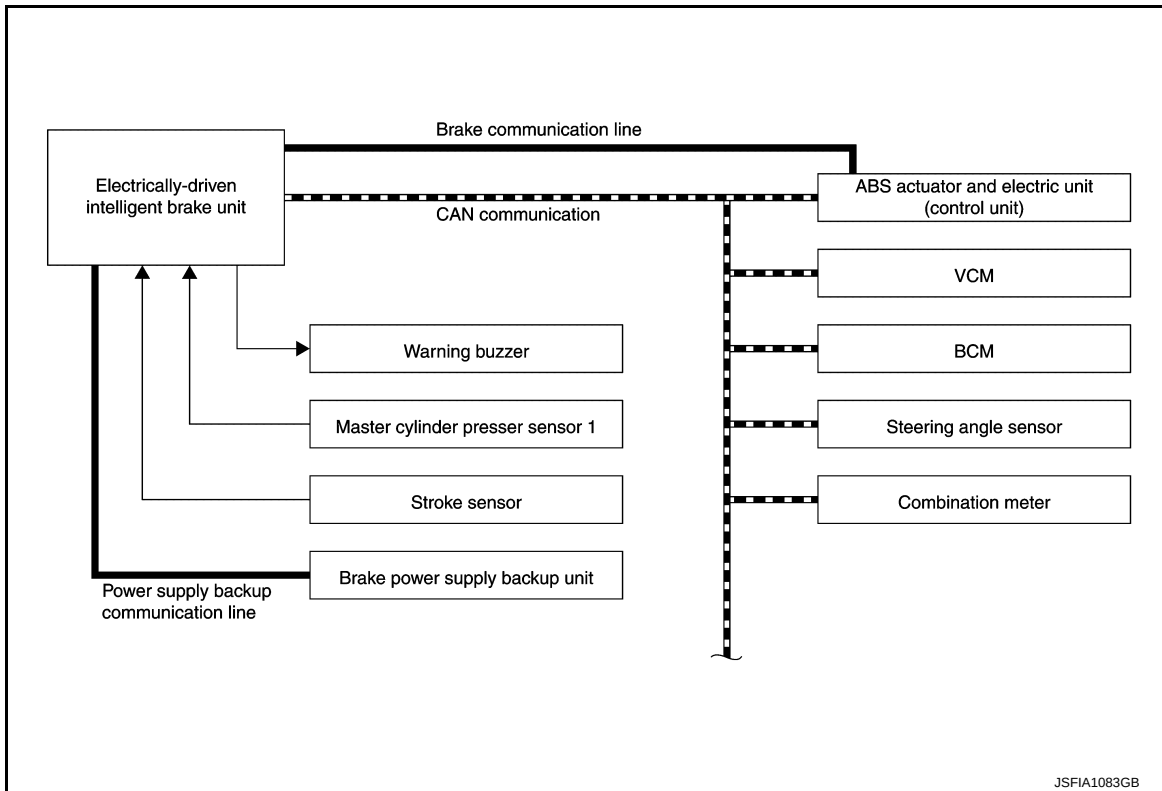
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- An electrically-driven intelligent brake is a booster system that generates assist force by using an internal motor to operate a piston inside the master cylinder.
- When the brake pedal is depressed during driving, cooperative control of the braking 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 [BR-19, "Fail-Safe"](#).

SYSTEM DIAGRAM

SYSTEM

< SYSTEM DESCRIPTION >

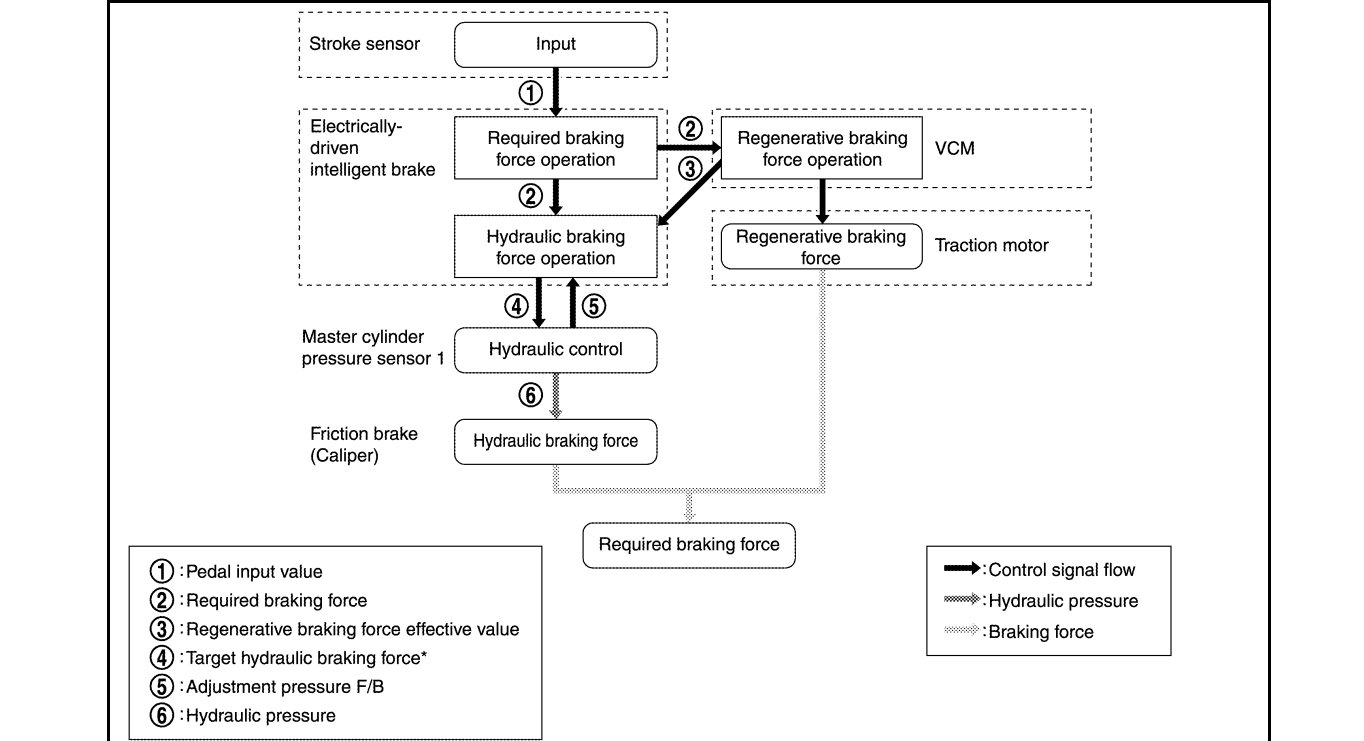


INPUT SIGNAL AND OUTPUT SIGNAL

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

Component	Signal description
ABS actuator and electric unit (control unit)	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 • Rear RH wheel speed signal • Yaw rate 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 • 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

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



- 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.)

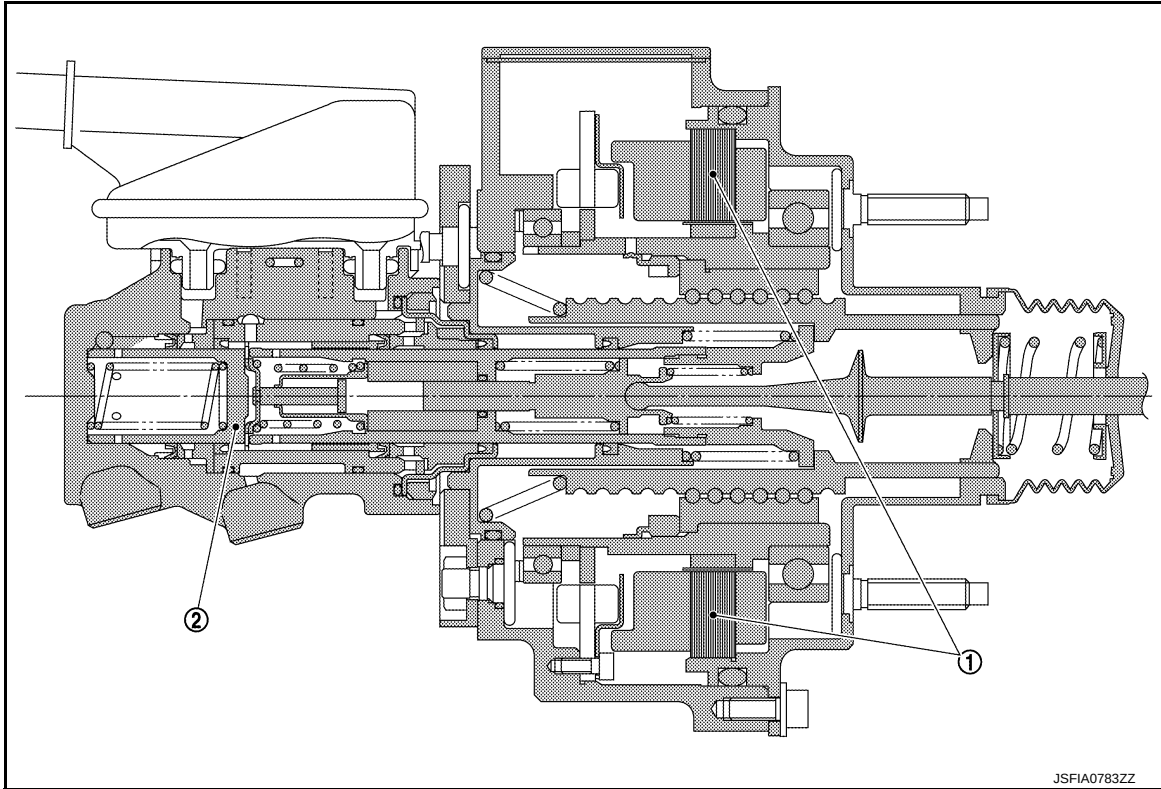
SYSTEM

< 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

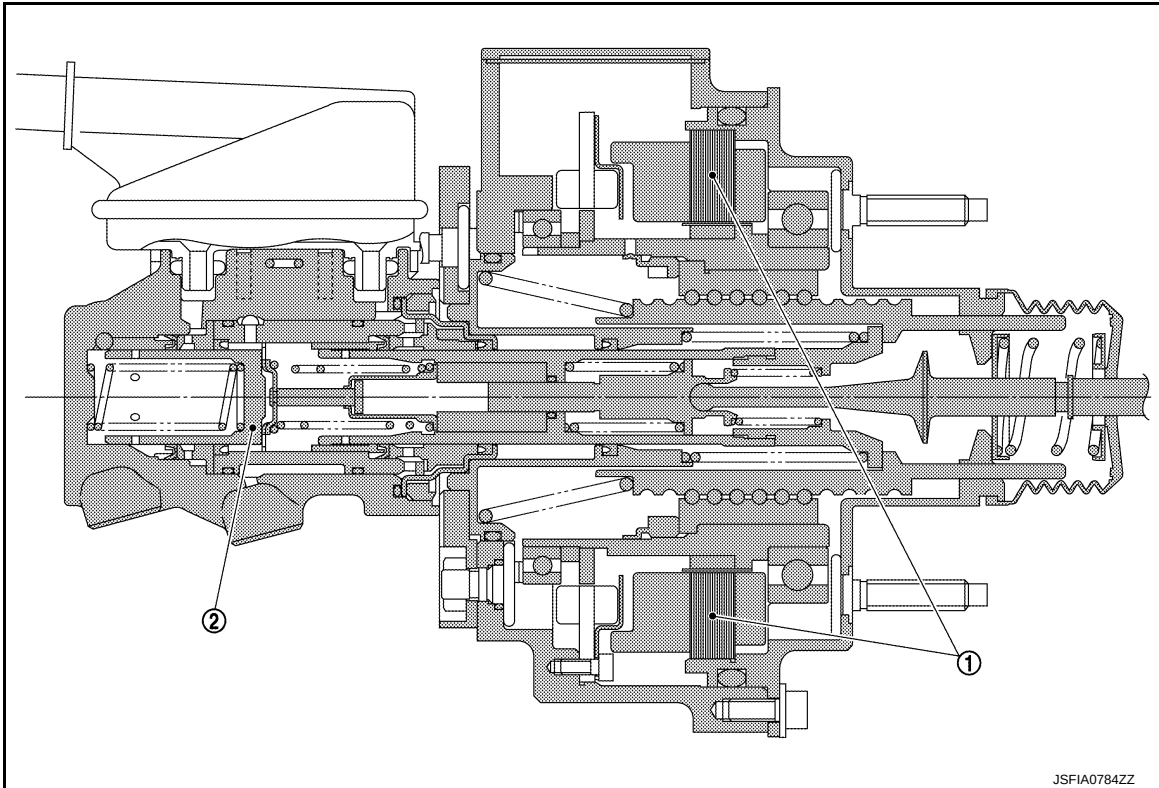
2. Piston

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

SYSTEM

< SYSTEM DESCRIPTION >

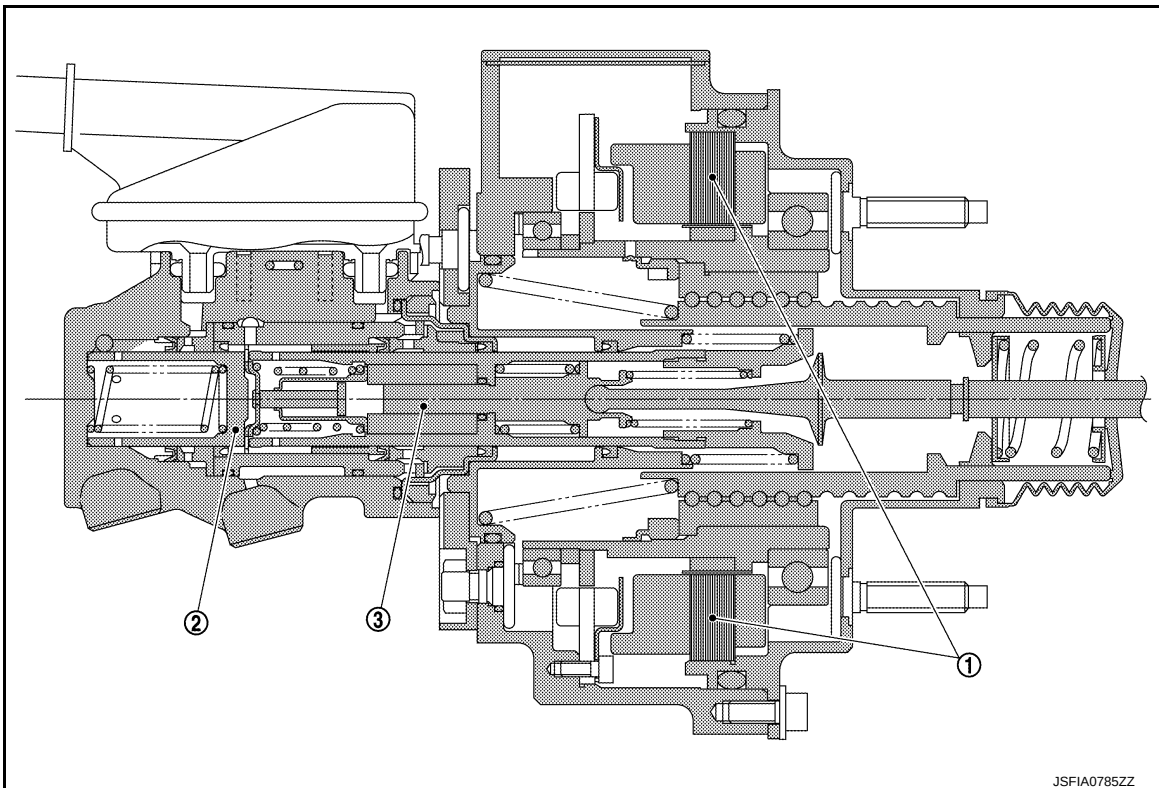


1. Motor

2. Piston

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

When Control Is Stopped



SYSTEM

< 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.

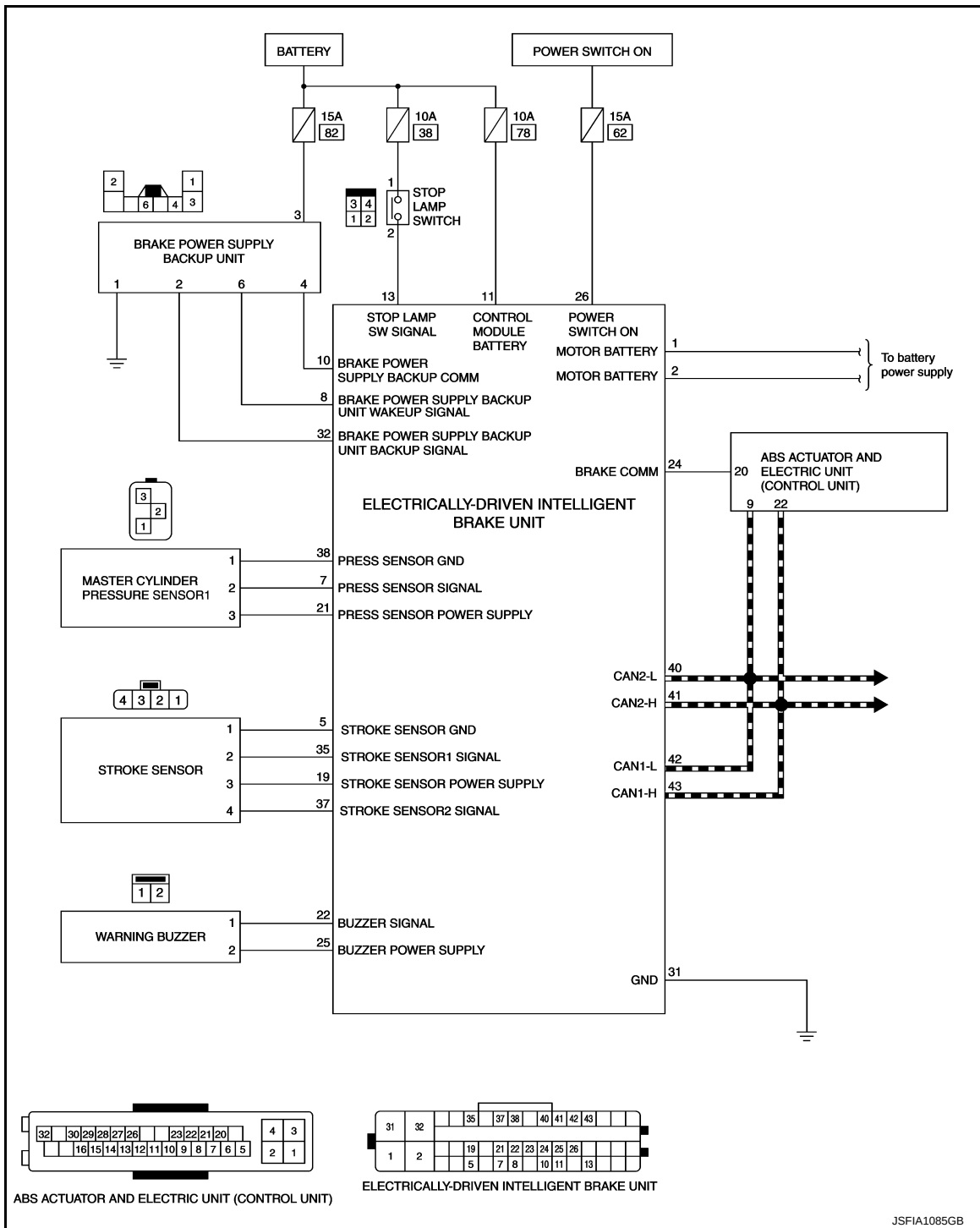
Condition (status)	Brake warning lamp (red)	Brake system warning lamp (yellow)	Warning buzzer
Power switch OFF	OFF	OFF	OFF
For approx. 1 second after the power switch is ON	ON	ON	OFF
Approx. 1 second after power switch ON (when the system is in normal operation)	OFF	OFF	OFF
When the power supply of the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

< SYSTEM DESCRIPTION >

Circuit Diagram

INFOID:000000007635781



Fail-Safe

INFOID:000000007635782

- 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

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

DIAGNOSIS SYSTEM (ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT)

< SYSTEM DESCRIPTION >

DIAGNOSIS SYSTEM (ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT)

CONSULT Function

INFOID:0000000007635783

APPLICATION ITEM

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

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

*: The following diagnosis information is erased by erasing.

CAUTION:

After erasing self-diagnosis results, turn the power switch OFF to exit CONSULT, 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 [BR-27, "DTC Index"](#).

When "CRNT" is displayed on self-diagnosis result

- The system is presently malfunctioning.

When "PAST" is displayed on self-diagnosis result

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

Freeze frame data (FFD)

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

Item name	Display item
IGN counter (0 - 39)	The number of times that power switch is ON after the DTC is detected is displayed. • When "0" is displayed: It indicates that the system is presently malfunctioning. • When except "0" is displayed: It indicates that system malfunction in the past is detected, but the system is presently normal. NOTE: Each time when power switch is turned OFF to ON, numerical number increases in 1 → 2 → 3...38 → 39. When the operation number of times exceeds 39, the number do not increase and "39" is displayed until self-diagnosis is erased.
PEDAL STROKE VALUE	Displays the brake pedal stroke at the time the malfunction is detected.
MASTER CYL PRESSURE	Displays the brake fluid pressure generated in the master cylinder at the time the malfunction is detected.
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-driven intelligent brake unit.
STROKE SEN 1 LEARN VALUE (deg)	Displays the stroke sensor 1* learning value.
STROKE SEN 2 LEARN VALUE (deg)	Displays the stroke sensor 2* learning value.
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.
IGNITION SIGNAL (On/Off)	Displays the status of power switch.
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.
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.

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

WORK SUPPORT

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

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ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT

< ECU DIAGNOSIS INFORMATION >

ECU DIAGNOSIS INFORMATION

ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT

Reference Value

INFOID:000000007635784

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

ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT

< ECU DIAGNOSIS INFORMATION >

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

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ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT

< ECU DIAGNOSIS INFORMATION >

Monitor item	Condition	Reference values in normal operation
BACKUP UNIT MODE	Backup power supply mode is active	On
	Backup power supply mode is not activated	Off
BACKUP UNIT CHARGE STATUS	80% or less (backup power supply not possible)	CHRG1
	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:000000007635785

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

ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT

< ECU DIAGNOSIS INFORMATION >

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

DTC Inspection Priority Chart

INFOID:000000007635786

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 • C1A69 MOTOR • C1A6A CONTROL MODULE TEMPERATURE • C1A6D POWER SUPPLY BACKUP UNIT OUTPUT

DTC Index

INFOID:000000007635787

DTC	Display item	Refer to
C1A60	CONTROL MODULE	BR-38, "DTC Logic"
C1A61	MOTOR POWER SUPPLY	BR-46, "DTC Logic"
C1A62	CONTROL MODULE POWER SUPPLY	BR-54, "DTC Logic"
C1A63	BACKUP POWER SUPPLY	BR-63, "DTC Logic"
C1A64	STROKE SENSOR	BR-72, "DTC Logic"
C1A65	STROKE SENSOR SET	BR-84, "DTC Logic"
C1A66	MASTER PRESSURE SENSOR	BR-96, "DTC Logic"
C1A67	STOP LAMP SWITCH	BR-107, "DTC Logic"
C1A69	MOTOR	BR-119, "DTC Logic"
C1A6A	CONTROL MODULE TEMPERATURE	BR-128, "DTC Logic"
C1A6B	POWER SUPPLY BACKUP UNIT	BR-137, "DTC Logic"
C1A6C	POWER SUPPLY BACKUP UNIT VOLT	BR-148, "DTC Logic"
C1A6D	POWER SUPPLY BACKUP UNIT OUTPUT	BR-156, "DTC Logic"

ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT

< ECU DIAGNOSIS INFORMATION >

DTC	Display item	Refer to
C1A6E	EV/HEV SYSTEM	BR-164, "DTC Logic"
C1A6F	TCM/VCM SYSTEM	BR-173, "DTC Logic"
C1A70	BRAKE CONTROL SYSTEM	BR-182, "DTC Logic"
C1A74	ST ANG SEN CIRCUIT	BR-191, "DTC Logic"
U1000	CAN COMM CIRCUIT	BR-199, "DTC Logic"
U1010	CONTROL UNIT (CAN)	BR-201, "DTC Logic"
U1510	BRAKE CONTROL COMMUNICATION	BR-203, "DTC Logic"
U1511	POWER SUPPLY BACKUP UNIT COMM	BR-211, "DTC Logic"

BRAKE SYSTEM

< WIRING DIAGRAM >

WIRING DIAGRAM

BRAKE SYSTEM

Wiring Diagram

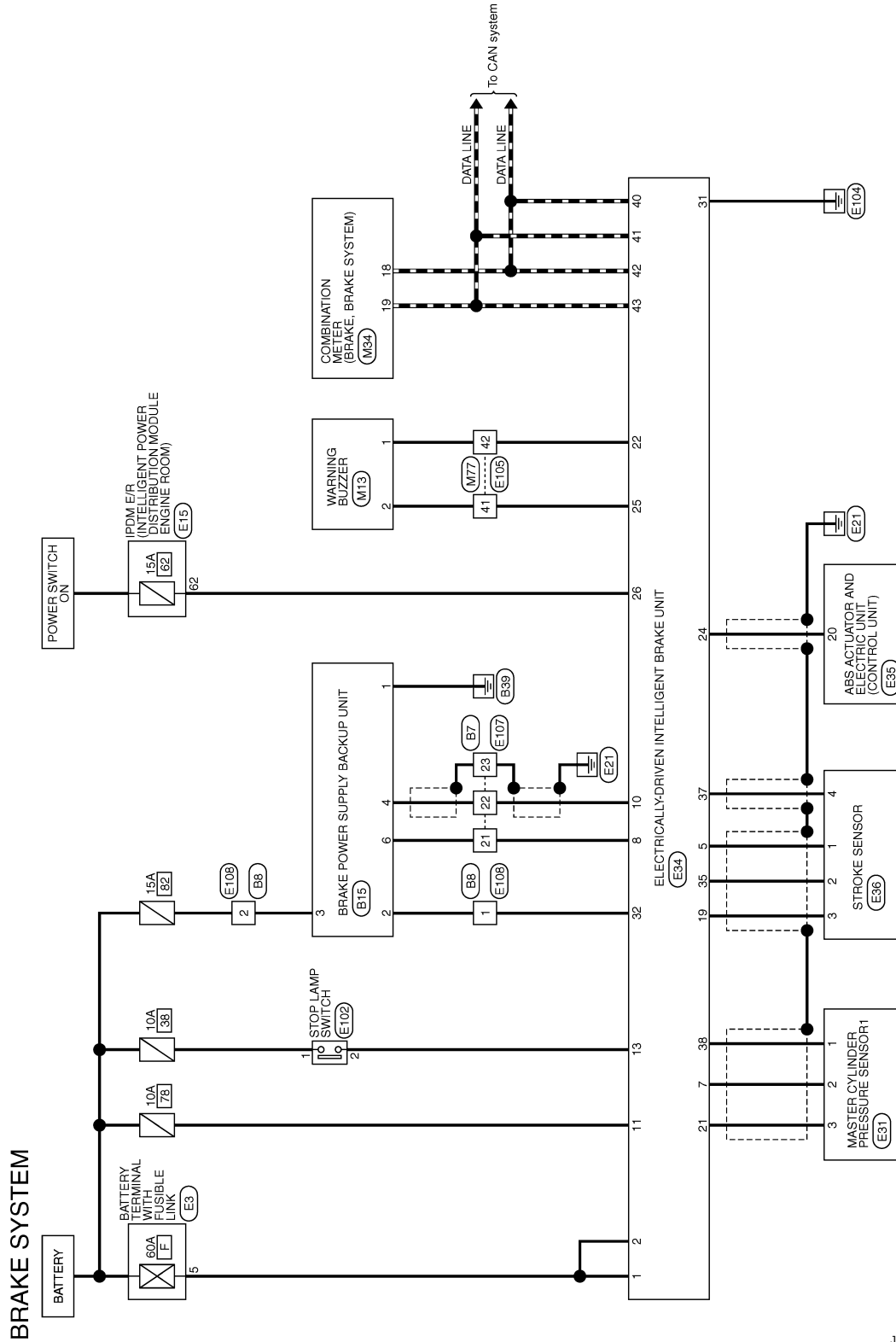
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For connector terminal arrangements, harness layouts, and alphabets in a  (option abbreviation; if not described in wiring diagram), refer to [GI-12, "Connector Information"](#).

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BRAKE SYSTEM

< WIRING DIAGRAM >



2010/10/29

JCFWA0387GB

DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION >

BASIC INSPECTION

DIAGNOSIS AND REPAIR WORK FLOW

Work Flow

INFOID:000000007635789

DETAILS OF TROUBLE DIAGNOSIS FLOWCHART

1.COLLECT THE INFORMATION FROM THE CUSTOMER

It is also important to clarify customer concerns before starting the inspection. First of all, perform an interview utilizing [BR-32, "Diagnostic Work Sheet"](#) and reproduce the symptom as well as fully understand it. Depending on the situations, drive the vehicle with the customer and check the symptom.

CAUTION:

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

>> GO TO 2.

2.CHECK SYMPTOM

Reproduce the symptom that is indicated by the customer, based on the information from the customer obtained by the interview. Also check that the symptom is not caused by fail-safe mode. Refer to [BR-26, "Fail-Safe"](#).

CAUTION:

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

>> GO TO 3.

3.PERFORM SELF-DIAGNOSIS (1)

 With CONSULT

Perform self-diagnosis.

Is DTC detected?

- YES >> Record or print self-diagnosis results and freeze frame data (FFD). GO TO 4.
NO >> GO TO 7.

4.PERFORM SELF-DIAGNOSIS (2)

 With CONSULT

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

CAUTION:

Never set the vehicle to READY.

2. Repeat step 1 two or more times.

CAUTION:

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

3. Turn the power switch OFF to exit CONSULT.
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:

DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION >

Never set the vehicle to READY.

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

Is DTC detected?

- YES >> Record or print self-diagnosis results. GO TO 5.
NO >> GO TO 7.

5.RECHECK SYMPTOM

ⓅWith CONSULT

1. Erase self-diagnosis results from the memory.
2. Turn the power switch OFF to exit CONSULT.
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. Perform DTC reproduction procedures for the system that is malfunctioning.

NOTE:

When multiple DTCs are detected, refer to [BR-27, "DTC Inspection Priority Chart"](#) and then determine the order for performing the diagnosis.

Is DTC detected?

- YES >> GO TO 6.
NO >> Check harness and connectors based on the information obtained by the interview. Refer to [GI-51, "Intermittent Incident"](#).

6.REPAIR OR REPLACE ERROR-DETECTED PART

1. Repair or replace the part that is malfunctioning. Reconnect part or connector after repairing or replacing. Erase DTC from the memory when DTC is detected.
2. Turn the power switch OFF to exit CONSULT.
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.

>> GO TO 7.

7.IDENTIFY ERROR-DETECTED SYSTEM BY SYMPTOM DIAGNOSIS

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

Can the malfunctioning part be identified?

- YES >> GO TO 8.
NO >> Check harness and connectors based on the information obtained by the interview. Refer to [GI-51, "Intermittent Incident"](#).

8.FINAL CHECK

ⓅWith CONSULT

1. Check the reference value for "BRAKE". Refer to [BR-24, "Reference Value"](#).
2. Perform the operation check. Check that the symptom is not reproduced under the same conditions as when the symptom is reproduced before.

Is the symptom reproduced?

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

Diagnostic Work Sheet

INFOID:000000007635790

Description

DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION >

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

INTERVIEW SHEET SAMPLE

Interview sheet					
Customer name	MR/MS	Registration number		Initial year registration	
		Vehicle type		VIN	
Storage date		Traction motor		Mileage	km (Mile)
Symptom		☐ Does not operate () function			
		☐ Warning lamp for () turns ON.			
		☐ Noise ☐ Vibration			
		☐ Other ()			
First occurrence		☐ Recently ☐ Other ()			
Frequency of occurrence		☐ Always ☐ Under a certain conditions of ☐ Sometimes (time(s)/day)			
Climate conditions		☐ Irrelevant			
	Weather	☐ Fine ☐ Cloud ☐ Rain ☐ Snow ☐ Others ()			
	Temperature	☐ Hot ☐ Warm ☐ Cool ☐ Cold ☐ Temperature [Approx. °C (°F)]			
	Relative humidity	☐ High ☐ Moderate ☐ Low			
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 conditions					
Memo					

ADDITIONAL SERVICE WHEN REPLACING ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT

< BASIC INSPECTION >

ADDITIONAL SERVICE WHEN REPLACING ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT

Description

INFOID:000000007635791

When the electrically-driven intelligent brake unit was replaced, perform stroke sensor 0 point learning. [BR-35](#).
["Work Procedure"](#).

STROKE SENSOR 0 POINT LEARNING

< BASIC INSPECTION >

STROKE SENSOR 0 POINT LEARNING

Description

INFOID:000000007635792

CAUTION:

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

×: Necessary, -: Not necessary

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

Work Procedure

INFOID:000000007635793

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-96, "Work Flow"](#).

Is the inspection result normal?

YES >> GO TO 3.

NO >> Charge or replace the 12V battery. Refer to [PG-96, "How to Handle 12V Battery"](#) or [PG-101, "Removal and Installation"](#). GO TO 3.

3.CHECKING INSTALLATION CONDITIONS OF BRAKE COMPONENTS

Check the installation conditions of brake components.

Is the inspection result normal?

YES >> GO TO 4.

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

4.CHECK BRAKE PEDAL

Check each brake pedal height. Refer to [BR-239, "Inspection and Adjustment"](#).

Is the inspection result normal?

YES >> GO TO 5.

NO >> Adjust each brake pedal height. Refer to [BR-239, "Inspection and Adjustment"](#). GO TO 5.

5.PERFORM SELF-DIAGNOSIS

ⓂWith CONSULT

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

CAUTION:

Never set the vehicle to READY.

2. Repeat step 1 two or more times.

CAUTION:

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

STROKE SENSOR 0 POINT LEARNING

< BASIC INSPECTION >

3. Turn the power switch OFF to exit CONSULT.
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 a malfunction detected?

- YES >> Check the DTC. Refer to [BR-27, "DTC Index"](#). GO TO 6.
NO >> GO TO 6.

6. PERFORM STROKE SENSOR 0 POINT LEARNING

With CONSULT

1. Turn the power switch OFF to exit CONSULT and wait for 10 seconds or more.
2. Turn the power switch ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY.
3. Start CONSULT and select "BRAKE", "WORK SUPPORT" and "STROKE SENSOR 0 POINT LEARNING" according to this order.
CAUTION:
Never depress brake pedal.
4. Touch "START".

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

- "COMPLETED">>Touch the "END". GO TO 7.
"The operation is incomplete. Try again after confirming the operation condition.">>GO TO 2.

7. CHECK DATA MONITOR

With CONSULT

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

STROKE SEN 1 OUTPUT VOLT : 0.84 – 2.38 V

Is the inspection result normal?

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

8. ERASE SELF-DIAGNOSIS MEMORY

With CONSULT

1. Turn the power switch OFF to exit CONSULT and wait for 10 seconds or more.
CAUTION:
Be sure to perform the operation above.
2. Turn the power switch ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY.
3. Start CONSULT and erase self-diagnosis result of "BRAKE".

STROKE SENSOR 0 POINT LEARNING

< BASIC INSPECTION >

4. Turn the power switch OFF to exit CONSULT.
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.

Are the memories erased?

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

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C1A60 CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

DTC/CIRCUIT DIAGNOSIS

C1A60 CONTROL MODULE

DTC Logic

INFOID:000000007635794

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1A60	CONTROL MODULE	A malfunction is detected control module that is integrated with the electrically-driven intelligent brake unit.	Electrically-driven intelligent brake unit

DTC REPRODUCTION PROCEDURE

1.PRECONDITIONING

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

>> GO TO 2.

2.CHECK DTC DETECTION

④ With CONSULT

- Turn the power switch OFF to ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY.
- Repeat step 1 two or more times.
CAUTION:
Be sure to wait for 5 seconds or more after turning the power switch OFF.
- Turn the power switch OFF to exit CONSULT.
- Get out of the vehicle, close all 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.
- 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 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.
- 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 "C1A60" detected?

- YES >> Proceed to [BR-38, "Diagnosis Procedure"](#).
NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000007635795

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.

C1A60 CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

CAUTION:

Never operate the vehicle and CONSULT while waiting.

- Check the 12V battery terminal connections. Refer to [BR-5, "Precautions for Removing Battery Terminal"](#) and [PG-96, "Work Flow"](#).
- Check the 12V battery. Refer to [PG-96, "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

- Connect 12V battery cable to negative terminal.
- Turn the power switch OFF to ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY.
- Repeat step 2 two or more times.
CAUTION:
Be sure to wait for 5 seconds or more after turning the power switch OFF.
- Turn the power switch OFF to exit CONSULT.
- Get out of the vehicle, close all 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.
- 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 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.
- 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 "C1A60" detected?

YES >> GO TO 3.

NO >> INSPECTION END

3.CHECK CONNECTOR TERMINALS

- 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 [BR-5, "Precautions for Removing Battery Terminal"](#).
- 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

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

C1A60 CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY.
4. Repeat step 3 two or more times.
CAUTION:
Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
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 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 [BR-5, "Precautions for Removing Battery Terminal"](#).
5. Disconnect the electrically-driven intelligent brake unit harness connector.
6. Connect 12V battery cable to negative terminal.
7. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

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

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

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

Is the inspection result normal?

YES >> GO TO 8.

C1A60 CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

NO >> GO TO 6.

6. CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
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 [BR-5, "Precautions for Removing Battery Terminal"](#).
4. Check the 15A fuse (#62).
5. Disconnect IPDM E/R harness connector.
6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

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

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

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

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to [PG-30, "Wiring Diagram - ON POWER SUPPLY -"](#).

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

7. PERFORM SELF-DIAGNOSIS (3)

Ⓐ With CONSULT

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

C1A60 CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

Is DTC "C1A60" detected?

YES >> GO TO 8.

NO >> INSPECTION END

8. CHECK 12V BATTERY POWER SUPPLY

1. Turn the power switch OFF to exit CONSULT.
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 [BR-5, "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 (Approx.)
Connector	Terminal	
E34	1 – 31	10 – 16 V
	2 – 31	
	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 (Approx.)
Connector	Terminal	
E34	1 – 31	10 – 16 V
	2 – 31	
	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 [BR-5, "Precautions for Removing Battery Terminal"](#).
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 [PG-16, "Wiring Diagram - BATTERY POWER SUPPLY -"](#).

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

C1A60 CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

10. PERFORM SELF-DIAGNOSIS (4)

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.
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 [BR-5, "Precautions for Removing Battery Terminal"](#).
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Check the continuity between electrically-driven intelligent brake unit and ground.

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

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:

C1A60 CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

Never set the vehicle to READY.

4. Repeat step 3 two or more times.

CAUTION:

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

5. Turn the power switch OFF to exit CONSULT.
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 13.

NO >> INSPECTION END

13. CHECK DATA MONITOR

 With CONSULT

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

CAUTION:

Never set the vehicle to READY.

4. Repeat step 3 two or more times.

CAUTION:

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

5. Start CONSULT and select "BRAKE" and "DATA MONITOR" according this order.
6. Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER". Refer to [BR-24, "Reference Value"](#).

Is the inspection result normal?

YES >> GO TO 14.

NO >> Replace the electrically-driven intelligent brake unit. Refer to [BR-258, "Removal and installation"](#).

14. PERFORM SELF-DIAGNOSIS (6)

 With CONSULT

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

CAUTION:

Never set the vehicle to READY.

2. Repeat step 1 two or more times.

CAUTION:

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

3. Turn the power switch OFF to exit CONSULT.
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:

C1A60 CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

Never set the vehicle to READY.

6. Start CONSULT and erase self-diagnosis result of "BRAKE".
7. Turn the power switch OFF to exit CONSULT.
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 [BR-258, "Removal and installation"](#).
- NO >> INSPECTION END

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C1A61 MOTOR

< DTC/CIRCUIT DIAGNOSIS >

C1A61 MOTOR

DTC Logic

INFOID:000000007635796

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: $9\text{ V} \geq \text{Motor power voltage}$ • Motor power voltage: $16\text{ V} \geq \text{Motor power voltage}$	• Connector or harness • Electrically-driven intelligent brake unit

DTC REPRODUCTION PROCEDURE

1. PRECONDITIONING

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

>> GO TO 2.

2. CHECK DTC DETECTION

 With CONSULT

1. Turn the power switch OFF to ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY.
2. Repeat step 1 two or more times.
CAUTION:
Be sure to wait for 5 seconds or more after turning the power switch OFF.
3. Turn the power switch OFF to exit CONSULT.
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 "C1161" detected?

- YES >> Proceed to [BR-46, "Diagnosis Procedure"](#).
NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000007635797

1. 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:

C1A61 MOTOR

< DTC/CIRCUIT DIAGNOSIS >

Never operate the vehicle and CONSULT while waiting.

- Check the 12V battery terminal connections. Refer to [BR-5, "Precautions for Removing Battery Terminal"](#) and [PG-96, "Work Flow"](#).
- Check the 12V battery. Refer to [PG-96, "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

- Connect 12V battery cable to negative terminal.
- Turn the power switch OFF to ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY.
- Repeat step 2 two or more times.
CAUTION:
Be sure to wait for 5 seconds or more after turning the power switch OFF.
- Turn the power switch OFF to exit CONSULT.
- Get out of the vehicle, close all 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.
- 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 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.
- 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 "C1A61" detected?

YES >> GO TO 3.

NO >> INSPECTION END

3.CHECK CONNECTOR TERMINALS

- 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 [BR-5, "Precautions for Removing Battery Terminal"](#).
- 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

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

C1A61 MOTOR

< DTC/CIRCUIT DIAGNOSIS >

- 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 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.

- 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 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.

- 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 "C1A61" detected?

YES >> GO TO 5.

NO >> INSPECTION END

5. CHECK POWER SWITCH ON POWER SUPPLY

- Connect 12V battery cable to negative terminal.

- Turn the power switch OFF to exit CONSULT.

- Get out of the vehicle, close all 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 [BR-5. "Precautions for Removing Battery Terminal"](#).

- Disconnect the electrically-driven intelligent brake unit harness connector.

- Connect 12V battery cable to negative terminal.

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

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

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

CAUTION:

Never set the vehicle to READY.

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

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

Is the inspection result normal?

YES >> GO TO 8.

NO >> GO TO 6.

C1A61 MOTOR

< DTC/CIRCUIT DIAGNOSIS >

6. CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
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 [BR-5, "Precautions for Removing Battery Terminal"](#).
4. Check the 15A fuse (#62).
5. Disconnect IPDM E/R harness connector.
6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

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

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

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

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to [PG-30, "Wiring Diagram - ON POWER SUPPLY -"](#).

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

7. PERFORM SELF-DIAGNOSIS (3)

Ⓜ With CONSULT

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

C1A61 MOTOR

< DTC/CIRCUIT DIAGNOSIS >

Is DTC "C1A61" detected?

YES >> GO TO 8.

NO >> INSPECTION END

8. CHECK 12V BATTERY POWER SUPPLY

1. Turn the power switch OFF to exit CONSULT.
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 [BR-5, "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 (Approx.)
Connector	Terminal	
E34	1 – 31	10 – 16 V
	2 – 31	
	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 (Approx.)
Connector	Terminal	
E34	1 – 31	10 – 16 V
	2 – 31	
	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 [BR-5, "Precautions for Removing Battery Terminal"](#).
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 [PG-16, "Wiring Diagram - BATTERY POWER SUPPLY -"](#).

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

C1A61 MOTOR

< DTC/CIRCUIT DIAGNOSIS >

10.PERFORM SELF-DIAGNOSIS (4)

ⓂWith CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY.
4. Repeat step 3 two or more times.
CAUTION:
Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
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.
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 [BR-5, "Precautions for Removing Battery Terminal"](#).
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Check the continuity between electrically-driven intelligent brake unit and ground.

Electrically-driven intelligent brake unit		—	Continuity
Connector	Terminal		
E34	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:

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< DTC/CIRCUIT DIAGNOSIS >

Never set the vehicle to READY.

4. Repeat step 3 two or more times.

CAUTION:

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

5. Turn the power switch OFF to exit CONSULT.
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 13.

NO >> INSPECTION END

13.CHECK DATA MONITOR

 With CONSULT

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

CAUTION:

Never set the vehicle to READY.

4. Repeat step 3 two or more times.

CAUTION:

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

5. Start CONSULT and select "BRAKE" and "DATA MONITOR" according this order.
6. Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER". Refer to [BR-24, "Reference Value"](#).

Is the inspection result normal?

YES >> GO TO 14.

NO >> Replace the electrically-driven intelligent brake unit. Refer to [BR-258, "Removal and installation"](#).

14.PERFORM SELF-DIAGNOSIS (6)

 With CONSULT

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

CAUTION:

Never set the vehicle to READY.

2. Repeat step 1 two or more times.

CAUTION:

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

3. Turn the power switch OFF to exit CONSULT.
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:

C1A61 MOTOR

< DTC/CIRCUIT DIAGNOSIS >

Never set the vehicle to READY.

6. Start CONSULT and erase self-diagnosis result of "BRAKE".
7. Turn the power switch OFF to exit CONSULT.
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 [BR-258, "Removal and installation"](#).
- NO >> INSPECTION END

A
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C1A62 CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

C1A62 CONTROL MODULE

DTC Logic

INFOID:000000007635798

DTC DETECTION LOGIC

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

DTC REPRODUCTION PROCEDURE

1. PRECONDITIONING

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

>> GO TO 2.

2. CHECK DTC DETECTION

Ⓔ With CONSULT

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

CAUTION:

Never set the vehicle to READY.

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

Is DTC "C1A62" detected?

YES >> Proceed to [BR-54. "Diagnosis Procedure"](#).

NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000007635799

1. PERFORM SELF-DIAGNOSIS (1)

With CONSULT

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

CAUTION:

Never set the vehicle to READY.

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

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

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

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

NO >> INSPECTION END

2. INTERVIEW FROM THE CUSTOMER (1)

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

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

YES >> GO TO 3.

NO >> GO TO 6.

C1A62 CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

3. INTERVIEW FROM THE CUSTOMER (2)

Check to see if there is a lighting history of the brake system warning lamp (yellow).

Is there a lighting history of the brake system warning lamp (yellow)?

YES >> GO TO 6.

NO >> GO TO 4.

4. INTERVIEW FROM THE CUSTOMER (3)

Check to see if the customer has an experience of feeling unusual braking force (brake pedal operation).

Does the customer have an experience of feeling unusual braking force?

YES >> GO TO 6.

NO >> GO TO 5.

5. PERFORM SELF-DIAGNOSIS (2)

With CONSULT

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

CAUTION:

Never set the vehicle to READY.

2. Repeat step 1 two or more times.

CAUTION:

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

3. Turn the power switch OFF to exit CONSULT.

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 "C1A62" detected?

YES >> GO TO 6.

NO >> INSPECTION END [DTC "C1A62" is detected when 12V battery terminals are disconnected after turning the power switch OFF with any door open (including back door) or without waiting 3 minutes after closing all doors (including back door).]

6. CHECK 12V BATTERY

1. Turn the power switch OFF to exit CONSULT.

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 [BR-5, "Precautions for Removing Battery Terminal"](#) and [PG-96, "Work Flow"](#).

4. Check the 12V battery. Refer to [PG-96, "Work Flow"](#).

Is the inspection result normal?

YES >> GO TO 7.

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

C1A62 CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

7. PERFORM SELF-DIAGNOSIS (3)

Ⓟ With CONSULT

1. Connect 12V battery cable to negative terminal.
2. Turn the power switch OFF to ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY.
3. Repeat step 2 two or more times.
CAUTION:
Be sure to wait for 5 seconds or more after turning the power switch OFF.
4. Turn the power switch OFF to exit CONSULT.
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 "C1A62" detected?

YES >> GO TO 8.

NO >> INSPECTION END

8. 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 [BR-5. "Precautions for Removing Battery 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 9.

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

9. PERFORM SELF-DIAGNOSIS (4)

Ⓟ With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY.
4. Repeat step 3 two or more times.
CAUTION:
Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.

C1A62 CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

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 "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 [BR-5, "Precautions for Removing Battery Terminal"](#).
5. Disconnect the electrically-driven intelligent brake unit harness connector.
6. Connect 12V battery cable to negative terminal.
7. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

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

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

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

Is the inspection result normal?

YES >> GO TO 13.

NO >> GO TO 11.

11. CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
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.

C1A62 CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

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

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

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

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

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to [PG-30, "Wiring Diagram - ON POWER SUPPLY -"](#).

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

12.PERFORM SELF-DIAGNOSIS (5)

Ⓔ With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect IPDM E/R harness connector.
3. Connect 12V battery cable to negative terminal.
4. Turn the power switch OFF to ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY.
5. Repeat step 4 two or more times.
CAUTION:
Be sure to wait for 5 seconds or more after turning the power switch OFF.
6. Turn the power switch OFF to exit CONSULT.
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 "C1A62" detected?

YES >> GO TO 13.

NO >> INSPECTION END

13.CHECK 12V BATTERY POWER SUPPLY

1. Turn the power switch OFF to exit CONSULT.

C1A62 CONTROL MODULE

< 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.

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"](#).
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Connect 12V battery cable to negative terminal.
6. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

Electrically-driven intelligent brake unit		Voltage (Approx.)
Connector	Terminal	
E34	1 – 31	10 – 16 V
	2 – 31	
	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 (Approx.)
Connector	Terminal	
E34	1 – 31	10 – 16 V
	2 – 31	
	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.
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 [BR-5, "Precautions for Removing Battery Terminal"](#).
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 [PG-16, "Wiring Diagram - BATTERY POWER SUPPLY -"](#).

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

15. PERFORM SELF-DIAGNOSIS (6)

 With CONSULT

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

CAUTION:

C1A62 CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

Never set the vehicle to READY.

4. Repeat step 3 two or more times.

CAUTION:

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

5. Turn the power switch OFF to exit CONSULT.
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 "C1A62" detected?

YES >> GO TO 16.

NO >> INSPECTION END

16. 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 [BR-5, "Precautions for Removing Battery Terminal"](#).
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Check the continuity between electrically-driven intelligent brake unit and ground.

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

Is the inspection result normal?

YES >> GO TO 18.

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

17. PERFORM SELF-DIAGNOSIS (7)

With CONSULT

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

CAUTION:

Never set the vehicle to READY.

4. Repeat step 3 two or more times.

CAUTION:

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

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

C1A62 CONTROL MODULE

< 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.
6. Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER". Refer to [BR-24. "Reference Value"](#).

Is the inspection result normal?

YES >> GO TO 19.

NO >> Replace the electrically-driven intelligent brake unit. Refer to [BR-258. "Removal and installation"](#).

19. PERFORM SELF-DIAGNOSIS (8)

Ⓜ With CONSULT

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

CAUTION:

Never set the vehicle to READY.

2. Repeat step 1 two or more times.

CAUTION:

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

3. Turn the power switch OFF to exit CONSULT.
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.

C1A62 CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

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

CAUTION:

Never set the vehicle to READY.

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

Is DTC "C1A62" detected?

YES >> GO TO 20.

NO >> INSPECTION END

20. CHECK BCM SYSTEM

Ⓟ With CONSULT

Perform self-diagnosis for "BCM". Refer to [BCS-28, "BCM : CONSULT Function \(BCM - BCM\)"](#).

Is any DTC detected?

YES >> Check the DTC. Refer to [BCS-56, "DTC Index"](#). GO TO 21.

NO >> Replace the electrically-driven intelligent brake unit. Refer to [BR-258, "Removal and installation"](#).

21. PERFORM SELF-DIAGNOSIS (9)

Ⓟ With CONSULT

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

CAUTION:

Never set the vehicle to READY.

2. Repeat step 1 two or more times.

CAUTION:

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

3. Turn the power switch OFF to exit CONSULT.
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 "C1A62" detected?

YES >> Replace the electrically-driven intelligent brake unit. Refer to [BR-258, "Removal and installation"](#).

NO >> INSPECTION END

C1A63 BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

C1A63 BRAKE POWER SUPPLY BACKUP UNIT

DTC Logic

INFOID:000000007635800

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

 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 "C1A63" detected?

- YES >> Proceed to [BR-63, "Diagnosis Procedure"](#).
NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000007635801

1. 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.

C1A63 BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

3. Check the 12V battery terminal connections. Refer to [BR-5, "Precautions for Removing Battery Terminal"](#) and [PG-96, "Work Flow"](#).
4. Check the 12V battery. Refer to [PG-96, "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 "C1A63" 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 [BR-5, "Precautions for Removing Battery Terminal"](#).
4. Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.
5. Disconnect the brake power supply backup unit harness connector, then check for failures of pin terminals and connections.

Is the inspection result normal?

YES >> GO TO 5.

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

4.PERFORM SELF-DIAGNOSIS (2)

With CONSULT

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

C1A63 BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

2. Connect the brake power supply backup unit harness connector.
3. Connect 12V battery cable to negative terminal.
4. Turn the power switch OFF to ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY.
5. Repeat step 4 two or more times.
CAUTION:
Be sure to wait for 5 seconds or more after turning the power switch OFF.
6. Turn the power switch OFF to exit CONSULT.
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 [BR-5, "Precautions for Removing Battery Terminal"](#).
6. Disconnect the electrically-driven intelligent brake unit harness connector.
7. Connect 12V battery cable to negative terminal.
8. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

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

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

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

C1A63 BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

Is the inspection result normal?

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

6. CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
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 [BR-5, "Precautions for Removing Battery Terminal"](#).
4. Check the 15A fuse (#62).
5. Disconnect IPDM E/R harness connector.
6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

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

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

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

Is the inspection result normal?

- YES >> Perform trouble diagnosis for power ON power supply. Refer to [PG-30, "Wiring Diagram - ON POWER SUPPLY -"](#).
- NO >> Repair or replace error-detected parts and GO TO 7.

7. PERFORM SELF-DIAGNOSIS (3)

With CONSULT

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

C1A63 BRAKE POWER SUPPLY BACKUP UNIT

< 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 [BR-5, "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 (Approx.)
Connector	Terminal	
E34	1 – 31	10 – 16 V
	2 – 31	
	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 (Approx.)
Connector	Terminal	
E34	1 – 31	10 – 16 V
	2 – 31	
	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 [BR-5, "Precautions for Removing Battery Terminal"](#).
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?

C1A63 BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

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

10.PERFORM SELF-DIAGNOSIS (4)

ⓘ With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY.
4. Repeat step 3 two or more times.
CAUTION:
Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
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 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 [BR-5, "Precautions for Removing Battery Terminal"](#).
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Check the continuity between electrically-driven intelligent brake unit and ground.

Electrically-driven intelligent brake unit		—	Continuity
Connector	Terminal		
E34	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.

C1A63 BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal. A
CAUTION:
Never set the vehicle to READY.
4. Repeat step 3 two or more times. B
CAUTION:
Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT. C
6. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors. D
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.
8. Start CONSULT and erase self-diagnosis result of "BRAKE". E
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
CAUTION:
Never operate the vehicle and CONSULT while waiting.
11. Turn the power switch ON without depressing the brake pedal. G
CAUTION:
Never set the vehicle to READY.
12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
13. Release brake pedal. H
14. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A63" detected?

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

13. CHECK DATA MONITOR

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
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 to this order. L
6. Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER". Refer to [BR-24, "Reference Value"](#). M

Is the inspection result normal?

- YES >> GO TO 14. N
NO >> Replace the electrically-driven intelligent brake unit. Refer to [BR-258, "Removal and installation"](#).

14. PERFORM SELF-DIAGNOSIS (6)

With CONSULT

1. Turn the power switch OFF to ON without depressing the brake pedal. O
CAUTION:
Never set the vehicle to READY.
2. Repeat step 1 two or more times. P
CAUTION:
Be sure to wait for 5 seconds or more after turning the power switch OFF.
3. Turn the power switch OFF to exit CONSULT.
4. 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 >

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 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.

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

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

YES (C1A63)>>GO TO 15.

YES (C1A6B)>>Refer to [BR-137, "Diagnosis Procedure"](#).

YES (C1A6C)>>Refer to [BR-148, "Diagnosis Procedure"](#).

YES (C1A6D)>>Refer to [BR-156, "Diagnosis Procedure"](#).

NO >> INSPECTION END

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

- Turn the power switch OFF to exit CONSULT.
- Get out of the vehicle, close all 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 [BR-5, "Precautions for Removing Battery Terminal"](#).
- Disconnect the electrically-driven intelligent brake unit harness connector.
- Check the continuity between electrically-driven intelligent brake unit and ground.

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

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

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

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

Electrically-driven intelligent brake unit		Brake power supply backup unit		Continuity
Connector	Terminal	Connector	Terminal	
E34	32	B15	2	Existed

Is the inspection result normal?

YES >> GO TO 16.

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

16.CHECK BRAKE POWER SUPPLY BACKUP UNIT GROUND CIRCUIT

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

C1A63 BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

Brake power supply backup unit		—	Continuity
Connector	Terminal		
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.
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 >> Replace the electrically-driven intelligent brake unit. Refer to [BR-258, "Removal and installation"](#).

NO >> INSPECTION END

C1A64 STROKE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

C1A64 STROKE SENSOR

DTC Logic

INFOID:000000007635802

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 installation

DTC REPRODUCTION PROCEDURE

1.PRECONDITIONING

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

>> GO TO 2.

2.CHECK DTC DETECTION

Ⓔ With CONSULT

- Turn the power switch OFF to ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY.
- Repeat step 1 two or more times.
CAUTION:
Be sure to wait for 5 seconds or more after turning the power switch OFF.
- Turn the power switch OFF to exit CONSULT.
- Get out of the vehicle, close all 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.
- 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 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.
- 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 "C1A64" detected?

- YES >> Proceed to [BR-72, "Diagnosis Procedure"](#).
NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000007635803

1.CHECK 12V BATTERY

- Turn the power switch OFF to exit CONSULT.

C1A64 STROKE SENSOR

< 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.
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"](#) and [PG-96, "Work Flow"](#).
4. Check the 12V battery. Refer to [PG-96, "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 "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 [BR-5, "Precautions for Removing Battery Terminal"](#).
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)

C1A64 STROKE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

Ⓑ With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect stroke sensor harness connector.
3. Connect 12V battery cable to negative terminal.
4. Turn the power switch OFF to ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY.
5. Repeat step 4 two or more times.
CAUTION:
Be sure to wait for 5 seconds or more after turning the power switch OFF.
6. Turn the power switch OFF to exit CONSULT.
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 "C1A64" detected?

YES >> GO TO 5.

NO >> INSPECTION END

5. CHECK POWER SWITCH ON POWER SUPPLY

1. Connect stroke sensor harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to exit CONSULT.
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 [BR-5, "Precautions for Removing Battery Terminal"](#).
6. Disconnect the electrically-driven intelligent brake unit harness connector.
7. Connect 12V battery cable to negative terminal.
8. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

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

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

C1A64 STROKE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

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

Is the inspection result normal?

YES >> GO TO 8.

NO >> GO TO 6.

6. CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

- Turn the power switch OFF to exit CONSULT.
- Get out of the vehicle, close all 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 [BR-5. "Precautions for Removing Battery Terminal"](#).
- Check the 15A fuse (#62).
- Disconnect IPDM E/R harness connector.
- Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

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

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

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

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to [PG-30. "Wiring Diagram - ON POWER SUPPLY -"](#).

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

7. PERFORM SELF-DIAGNOSIS (3)

 With CONSULT

- Connect the electrically-driven intelligent brake unit harness connector.
- Connect IPDM E/R harness connector.
- Connect 12V battery cable to negative terminal.
- Turn the power switch OFF to ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY.
- Repeat step 4 two or more times.
CAUTION:
Be sure to wait for 5 seconds or more after turning the power switch OFF.
- Turn the power switch OFF to exit CONSULT.
- Get out of the vehicle, close all 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.
- 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 opening these doors.

C1A64 STROKE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

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.

Is DTC "C1A64" detected?

YES >> GO TO 8.

NO >> INSPECTION END

8. CHECK 12V BATTERY POWER SUPPLY

- 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 [BR-5, "Precautions for Removing Battery Terminal"](#).
- Disconnect the electrically-driven intelligent brake unit harness connector.
- Connect 12V battery cable to negative terminal.
- Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

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

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

CAUTION:

Never set the vehicle to READY.

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

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

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.
- Get out of the vehicle, close all 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 [BR-5, "Precautions for Removing Battery Terminal"](#).
- Check the 60A fusible link (#F).
- Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).
- Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).

C1A64 STROKE SENSOR

< 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 [PG-16, "Wiring Diagram - BATTERY POWER SUPPLY -"](#).

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

10. PERFORM SELF-DIAGNOSIS (4)

Ⓜ With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY.
4. Repeat step 3 two or more times.
CAUTION:
Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
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 "C1A64" 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 [BR-5, "Precautions for Removing Battery Terminal"](#).
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Check the continuity between electrically-driven intelligent brake unit and ground.

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

Is the inspection result normal?

YES >> GO TO 13.

C1A64 STROKE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

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

12.PERFORM SELF-DIAGNOSIS (5)

Ⓔ With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY.
4. Repeat step 3 two or more times.
CAUTION:
Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
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 "C1A64" detected?

YES >> GO TO 13.

NO >> INSPECTION END

13.CHECK DATA MONITOR

Ⓔ With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY.
4. Repeat step 3 two or more times.
CAUTION:
Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Start CONSULT and select "BRAKE", "DATA MONITOR" according to this order.
6. Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER. Refer to [BR-24. "Reference Value"](#).

Is the inspection result normal?

YES >> GO TO 14.

NO >> Replace the electrically-driven intelligent brake unit. Refer to [BR-258. "Removal and installation"](#)

14.PERFORM SELF-DIAGNOSIS (6)

Ⓔ With CONSULT

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

C1A64 STROKE SENSOR

< 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 [BR-35. "Work Procedure"](#).

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

"COMPLETED">>GO TO 16.

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

16. PERFORM SELF-DIAGNOSIS (7)

 With CONSULT

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

CAUTION:

Never set the vehicle to READY.

2. Repeat step 1 two or more times.

CAUTION:

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

3. Turn the power switch OFF to exit CONSULT.
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.

C1A64 STROKE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

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

Is DTC "C1A64" detected?

YES >> GO TO 17.

NO >> INSPECTION END

17. VISUALLY CHECK STROKE SENSOR

Check the stroke sensor for damage.

Is the inspection result normal?

YES >> GO TO 18.

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

18. CHECK STROKE SENSOR INSTALLATION

Check the stroke sensor for looseness and disconnection.

Is the inspection result normal?

YES >> GO TO 19.

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

19. CHECK BRAKE PEDAL HEIGHT

Check each brake pedal height. Refer to [BR-239, "Inspection and Adjustment"](#).

Is the inspection result normal?

YES >> GO TO 20.

NO >> Adjust each height. Refer to [BR-239, "Inspection and Adjustment"](#). GO TO 21.

20. STROKE SENSOR 0 POINT LEARNING (2)

Perform stroke sensor 0 point learning. Refer to [BR-35, "Work Procedure"](#).

>> GO TO 21.

21. PERFORM SELF-DIAGNOSIS (8)

 With CONSULT

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

CAUTION:

Never set the vehicle to READY.

2. Repeat step 1 two or more times.

CAUTION:

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

3. Turn the power switch OFF to exit CONSULT.

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 22.

C1A64 STROKE SENSOR

< 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 [BR-5. "Precautions for Removing Battery Terminal"](#).
4. Disconnect the stroke sensor harness connector.
5. Disconnect the electrically-driven intelligent brake unit harness connector.
6. Check the continuity between stroke sensor harness connector and electrically-driven intelligent brake unit.

Stroke sensor		Electrically-driven intelligent brake unit		Continuity
Connector	Terminal	Connector	Terminal	
E36	3	E34	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
	2		37	Not existed
	1		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.
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. Turn the power switch ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY.
5. Check the stroke sensor power voltage.

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

Is the inspection result normal?

C1A64 STROKE SENSOR

< 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.
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 [BR-5, "Precautions for Removing Battery 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		—	Continuity
Connector	Terminal		
E36	4	Ground	Existed

Is the inspection result normal?

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

25.CHECK STROKE SENSOR RESISTANCE

1. Turn the power switch OFF to exit CONSULT.
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 [BR-5, "Precautions for Removing Battery 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		Condition	Resistance
Connector	Terminal		
E34	35 – 5	Gradually depress the brake pedal.	Resistance value increases between 0.1 – 1.33 kΩ, according to the depth of brake depression.
	37 – 5		Resistance value decreases between 0.1 – 1.33 kΩ, according to the depth of brake depression.

Is the inspection result normal?

- YES >> GO TO 28.
NO >> GO TO 26.

26.REPLACE STROKE SENSOR

Replace the stroke sensor. Refer to [BR-248, "Removal and Installation"](#).

>> GO TO 27.

27.STROKE SENOR 0 POINT LEARNING (3)

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Perform stroke sensor 0 point learning. Refer to [BR-35, "Work Procedure"](#).

>> GO TO 28.

28.PERFORM SELF-DIAGNOSIS (9)

C1A64 STROKE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

With CONSULT

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

Is DTC "C1A64" detected?

- YES >> GO TO 22.
- NO >> INSPECTION END J
- K
- L
- M
- N
- O
- P

C1A65 INCOMPLETE STROKE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

C1A65 INCOMPLETE STROKE SENSOR

DTC Logic

INFOID:000000007635804

DTC DETECTION LOGIC

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

DTC REPRODUCTION PROCEDURE

1. PRECONDITIONING

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

>> GO TO 2.

2. CHECK DTC DETECTION

 With CONSULT

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 "C1A65" detected?

- YES >> Proceed to [BR-84, "Diagnosis Procedure"](#).
NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000007635805

1. 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.

C1A65 INCOMPLETE STROKE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

3. Check the 12V battery terminal connections. Refer to [BR-5, "Precautions for Removing Battery Terminal"](#) and [PG-96, "Work Flow"](#).
4. Check the 12V battery. Refer to [PG-96, "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 "C1A65" 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 [BR-5, "Precautions for Removing Battery Terminal"](#).
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.

C1A65 INCOMPLETE STROKE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

3. Connect 12V battery cable to negative terminal.
4. Turn the power switch OFF to ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY.
5. Repeat step 4 two or more times.
CAUTION:
Be sure to wait for 5 seconds or more after turning the power switch OFF.
6. Turn the power switch OFF to exit CONSULT.
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 "C1A65" detected?

YES >> GO TO 5.

NO >> INSPECTION END

5.CHECK POWER SWITCH ON POWER SUPPLY

1. Connect stroke sensor harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to exit CONSULT.
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 [BR-5, "Precautions for Removing Battery Terminal"](#).
6. Disconnect the electrically-driven intelligent brake unit harness connector.
7. Connect 12V battery cable to negative terminal.
8. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

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

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

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

Is the inspection result normal?

C1A65 INCOMPLETE STROKE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

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

6. CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

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 [BR-5, "Precautions for Removing Battery Terminal"](#).
4. Check the 15A fuse (#62).
5. Disconnect IPDM E/R harness connector.
6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

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

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

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

Is the inspection result normal?

- YES >> Perform trouble diagnosis for power ON power supply. Refer to [PG-30, "Wiring Diagram - ON POWER SUPPLY -"](#).
NO >> Repair or replace error-detected parts and GO TO 7.

7. PERFORM SELF-DIAGNOSIS (3)

Ⓔ With CONSULT

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

C1A65 INCOMPLETE STROKE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

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

Is DTC "C1A65" detected?

YES >> GO TO 8.

NO >> INSPECTION END

8. CHECK 12V BATTERY POWER SUPPLY

1. Turn the power switch OFF to exit CONSULT.

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 [BR-5, "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 (Approx.)
Connector	Terminal	
E34	1 – 31	10 – 16 V
	2 – 31	
	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 (Approx.)
Connector	Terminal	
E34	1 – 31	10 – 16 V
	2 – 31	
	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 [BR-5, "Precautions for Removing Battery Terminal"](#).

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 [PG-16, "Wiring Diagram - BATTERY POWER SUPPLY -"](#).

C1A65 INCOMPLETE STROKE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

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

10. PERFORM SELF-DIAGNOSIS (4)

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY.
4. Repeat step 3 two or more times.
CAUTION:
Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
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 [BR-5, "Precautions for Removing Battery Terminal"](#).
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Check the continuity between electrically-driven intelligent brake unit and ground.

Electrically-driven intelligent brake unit		—	Continuity
Connector	Terminal		
E34	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.

C1A65 INCOMPLETE STROKE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

CAUTION:

Never set the vehicle to READY.

4. Repeat step 3 two or more times.

CAUTION:

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

5. Turn the power switch OFF to exit CONSULT.
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 13.

NO >> INSPECTION END

13. CHECK DATA MONITOR

With CONSULT

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

CAUTION:

Never set the vehicle to READY.

4. Repeat step 3 two or more times.

CAUTION:

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

5. Start CONSULT and select "BRAKE", "DATA MONITOR" according this order.
6. Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER". Refer to [BR-24, "Reference Value"](#).

Is the inspection result normal?

YES >> GO TO 14.

NO >> Replace the electrically-driven intelligent brake unit. Refer to [BR-258, "Removal and installation"](#)

14. PERFORM SELF-DIAGNOSIS (6)

With CONSULT

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

CAUTION:

Never set the vehicle to READY.

2. Repeat step 1 two or more times.

CAUTION:

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

3. Turn the power switch OFF to exit CONSULT.
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.

C1A65 INCOMPLETE STROKE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

CAUTION:

Never set the vehicle to READY.

6. Start CONSULT and erase self-diagnosis result of "BRAKE".
7. Turn the power switch OFF to exit CONSULT.
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-35, "Work Procedure"](#).

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

"COMPLETED">>GO TO 16.

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

16. PERFORM SELF-DIAGNOSIS (7)

Ⓜ With CONSULT

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

CAUTION:

Never set the vehicle to READY.

2. Repeat step 1 two or more times.

CAUTION:

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

3. Turn the power switch OFF to exit CONSULT.
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 "C1A65" detected?

YES >> GO TO 17.

NO >> INSPECTION END

17. VISUALLY CHECK STROKE SENSOR

C1A65 INCOMPLETE STROKE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

Check the stroke sensor for damage.

Is the inspection result normal?

YES >> GO TO 18.

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

18.CHECK STROKE SENSOR INSTALLATION

Check the stroke sensor for looseness and disconnection.

Is the inspection result normal?

YES >> GO TO 19.

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

19.CHECK BRAKE PEDAL HEIGHT

Check each brake pedal height. Refer to [BR-239, "Inspection and Adjustment"](#).

Is the inspection result normal?

YES >> GO TO 20.

NO >> Adjust each height. Refer to [BR-239, "Inspection and Adjustment"](#). GO TO 21.

20.STROKE SENSOR 0 POINT LEARNING (2)

Perform stroke sensor 0 point learning. Refer to [BR-35, "Work Procedure"](#).

>> GO TO 21.

21.PERFORM SELF-DIAGNOSIS (8)

Ⓔ With CONSULT

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

CAUTION:

Never set the vehicle to READY.

2. Repeat step 1 two or more times.

CAUTION:

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

3. Turn the power switch OFF to exit CONSULT.

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 "C1A65" detected?

YES >> GO TO 22.

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:

C1A65 INCOMPLETE STROKE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

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"](#).
4. Disconnect the stroke sensor harness connector.
5. Disconnect the electrically-driven intelligent brake unit harness connector.
6. Check the continuity between stroke sensor harness connector and electrically-driven intelligent brake unit.

Stroke sensor		Electrically-driven intelligent brake unit		Continuity
Connector	Terminal	Connector	Terminal	
E36	3	E34	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
	2		37	Not existed
	1		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.
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. Turn the power switch ON without depressing the brake pedal.

CAUTION:

Never set the vehicle to READY.

5. Check the stroke sensor power voltage.

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

Is the inspection result normal?

YES >> GO TO 24.

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

24.CHECK STROKE SENSOR CIRCUIT (2)

1. Turn the power switch OFF to exit CONSULT.

C1A65 INCOMPLETE STROKE SENSOR

< 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.

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"](#).
4. Disconnect stroke sensor harness connector.
5. Disconnect the electrically-driven intelligent brake unit harness connector.
6. Check the continuity between stroke sensor and ground.

Stroke sensor		—	Continuity
Connector	Terminal		
E36	4	Ground	Existed

Is the inspection result normal?

YES >> GO TO 25.

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

25.CHECK STROKE SENSOR RESISTANCE

1. Turn the power switch OFF to exit CONSULT.
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 [BR-5, "Precautions for Removing Battery 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		Condition	Resistance
Connector	Terminal		
E34	35 – 5	Gradually depress the brake pedal.	Resistance value increases between 0.1 – 1.33 kΩ, according to the depth of brake depression.
	37 – 5		Resistance value decreases between 0.1 – 1.33 kΩ, according to the depth of brake depression.

Is the inspection result normal?

YES >> GO TO 28.

NO >> GO TO 26.

26.REPLACE STROKE SENSOR

Replace the stroke sensor. Refer to [BR-248, "Removal and Installation"](#).

>> GO TO 27.

27.STROKE SENOR 0 POINT LEARNING (3)

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Perform stroke sensor 0 point learning. Refer to [BR-35, "Work Procedure"](#).

>> GO TO 28.

28.PERFORM SELF-DIAGNOSIS (9)

Ⓔ With CONSULT

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

CAUTION:

C1A65 INCOMPLETE STROKE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

Never set the vehicle to READY.

4. Repeat step 3 two or more times.

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

A

B

C

D

E

BR

G

H

I

J

K

L

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O

P

C1A66 PRESSURE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

C1A66 PRESSURE SENSOR

DTC Logic

INFOID:000000007635806

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1A66	MASTER PRESSURE SENSOR	• Open circuit is detected in master cylinder pressure sensor1 circuit. • Short circuit is detected in master cylinder pressure sensor1 circuit. • Malfunction is detected in master cylinder pressure sensor1.	• Harness or connector • Master cylinder pressure sensor1 improper installation • Master cylinder pressure sensor1 • Electrically-driven intelligent brake unit

DTC REPRODUCTION PROCEDURE

1.PRECONDITIONING

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

>> GO TO 2.

2.CHECK DTC DETECTION

ⒺWith CONSULT

1. Turn the power switch OFF to ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY.
2. Repeat step 1 two or more times.
CAUTION:
Be sure to wait for 5 seconds or more after turning the power switch OFF.
3. Turn the power switch OFF to exit CONSULT.
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 "C1A66" detected?

- YES >> Proceed to [BR-96. "Diagnosis Procedure"](#).
NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000007635807

1.CHECK 12V BATTERY

1. Turn the power switch OFF to exit CONSULT.

C1A66 PRESSURE SENSOR

< 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.
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"](#) and [PG-96, "Work Flow"](#).
4. Check the 12V battery. Refer to [PG-96, "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 "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 [BR-5, "Precautions for Removing Battery Terminal"](#).
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.

C1A66 PRESSURE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

4.PERFORM SELF-DIAGNOSIS (2)

④ With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect master cylinder pressure sensor1 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 "C1A66" detected?

YES >> GO TO 5.

NO >> INSPECTION END

5.CHECK POWER SWITCH ON POWER SUPPLY

1. Connect master cylinder pressure sensor1 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 [BR-5, "Precautions for Removing Battery Terminal"](#).
6. Disconnect the electrically-driven intelligent brake unit harness connector.
7. Connect 12V battery cable to negative terminal.
8. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

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

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

C1A66 PRESSURE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

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

Is the inspection result normal?

YES >> GO TO 8.

NO >> GO TO 6.

6. CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

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 [BR-5. "Precautions for Removing Battery Terminal"](#).
4. Check the 15A fuse (#62).
5. Disconnect IPDM E/R harness connector.
6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

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

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

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

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to [PG-30. "Wiring Diagram - ON POWER SUPPLY -"](#).

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

7. PERFORM SELF-DIAGNOSIS (3)

 With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 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.
6. Repeat step 5 two or more times.
CAUTION:
Be sure to wait for 5 seconds or more after turning the power switch OFF.
7. Turn the power switch OFF to exit CONSULT.
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. Start CONSULT and erase self-diagnosis result of "BRAKE".
11. Turn the power switch OFF to exit CONSULT.

C1A66 PRESSURE SENSOR

< 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.

CAUTION:

Never operate the vehicle and CONSULT while waiting.

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

CAUTION:

Never set the vehicle to READY.

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

Is DTC "C1A66" 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 [BR-5, "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 (Approx.)
Connector	Terminal	
E34	1 – 31	10 – 16 V
	2 – 31	
	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 (Approx.)
Connector	Terminal	
E34	1 – 31	10 – 16 V
	2 – 31	
	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 [BR-5, "Precautions for Removing Battery Terminal"](#).
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).

C1A66 PRESSURE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

6. Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).
7. Check the 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 [PG-16, "Wiring Diagram - BATTERY POWER SUPPLY -"](#).

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

10. PERFORM SELF-DIAGNOSIS (4)

Ⓔ With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY.
4. Repeat step 3 two or more times.
CAUTION:
Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
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 "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 [BR-5, "Precautions for Removing Battery Terminal"](#).
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Check the continuity between electrically-driven intelligent brake unit and ground.

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

C1A66 PRESSURE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

Is the inspection result normal?

YES >> GO TO 13.

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

12.PERFORM SELF-DIAGNOSIS (5)

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY.
4. Repeat step 3 two or more times.
CAUTION:
Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
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 "C1A66" detected?

YES >> GO TO 13.

NO >> INSPECTION END

13.CHECK DATA MONITOR (1)

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY.
4. Repeat step 3 two or more times.
CAUTION:
Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Start CONSULT and select "BRAKE" and "DATA MONITOR" according this order.
6. Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER". Refer to [BR-24, "Reference Value"](#).

Is the inspection result normal?

YES >> GO TO 14.

NO >> Replace the electrically-driven intelligent brake unit. Refer to [BR-258, "Removal and installation"](#).

14.PERFORM SELF-DIAGNOSIS (6)

With CONSULT

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

C1A66 PRESSURE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

2. Repeat step 1 two or more times.
CAUTION:
Be sure to wait for 5 seconds or more after turning the power switch OFF.
3. Turn the power switch OFF to exit CONSULT.
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 "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. 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.

C1A66 PRESSURE SENSOR

< 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.
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 [BR-5, "Precautions for Removing Battery Terminal"](#).
4. Disconnect master cylinder pressure sensor1 harness connector.
5. Disconnect the electrically-driven intelligent brake unit harness connector.
6. Check the continuity between master cylinder pressure sensor1 harness connector and electrically-driven intelligent brake unit harness connector.

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

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.
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. 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 (Approx.)
Connector	Terminal		
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)

C1A66 PRESSURE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

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 [BR-5, "Precautions for Removing Battery Terminal"](#).
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.
7. 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 [BR-24, "Reference Value"](#).

Is the inspection result normal?

YES >> GO TO 20.

NO >> Replace the electrically-driven intelligent brake unit. Refer to [BR-258, "Removal and installation"](#).

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 [BR-5, "Precautions for Removing Battery Terminal"](#).
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 sensor1	Harness connector	
	Connector	Terminal
1	E31	1
2		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 pressure sensor1		Voltage (Approx.)
Connector	Terminal	
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 [BR-258, "Removal and installation"](#).

21. PERFORM SELF-DIAGNOSIS (8)

With CONSULT

C1A66 PRESSURE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

1. Connect master cylinder pressure sensor1 harness connector.
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 >> Replace the electrically-driven intelligent brake unit. Refer to [BR-258, "Removal and installation"](#).
NO >> INSPECTION END

C1A67 STOP LAMP SWITCH

< DTC/CIRCUIT DIAGNOSIS >

C1A67 STOP LAMP SWITCH

DTC Logic

INFOID:000000007635808

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

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 "C1A67" detected?

- YES >> Proceed to [BR-107, "Diagnosis Procedure"](#).
NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000007635809

1.CHECK STOP LAMP FOR ILLUMINATION (1)

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

Is the inspection result normal?

C1A67 STOP LAMP SWITCH

< DTC/CIRCUIT DIAGNOSIS >

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

2.CHECK STOP LAMP SWITCH CIRCUIT (1)

1. Turn the power switch OFF to exit CONSULT.
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 [BR-5, "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 and ground.

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

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

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

Is the inspection result normal?

- YES >> GO TO 3.
NO >> GO TO 4.

3.CHECK STOP LAMP SWITCH CIRCUIT (2)

1. Turn the power switch OFF to exit CONSULT.
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 [BR-5, "Precautions for Removing Battery Terminal"](#).
4. Disconnect stop lamp switch harness connector.
5. Check the continuity between electrically-driven intelligent brake unit and stop lamp switch harness connector.

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

Is the inspection result normal?

- YES >> Perform trouble diagnosis for 12V battery power supply. Refer to [PG-16, "Wiring Diagram - BATTERY POWER SUPPLY -"](#).
- NO >> Repair or replace error-detected parts and GO TO 4.

4.CHECK 12V BATTERY

1. Turn the power switch OFF to exit CONSULT.

C1A67 STOP LAMP SWITCH

< 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.
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"](#) and [PG-96, "Work Flow"](#).
4. Check the 12V battery. Refer to [PG-96, "Work Flow"](#).

Is the inspection result normal?

YES >> GO TO 5.

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

5.PERFORM SELF-DIAGNOSIS (1)

 With CONSULT

1. Connect 12V battery cable to negative terminal.
2. Turn the power switch OFF to ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY.
3. Repeat step 2 two or more times.
CAUTION:
Be sure to wait for 5 seconds or more after turning the power switch OFF.
4. Turn the power switch OFF to exit CONSULT.
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 "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 [BR-5, "Precautions for Removing Battery Terminal"](#).
4. Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.
5. Check that there is no malfunction in pin terminals and connection of stop lamp switch harness connector.

Is the inspection result normal?

YES >> GO TO 8.

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

7.PERFORM SELF-DIAGNOSIS (2)

C1A67 STOP LAMP SWITCH

< DTC/CIRCUIT DIAGNOSIS >

Ⓑ With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect stop lamp switch 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 "C1A67" detected?

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

8. CHECK POWER SWITCH ON POWER SUPPLY

1. Connect stop lamp switch 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 [BR-5, "Precautions for Removing Battery Terminal"](#).
6. Disconnect the electrically-driven intelligent brake unit harness connector.
7. Connect 12V battery cable to negative terminal.
8. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

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

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

C1A67 STOP LAMP SWITCH

< DTC/CIRCUIT DIAGNOSIS >

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

Is the inspection result normal?

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

9. CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

- 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 [BR-5. "Precautions for Removing Battery Terminal"](#).
- Check the 15A fuse (#62).
- Disconnect IPDM E/R harness connector.
- Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

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

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

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

Is the inspection result normal?

- YES >> Perform trouble diagnosis for power ON power supply. Refer to [PG-30. "Wiring Diagram - ON POWER SUPPLY -"](#).
NO >> Repair or replace error-detected parts and GO TO 10.

10. PERFORM SELF-DIAGNOSIS (3)

 With CONSULT

- Connect the electrically-driven intelligent brake unit harness connector.
- Connect IPDM E/R harness connector.
- Connect stop lamp switch harness connector.
- Connect 12V battery cable to negative terminal.
- Turn the power switch OFF to ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY.
- Repeat step 5 two or more times.
CAUTION:
Be sure to wait for 5 seconds or more after turning the power switch OFF.
- Turn the power switch OFF to exit CONSULT.
- Get out of the vehicle, close all 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.
- Start CONSULT and erase self-diagnosis result of "BRAKE".
- Turn the power switch OFF to exit CONSULT.

C1A67 STOP LAMP SWITCH

< 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.

CAUTION:

Never operate the vehicle and CONSULT while waiting.

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

CAUTION:

Never set the vehicle to READY.

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

Is DTC "C1A67" detected?

YES >> GO TO 11.

NO >> INSPECTION END

11. CHECK 12V BATTERY POWER SUPPLY

1. Turn the power switch OFF to exit CONSULT.
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 [BR-5, "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 (Approx.)
Connector	Terminal	
E34	1 – 31	10 – 16 V
	2 – 31	
	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 (Approx.)
Connector	Terminal	
E34	1 – 31	10 – 16 V
	2 – 31	
	11 – 31	

Is the inspection result normal?

YES >> GO TO 15.

NO >> GO TO 12.

12. CHECK 12V BATTERY POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
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 [BR-5, "Precautions for Removing Battery Terminal"](#).
4. Check the 60A fusible link (#F).
5. Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).

C1A67 STOP LAMP SWITCH

< DTC/CIRCUIT DIAGNOSIS >

6. Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).
7. Check the 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 [PG-16, "Wiring Diagram - BATTERY POWER SUPPLY -"](#).

NO >> Repair or replace error-detected parts and GO TO 13.

13.PERFORM SELF-DIAGNOSIS (4)

Ⓔ With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY.
4. Repeat step 3 two or more times.
CAUTION:
Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
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 "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 [BR-5, "Precautions for Removing Battery Terminal"](#).
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Check the continuity between electrically-driven intelligent brake unit and ground.

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

C1A67 STOP LAMP SWITCH

< DTC/CIRCUIT DIAGNOSIS >

Is the inspection result normal?

YES >> GO TO 17.

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

15.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 DTC "C1A67" detected?

YES >> GO TO 16.

NO >> INSPECTION END

16.CHECK DATA MONITOR

With CONSULT

1. Turn the power switch OFF to ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY.
2. Repeat step 1 two or more times.
CAUTION:
Be sure to wait for 5 seconds or more after turning the power switch OFF.
3. Start CONSULT and select "BRAKE" and "DATA MONITOR" according this order.
4. Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER". Refer to [BR-24, "Reference Value"](#).

Is the inspection result normal?

YES >> GO TO 17.

NO >> Replace the electrically-driven intelligent brake unit. Refer to [BR-258, "Removal and installation"](#).

17.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:

C1A67 STOP LAMP SWITCH

< DTC/CIRCUIT DIAGNOSIS >

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

3. Turn the power switch OFF to exit CONSULT.
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 "C1A67" detected?

YES >> GO TO 18.

NO >> INSPECTION END

18. VISUALLY CHECK STOP LAMP SWITCH

Check the stop lamp switch for damage.

Is the inspection result normal?

YES >> GO TO 19.

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

19. CHECK STOP LAMP SWITCH INSTALLATION

Check the stop lamp switch for looseness and disconnection.

Is the inspection result normal?

YES >> GO TO 20.

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

20. CHECK BRAKE PEDAL HEIGHT

Check the each brake pedal height. Refer to [BR-239, "Inspection and Adjustment"](#).

Is the inspection result normal?

YES >> GO TO 21.

NO >> Adjust each brake pedal height. Refer to [BR-239, "Inspection and Adjustment"](#). GO TO 28.

21. STROKE SENSOR 0 POINT LEARNING

Perform stroke sensor 0 point learning. Refer to [BR-35, "Work Procedure"](#).

>> GO TO 22.

22. CHECK STOP LAMP FOR ILLUMINATION (2)

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

Is the inspection result normal?

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

NO >> GO TO 23.

23. CHECK STOP LAMP SWITCH CLEARANCE

1. Turn the power switch OFF to exit CONSULT.
2. Check the stop lamp clearance. Refer to [BR-239, "Inspection and Adjustment"](#).

C1A67 STOP LAMP SWITCH

< DTC/CIRCUIT DIAGNOSIS >

Is the inspection result normal?

YES >> GO TO 24.

NO >> Adjust stop lamp switch clearance. Refer to [BR-239, "Inspection and Adjustment"](#). GO TO 28.

24.CHECK STOP LAMP SWITCH CIRCUIT (3)

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 [BR-5, "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 and ground.

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

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

CAUTION:

Never set the vehicle to READY.

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

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

Is the inspection result normal?

YES >> GO TO 26.

NO >> GO TO 25.

25.CHECK STOP LAMP SWITCH CIRCUIT (4)

1. Turn the power switch OFF to exit CONSULT.
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 [BR-5, "Precautions for Removing Battery Terminal"](#).
4. Disconnect stop lamp switch harness connector.
5. Check the continuity between electrically-driven intelligent brake unit and stop lamp switch harness connector.

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

Is the inspection result normal?

YES >> Perform trouble diagnosis for 12V battery power supply. Refer to [PG-16, "Wiring Diagram - BATTERY POWER SUPPLY -"](#).

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

26.CHECK STOP LAMP SWITCH

Check the stop lamp switch. Refer to [BR-117, "Component Inspection"](#).

C1A67 STOP LAMP SWITCH

< DTC/CIRCUIT DIAGNOSIS >

Is the inspection result normal?

YES >> GO TO 27.

NO >> Replace the stop lamp switch. Refer to [BR-248. "Removal and Installation"](#). GO TO 28.

27.CHECK STOP LAMP FOR ILLUMINATION (3)

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

Is the inspection result normal?

YES >> GO TO 28.

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

28.PERFORM SELF-DIAGNOSIS (7)

With CONSULT

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

CAUTION:

Never set the vehicle to READY.

2. Repeat step 1 two or more times.

CAUTION:

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

3. Turn the power switch OFF to exit CONSULT.
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 "C1A67" detected?

YES >> GO TO 24.

NO >> INSPECTION END

Component Inspection

INFOID:0000000007635810

1.CHECK STOP LAMP SWITCH

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

C1A67 STOP LAMP SWITCH

< DTC/CIRCUIT DIAGNOSIS >

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

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace the stop lamp switch. Refer to [BR-248. "Removal and Installation"](#).

C1A69 MOTOR

< DTC/CIRCUIT DIAGNOSIS >

C1A69 MOTOR

DTC Logic

INFOID:000000007635811

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

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

Is DTC "C1A69" detected?

- YES >> Proceed to [BR-119, "Diagnosis Procedure"](#).
NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000007635812

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.

C1A69 MOTOR

< DTC/CIRCUIT DIAGNOSIS >

3. Check the 12V battery terminal connections. Refer to [BR-5, "Precautions for Removing Battery Terminal"](#) and [PG-96, "Work Flow"](#).
4. Check the 12V battery. Refer to [PG-96, "Work Flow"](#).

Is the inspection result normal?

YES >> GO TO 2.

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

2.PERFORM SELF-DIAGNOSIS (1)

With CONSULT

1. Connect 12V battery cable to negative terminal.
2. Turn the power switch OFF to ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY.
3. Repeat step 2 two or more times.
CAUTION:
Be sure to wait for 5 seconds or more after turning the power switch OFF.
4. Turn the power switch OFF to exit CONSULT.
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 "C1A69" 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 [BR-5, "Precautions for Removing Battery 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 part and GO TO 4.

4.PERFORM SELF-DIAGNOSIS (2)

With CONSULT

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

C1A69 MOTOR

< DTC/CIRCUIT DIAGNOSIS >

CAUTION:

Never set the vehicle to READY.

4. Repeat step 3 two or more times.

CAUTION:

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

5. Turn the power switch OFF to exit CONSULT.
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 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 [BR-5, "Precautions for Removing Battery Terminal"](#).
5. Disconnect the electrically-driven intelligent brake unit harness connector.
6. Connect 12V battery cable to negative terminal.
7. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

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

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

CAUTION:

Never set the vehicle to READY.

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

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

Is the inspection result normal?

YES >> GO TO 8.

NO >> GO TO 6.

C1A69 MOTOR

< DTC/CIRCUIT DIAGNOSIS >

6. CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
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 [BR-5, "Precautions for Removing Battery Terminal"](#).
4. Check the 15A fuse (#62).
5. Disconnect IPDM E/R harness connector.
6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

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

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

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

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to [PG-30, "Wiring Diagram - ON POWER SUPPLY -"](#).

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

7. PERFORM SELF-DIAGNOSIS (3)

With CONSULT

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

C1A69 MOTOR

< DTC/CIRCUIT DIAGNOSIS >

Is DTC "C1A69" detected?

YES >> GO TO 8.

NO >> INSPECTION END

8. CHECK 12V BATTERY POWER SUPPLY

1. Turn the power switch OFF to exit CONSULT.
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 [BR-5, "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 (Approx.)
Connector	Terminal	
E34	1 – 31	10 – 16 V
	2 – 31	
	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 (Approx.)
Connector	Terminal	
E34	1 – 31	10 – 16 V
	2 – 31	
	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 [BR-5, "Precautions for Removing Battery Terminal"](#).
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 [PG-16, "Wiring Diagram - BATTERY POWER SUPPLY -"](#).

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

C1A69 MOTOR

< DTC/CIRCUIT DIAGNOSIS >

10.PERFORM SELF-DIAGNOSIS (4)

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 "C1A69" detected?

YES >> GO TO 4.

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 [BR-5, "Precautions for Removing Battery Terminal"](#).
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Check the continuity between electrically-driven intelligent brake unit and ground.

Electrically-driven intelligent brake unit		—	Continuity
Connector	Terminal		
E34	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:

C1A69 MOTOR

< DTC/CIRCUIT DIAGNOSIS >

Never set the vehicle to READY.

4. Repeat step 3 two or more times.

CAUTION:

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

5. Turn the power switch OFF to exit CONSULT.
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.
3. Turn the power switch OFF to ON without depressing the brake pedal.

CAUTION:

Never set the vehicle to READY.

4. Repeat step 3 two or more times.

CAUTION:

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

5. Start CONSULT and select "BRAKE", "DATA MONITOR" according this order.
6. Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER". Refer to [BR-24, "Reference Value"](#).

Is the inspection result normal?

YES >> GO TO 14.

NO >> Replace the electrically-driven intelligent brake unit. Refer to [BR-258, "Removal and installation"](#).

14. PERFORM SELF-DIAGNOSIS (6)

 With CONSULT

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

CAUTION:

Never set the vehicle to READY.

2. Repeat step 1 two or more times.

CAUTION:

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

3. Turn the power switch OFF to exit CONSULT.
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:

C1A69 MOTOR

< DTC/CIRCUIT DIAGNOSIS >

Never set the vehicle to READY.

6. Start CONSULT and erase self-diagnosis result of "BRAKE".
7. Turn the power switch OFF to exit CONSULT.
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 "C1A69" detected?

YES >> GO TO 15.

NO >> INSPECTION END

15.CHECK DATA MONITOR (2)

Ⓔ With CONSULT

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

CAUTION:

Never set the vehicle to READY.

2. Repeat step 1 two or more times.

CAUTION:

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

3. Start CONSULT and select "BRAKE", "DATA MONITOR" according this order.
4. Check the "MOTOR TEMPERATURE". Refer to [BR-24. "Reference Value"](#).

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

YES >> GO TO 16.

NO >> Replace the electrically-driven intelligent brake unit. Refer to [BR-258. "Removal and installation"](#).

16.CHECK MOTOR ROOM

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

Are there any heated locations?

YES >> Perform diagnosis of the heated locations, and wait for the temperature to fall. GO TO 17.

NO >> Replace the electrically-driven intelligent brake unit. Refer to [BR-258. "Removal and installation"](#).

17.PERFORM SELF-DIAGNOSIS (7)

Ⓔ With CONSULT

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

CAUTION:

Never set the vehicle to READY.

2. Repeat step 1 two or more times.

CAUTION:

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

3. Turn the power switch OFF to exit CONSULT.
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.

C1A69 MOTOR

< DTC/CIRCUIT DIAGNOSIS >

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

CAUTION:

Never set the vehicle to READY.

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

Is DTC "C1A69" detected?

- YES >> Replace the electrically-driven intelligent brake unit. Refer to [BR-258, "Removal and installation"](#).
NO >> INSPECTION END

A

B

C

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P

C1A6A CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

C1A6A CONTROL MODULE

DTC Logic

INFOID:000000007635813

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1A6A	CONTROL MODULE TEMPERATURE	• 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

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 "C1A6A" detected?

- YES >> Proceed to [BR-128, "Diagnosis Procedure"](#).
NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000007635814

1.CHECK 12V BATTERY

C1A6A CONTROL MODULE

< 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.
3. Check the 12V battery terminal connections. Refer to [BR-5, "Precautions for Removing Battery Terminal"](#) and [PG-96, "Work Flow"](#).
4. Check the 12V battery. Refer to [PG-96, "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 "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 [BR-5, "Precautions for Removing Battery 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)

C1A6A CONTROL MODULE

< 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.
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 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 [BR-5, "Precautions for Removing Battery Terminal"](#).
5. Disconnect the electrically-driven intelligent brake unit harness connector.
6. Connect 12V battery cable to negative terminal.
7. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

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

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

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

C1A6A CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

Is the inspection result normal?

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

6. CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
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 [BR-5, "Precautions for Removing Battery Terminal"](#).
4. Check the 15A fuse (#62).
5. Disconnect IPDM E/R harness connector.
6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

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

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

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

Is the inspection result normal?

- YES >> Perform trouble diagnosis for power ON power supply. Refer to [PG-30, "Wiring Diagram - ON POWER SUPPLY -"](#).
NO >> Repair or replace error-detected parts and GO TO 7.

7. PERFORM SELF-DIAGNOSIS (3)

With CONSULT

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

C1A6A CONTROL MODULE

< 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 "C1A6A" 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 [BR-5. "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 (Approx.)
Connector	Terminal	
E34	1 – 31	10 – 16 V
	2 – 31	
	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 (Approx.)
Connector	Terminal	
E34	1 – 31	10 – 16 V
	2 – 31	
	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 [BR-5. "Precautions for Removing Battery Terminal"](#).
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?

C1A6A CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

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

10. PERFORM SELF-DIAGNOSIS (4)

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY.
4. Repeat step 3 two or more times.
CAUTION:
Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
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.
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 [BR-5, "Precautions for Removing Battery Terminal"](#).
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Check the continuity between electrically-driven intelligent brake unit and ground.

Electrically-driven intelligent brake unit		—	Continuity
Connector	Terminal		
E34	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.

C1A6A CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY.
4. Repeat step 3 two or more times.
CAUTION:
Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
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 13.

NO >> INSPECTION END

13. CHECK DATA MONITOR (1)

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY.
4. Repeat step 3 two or more times.
CAUTION:
Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Start CONSULT and select "BRAKE" and "DATA MONITOR" according to this order.
6. Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER". Refer to [BR-24, "Reference Value"](#).

Is the inspection result normal?

YES >> GO TO 14.

NO >> Replace the electrically-driven intelligent brake unit. Refer to [BR-258, "Removal and installation"](#).

14. PERFORM SELF-DIAGNOSIS (6)

With CONSULT

1. Turn the power switch OFF to ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY.
2. Repeat step 1 two or more times.
CAUTION:
Be sure to wait for 5 seconds or more after turning the power switch OFF.
3. Turn the power switch OFF to exit CONSULT.
4. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
CAUTION:

C1A6A CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

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.

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 "C1A6A" detected?

YES >> GO TO 15.

NO >> INSPECTION END

15. CHECK DATA MONITOR (2)

Ⓜ With CONSULT

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

CAUTION:

Never set the vehicle to READY.

2. Repeat step 1 two or more times.

CAUTION:

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

3. Start CONSULT and select "BRAKE" and "DATA MONITOR" according this order.
4. Check the "CONTROL MODULE TEMP". Refer to [BR-24. "Reference Value"](#).

"CONTROL MODULE TEMP" is 150 °C (302 °F) or more?

YES >> GO TO 16.

NO >> INSPECTION END

16. CHECK MOTOR ROOM

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

Are there any heated locations?

YES >> Perform diagnosis of the heated locations, and wait for the temperature to fall. GO TO 17.

NO >> Replace the electrically-driven intelligent brake unit. Refer to [BR-258. "Removal and installation"](#)

17. PERFORM SELF-DIAGNOSIS (7)

Ⓜ With CONSULT

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

CAUTION:

Never set the vehicle to READY.

2. Repeat step 1 two or more times.

CAUTION:

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

3. Turn the power switch OFF to exit CONSULT.
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.

C1A6A CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

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 "C1A6A" detected?

- YES >> Replace the electrically-driven intelligent brake unit. Refer to [BR-258, "Removal and installation"](#).
NO >> INSPECTION END

C1A6B BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

C1A6B BRAKE POWER SUPPLY BACKUP UNIT

DTC Logic

INFOID:000000007635815

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.
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 "C1A6B" detected?

- YES >> Proceed to [BR-137. "Diagnosis Procedure"](#).
NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000007635816

1.CHECK 12V BATTERY

1. Turn the power switch OFF to exit CONSULT.

C1A6B BRAKE POWER SUPPLY BACKUP UNIT

< 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.
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"](#) and [PG-96, "Work Flow"](#).
4. Check the 12V battery. Refer to [PG-96, "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 "C1A6B" 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 [BR-5, "Precautions for Removing Battery Terminal"](#).
4. Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.
5. Disconnect the brake power supply backup unit harness connector, then check for failures of pin terminals and connections.

Is the inspection result normal?

YES >> GO TO 5.

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

C1A6B BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

4.PERFORM SELF-DIAGNOSIS (2)

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 [BR-5, "Precautions for Removing Battery Terminal"](#).
6. Disconnect the electrically-driven intelligent brake unit harness connector.
7. Connect 12V battery cable to negative terminal.
8. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

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

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

C1A6B BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

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

Is the inspection result normal?

YES >> GO TO 8.

NO >> GO TO 6.

6. CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
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 [BR-5, "Precautions for Removing Battery Terminal"](#).
4. Check the 15A fuse (#62).
5. Disconnect IPDM E/R harness connector.
6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

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

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

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

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to [PG-30, "Wiring Diagram - ON POWER SUPPLY -"](#).

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

7. PERFORM SELF-DIAGNOSIS (3)

Ⓐ With CONSULT

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

C1A6B BRAKE POWER SUPPLY BACKUP UNIT

< 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 [BR-5, "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 (Approx.)
Connector	Terminal	
E34	1 – 31	10 – 16 V
	2 – 31	
	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 (Approx.)
Connector	Terminal	
E34	1 – 31	10 – 16 V
	2 – 31	
	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 [BR-5, "Precautions for Removing Battery Terminal"](#).
4. Check the 60A fusible link (#F).
5. Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).
6. Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).

C1A6B BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

7. Check the 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 [PG-16, "Wiring Diagram - BATTERY POWER SUPPLY -"](#).

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

10.PERFORM SELF-DIAGNOSIS (4)

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY.
4. Repeat step 3 two or more times.
CAUTION:
Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
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 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 [BR-5, "Precautions for Removing Battery Terminal"](#).
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Check the continuity between electrically-driven intelligent brake unit and ground.

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

Is the inspection result normal?

YES >> GO TO 13.

C1A6B BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

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

12.PERFORM SELF-DIAGNOSIS (5)

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY.
4. Repeat step 3 two or more times.
CAUTION:
Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
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 [BR-24. "Reference Value"](#).

Is the inspection result normal?

YES >> GO TO 14.

NO >> Replace the electrically-driven intelligent brake unit. Refer to [BR-258. "Removal and installation"](#).

14.PERFORM SELF-DIAGNOSIS (6)

With CONSULT

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

C1A6B BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

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

3. Turn the power switch OFF to exit CONSULT.
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 "C1A6B" detected?

YES >> GO TO 15.

NO >> INSPECTION END

15. CHECK BRAKE POWER SUPPLY BACKUP UNIT CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
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 [BR-5. "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 brake power supply backup unit.

Electrically-driven intelligent brake unit		Brake power supply backup unit		Continuity
Connector	Terminal	Connector	Terminal	
E34	32	B15	2	Existed
	32		6	Not existed
	32		4	Not existed
	8		2	Not existed
	8		6	Existed
	8		4	Not existed
	10		2	Not existed
	10		6	Not existed
	10		4	Existed

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

C1A6B BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

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

Ⓜ 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. 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 [BR-261, "Removal and Installation"](#).

"ERR4">> Replace the brake power supply backup unit. Refer to [BR-261, "Removal and Installation"](#).

"ERR5">> Replace the brake power supply backup unit. Refer to [BR-261, "Removal and Installation"](#).

"ERR6">> Replace the brake power supply backup unit. Refer to [BR-261, "Removal and Installation"](#).

"ERR7">> GO TO 19.

"ERR8">> GO TO 17.

"ERR9">> Replace the brake power supply backup unit. Refer to [BR-261, "Removal and Installation"](#).

"ERR10">> Replace the brake power supply backup unit. Refer to [BR-261, "Removal and Installation"](#).

"ERR11">> Replace the brake power supply backup unit. Refer to [BR-261, "Removal and Installation"](#).

"ERR12">> GO TO 17.

"ERR13">> Replace the brake power supply backup unit. Refer to [BR-261, "Removal and Installation"](#).

"ERR14">> Replace the brake power supply backup unit. Refer to [BR-261, "Removal and Installation"](#).

"ERR15">> GO TO 20.

17.CHECK CIRCUIT BETWEEN ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT AND BRAKE POWER SUPPLY BACKUP UNIT (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 [BR-5, "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.

C1A6B BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

Electrically-driven intelligent brake unit		—	Continuity
Connector	Terminal		
E34	8	Ground	Not existed

Is the inspection result normal?

- YES >> Replace the brake power supply backup unit. Refer to [BR-261, "Removal and Installation"](#).
NO >> Repair or replace error-detected parts.

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

3. Disconnect 12V battery cable from negative terminal. Refer to [BR-5, "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 brake power supply backup unit.

Electrically-driven intelligent brake unit		Brake power supply backup unit		Continuity
Connector	Terminal	Connector	Terminal	
E34	10	B15	4	Existed

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

Electrically-driven intelligent brake unit		—	Continuity
Connector	Terminal		
E34	10	Ground	Not existed

Is the inspection result normal?

- YES >> Replace the brake power supply backup unit. Refer to [BR-261, "Removal and Installation"](#).
NO >> Repair or replace error-detected parts.

19. CHECK CIRCUIT BETWEEN ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT AND BRAKE POWER SUPPLY BACKUP UNIT (3)

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 [BR-5, "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 brake power supply backup unit.

Electrically-driven intelligent brake unit		Brake power supply backup unit		Continuity
Connector	Terminal	Connector	Terminal	
E34	32	B15	2	Existed

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

C1A6B BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

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

Is the inspection result normal?

- YES >> Replace the brake power supply backup unit. Refer to [BR-261. "Removal and Installation"](#).
NO >> Repair or replace error-detected parts.

20. CHECK BRAKE POWER SUPPLY BACKUP UNIT POWER

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 [BR-5. "Precautions for Removing Battery Terminal"](#).
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		
B15	3	Ground	9 – 16 V

Is the inspection result normal?

- YES >> Replace the brake power supply backup unit. Refer to [BR-261. "Removal and Installation"](#).
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 [PG-16. "Wiring Diagram - BATTERY POWER SUPPLY -"](#).
NO >> Repair or replace error-detected parts.

C1A6C BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

C1A6C BRAKE POWER SUPPLY BACKUP UNIT

DTC Logic

INFOID:000000007635817

DTC DETECTION LOGIC

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: $9\text{ V} \geq$ Power voltage of brake power supply backup unit - Power voltage of brake power supply backup unit: $16\text{ V} \leq$ Power voltage of brake power supply backup unit	- Harness or connector - Fuse - Brake power supply backup unit - Electrically-driven intelligent brake unit 12V battery is low - DC/DC-J/B is overvoltage

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 "C1A6C" detected?

YES >> Proceed to [BR-148. "Diagnosis Procedure"](#).

NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000007635818

1. CHECK 12V BATTERY

C1A6C BRAKE POWER SUPPLY BACKUP UNIT

< 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.
3. Check the 12V battery terminal connections. Refer to [BR-5, "Precautions for Removing Battery Terminal"](#) and [PG-96, "Work Flow"](#).
4. Check the 12V battery. Refer to [PG-96, "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 [BR-5, "Precautions for Removing Battery Terminal"](#).
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.

C1A6C BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

4.PERFORM SELF-DIAGNOSIS (2)

④ With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect the brake power supply backup unit harness connector.
3. Connect 12V battery cable to negative terminal.
4. Turn the power switch OFF to ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY.
5. Repeat step 4 two or more times.
CAUTION:
Be sure to wait for 5 seconds or more after turning the power switch OFF.
6. Turn the power switch OFF to exit CONSULT.
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 "C1A6C" 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 [BR-5, "Precautions for Removing Battery Terminal"](#).
6. Disconnect the electrically-driven intelligent brake unit harness connector.
7. Connect 12V battery cable to negative terminal.
8. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

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

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

C1A6C BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

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

Is the inspection result normal?

YES >> GO TO 8.

NO >> GO TO 6.

6. CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
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 [BR-5. "Precautions for Removing Battery Terminal"](#).
4. Check the 15A fuse (#62).
5. Disconnect IPDM E/R harness connector.
6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

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

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

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

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to [PG-30. "Wiring Diagram - ON POWER SUPPLY -"](#).

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

7. PERFORM SELF-DIAGNOSIS (3)

 With CONSULT

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

C1A6C BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

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.

Is DTC "C1A6C" detected?

YES >> GO TO 8.

NO >> INSPECTION END

8. CHECK 12V BATTERY POWER SUPPLY

- 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 [BR-5, "Precautions for Removing Battery Terminal"](#).
- Disconnect the electrically-driven intelligent brake unit harness connector.
- Connect 12V battery cable to negative terminal.
- Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

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

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

CAUTION:

Never set the vehicle to READY.

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

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

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.
- Get out of the vehicle, close all 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 [BR-5, "Precautions for Removing Battery Terminal"](#).
- Check the 60A fusible link (#F).
- Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).
- Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).

C1A6C BRAKE POWER SUPPLY BACKUP UNIT

< 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 [PG-16, "Wiring Diagram - BATTERY POWER SUPPLY -"](#).

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

10. PERFORM SELF-DIAGNOSIS (4)

Ⓜ With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY.
4. Repeat step 3 two or more times.
CAUTION:
Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
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 "C1A6C" 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 [BR-5, "Precautions for Removing Battery Terminal"](#).
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Check the continuity between electrically-driven intelligent brake unit and ground.

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

Is the inspection result normal?

YES >> GO TO 13.

C1A6C BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

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

12.PERFORM SELF-DIAGNOSIS (5)

Ⓔ With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY.
4. Repeat step 3 two or more times.
CAUTION:
Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
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 "C1A6C" detected?

YES >> GO TO 13.

NO >> INSPECTION END

13.CHECK DATA MONITOR

Ⓔ With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY.
4. Repeat step 3 two or more times.
CAUTION:
Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Start CONSULT and select "BRAKE", "DATE MONITOR" according to this order.
6. Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER". Refer to [BR-24. "Reference Value"](#).

Is the inspection result normal?

YES >> GO TO 14.

NO >> Replace the electrically-driven intelligent brake unit. Refer to [BR-258. "Removal and installation"](#).

14.PERFORM SELF-DIAGNOSIS (6)

Ⓔ With CONSULT

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

C1A6C BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

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

3. Turn the power switch OFF to exit CONSULT.
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.
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 [BR-5, "Precautions for Removing Battery Terminal"](#).
4. Disconnect the brake power supply backup unit harness connector.
5. Connect 12V battery cable to negative terminal.
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. Check the voltage between brake power supply backup unit and ground.

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

Is the inspection result normal?

YES >> Replace the brake power supply backup unit. Refer to [BR-261, "Removal and Installation"](#).

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

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

C1A6D BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

C1A6D BRAKE POWER SUPPLY BACKUP UNIT

DTC Logic

INFOID:000000007635819

DTC DETECTION LOGIC

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: $60A \leq$ Output current of brake power supply backup unit - Input current of brake power supply backup unit: $30A \leq$ 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

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

>> GO TO 2.

2.CHECK DTC DETECTION

With CONSULT

- Turn the power switch OFF to ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY.
- Repeat step 1 two or more times.
CAUTION:
Be sure to wait for 5 seconds or more after turning the power switch OFF.
- Turn the power switch OFF to exit CONSULT.
- Get out of the vehicle, close all 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.
- 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 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.
- 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 "C1A6D" detected?

- YES >> Proceed to [BR-156, "Diagnosis Procedure"](#).
NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000007635820

1.CHECK 12V BATTERY

C1A6D BRAKE POWER SUPPLY BACKUP UNIT

< 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.
3. Check the 12V battery terminal connections. Refer to [BR-5, "Precautions for Removing Battery Terminal"](#) and [PG-96, "Work Flow"](#).
4. Check the 12V battery. Refer to [PG-96, "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.
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 [BR-5, "Precautions for Removing Battery Terminal"](#).
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.

C1A6D BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

4.PERFORM SELF-DIAGNOSIS (2)

④With 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 "C1A6D" detected?

YES >> GO TO 5.

NO >> INSPECTION END

5.CHECK POWER SWITCH ON POWER SUPPLY

1. Connect the brake power supply backup unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to exit CONSULT.
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 [BR-5, "Precautions for Removing Battery Terminal"](#).
6. Disconnect the electrically-driven intelligent brake unit harness connector.
7. Connect 12V battery cable to negative terminal.
8. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

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

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

C1A6D BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

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

Is the inspection result normal?

YES >> GO TO 8.

NO >> GO TO 6.

6. CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

- Turn the power switch OFF to exit CONSULT.
- Get out of the vehicle, close all 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 [BR-5. "Precautions for Removing Battery Terminal"](#).
- Check the 15A fuse (#62).
- Disconnect IPDM E/R harness connector.
- Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

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

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

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

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to [PG-30. "Wiring Diagram - ON POWER SUPPLY -"](#).

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

7. PERFORM SELF-DIAGNOSIS (3)

 With CONSULT

- Connect the electrically-driven intelligent brake unit harness connector.
- Connect IPDM E/R harness connector.
- Connect 12V battery cable to negative terminal.
- Turn the power switch OFF to ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY.
- Repeat step 4 two or more times.
CAUTION:
Be sure to wait for 5 seconds or more after turning the power switch OFF.
- Turn the power switch OFF to exit CONSULT.
- Get out of the vehicle, close all 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.
- 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 opening these doors.

C1A6D BRAKE POWER SUPPLY BACKUP UNIT

< 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 "C1A6D" 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 [BR-5, "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 (Approx.)
Connector	Terminal	
E34	1 – 31	10 – 16 V
	2 – 31	
	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 (Approx.)
Connector	Terminal	
E34	1 – 31	10 – 16 V
	2 – 31	
	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 [BR-5, "Precautions for Removing Battery Terminal"](#).
4. Check the 60A fusible link (#F).
5. Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).
6. Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).

C1A6D BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

7. Check the 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 [PG-16, "Wiring Diagram - BATTERY POWER SUPPLY -"](#).

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

10. PERFORM SELF-DIAGNOSIS (4)

Ⓜ With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY.
4. Repeat step 3 two or more times.
CAUTION:
Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
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 "C1A6D" 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 [BR-5, "Precautions for Removing Battery Terminal"](#).
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Check the continuity between electrically-driven intelligent brake unit and ground.

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

Is the inspection result normal?

YES >> GO TO 13.

C1A6D BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

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

12.PERFORM SELF-DIAGNOSIS (5)

Ⓔ With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY.
4. Repeat step 3 two or more times.
CAUTION:
Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
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 "C1A6D" detected?

YES >> GO TO 13.

NO >> INSPECTION END

13.CHECK DATA MONITOR

Ⓔ With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY.
4. Repeat step 3 two or more times.
CAUTION:
Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Start CONSULT and select "BRAKE", "DATE MONITOR" according to this order.
6. Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER". Refer to [BR-24. "Reference Value"](#).

Is the inspection result normal?

YES >> GO TO 14.

NO >> Replace the electrically-driven intelligent brake unit. Refer to [BR-258. "Removal and installation"](#).

14.PERFORM SELF-DIAGNOSIS (2)

Ⓔ With CONSULT

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

C1A6D BRAKE POWER SUPPLY BACKUP UNIT

< DTC/CIRCUIT DIAGNOSIS >

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

3. Turn the power switch OFF to exit CONSULT.
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 [BR-5, "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 harness connector and ground.

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

Is the inspection result normal?

YES >> Replace the brake power supply backup unit. Refer to [BR-261, "Removal and Installation"](#).

NO >> Repair or replace error-detected parts.

C1A6E EV SYSTEM

< DTC/CIRCUIT DIAGNOSIS >

C1A6E EV SYSTEM

DTC Logic

INFOID:000000007635821

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1A6E	EV/HEV SYSTEM	Malfunction is detected in the VCM system.	• Harness or connector • VCM • Electrically-driven intelligent brake unit

DTC REPRODUCTION PROCEDURE

1. PRECONDITIONING

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

>> GO TO 2.

2. CHECK DTC DETECTION

 With CONSULT

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

- YES >> Proceed to [BR-164, "Diagnosis Procedure"](#).
NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000007635822

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"](#).

C1A6E EV SYSTEM

< DTC/CIRCUIT DIAGNOSIS >

NO >> GO TO 2.

2.PERFORM SELF-DIAGNOSIS (1)

ⓘ With CONSULT

1. Turn the power switch OFF to ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY.
2. Repeat step 1 two or more times.
CAUTION:
Be sure to wait for 5 seconds or more after turning the power switch OFF.
3. Turn the power switch OFF to exit CONSULT.
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" 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 [BR-5, "Precautions for Removing Battery Terminal"](#) and [PG-96, "Work Flow"](#).
4. Check the 12V battery. Refer to [PG-96, "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.
CAUTION:

C1A6E EV SYSTEM

< 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 "C1A6E" 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 [BR-5, "Precautions for Removing Battery 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 7.

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

6. PERFORM SELF-DIAGNOSIS (3)

ⓑ With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
 2. Connect 12V battery cable to negative terminal.
 3. Turn the power switch OFF to ON without depressing the brake pedal.
- CAUTION:**
- Never set the vehicle to READY.**
4. Repeat step 3 two or more times.
- CAUTION:**
- Be sure to wait for 5 seconds or more after turning the power switch OFF.**
5. Turn the power switch OFF to exit CONSULT.
 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:

C1A6E EV SYSTEM

< DTC/CIRCUIT DIAGNOSIS >

Never set the vehicle to READY.

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

Is DTC "C1A6E" detected?

YES >> GO TO 7.

NO >> INSPECTION END

7. CHECK POWER SWITCH ON POWER SUPPLY

1. Connect 12V battery cable to negative terminal.
2. Turn the power switch OFF to exit CONSULT.
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 [BR-5, "Precautions for Removing Battery Terminal"](#).
5. Disconnect the electrically-driven intelligent brake unit harness connector.
6. Connect 12V battery cable to negative terminal.
7. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

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

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

CAUTION:

Never set the vehicle to READY.

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

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

Is the inspection result normal?

YES >> GO TO 10.

NO >> GO TO 8.

8. CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
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 [BR-5, "Precautions for Removing Battery Terminal"](#).
4. Check the 15A fuse (#62).
5. Disconnect IPDM E/R harness connector.
6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

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

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

C1A6E EV SYSTEM

< DTC/CIRCUIT DIAGNOSIS >

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

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to [PG-30, "Wiring Diagram - ON POWER SUPPLY -"](#).

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

9.PERFORM SELF-DIAGNOSIS (4)

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect IPDM E/R harness connector.
3. Connect 12V battery cable to negative terminal.
4. Turn the power switch OFF to ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY.
5. Repeat step 4 two or more times.
CAUTION:
Be sure to wait for 5 seconds or more after turning the power switch OFF.
6. Turn the power switch OFF to exit CONSULT.
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 "C1A6E" 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.
3. Disconnect 12V battery cable from negative terminal. Refer to [BR-5, "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.

C1A6E EV SYSTEM

< DTC/CIRCUIT DIAGNOSIS >

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

Is the inspection result normal?

YES >> GO TO 13.

NO >> GO TO 11.

11. CHECK 12V BATTERY POWER SUPPLY CIRCUIT

- Turn the power switch OFF to exit CONSULT.
- Get out of the vehicle, close all 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 [BR-5, "Precautions for Removing Battery Terminal"](#).
- Check the 60A fusible link (#F).
- Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).
- Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).
- Check the 10A fuse (#78).
- 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 [PG-16, "Wiring Diagram - BATTERY POWER SUPPLY -"](#).

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

12. PERFORM SELF-DIAGNOSIS (5)

 With CONSULT

- Connect the electrically-driven intelligent brake unit harness connector.
- Connect 12V battery cable to negative terminal.
- Turn the power switch OFF to ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY.
- 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 opening these doors.
CAUTION:
Never operate the vehicle and CONSULT while waiting.

C1A6E EV SYSTEM

< DTC/CIRCUIT DIAGNOSIS >

7. Turn the power switch ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY.
8. Start CONSULT and erase self-diagnosis result of "BRAKE".
9. Turn the power switch OFF to exit CONSULT.
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 "C1A6E" 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 [BR-5. "Precautions for Removing Battery Terminal"](#).
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Check the continuity between electrically-driven intelligent brake unit and ground.

Electrically-driven intelligent brake unit		—	Continuity
Connector	Terminal		
E34	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.
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.

C1A6E EV SYSTEM

< 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

④ With CONSULT

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

CAUTION:

Never set the vehicle to READY.

4. Repeat step 3 two or more times.

CAUTION:

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

5. Start CONSULT and select "BRAKE" and "DATA MONITOR" according this order.
6. Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER". Refer to [BR-24. "Reference Value"](#).

Is the inspection result normal?

YES >> GO TO 16.

NO >> Replace the electrically-driven intelligent brake unit. Refer to [BR-258. "Removal and installation"](#).

16. PERFORM SELF-DIAGNOSIS (7)

④ With CONSULT

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

CAUTION:

Never set the vehicle to READY.

2. Repeat step 1 two or more times.

CAUTION:

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

3. Turn the power switch OFF to exit CONSULT.
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.

C1A6E EV SYSTEM

< DTC/CIRCUIT DIAGNOSIS >

YES ("U1000")>>Refer to [BR-200, "Diagnosis Procedure"](#).

NO >> INSPECTION END

C1A6F VCM SYSTEM

< DTC/CIRCUIT DIAGNOSIS >

C1A6F VCM SYSTEM

DTC Logic

INFOID:000000007635823

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

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 "C1A6F" detected?

- YES >> Proceed to [BR-173, "Diagnosis Procedure"](#).
NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000007635824

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"](#).

C1A6F VCM SYSTEM

< DTC/CIRCUIT DIAGNOSIS >

NO >> GO TO 2.

2.PERFORM SELF-DIAGNOSIS (1)

 With CONSULT

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

CAUTION:

Never set the vehicle to READY.

2. Repeat step 1 two or more times.

CAUTION:

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

3. Turn the power switch OFF to exit CONSULT.

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 "C1A6F" 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 [BR-5, "Precautions for Removing Battery Terminal"](#) and [PG-96, "Work Flow"](#).

4. Check the 12V battery. Refer to [PG-96, "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.

CAUTION:

C1A6F VCM SYSTEM

< 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 [BR-5, "Precautions for Removing Battery 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 7.

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

6. PERFORM SELF-DIAGNOSIS (3)

 With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
 2. Connect 12V battery cable to negative terminal.
 3. Turn the power switch OFF to ON without depressing the brake pedal.
- CAUTION:**
- Never set the vehicle to READY.**
4. Repeat step 3 two or more times.
- CAUTION:**
- Be sure to wait for 5 seconds or more after turning the power switch OFF.**
5. Turn the power switch OFF to exit CONSULT.
 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:

A

B

C

D

E

BR

G

H

I

J

K

L

M

N

O

P

C1A6F VCM SYSTEM

< DTC/CIRCUIT DIAGNOSIS >

Never set the vehicle to READY.

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

Is DTC "C1A6F" detected?

YES >> GO TO 7.

NO >> INSPECTION END

7. CHECK POWER SWITCH ON POWER SUPPLY

1. Connect 12V battery cable to negative terminal.
2. Turn the power switch OFF to exit CONSULT.
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 [BR-5, "Precautions for Removing Battery Terminal"](#).
5. Disconnect the electrically-driven intelligent brake unit harness connector.
6. Connect 12V battery cable to negative terminal.
7. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

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

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

CAUTION:

Never set the vehicle to READY.

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

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

Is the inspection result normal?

YES >> GO TO 10.

NO >> GO TO 8.

8. CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
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 [BR-5, "Precautions for Removing Battery Terminal"](#).
4. Check the 15A fuse (#62).
5. Disconnect IPDM E/R harness connector.
6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

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

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

C1A6F VCM SYSTEM

< DTC/CIRCUIT DIAGNOSIS >

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

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. [PG-30. "Wiring Diagram - ON POWER SUPPLY -"](#).

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

9.PERFORM SELF-DIAGNOSIS (4)

 With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect IPDM E/R harness connector.
3. Connect 12V battery cable to negative terminal.
4. Turn the power switch OFF to ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY.
5. Repeat step 4 two or more times.
CAUTION:
Be sure to wait for 5 seconds or more after turning the power switch OFF.
6. Turn the power switch OFF to exit CONSULT.
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.
3. Disconnect 12V battery cable from negative terminal. Refer to [BR-5. "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.

C1A6F VCM SYSTEM

< DTC/CIRCUIT DIAGNOSIS >

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

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

CAUTION:

Never set the vehicle to READY.

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

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

Is the inspection result normal?

YES >> GO TO 13.

NO >> GO TO 11.

11. CHECK 12V BATTERY POWER SUPPLY CIRCUIT

- Turn the power switch OFF to exit CONSULT.
- Get out of the vehicle, close all 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 [BR-5, "Precautions for Removing Battery Terminal"](#).
- Check the 60A fusible link (#F).
- Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).
- Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).
- Check the 10A fuse (#78).
- 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 [PG-16, "Wiring Diagram - BATTERY POWER SUPPLY -"](#).

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

12. PERFORM SELF-DIAGNOSIS (5)

 With CONSULT

- Connect the electrically-driven intelligent brake unit harness connector.
- Connect 12V battery cable to negative terminal.
- Turn the power switch OFF to ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY.
- 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 opening these doors.
CAUTION:
Never operate the vehicle and CONSULT while waiting.

C1A6F VCM SYSTEM

< DTC/CIRCUIT DIAGNOSIS >

7. Turn the power switch ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY.
8. Start CONSULT and erase self-diagnosis result of "BRAKE".
9. Turn the power switch OFF to exit CONSULT.
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 [BR-5. "Precautions for Removing Battery Terminal"](#).
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Check the continuity between electrically-driven intelligent brake unit and ground.

Electrically-driven intelligent brake unit		—	Continuity
Connector	Terminal		
E34	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.
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.

C1A6F VCM SYSTEM

< 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 "C1A6F" detected?

YES >> GO TO 15.

NO >> INSPECTION END

15. CHECK DATA MONITOR

⑧ With CONSULT

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

CAUTION:

Never set the vehicle to READY.

4. Repeat step 3 two or more times.

CAUTION:

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

5. Start CONSULT and select "BRAKE" and "DATA MONITOR" according this order.
6. Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER". Refer to [BR-24. "Reference Value"](#).

Is the inspection result normal?

YES >> GO TO 16.

NO >> Replace the electrically-driven intelligent brake unit. Refer to [BR-258. "Removal and installation"](#).

16. PERFORM SELF-DIAGNOSIS (7)

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.

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

CAUTION:

Never set the vehicle to READY.

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

Is DTC "C1A6F" or "U1000" detected?

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

C1A6F VCM SYSTEM

< DTC/CIRCUIT DIAGNOSIS >

YES ("U1000")>>Refer to [BR-200. "Diagnosis Procedure"](#).

NO >> INSPECTION END

A

B

C

D

E

BR

G

H

I

J

K

L

M

N

O

P

C1A70 BRAKE CONTROL SYSTEM

< DTC/CIRCUIT DIAGNOSIS >

C1A70 BRAKE CONTROL SYSTEM

DTC Logic

INFOID:000000007635825

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1A70	BRAKE CONTROL SYSTEM	Malfunction is detected in ABS actuator control unit system.	• Harness or connector • ABS actuator and electric unit (control unit) • Electrically-driven intelligent brake unit

DTC REPRODUCTION PROCEDURE

1. PRECONDITIONING

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

>> GO TO 2.

2. CHECK DTC DETECTION

 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 "C1A70" detected?

- YES >> Proceed to [BR-182, "Diagnosis Procedure"](#).
NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000007635826

1. PERFORM SELF-DIAGNOSIS OF ABS ACTUATOR AND CONTROL UNIT

Start CONSULT and perform self-diagnosis for "ABS". Refer to [BRC-40, "CONSULT Function"](#).

Is any DTC detected?

C1A70 BRAKE CONTROL SYSTEM

< DTC/CIRCUIT DIAGNOSIS >

- YES >> Check the DTC. Refer to [BRC-50, "DTC Index"](#).
NO >> GO TO 2.

2.PERFORM SELF-DIAGNOSIS (1)

With CONSULT

- Turn the power switch OFF to ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY.
- 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 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.
- 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 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.
- 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 "C1A70" detected?

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

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.
CAUTION:
Never operate the vehicle and CONSULT while waiting.
- Check the 12V battery terminal connections. Refer to [BR-5, "Precautions for Removing Battery Terminal"](#) and [PG-96, "Work Flow"](#).
- Check the 12V battery. Refer to [PG-96, "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

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

C1A70 BRAKE CONTROL SYSTEM

< DTC/CIRCUIT DIAGNOSIS >

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 "C1A70" 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 [BR-5, "Precautions for Removing Battery 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 7.

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

6. PERFORM SELF-DIAGNOSIS (3)

Ⓟ With CONSULT

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

CAUTION:

Never set the vehicle to READY.

4. Repeat step 3 two or more times.

CAUTION:

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

5. Turn the power switch OFF to exit CONSULT.
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.

C1A70 BRAKE CONTROL SYSTEM

< DTC/CIRCUIT DIAGNOSIS >

CAUTION:

Never set the vehicle to READY.

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

Is DTC "C1A70" detected?

YES >> GO TO 7.

NO >> INSPECTION END

7. CHECK POWER SWITCH ON POWER SUPPLY

1. Connect 12V battery cable to negative terminal.
2. Turn the power switch OFF to exit CONSULT.
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 [BR-5, "Precautions for Removing Battery Terminal"](#).
5. Disconnect the electrically-driven intelligent brake unit harness connector.
6. Connect 12V battery cable to negative terminal.
7. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

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

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

CAUTION:

Never set the vehicle to READY.

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

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

Is the inspection result normal?

YES >> GO TO 10.

NO >> GO TO 8.

8. CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
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 [BR-5, "Precautions for Removing Battery Terminal"](#).
4. Check the 15A fuse (#62).
5. Disconnect IPDM E/R harness connector.
6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

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

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

C1A70 BRAKE CONTROL SYSTEM

< DTC/CIRCUIT DIAGNOSIS >

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

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to [PG-30, "Wiring Diagram - ON POWER SUPPLY -"](#).

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

9.PERFORM SELF-DIAGNOSIS (4)

ⓅWith CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect IPDM E/R harness connector.
3. Connect 12V battery cable to negative terminal.
4. Turn the power switch OFF to ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY.
5. Repeat step 4 two or more times.
CAUTION:
Be sure to wait for 5 seconds or more after turning the power switch OFF.
6. Turn the power switch OFF to exit CONSULT.
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 "C1A70" 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.
3. Disconnect 12V battery cable from negative terminal. Refer to [BR-5, "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.

C1A70 BRAKE CONTROL SYSTEM

< DTC/CIRCUIT DIAGNOSIS >

Electrically-driven intelligent brake unit		Voltage (Approx.)
Connector	Terminal	
E34	1 – 31	10 – 16 V
	2 – 31	
	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 (Approx.)
Connector	Terminal	
E34	1 – 31	10 – 16 V
	2 – 31	
	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 [BR-5, "Precautions for Removing Battery Terminal"](#).
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 [PG-16, "Wiring Diagram - BATTERY POWER SUPPLY -"](#).

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

12. PERFORM SELF-DIAGNOSIS (5)

 With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY.
4. Repeat step 3 two or more times.
CAUTION:
Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
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.

C1A70 BRAKE CONTROL SYSTEM

< DTC/CIRCUIT DIAGNOSIS >

7. Turn the power switch ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY.
8. Start CONSULT and erase self-diagnosis result of "BRAKE".
9. Turn the power switch OFF to exit CONSULT.
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 "C1A70" 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 [BR-5. "Precautions for Removing Battery Terminal"](#).
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Check the continuity between electrically-driven intelligent brake unit and ground.

Electrically-driven intelligent brake unit		—	Continuity
Connector	Terminal		
E34	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.
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.

C1A70 BRAKE CONTROL SYSTEM

< 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

④ With CONSULT

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

CAUTION:

Never set the vehicle to READY.

4. Repeat step 3 two or more times.

CAUTION:

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

5. Start CONSULT and select "BRAKE" and "DATA MONITOR" according this order.
6. Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER". Refer to [BR-24. "Reference Value"](#).

Is the inspection result normal?

YES >> GO TO 16.

NO >> Replace the electrically-driven intelligent brake unit. Refer to [BR-258. "Removal and installation"](#).

16. PERFORM SELF-DIAGNOSIS (7)

④ With CONSULT

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

CAUTION:

Never set the vehicle to READY.

2. Repeat step 1 two or more times.

CAUTION:

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

3. Turn the power switch OFF to exit CONSULT.
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.

C1A70 BRAKE CONTROL SYSTEM

< DTC/CIRCUIT DIAGNOSIS >

YES ("U1000")>>Refer to [BR-200, "Diagnosis Procedure"](#).

NO >> INSPECTION END

C1A74 STEERING ANGLE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

C1A74 STEERING ANGLE SENSOR

DTC Logic

INFOID:000000007635827

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

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 "C1A74" detected?

- YES >> Proceed to [BR-191, "Diagnosis Procedure"](#).
NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000007635828

1.CHECK 12V BATTERY

1. Turn the power switch OFF to exit CONSULT.

C1A74 STEERING ANGLE SENSOR

< 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.
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"](#) and [PG-96, "Work Flow"](#).
4. Check the 12V battery. Refer to [PG-96, "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 "C1A74" 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 [BR-5, "Precautions for Removing Battery 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)

C1A74 STEERING ANGLE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector. A
 2. Connect 12V battery cable to negative terminal.
 3. Turn the power switch OFF to ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY. B
 4. Repeat step 3 two or more times.
CAUTION:
Be sure to wait for 5 seconds or more after turning the power switch OFF. C
 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. D
 7. Turn the power switch ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY. E
 8. Start CONSULT and erase self-diagnosis result of "BRAKE".
 9. Turn the power switch OFF to exit CONSULT. BR
 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. G
 11. Turn the power switch ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY. H
 12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
 13. Release brake pedal.
 14. Start CONSULT and perform "BRAKE" self-diagnosis. I
- Is DTC "C1A74" detected? J
- YES >> GO TO 5.
- NO >> INSPECTION END

5.CHECK POWER SWITCH ON POWER SUPPLY

1. Connect 12V battery cable to negative terminal. K
 2. Turn the power switch OFF to exit CONSULT.
 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. L
 4. Disconnect 12V battery cable from negative terminal. Refer to [BR-5, "Precautions for Removing Battery Terminal"](#). M
 5. Disconnect the electrically-driven intelligent brake unit harness connector.
 6. Connect 12V battery cable to negative terminal.
 7. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground. N
- | Electrically-driven intelligent brake unit | | — | Voltage
(Approx.) |
|--|----------|--------|----------------------|
| Connector | Terminal | | |
| E34 | 26 | Ground | 0 V |
8. Turn the power switch ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY. O
 9. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground. P

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

C1A74 STEERING ANGLE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

Is the inspection result normal?

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

6. CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
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 [BR-5, "Precautions for Removing Battery Terminal"](#).
4. Check the 15A fuse (#62).
5. Disconnect IPDM E/R harness connector.
6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

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

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

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

Is the inspection result normal?

- YES >> Perform trouble diagnosis for power ON power supply. [PG-30, "Wiring Diagram - ON POWER SUPPLY -"](#).
- NO >> Repair or replace error-detected parts and GO TO 7.

7. PERFORM SELF-DIAGNOSIS (3)

With CONSULT

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

C1A74 STEERING ANGLE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

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

Is DTC "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 [BR-5, "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 (Approx.)
Connector	Terminal	
E34	1 – 31	10 – 16 V
	2 – 31	
	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 (Approx.)
Connector	Terminal	
E34	1 – 31	10 – 16 V
	2 – 31	
	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 [BR-5, "Precautions for Removing Battery Terminal"](#).
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?

C1A74 STEERING ANGLE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

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

10.PERFORM SELF-DIAGNOSIS (4)

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY.
4. Repeat step 3 two or more times.
CAUTION:
Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
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 "C1A74" 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 [BR-5, "Precautions for Removing Battery Terminal"](#).
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Check the continuity between electrically-driven intelligent brake unit and ground.

Electrically-driven intelligent brake unit		—	Continuity
Connector	Terminal		
E34	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.

C1A74 STEERING ANGLE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal. A
CAUTION:
Never set the vehicle to READY.
4. Repeat step 3 two or more times. B
CAUTION:
Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors. 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.
10. 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.
11. Turn the power switch ON without depressing the brake pedal. G
CAUTION:
Never set the vehicle to READY.
12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
13. Release brake pedal. H
14. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A74" detected?

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

13. CHECK DATA MONITOR

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable from negative terminal
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. L
6. Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER". Refer to [BR-24, "Reference Value"](#). M

Is the inspection result normal?

- YES >> GO TO 14. N
NO >> Replace the electrically-driven intelligent brake unit. Refer to [BR-258, "Removal and installation"](#).

14. PERFORM SELF-DIAGNOSIS (6)

With CONSULT

1. Turn the power switch OFF to ON without depressing the brake pedal. O
CAUTION:
Never set the vehicle to READY.
2. Repeat step 1 two or more times. P
CAUTION:
Be sure to wait for 5 seconds or more after turning the power switch OFF.
3. Turn the power switch OFF to exit CONSULT.
4. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.

C1A74 STEERING ANGLE SENSOR

< 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.

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

CAUTION:

Never set the vehicle to READY.

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

Is DTC "C1A74" or "U1000" detected?

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

YES ("U1000") >> Refer to [BR-202. "Diagnosis Procedure"](#).

NO >> INSPECTION END

15. PERFORM SELF-DIAGNOSIS OF ABS ACTUATOR AND CONTROL UNIT

Start CONSULT and perform self-diagnosis for "ABS". Refer to [BRC-40. "CONSULT Function"](#).

Is any DTC detected?

YES >> Check the DTC. Refer to [BRC-50. "DTC Index"](#). GO TO 16.

NO >> GO TO 16.

16. PERFORM SELF-DIAGNOSIS (7)

④ With CONSULT

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

CAUTION:

Never set the vehicle to READY.

2. Repeat step 1 two or more times.

CAUTION:

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

3. Turn the power switch OFF to exit CONSULT.
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 "C1A74" detected?

YES >> GO TO 15.

NO >> INSPECTION END

U1000 CAN COMM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

U1000 CAN COMM CIRCUIT

Description

INFOID:000000007635829

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:000000007635830

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
U1000	CAN COMM CIRCUIT	Electrically-driven intelligent brake unit did not receive / transmit the CAN communication signal for 2 seconds or more.	CAN communication system malfunction

DTC REPRODUCTION PROCEDURE

1. PRECONDITIONING

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

>> GO TO 2.

2. CHECK DTC DETECTION

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

Is DTC "U1000" detected?

- YES >> Proceed to [BR-200, "Diagnosis Procedure"](#).
NO >> INSPECTION END

U1000 CAN COMM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

Diagnosis Procedure

INFOID:000000007635831

Proceed to [LAN-15. "Trouble Diagnosis Flow Chart"](#).

U1010 CONTROL UNIT (CAN)

< DTC/CIRCUIT DIAGNOSIS >

U1010 CONTROL UNIT (CAN)

Description

INFOID:000000007635832

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:000000007635833

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
U1010	CONTROL UNIT (CAN)	A malfunction is detected at initial diagnosis of CAN controller of electrically-driven intelligent brake unit.	Electrically-driven intelligent brake unit

DTC REPRODUCTION PROCEDURE

1. PRECONDITIONING

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

>> GO TO 2.

2. CHECK DTC DETECTION

 With CONSULT

- Turn the power switch OFF to ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY.
- Repeat step 1 two or more times.
CAUTION:
Be sure to wait for 5 seconds or more after turning the power switch OFF.
- 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.
- 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 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.
- 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 "U1010" detected?

- YES >> Proceed to [BR-202, "Diagnosis Procedure"](#).
NO >> INSPECTION END

U1010 CONTROL UNIT (CAN)

< DTC/CIRCUIT DIAGNOSIS >

Diagnosis Procedure

INFOID:000000007635834

1. CHECK SELF-DIAGNOSIS RESULTS

Check for failures in the pin terminals and connections of the electrically-driven intelligent brake unit harness connector.

Is the inspection result normal?

- YES >> Replace the electrically-driven intelligent brake unit. Refer to [BR-258, "Removal and installation"](#).
- NO >> Repair or replace error-detected parts.

U1510 ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) COMMUNICATION

< DTC/CIRCUIT DIAGNOSIS >

U1510 ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) COMMUNICATION

DTC Logic

INFOID:000000007635835

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
U1510	BRAKE CONTROL COMMUNICATION	Signals from brake communications line* are not sent or received continuously for 4 seconds or more.	• 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.
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 "U1510" detected?

- YES >> Proceed to [BR-203, "Diagnosis Procedure"](#).
NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000007635836

1. CHECK 12V BATTERY

U1510 ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) COMMUNICATION

< DTC/CIRCUIT DIAGNOSIS >

1. Turn the power switch OFF to exit CONSULT.
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 [BR-5, "Precautions for Removing Battery Terminal"](#) and [PG-96, "Work Flow"](#).
4. Check the 12V battery. Refer to [PG-96, "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 "U1510" 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 [BR-5, "Precautions for Removing Battery 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)

U1510 ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) COMMUNICATION

< DTC/CIRCUIT DIAGNOSIS >

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector. A
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal. B
CAUTION:
Never set the vehicle to READY.
4. Repeat step 3 two or more times. C
CAUTION:
Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors. D
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.
8. Start CONSULT and erase self-diagnosis result of "BRAKE".
9. Turn the power switch OFF to exit CONSULT. BR
10. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors. G
CAUTION:
Never operate the vehicle and CONSULT while waiting.
11. Turn the power switch ON without depressing the brake pedal. H
CAUTION:
Never set the vehicle to READY.
12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
13. Release brake pedal.
14. Start CONSULT and perform "BRAKE" self-diagnosis. I

Is DTC "U1510" detected?

YES >> GO TO 5.

NO >> INSPECTION END J

5. CHECK POWER SWITCH ON POWER SUPPLY

1. Connect 12V battery cable to negative terminal. K
2. Turn the power switch OFF to exit CONSULT.
3. 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.
4. Disconnect 12V battery cable from negative terminal. Refer to [BR-5, "Precautions for Removing Battery Terminal"](#). M
5. Disconnect the electrically-driven intelligent brake unit harness connector.
6. Connect 12V battery cable to negative terminal.
7. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground. N

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

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

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

U1510 ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) COMMUNICATION

< DTC/CIRCUIT DIAGNOSIS >

Is the inspection result normal?

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

6. CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
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 [BR-5, "Precautions for Removing Battery Terminal"](#).
4. Check the 15A fuse (#62).
5. Disconnect IPDM E/R harness connector.
6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

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

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

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

Is the inspection result normal?

- YES >> Perform trouble diagnosis for power ON power supply. Refer to [PG-30, "Wiring Diagram - ON POWER SUPPLY -"](#).
- NO >> Repair or replace error-detected parts and GO TO 7.

7. PERFORM SELF-DIAGNOSIS (3)

 With CONSULT

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

U1510 ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) COMMUNICATION

< DTC/CIRCUIT DIAGNOSIS >

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

Is DTC "U1510" detected?

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

8.CHECK 12V BATTERY POWER SUPPLY

1. Turn the power switch OFF to exit CONSULT.
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 [BR-5, "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 (Approx.)
Connector	Terminal	
E34	1 – 31	10 – 16 V
	2 – 31	
	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 (Approx.)
Connector	Terminal	
E34	1 – 31	10 – 16 V
	2 – 31	
	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 [BR-5, "Precautions for Removing Battery Terminal"](#).
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?

U1510 ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) COMMUNICATION

< DTC/CIRCUIT DIAGNOSIS >

- YES >> Perform trouble diagnosis for 12V battery power supply. Refer to [PG-16. "Wiring Diagram - BATTERY POWER SUPPLY -"](#).
- NO >> Repair or replace error-detected parts and GO TO 10.

10.PERFORM SELF-DIAGNOSIS (4)

Ⓢ With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY.
4. Repeat step 3 two or more times.
CAUTION:
Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
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 "U1510" 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 [BR-5. "Precautions for Removing Battery Terminal"](#).
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Check the continuity between electrically-driven intelligent brake unit and ground.

Electrically-driven intelligent brake unit		—	Continuity
Connector	Terminal		
E34	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.

U1510 ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) COMMUNICATION

< DTC/CIRCUIT DIAGNOSIS >

2. Connect 12V battery cable to negative terminal.
 3. Turn the power switch OFF to ON without depressing the brake pedal. A
CAUTION:
Never set the vehicle to READY.
 4. Repeat step 3 two or more times. B
CAUTION:
Be sure to wait for 5 seconds or more after turning the power switch OFF.
 5. Turn the power switch OFF to exit CONSULT.
 6. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors. 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.
 10. 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.
 11. Turn the power switch ON without depressing the brake pedal. G
CAUTION:
Never set the vehicle to READY.
 12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
 13. Release brake pedal. H
 14. Start CONSULT and perform "BRAKE" self-diagnosis.
- Is DTC "U1510" detected?
- YES >> GO TO 13. I
- NO >> INSPECTION END

13. CHECK DATA MONITOR

-  With CONSULT
1. Connect the electrically-driven intelligent brake unit harness connector.
 2. Connect 12V battery cable to negative terminal.
 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 to this order. L
 6. Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER". Refer to [BR-24, "Reference Value"](#). M
- Is the inspection result normal?
- YES >> GO TO 14. N
- NO >> Replace the electrically-driven intelligent brake unit. Refer to [BR-258, "Removal and installation"](#).

14. PERFORM SELF-DIAGNOSIS (6)

-  With CONSULT
1. Turn the power switch OFF to ON without depressing the brake pedal. O
CAUTION:
Never set the vehicle to READY.
 2. Repeat step 1 two or more times. P
CAUTION:
Be sure to wait for 5 seconds or more after turning the power switch OFF.
 3. Turn the power switch OFF to exit CONSULT.
 4. Get out of the vehicle, close all doors (including back door), and wait for 3 minutes or more without opening these doors.
- CAUTION:**

U1510 ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) COMMUNICATION

< 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.

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

CAUTION:

Never set the vehicle to READY.

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

Is DTC "U1510" detected?

YES >> GO TO 15.

NO >> INSPECTION END

15.PERFORM SELF-DIAGNOSIS OF ABS ACTUATOR AND CONTROL UNIT

Start CONSULT and perform self-diagnosis for "ABS". Refer to [BRC-40, "CONSULT Function"](#).

Is DTC "U110D" detected?

YES >> Perform diagnosis. Refer to [BRC-127, "Diagnosis Procedure"](#).

NO >> Replace the electrically-driven intelligent brake unit. Refer to [BR-258, "Removal and installation"](#).

U1511 BRAKE POWER SUPPLY BACKUP UNIT COMMUNICATION

< DTC/CIRCUIT DIAGNOSIS >

U1511 BRAKE POWER SUPPLY BACKUP UNIT COMMUNICATION

DTC Logic

INFOID:000000007635837

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

④ With CONSULT

1. Turn the power switch OFF to ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY.
2. Repeat step 1 two or more times.
CAUTION:
Be sure to wait for 5 seconds or more after turning the power switch OFF.
3. Turn the power switch OFF to exit CONSULT.
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 "U1511" detected?

- YES >> Proceed to [BR-211, "Diagnosis Procedure"](#).
NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000007635838

1. CHECK 12V BATTERY

1. Turn the power switch OFF to exit CONSULT.

U1511 BRAKE POWER SUPPLY BACKUP UNIT COMMUNICATION

< 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.
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"](#) and [PG-96, "Work Flow"](#).
4. Check the 12V battery. Refer to [PG-96, "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 "U1511" 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 [BR-5, "Precautions for Removing Battery Terminal"](#).
4. Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.
5. Disconnect the brake power supply backup unit harness connector, then check for failures of pin terminals and connections.

Is the inspection result normal?

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

U1511 BRAKE POWER SUPPLY BACKUP UNIT COMMUNICATION

< DTC/CIRCUIT DIAGNOSIS >

4.PERFORM SELF-DIAGNOSIS (2)

④With 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 [BR-5, "Precautions for Removing Battery Terminal"](#).
5. Disconnect the electrically-driven intelligent brake unit harness connector.
6. Connect 12V battery cable to negative terminal.
7. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

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

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

U1511 BRAKE POWER SUPPLY BACKUP UNIT COMMUNICATION

< DTC/CIRCUIT DIAGNOSIS >

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

Is the inspection result normal?

YES >> GO TO 8.

NO >> GO TO 6.

6. CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

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 [BR-5, "Precautions for Removing Battery Terminal"](#).
4. Check the 15A fuse (#62).
5. Disconnect IPDM E/R harness connector.
6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

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

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

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

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to [PG-30, "Wiring Diagram - ON POWER SUPPLY -"](#).

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

7. PERFORM SELF-DIAGNOSIS (3)

Ⓐ With CONSULT

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

U1511 BRAKE POWER SUPPLY BACKUP UNIT COMMUNICATION

< 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 [BR-5, "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 (Approx.)
Connector	Terminal	
E34	1 – 31	10 – 16 V
	2 – 31	
	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 (Approx.)
Connector	Terminal	
E34	1 – 31	10 – 16 V
	2 – 31	
	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 [BR-5, "Precautions for Removing Battery Terminal"](#).
4. Check the 60A fusible link (#F).
5. Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).
6. Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).

U1511 BRAKE POWER SUPPLY BACKUP UNIT COMMUNICATION

< DTC/CIRCUIT DIAGNOSIS >

7. Check the 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 [PG-16, "Wiring Diagram - BATTERY POWER SUPPLY -"](#).

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

10.PERFORM SELF-DIAGNOSIS (4)

ⓅWith CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY.
4. Repeat step 3 two or more times.
CAUTION:
Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
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 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 [BR-5, "Precautions for Removing Battery Terminal"](#).
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Check the continuity between electrically-driven intelligent brake unit and ground.

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

Is the inspection result normal?

YES >> GO TO 13.

U1511 BRAKE POWER SUPPLY BACKUP UNIT COMMUNICATION

< DTC/CIRCUIT DIAGNOSIS >

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

12.PERFORM SELF-DIAGNOSIS (5)

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY.
4. Repeat step 3 two or more times.
CAUTION:
Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
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 [BR-24. "Reference Value"](#).

Is the inspection result normal?

YES >> GO TO 14.

NO >> Replace the electrically-driven intelligent brake unit. Refer to [BR-258. "Removal and installation"](#).

14.PERFORM SELF-DIAGNOSIS (6)

With CONSULT

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

U1511 BRAKE POWER SUPPLY BACKUP UNIT COMMUNICATION

< DTC/CIRCUIT DIAGNOSIS >

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

3. Turn the power switch OFF to exit CONSULT.
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 "U1511" detected?

YES >> GO TO 15.

NO >> INSPECTION END

15. CHECK BRAKE POWER SUPPLY BACKUP UNIT CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
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 [BR-5. "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 brake power supply backup unit.

Electrically-driven intelligent brake unit		Brake power supply backup unit		Continuity
Connector	Terminal	Connector	Terminal	
E34	32	B15	2	Existed
	32		6	Not existed
	32		4	Not existed
	8		2	Not existed
	8		6	Existed
	8		4	Not existed
	10		2	Not existed
	10		6	Not existed
	10		4	Existed

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

U1511 BRAKE POWER SUPPLY BACKUP UNIT COMMUNICATION

< DTC/CIRCUIT DIAGNOSIS >

Electrically-driven intelligent brake unit		—	Continuity
Connector	Terminal		
E34	32	Ground	Not existed
	8		Not existed
	10		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 (Approx.)
Connector	Terminal		
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 supply backup unit		—	Voltage (Approx.)
Connector	Terminal		
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.
2. Disconnect 12V battery cable from negative terminal. Refer to [BR-5, "Precautions for Removing Battery Terminal"](#).
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 [PG-16, "Wiring Diagram - BATTERY POWER SUPPLY -"](#).

18. PERFORM SELF-DIAGNOSIS (7)

Ⓜ With CONSULT

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

CAUTION:

Never set the vehicle to READY.

5. Repeat step 4 two or more times.

CAUTION:

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

6. Turn the power switch OFF to exit CONSULT.

U1511 BRAKE POWER SUPPLY BACKUP UNIT COMMUNICATION

< DTC/CIRCUIT 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 DTC "U1511" detected?

YES >> GO TO 19.

NO >> INSPECTION END

19. REPLACE BRAKE POWER SUPPLY BACKUP UNIT

Ⓔ With CONSULT

1. Replace the brake power supply backup unit. Refer to [BR-261, "Removal and Installation"](#).
2. Connect the electrically-driven intelligent brake unit harness connector.
3. Connect 12V battery cable to negative terminal.
4. Turn the power switch OFF to ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY.
5. Repeat step 4 two or more times.
CAUTION:
Be sure to wait for 5 seconds or more after turning the power switch OFF.
6. Turn the power switch OFF to exit CONSULT.
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 >> Replace the electrically-driven intelligent brake unit. Refer to [BR-258, "Removal and installation"](#).

NO >> INSPECTION END

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

POWER SUPPLY AND GROUND CIRCUIT

Diagnosis Procedure

INFOID:000000007635839

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 [BR-5. "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 and ground.

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

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

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

Is the inspection result normal?

- YES >> GO TO 3.
NO >> GO TO 2.

2. CHECK POWER CIRCUIT OF ELECTRICALLY-DRIVEN BRAKE UNIT WHEN POWER SWITCH IS ON

1. Turn the power switch OFF to exit CONSULT.
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 [BR-5. "Precautions for Removing Battery Terminal"](#).
4. Check the 15A fuse (#62).
5. Disconnect IPDM E/R harness connector.
6. Check the continuity between electrically-driven intelligent brake unit harness connector and IPDM E/R harness connector.

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

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

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

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to [PG-30, "Wiring Diagram - ON POWER SUPPLY -"](#).

NO >> Repair or replace error-detected parts.

3. CHECK 12V BATTERY POWER SUPPLY OF ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT

1. Turn the power switch OFF to exit CONSULT.
2. Connect 12V battery cable to negative terminal.
3. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit		—	Voltage (Approx.)
Connector	Terminal		
E34	1	Ground	10 – 16 V
	2		
	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		
E34	1	Ground	10 – 16 V
	2		
	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 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 [BR-5, "Precautions for Removing Battery Terminal"](#).
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 [PG-16, "Wiring Diagram - BATTERY POWER SUPPLY -"](#).

NO >> Repair or replace error-detected parts.

5. CHECK 12V BATTERY POWER SUPPLY OF BRAKE POWER SUPPLY BACKUP UNIT

1. Turn the power switch OFF to exit CONSULT.

POWER SUPPLY AND GROUND CIRCUIT

< 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.
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"](#).
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 supply backup unit		—	Voltage (Approx.)
Connector	Terminal		
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 supply backup unit		—	Voltage (Approx.)
Connector	Terminal		
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.
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 [BR-5, "Precautions for Removing Battery Terminal"](#).
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 [PG-16, "Wiring Diagram - BATTERY POWER SUPPLY -"](#).
NO >> Repair or replace error-detected parts.

7. CHECK ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT GROUND

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

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

Is the inspection result normal?

- YES >> GO TO 8.
NO >> Repair or replace error-detected parts.

8. CHECK BRAKE POWER SUPPLY BACKUP UNIT GROUND

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

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

Brake power supply backup unit		—	Continuity
Connector	Terminal		
B15	1	Ground	Existed

Is the inspection result normal?

YES >> GO TO 9.

NO >> Repair or replace error-detected parts.

9.CHECK TERMINAL

- Check for failures in the pin terminals and connections of the electrically-driven intelligent brake unit harness connector.
- Check that there is no malfunction in pin terminal and connection of IPDM E/R harness connector.
- Check for failures of pin terminals and connections in brake power supply backup unit harness connector.

Is the inspection result normal?

YES >> INSPECTION END

NO >> Repair or replace error-detected parts.

WARNING BUZZER

< DTC/CIRCUIT DIAGNOSIS >

WARNING BUZZER

Diagnosis Procedure

INFOID:000000007635840

1.CHECK POWER AND GROUND CIRCUITS OF ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT

Perform diagnosis of electrically-driven intelligent brake unit power and ground circuits. [BR-221, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace error-detected parts.

2.CHECK WARNING BUZZER CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
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 [BR-5, "Precautions for Removing Battery Terminal"](#).
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Disconnect buzzer harness connector.
6. Check the continuity between electrically-driven intelligent brake unit and warning buzzer.

Electrically-driven intelligent brake unit		Warning buzzer		Continuity
Connector	Terminal	Connector	Terminal	
E34	22	M13	1	Existed
	25		1	Not existed
	22		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-225, "Component Inspection"](#).

Is the inspection result normal?

YES >> Replace the electrically-driven intelligent brake unit. Refer to [BR-258, "Removal and installation"](#).

NO >> Replace the warning buzzer. Refer to [BR-262, "Removal and Installation"](#).

Component Inspection

INFOID:000000007635841

1.WARNING BUZZER INSPECTION

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 [BR-5, "Precautions for Removing Battery Terminal"](#).
4. Disconnect buzzer harness connector.
5. Apply voltage of 12V between warning buzzer connector terminals 1 and 2.

WARNING BUZZER

< DTC/CIRCUIT DIAGNOSIS >

Condition	Warning buzzer
Voltage applied	Sound
Voltage not applied	No sound

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace the warning buzzer. Refer to [BR-262, "Removal and Installation"](#).

BRAKE WARNING LAMP

< DTC/CIRCUIT DIAGNOSIS >

BRAKE WARNING LAMP

Component Function Check

INFOID:000000007635842

1.CHECK BRAKE WARNING LAMP FUNCTION (1)

Check that brake warning lamp turns ON for approximately several second after power switch is turned ON.

CAUTION:

Never set the vehicle to READY.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Refer to [BR-227, "Diagnosis Procedure"](#).

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 [BRC-108, "Diagnosis Procedure"](#).

Diagnosis Procedure

INFOID:000000007635843

1.CHECK POWER AND GROUND CIRCUITS OF ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT

Perform diagnosis of electrically-driven intelligent brake unit power and ground circuits. Refer to [BR-221, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace error-detected parts.

2.PERFORM SELF-DIAGNOSIS

 With CONSULT

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

Is malfunction detected?

YES >> Check the error-detected system.

- "BRAKE": Refer to [BR-27, "DTC Index"](#).

- "ABS": Refer to [BRC-50, "DTC Index"](#).

NO >> GO TO 3.

3.CHECK THAT BRAKE WARNING LAMP TURNS ON

Check the combination meter. Refer to [MWI-51, "CONSULT Function"](#).

Is the inspection result normal?

YES >> Replace the electrically-driven intelligent brake unit. Refer to [BR-258, "Removal and installation"](#).

NO >> Replace combination meter. Refer to [MWI-96, "Removal and Installation"](#).

BRAKE SYSTEM WARNING LAMP

< DTC/CIRCUIT DIAGNOSIS >

BRAKE SYSTEM WARNING LAMP

Component Function Check

INFOID:000000007635844

1.CHECK BRAKE SYSTEM WARNING LAMP FUNCTION

Check that brake system warning lamp turns ON for approximately several second after power switch is turned ON.

CAUTION:

Never set the vehicle to READY.

Is the inspection result normal?

- YES >> INSPECTION END
NO >> Proceed to [BR-228, "Diagnosis Procedure"](#).

Diagnosis Procedure

INFOID:000000007635845

1.CHECK POWER AND GROUND CIRCUITS OF ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT

Perform diagnosis of electrically-driven intelligent brake unit power and ground circuits. [BR-221, "Diagnosis Procedure"](#).

Is the inspection result normal?

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

2.PERFORM SELF-DIAGNOSIS

 With CONSULT

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

Is a malfunction detected?

- YES >> Check the error-detected system.
• "BRAKE": Refer to [BR-27, "DTC Index"](#).
• "ABS": Refer to [BRC-50, "DTC Index"](#).
NO >> GO TO 3.

3.CHECK BRAKE SYSTEM WARNING LAMP ILLUMINATION

Check the combination meter. Refer to [MWI-51, "CONSULT Function"](#).

Is the inspection result normal?

- YES >> Replace the electrically-driven intelligent brake unit. Refer to [BR-258, "Removal and installation"](#).
NO >> Replace combination meter. Refer to [MWI-96, "Removal and Installation"](#).

UNEXPECTED BRAKE PEDAL REACTION

< SYMPTOM DIAGNOSIS >

SYMPTOM DIAGNOSIS

UNEXPECTED BRAKE PEDAL REACTION

Description

INFOID:000000007635846

A malfunction of brake pedal feel (height or others) is detected when the brake pedal is depressed.

Diagnosis Procedure

INFOID:000000007635847

1.CHECK AXLE

Check that there is no significant looseness of axle.

- Front axle: Refer to [FAX-8, "Inspection"](#).
- Rear axle: Refer to [RAX-5, "Inspection"](#).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace error-detected parts.

2.CHECK DISC ROTOR

Check the disc rotor runout.

- Front: Refer to [BR-244, "DISC ROTOR : Inspection and Adjustment"](#).
- Rear: Refer to [BR-246, "DISC ROTOR : Inspection and Adjustment"](#).

Is the inspection result normal?

YES >> GO TO 3.

NO >> Grind disc rotor.

3.CHECK BRAKE FLUID LEAKAGE

Check the brake fluid leakage.

- Front: Refer to [BR-254, "FRONT : Inspection"](#).
- Rear: Refer to [BR-257, "REAR : Inspection"](#).

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace error-detected parts.

4.CHECK BRAKE PEDAL

Check the brake pedal items. Refer to [BR-239, "Inspection and Adjustment"](#).

Is the inspection result normal?

YES >> GO TO 5.

NO >> Adjust the brake pedal items. Refer to [BR-239, "Inspection and Adjustment"](#).

5.CHECK BRAKING FORCE

Check the braking force.

Is the inspection result normal?

YES >> GO TO 6.

NO >> Check each component of brake system.

6.CHECK BRAKE PERFORMANCE

Disconnect ABS actuator and electric unit (control unit) connector so that ABS does not operate. Check that brake force is normal in this condition. Connect harness connectors after checking.

Is the inspection result normal?

YES >> Normal

NO >> Check each component of brake system.

THE BRAKING DISTANCE IS LONG

< SYMPTOM DIAGNOSIS >

THE BRAKING DISTANCE IS LONG

Description

INFOID:000000007635848

Brake stopping distance is long when ABS function is operated.

Diagnosis Procedure

INFOID:000000007635849

CAUTION:

Brake stopping distance on slippery road like rough road, gravel road, or snowy road may become longer when ABS is operated than when ABS is not operated.

1. CHECK 12V BATTERY

1. Turn the power switch OFF to exit CONSULT.
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 [BR-5, "Precautions for Removing Battery Terminal"](#) and [PG-96, "Work Flow"](#).
4. Check the 12V battery. Refer to [PG-96, "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 "C1A74" detected?

YES >> GO TO 3.

NO >> INSPECTION END

3. CHECK CONNECTOR TERMINALS

1. Turn the power switch OFF to exit CONSULT.

THE BRAKING DISTANCE IS LONG

< SYMPTOM DIAGNOSIS >

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 [BR-5, "Precautions for Removing Battery 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 [BR-27, "DTC Index"](#). GO TO 5.

NO >> INSPECTION END

5.CHECK POWER SWITCH ON POWER SUPPLY

1. Connect 12V battery cable to negative terminal.
2. Turn the power switch OFF to exit CONSULT.
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 [BR-5, "Precautions for Removing Battery Terminal"](#).
5. Disconnect the electrically-driven intelligent brake unit harness connector.
6. Connect 12V battery cable to negative terminal.
7. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

THE BRAKING DISTANCE IS LONG

< SYMPTOM DIAGNOSIS >

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

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

CAUTION:

Never set the vehicle to READY.

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

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

Is the inspection result normal?

YES >> GO TO 8.

NO >> GO TO 6.

6. CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

- Turn the power switch OFF to exit CONSULT.
- Get out of the vehicle, close all 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 [BR-5, "Precautions for Removing Battery Terminal"](#).
- Check the 15A fuse (#62).
- Disconnect IPDM E/R harness connector.
- Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

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

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

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

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to [PG-30, "Wiring Diagram - ON POWER SUPPLY -"](#).

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

7. PERFORM SELF-DIAGNOSIS (3)

Ⓟ With CONSULT

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

CAUTION:

Never set the vehicle to READY.

- Repeat step 4 two or more times.

CAUTION:

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

- Turn the power switch OFF to exit CONSULT.

THE BRAKING DISTANCE IS LONG

< 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 [BR-27, "DTC Index"](#). 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 [BR-5, "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 (Approx.)
Connector	Terminal	
E34	1 – 31	10 – 16 V
	2 – 31	
	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 (Approx.)
Connector	Terminal	
E34	1 – 31	10 – 16 V
	2 – 31	
	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.

THE BRAKING DISTANCE IS LONG

< SYMPTOM DIAGNOSIS >

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 [BR-5, "Precautions for Removing Battery Terminal"](#).
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 [PG-16, "Wiring Diagram - BATTERY POWER SUPPLY -"](#).

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

10. PERFORM SELF-DIAGNOSIS (4)

 With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY.
4. Repeat step 3 two or more times.
CAUTION:
Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
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 [BR-27, "DTC Index"](#). 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.

THE BRAKING DISTANCE IS LONG

< SYMPTOM DIAGNOSIS >

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

Electrically-driven intelligent brake unit		—	Continuity
Connector	Terminal		
E34	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 [BR-27, "DTC Index"](#). GO TO 13.

NO >> INSPECTION END

13.CHECK DATA MONITOR

 With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY.
4. Repeat step 3 two or more times.
CAUTION:
Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Start CONSULT and select "BRAKE" and "DATA MONITOR" according this order.
6. Check the "MOTOR POWER SUPPLY" and "CONTROL MODULE POWER". Refer to [BR-24, "Reference Value"](#).

THE BRAKING DISTANCE IS LONG

< SYMPTOM DIAGNOSIS >

Is the inspection result normal?

YES >> GO TO 14.

NO >> Replace the electrically-driven intelligent brake unit. Refer to [BR-258, "Removal and installation"](#).

14.PERFORM SELF-DIAGNOSIS (6)

ⓅWith CONSULT

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

CAUTION:

Never set the vehicle to READY.

2. Repeat step 1 two or more times.

CAUTION:

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

3. Turn the power switch OFF to exit CONSULT.

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 any DTC detected?

YES >> Check the DTC. Refer to [BR-27, "DTC Index"](#).

NO >> GO TO 15.

15.CHECK BRAKING FORCE

Check the braking force.

Is the inspection result normal?

YES >> GO TO 16.

NO >> Check each component of brake system.

16.CHECK BRAKE PERFORMANCE

Turn the power switch OFF to exit CONSULT. Disconnect ABS actuator control unit harness connector so that ABS does not operate. Check the brake stopping distance in this condition. Connect harness connectors after checking.

Is the inspection result normal?

YES >> Normal

NO >> Check each component of brake system.

VEHICLE JERKS DURING

< SYMPTOM DIAGNOSIS >

VEHICLE JERKS DURING

Description

INFOID:000000007635850

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:000000007635851

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

④With CONSULT

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

Is any DTC detected?

- YES >> Check the DTC. Refer to [BR-27, "DTC Index"](#).
- NO >> Perform symptom diagnosis for VDC function, TCS function, ABS function, EBD function, brake limited slip differential (BLSD) function, or brake assist function. Refer to [BRC-144, "Diagnosis Procedure"](#). GO TO 3.

3.CHECK CONNECTOR

④With 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 [BR-5, "Precautions for Removing Battery Terminal"](#).
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

④With 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 [BRC-151, "Removal and Installation"](#).

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

NORMAL OPERATING CONDITION

Description

INFOID:000000007635852

Symptom	Result
The brake pedal may move during braking.	This occurs when the electrically-driven intelligent brake unit is operating normally and is not a malfunction.
When the brake pedal is depressed while the power switch is OFF, an operating sound may occur or the pedal stroke may feel short.	
There may be an operating noise or the brake pedal may move after the brake pedal is operated.	
An operating noise may occur when the power switch is turned OFF (system stop sound).	
The brake pedal may move when ABS is activated immediately after the READY state of the vehicle.	This is not a malfunction. Depress the brake pedal fully.
After turning the power switch OFF and waiting for a few minutes in the car (with all doors closed and brake pedal not depressed), the electrically-driven intelligent brake unit goes into sleep mode. If the brake pedal is depressed after the unit goes into sleep mode, the brake pedal operation may be felt awkward or the depth of pedal depression insufficient for a little while.	

BRAKE PEDAL

< PERIODIC MAINTENANCE >

PERIODIC MAINTENANCE

BRAKE PEDAL

Inspection and Adjustment

INFOID:000000007635853

INSPECTION

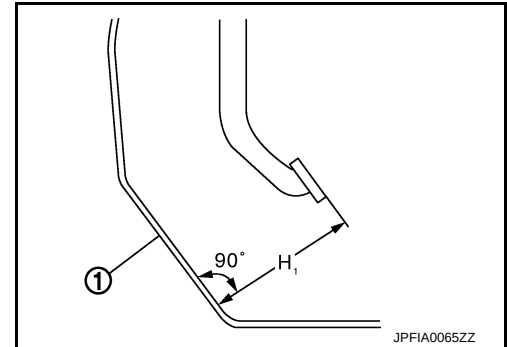
Brake Pedal Height

Check the height from the dash lower panel (1) to the top face of the brake pedal (H₁).

H₁ : Refer to [BR-279, "Brake Pedal"](#).

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).

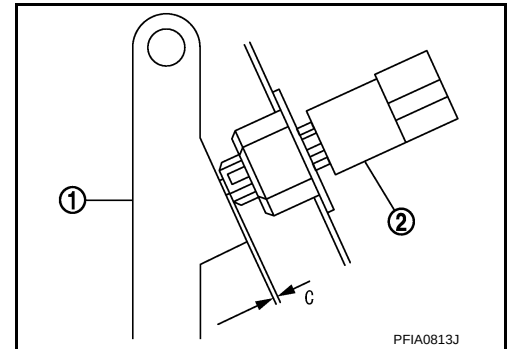
C : Refer to [BR-279, "Brake Pedal"](#).

CAUTION:

The stop lamp must turn OFF when the brake pedal is released.

NOTE:

When checking the clearance between the brake pedal lever and threaded end of stop lamp switch and ACSD brake switch, check with the brake pedal (pad) pulled gently toward you.



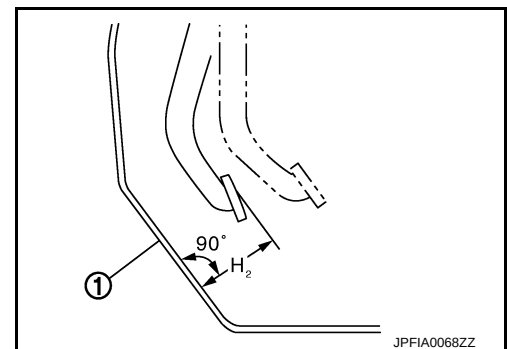
Pedal Height When Depressed

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 [BR-279, "Brake Pedal"](#).

CAUTION:

Perform with the floor trim pulled up.



ADJUSTMENT

Brake Pedal Height

1. Remove the instrument lower panel. Refer to [JP-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.

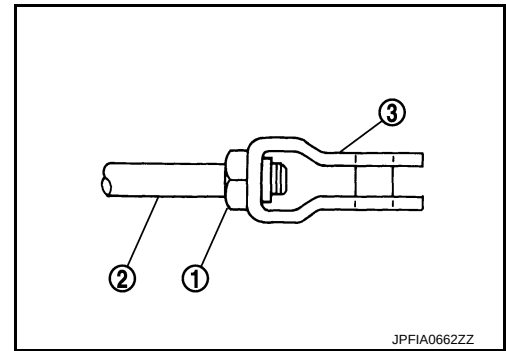
BRAKE PEDAL

< PERIODIC MAINTENANCE >

- Loosen the input rod lock nut (1).
- Rotate the input rod (2), and adjust the brake pedal to the specified height (H_1).

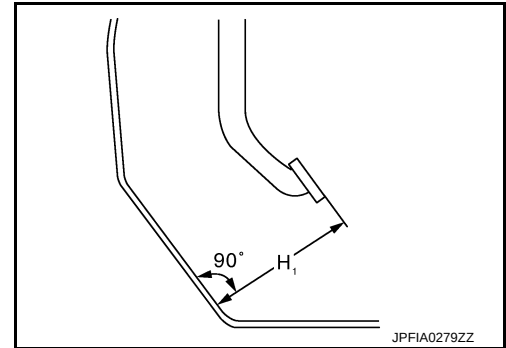
CAUTION:

The threaded part of the input rod end must project to the inside of the crevice (3).



H_1 : Refer to [BR-279, "Brake Pedal"](#).

- Tighten the lock nut to the specified torque. [BR-258, "Exploded View"](#).
- After adjusting the brake pedal height, adjust the clearance between the stopper rubber and threaded end of stop lamp switch and ASCD brake switch.
- Perform stroke sensor 0 point learning when the brake pedal assembly is removed and installed, or replaced. Refer to [BR-35, "Work Procedure"](#).



Stop Lamp Switch and ASCD Brake Switch

- Remove the instrument lower panel. Refer to [IP-14, "Removal and Installation"](#).
- Disconnect the stop lamp switch and ASCD brake switch harness connectors.
- Rotate the stop lamp switch and ASCD brake switch counterclockwise by 45° to loosen them.
- With the brake pedal (pad) pulled gently toward you, press in until the threaded end of stop lamp switch and ASCD brake switch (2) contacts the brake pedal lever (1). Under those conditions, rotate 45° to the right to fasten it in place.

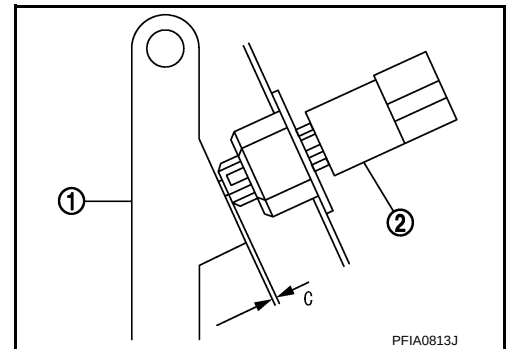
CAUTION:

- 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-279, "Brake Pedal"](#).

- The stop lamp must turn OFF when the brake pedal is released.

- Perform stroke sensor 0 point learning when the brake pedal assembly is removed and installed, or replaced. Refer to [BR-35, "Work Procedure"](#).



Pedal Height When Depressed

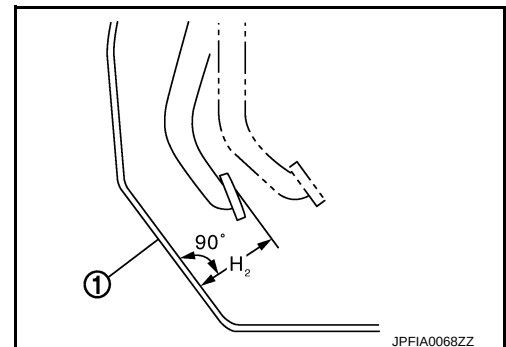
- Perform air bleeding. [BR-242, "Bleeding Brake System"](#).
- Check the height from the dash lower panel (1) to the top face of the brake pedal (H_2) when depressing the brake pedal with a force of 196 N (20 kg, 44 lb) while the vehicle is in READY state.

H_2 : Refer to [BR-279, "Brake Pedal"](#).

CAUTION:

Perform with the floor trim pulled up.

- Adjust the brake pedal height, and the clearance with the stop lamp switch and ASCD brake switch.
- Perform stroke sensor 0 point learning when the brake pedal assembly is removed and installed, or replaced. Refer to [BR-35, "Work Procedure"](#).



BRAKE FLUID

< PERIODIC MAINTENANCE >

BRAKE FLUID

Inspection

INFOID:000000007635854

CHECK BRAKE FLUID LEVEL

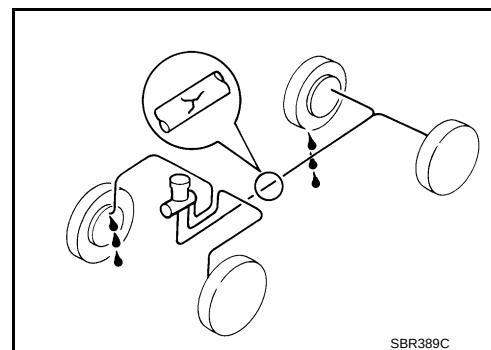
- Check that the brake fluid level in the reservoir tank is within the standard (between MAX – MIN lines).
- Visually check around the reservoir tank for brake fluid leakage.
- If the brake fluid level is extremely low (below the MIN line), check the amount of brake fluid and check for brake fluid leaks in the brake system.
- Check for dirt or other foreign material inside the reservoir tank, and check that no oil other than the designated brake fluid has entered the system.

BRAKE PIPING

1. Check for cracking and damage to brake piping (tubes and hoses). If any abnormality is found, replace the pipe.
2. With the vehicle in READY state, depress the brake pedal with a force of 785 N (80 kg) and hold down the pedal for approximately 5 seconds. Check for any brake fluid leakage.

CAUTION:

If brake fluid leakage has occurred, retighten all parts to the specified torque. If any abnormalities are found, replace the part.



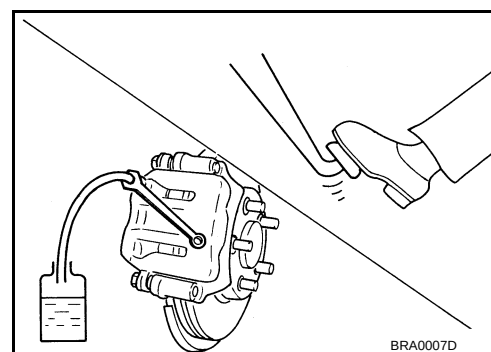
Draining

INFOID:000000007635855

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 [BR-5, "Precautions for Removing Battery Terminal"](#).
- Never operate the vehicle and CONSULT while waiting.
- If brake fluid contacts the disc rotor or brake caliper assembly, wipe it off immediately.

1. Connect a vinyl tube to air bleeder.
2. Depress the brake pedal and loosen the air bleeder to gradually discharge brake fluid.



Refilling

INFOID:000000007635856

CAUTION:

If brake fluid contacts the disc rotor or brake caliper assembly, wipe it off immediately.

1. Make sure that there is no foreign material in the reservoir tank, and refill with new brake fluid.

CAUTION:

- Never reuse drained brake fluid.
- Never allow any oils other than the designated brake fluid to enter the system.

BRAKE FLUID

< PERIODIC MAINTENANCE >

2. Loosen the air bleeder, slowly depress the brake pedal to the full stroke, and then release the pedal. Repeat this operation at intervals of 2 or 3 seconds until all of the brake fluid is discharged. Then close the air bleeder with the brake pedal depressed. Repeat the same work on each wheel.
3. Perform air bleeding. [BR-242, "Bleeding Brake System"](#).

Bleeding Brake System

INFOID:000000007635857

CAUTION:

- Turn 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. If it contacts a painted surface, wipe it off immediately and wash with water. However avoid washing brake components with water.
- If brake fluid contacts the disc rotor or brake caliper assembly, wipe it off immediately.

1. Make sure that there is no foreign material in the reservoir tank, and refill with new brake fluid.

CAUTION:

- Never reuse drained brake fluid.
 - Never allow any oils other than the designated brake fluid to enter the system.
2. Connect a vinyl tube to the rear right wheel air bleeder.
 3. Fully depress the brake pedal 4 to 5 times.
 4. Loosen the air bleeder and bleed air with the brake pedal depressed, then quickly tighten the bleeder valve.
 5. Repeat steps 2 to 3 until all of the air is out of the brake line.
 6. Tighten the air bleeder to the specified torque.
 - Front disc brake: Refer to [BR-265, "BRAKE CALIPER ASSEMBLY : Exploded View"](#).
 - Rear disc brake: Refer to [BR-273, "BRAKE CALIPER ASSEMBLY : Exploded View"](#).
 7. Perform steps 2 to 6. Occasionally fill with the brake fluid in order to keep it in the reservoir tank to at least half of the MAX line. Bleed air in the following order: rear right brake → front left brake → rear left brake → front right brake.
 8. Check that the brake fluid level in the reservoir tank is within the specified range after air bleeding.
 9. Check the brake pedal items, and adjust if any are not within the standard values. Refer to [BR-239, "Inspection and Adjustment"](#).

ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT

< PERIODIC MAINTENANCE >

ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT

Inspection

INFOID:0000000007635858

Brake fluid leakage

Check for brake fluid leakage from the brake tube connections and the electrically-driven intelligent brake unit.

- A
- B
- C
- D
- E
- BR
- G
- H
- I
- J
- K
- L
- M
- N
- O
- P

FRONT DISC BRAKE

< PERIODIC MAINTENANCE >

FRONT DISC BRAKE BRAKE PAD

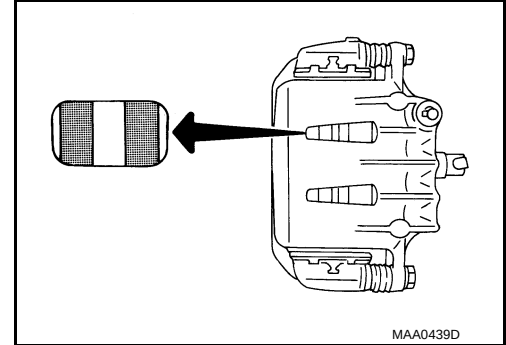
BRAKE PAD : Inspection and Adjustment

INFOID:000000007635859

Brake pad wear inspection

Check the brake pad thickness from the inspection hole in the cylinder body. Use a scale to check if necessary.

Wear limit thickness : Refer to [BR-279, "Front Disc Brake"](#).



ADJUSTMENT

If the brake pad is ground or replaced, or if there is an abnormal feel to the braking force, follow the procedure below and perform break-in work.

CAUTION:

- Because the brake effectiveness is reduced, pay sufficient attention to the vehicle speed.
- Perform checks on a safe road and be careful of the traffic conditions.

1. Drive on straight and flat roads.
2. Stop the vehicle by depressing the brake pedal to generate braking force that stops the vehicle in 3 to 5 seconds.
3. Cool the brakes.
4. Repeat steps 1 to 3 until the abnormal feel in braking force disappears.

DISC ROTOR

DISC ROTOR : Inspection and Adjustment

INFOID:000000007635860

Visual inspection

Check surface of the disc rotor for uneven wear, cracks, and serious damage. Replace if necessary. Refer to [FAX-10, "Removal and Installation"](#).

RUNOUT INSPECTION

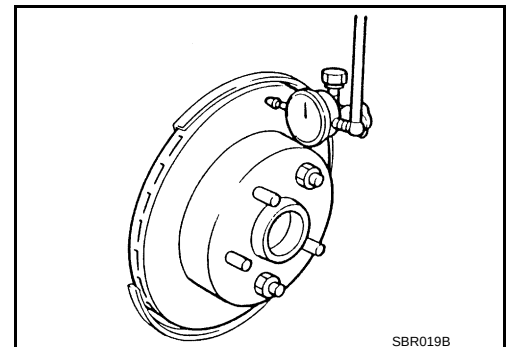
1. Use the wheel nuts and fasten the disc rotor to the wheel hub assembly (minimum 2 positions).
2. Check axial end play of wheel hub assembly. [FAX-8, "Inspection"](#).
3. Check runout using a dial indicator [at 10 mm (0.39 in) from outer edge of disc rotor].

Maximum runout (vehicle stopped) : Refer to [BR-279, "Front Disc Brake"](#).

4. If runout is outside the specified value, find the minimum runout point by shifting mounting positions of the disc rotor and wheel hub by one hole.
5. 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.



FRONT DISC BRAKE

< PERIODIC MAINTENANCE >

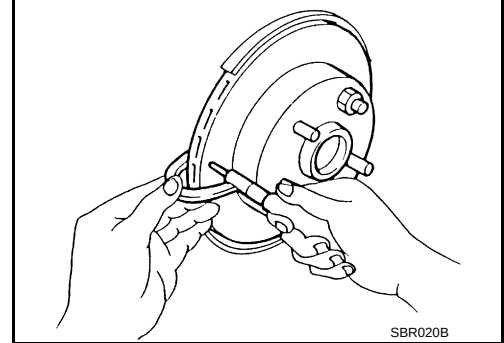
- Replace disc rotor if disc rotor thickness is less than 0.3 mm (0.012 in) above the wear limit thickness. Refer to [FAX-10, "Removal and Installation"](#).

Wear limit thickness : Refer to [BR-279, "Front Disc Brake"](#).

THICKNESS INSPECTION

Check thickness of the disc rotor using a micrometer. Replace disc rotor if thickness is under the wear limit. [FAX-10, "Removal and Installation"](#).

Wear limit thickness : Refer to [BR-279, "Front Disc Brake"](#).



ADJUSTMENT

If the brake pad is ground or replaced, or if there is an abnormal feel to the braking force, follow the procedure below and perform break-in work.

CAUTION:

- Because the brake effectiveness is reduced, pay sufficient attention to the vehicle speed.
 - Perform checks on a safe road and be careful of the traffic conditions.
1. Drive on straight and flat roads.
 2. Stop the vehicle by depressing the brake pedal to generate braking force that stops the vehicle in 3 to 5 seconds.
 3. Cool the brakes.
 4. Repeat steps 1 to 3 until the abnormal feel in braking force disappears.

REAR DISC BRAKE

< PERIODIC MAINTENANCE >

REAR DISC BRAKE

BRAKE PAD

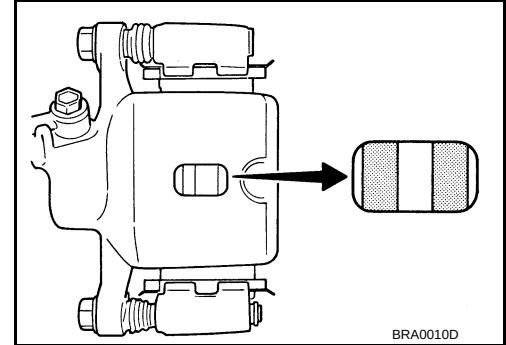
BRAKE PAD : Inspection and Adjustment

INFOID:000000007635861

Brake pad wear inspection

Check the brake pad thickness from the inspection hole in the cylinder body. Use a scale to check it if necessary.

Wear limit thickness : Refer to [BR-279, "Rear Disc Brake"](#).



ADJUSTMENT

If the brake pad is ground or replaced, or if there is an abnormal feel to the braking force, follow the procedure below and perform break-in work.

CAUTION:

- Because the brake effectiveness is reduced, pay sufficient attention to the vehicle speed.
- Perform checks on a safe road and be careful of the traffic conditions.

1. Drive on straight and flat roads.
2. Stop the vehicle by depressing the brake pedal to generate braking force that stops the vehicle in 3 to 5 seconds.
3. Cool the brakes.
4. Repeat steps 1 to 3 until the abnormal feel in braking force disappears.

DISC ROTOR

DISC ROTOR : Inspection and Adjustment

INFOID:000000007635862

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

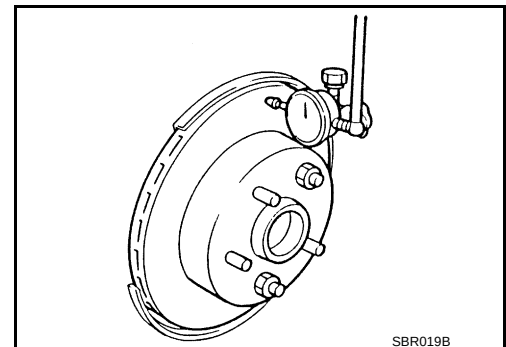
1. Use the wheel nuts and fasten the disc rotor to the wheel hub assembly (minimum 2 positions).
2. Check axial end play of wheel hub assembly. [RAX-5, "Inspection"](#).
3. Check runout using a dial indicator [at 10 mm (0.39 in) from outer edge of disc rotor].

Maximum runout (vehicle stopped) : Refer to [BR-279, "Rear Disc Brake"](#).

4. If runout is outside the specified value, find the minimum runout point by shifting mounting positions of the disc rotor and wheel hub by one hole.
5. 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 >

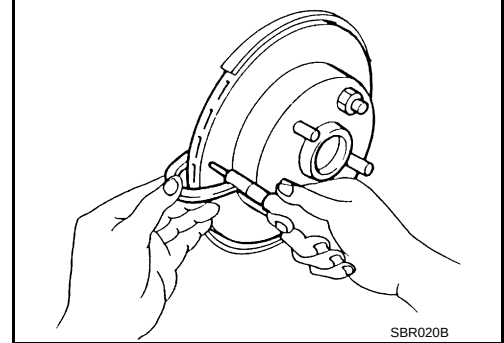
- Replace disc rotor if disc rotor thickness is less than 0.3 mm (0.012 in) above the wear limit thickness. Refer to [RAX-6, "Removal and Installation"](#).

Wear limit thickness : Refer to [BR-279, "Rear Disc Brake"](#).

THICKNESS INSPECTION

Check thickness of the disc rotor using a micrometer. Replace disc rotor if thickness is under the wear limit. Refer to [RAX-6, "Removal and Installation"](#).

Wear limit thickness : Refer to [BR-279, "Rear Disc Brake"](#).



ADJUSTMENT

If the brake pad is ground or replaced, or if there is an abnormal feel to the braking force, follow the procedure below and perform break-in work.

CAUTION:

- Because the brake effectiveness is reduced, pay sufficient attention to the vehicle speed.
 - Perform checks on a safe road and be careful of the traffic conditions.
1. Drive on straight and flat roads.
 2. Stop the vehicle by depressing the brake pedal to generate braking force that stops the vehicle in 3 to 5 seconds.
 3. Cool the brakes.
 4. Repeat steps 1 to 3 until the abnormal feel in braking force disappears.

BRAKE PEDAL

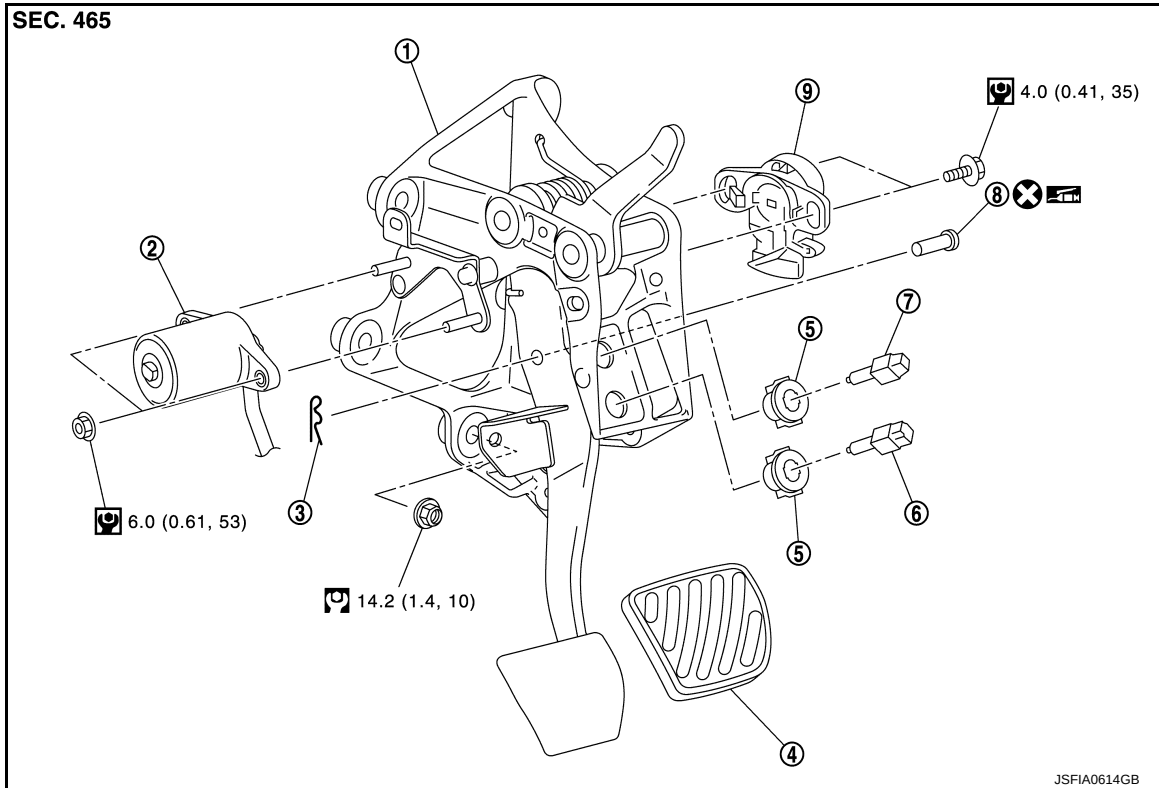
< REMOVAL AND INSTALLATION >

REMOVAL AND INSTALLATION

BRAKE PEDAL

Exploded View

INFOID:000000007635863



- | | | |
|-------------------------|-----------------------------|----------------------|
| 1. Brake pedal assembly | 2. Hysteresis unit assembly | 3. Snap pin |
| 4. Brake pedal pad | 5. Clip | 6. ASCD brake switch |
| 7. Stop lamp switch | 8. Clevis pin | 9. Stroke sensor |

: Apply multi-purpose grease.

: N·m (kg-m, ft-lb)

: N·m (kg-m, in-lb)

: Always replace after every disassembly.

Removal and Installation

INFOID:000000007635864

REMOVAL

CAUTION:

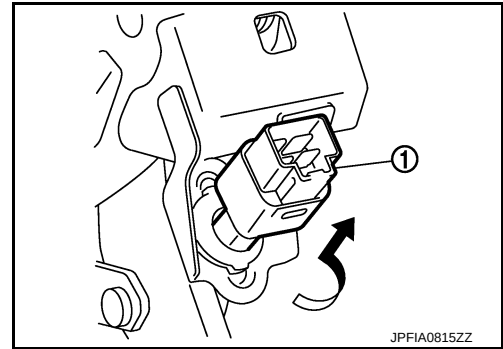
Prevent impact on brake pedal assembly. To prevent damage to the parts, never drop brake pedal assembly.

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.

BRAKE PEDAL

< REMOVAL AND INSTALLATION >

4. Rotate the stop lamp switch and the ASCD brake switch (1) counter clockwise to remove.



5. Remove snap pin (1) and clevis pin (2) from clevis (3) of electrically-driven intelligent brake.
6. Disconnect the accelerator pedal harness connector.
7. Slide the steering column assembly downward.

- With heated steering wheel: Refer to [ST-30, "Removal and Installation"](#).
- Without heated steering wheel: Refer to [ST-52, "Removal and Installation"](#).

8. Remove the brake pedal assembly.

CAUTION:

- To prevent damage to the parts, hold the electrically-driven intelligent brake unit so as not to drop out or contact them other parts.
- 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.

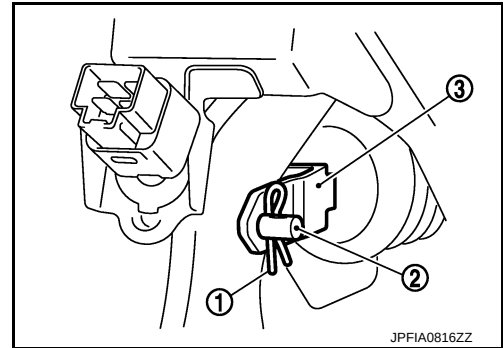
10. Remove the stroke sensor from brake pedal assembly.

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 [BR-249, "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 [BR-35, "Work Procedure"](#).
- Perform stroke sensor 0 point learning when stroke sensor removed and installed, or replaced. Refer to [BR-35, "Work Procedure"](#).
- Perform adjustment after installation. Refer to [BR-249, "Inspection and Adjustment"](#).

Inspection and Adjustment

INFOID:000000007635865

INSPECTION AFTER REMOVAL

BRAKE PEDAL

< REMOVAL AND INSTALLATION >

- 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 [BR-239, "Inspection and Adjustment"](#).
- Perform the release position learning of the accelerator pedal. Refer to [EVC-100, "Work Procedure"](#).

BRAKE PIPING

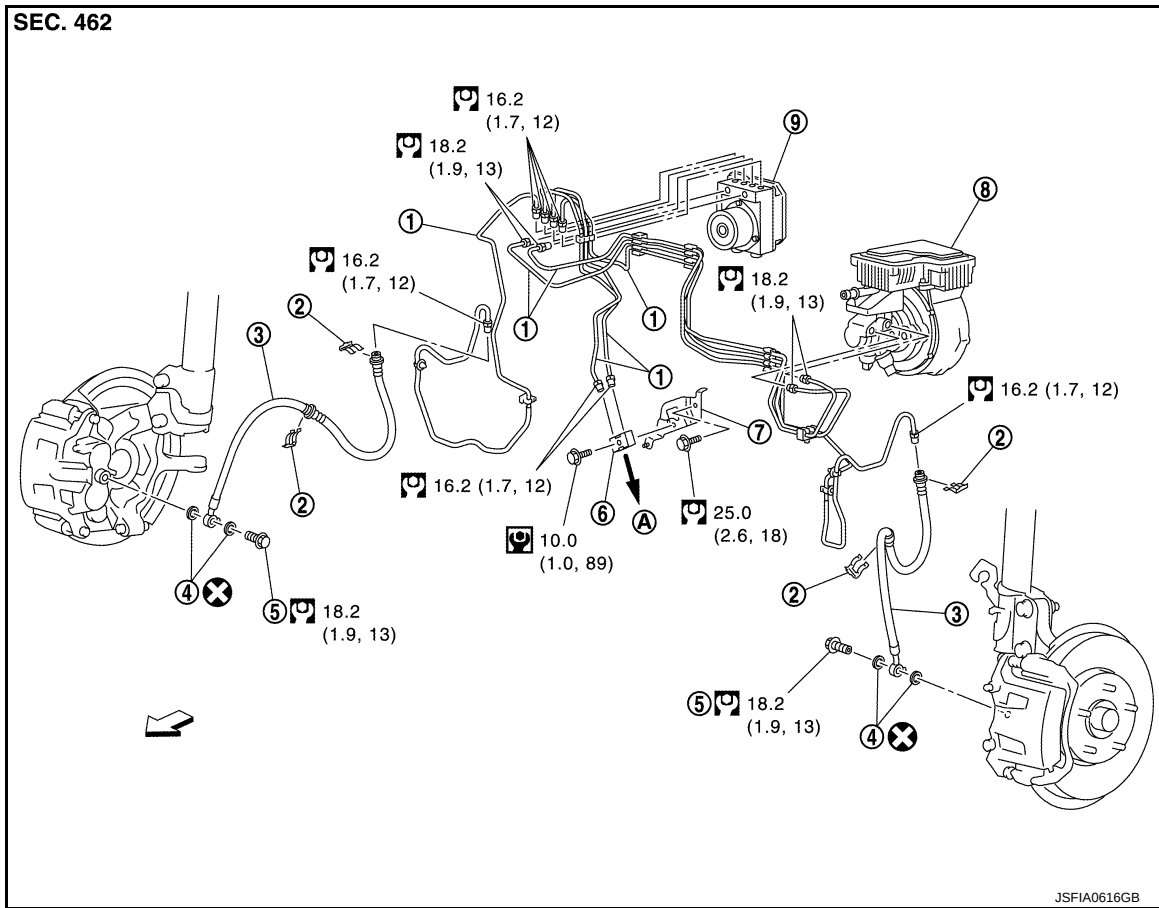
< REMOVAL AND INSTALLATION >

BRAKE PIPING

FRONT

FRONT : Exploded View

INFOID:000000007635866



- | | | |
|----------------------|---|--|
| 1. Brake tube | 2. Lock plate | 3. Brake hose |
| 4. Copper washer | 5. Union bolt | 6. Connector |
| 7. Connector bracket | 8. Electrically-driven intelligent brake unit | 9. ABS actuator and electric unit (control unit) |

A. To rear brake tube

: N·m (kg-m, ft-lb)

: N·m (kg-m, in-lb)

: Always replace after every disassembly.

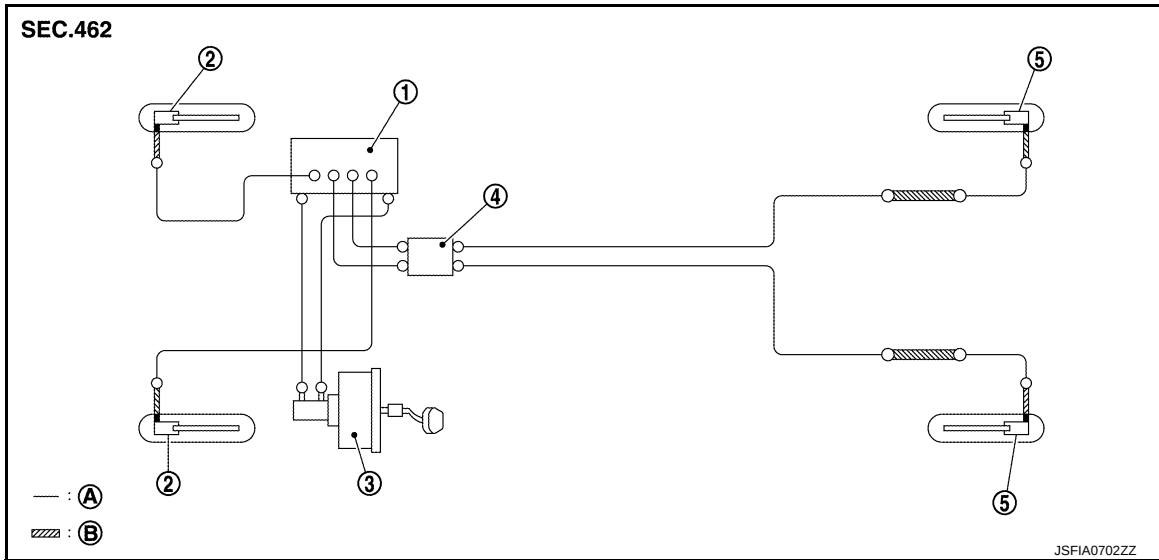
: Vehicle front

BRAKE PIPING

< REMOVAL AND INSTALLATION >

FRONT : Hydraulic Piping

INFOID:000000007635867



- | | | |
|--|---------------------|---|
| 1. ABS actuator and electric unit (control unit) | 2. Front disc brake | 3. Electrically-driven intelligent brake unit |
| 4. Connector | 5. Rear disc brake | |
| A. Brake tube | B. Brake hose | |

○: Flare nut

■: Union bolt

FRONT : Removal and Installation

INFOID:000000007635868

REMOVAL

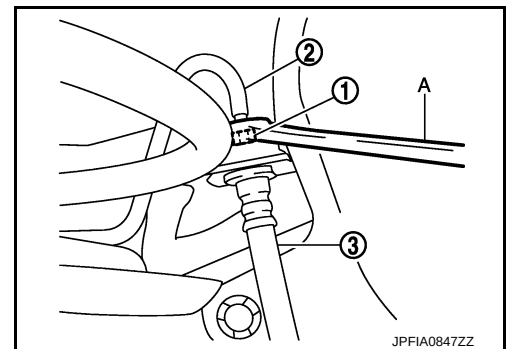
CAUTION:

- 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-241, "Draining"](#).
3. Loosen the flare nut (1) with a flare nut wrench (A) and separate the brake tube (2) from the brake hose (3).

CAUTION:

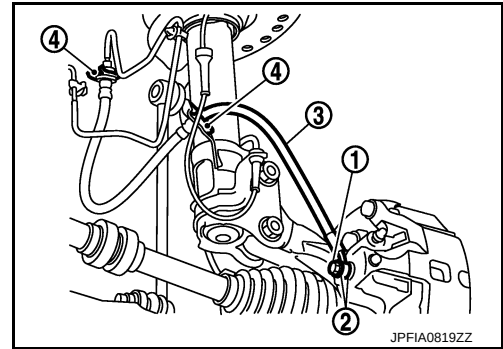
- To prevent damage to the parts, never scratch the flare nut and the brake tube.
- To prevent damage to the parts, never bend sharply, twist or strongly pull out the brake hoses and tubes.
- To prevent the inclusion of foreign matter, cover open end of brake tubes and hoses when disconnecting to prevent entrance of dirt.



BRAKE PIPING

< 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:

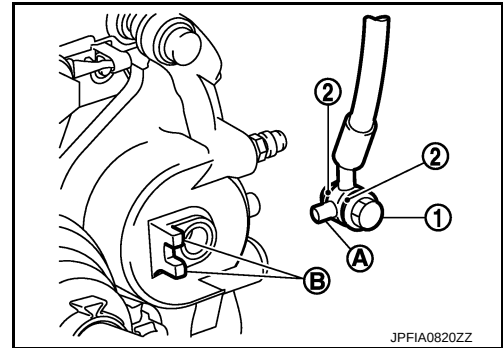
- Never spill or splash brake fluid on painted surfaces. Brake fluid may seriously damage paint. Wipe it off immediately and wash with water if it gets on a painted surface. For brake component parts, never wash them with water.
- Never depress brake pedal. While removing the brake hose or brake tube. 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.

1. 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.

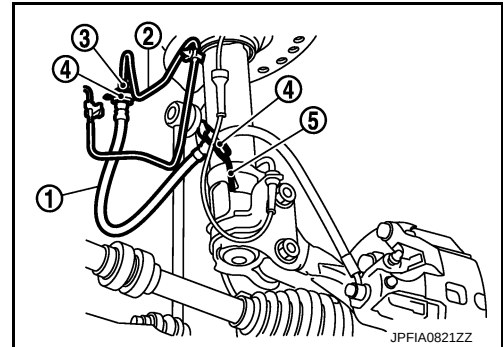
2. Align the brake hose pin (A) with the brake caliper assembly projection (B), and tighten the union bolt (1) to the specified torque.



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.



4. Tighten the flare nut to the specified torque with a crowfoot (A) and torque wrench (B).

CAUTION:

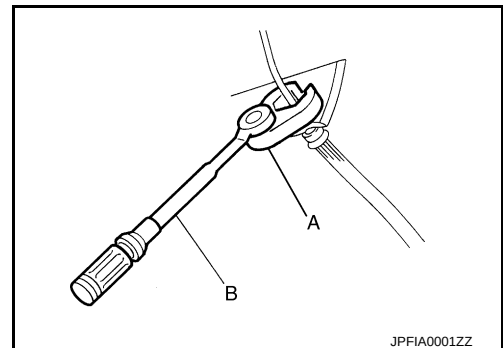
To prevent damage to the parts, never scratch the flare nut and the brake tube.

5. Refill with new brake fluid and perform the air bleeding. Refer to [BR-242, "Bleeding Brake System"](#).

CAUTION:

Never reuse drained brake fluid.

6. Install tires with power tool. Refer to [WT-45, "Removal and Installation"](#).
7. Perform inspection after installation. Refer to [BR-254, "FRONT : Inspection"](#).



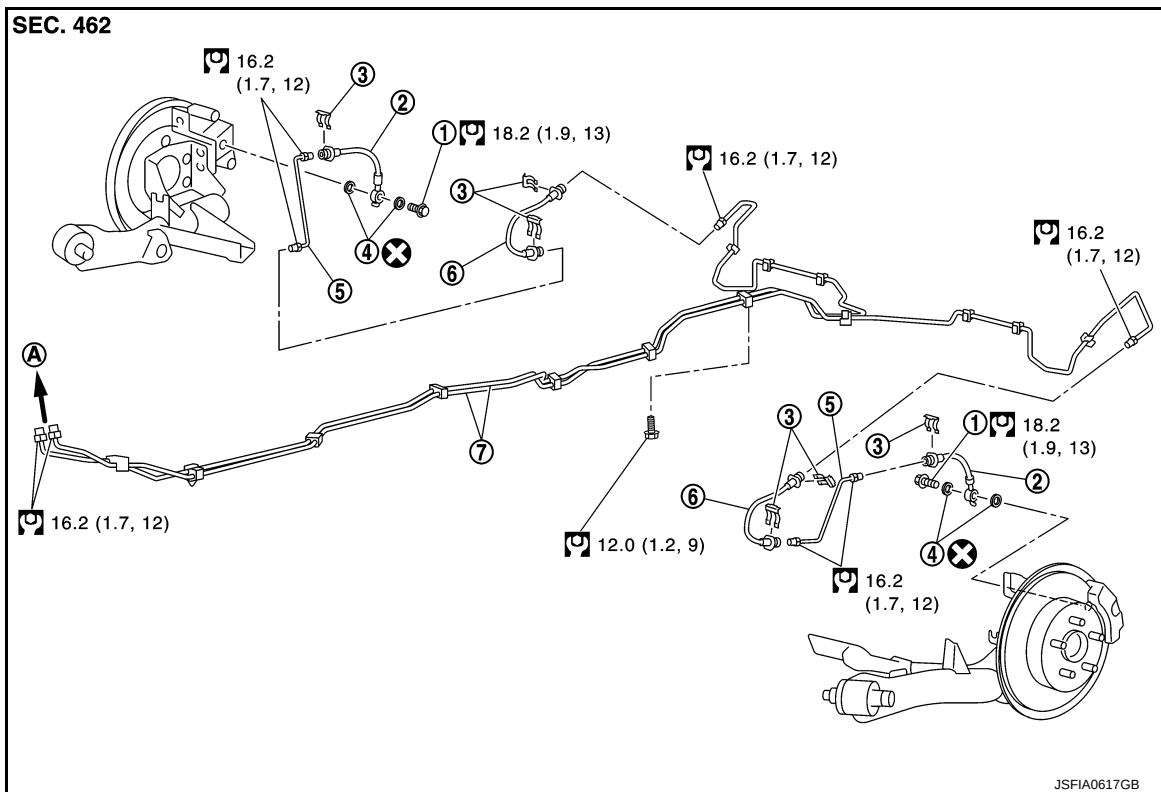
< REMOVAL AND INSTALLATION >

INFOID:000000007635869

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.

Retighten the applicable connection to the specified torque and repair any abnormal (damaged, worn or deformed) part if any brake fluid leakage is present.

INFOID:000000007635870



- | | | |
|------------------|-----------------|-----------------|
| 1. Union bolt | 2. Brake hose A | 3. Lock plate |
| 4. Copper washer | 5. Brake tube A | 6. Brake hose B |
| 7. Brake tube B | | |
| A. To connector | | |

: N·m (kg-m, ft-lb)

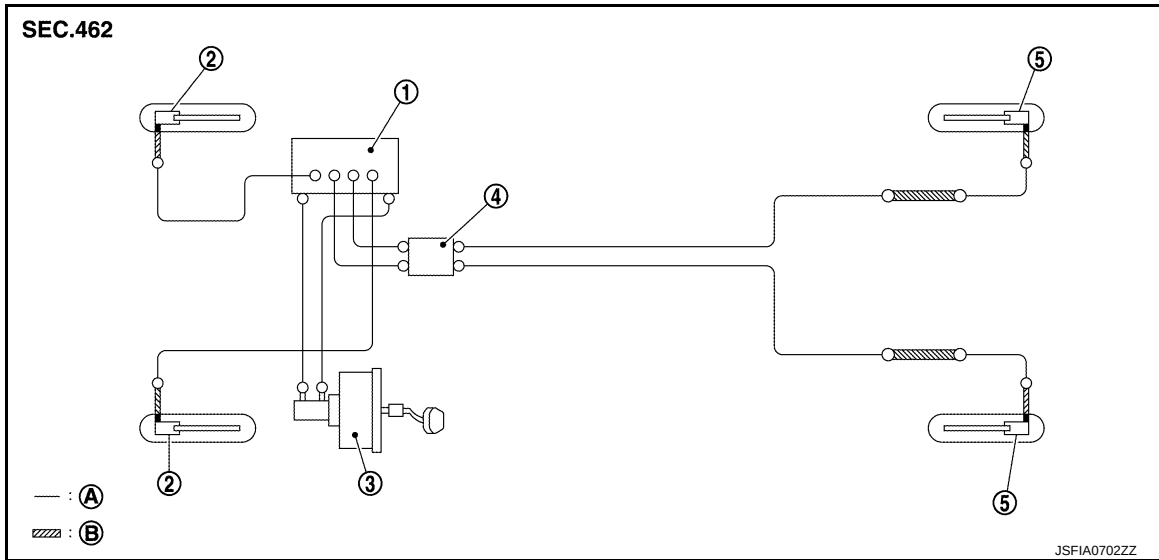
: Always replace after every disassembly.

BRAKE PIPING

< REMOVAL AND INSTALLATION >

REAR : Hydraulic Piping

INFOID:000000007635871



- | | | |
|--|---------------------|---|
| 1. ABS actuator and electric unit (control unit) | 2. Front disc brake | 3. Electrically-driven intelligent brake unit |
| 4. Connector | 5. Rear disc brake | |
| A. Brake tube | B. Brake hose | |

○ : Flare nut

■ : Union bolt

REAR : Removal and Installation

INFOID:000000007635872

REMOVAL

CAUTION:

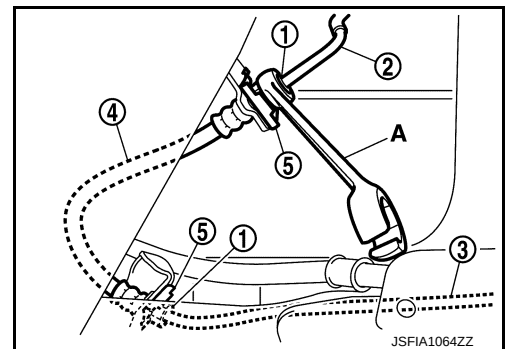
- Never spill or splash brake fluid on painted surfaces. Brake fluid may seriously damage paint. Wipe it off immediately and wash with water if it gets on a painted surface. For brake component parts, never wash them with water.
- Never depress brake pedal. While removing the brake hose or brake tube. 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-241, "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.



BRAKE PIPING

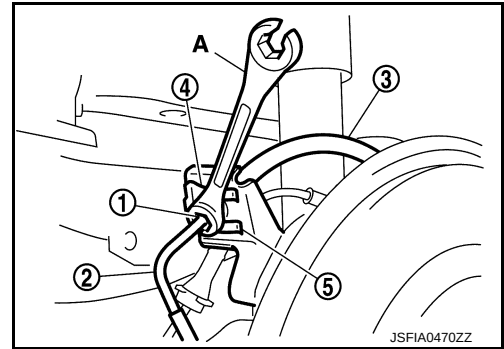
< REMOVAL AND INSTALLATION >

5. Loosen the flare nut (1) with a flare nut wrench (A) and separate the brake tube A (2) from the hose A (3).

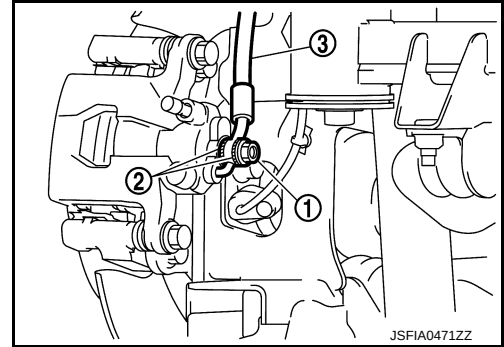
CAUTION:

- 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:

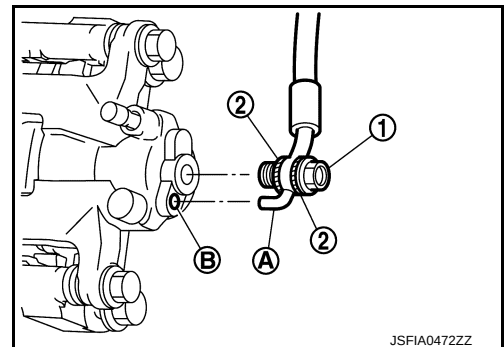
- Never spill or splash brake fluid on painted surfaces. Brake fluid may seriously damage paint. Wipe it off immediately and wash with water if it gets on a painted surface. For brake component parts, never wash them with water.
- Never depress brake pedal. While removing the brake hose or brake tube. 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.

1. 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.

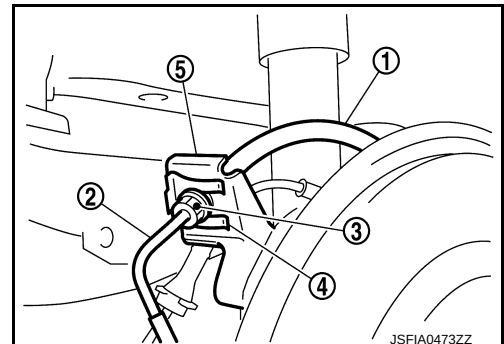
2. Align the brake hose B L-pin (A) with the brake caliper assembly hole (B), and tighten the union bolt (1) to the specified torque.



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.



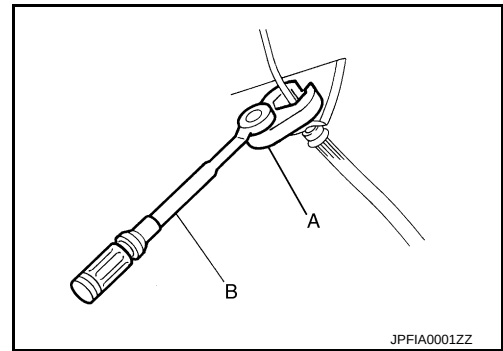
BRAKE PIPING

< REMOVAL AND INSTALLATION >

4. Tighten the flare nut to the specified torque with a crowfoot (A) and torque wrench (B).

CAUTION:

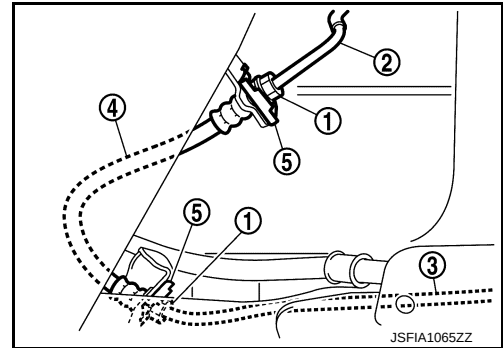
To prevent damage to the parts, never scratch the flare nut and the brake tube.



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.



6. 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.

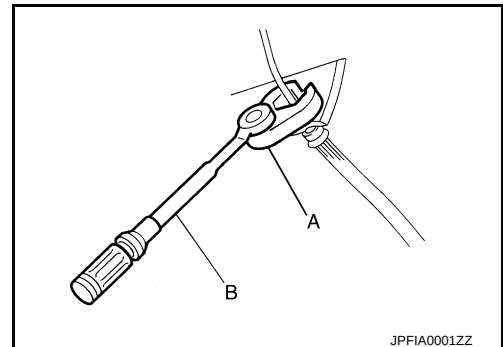
7. Refill with new brake fluid and perform the air bleeding. Refer to [BR-242, "Bleeding Brake System"](#).

CAUTION:

Never reuse drained brake fluid.

8. Install tires with power tool. Refer to [WT-45, "Removal and Installation"](#).

9. Perform inspection after installation. Refer to [BR-257, "REAR : Inspection"](#).



REAR : Inspection

INFOID:000000007635873

INSPECTION AFTER INSTALLATION

1. Check the brake hoses and tubes for the following: no scratches; no twist and deformation; no looseness at connections.
2. Depress the brake pedal with a force of 785 N (80 kg, 176 lb) and hold down the pedal for approximately 5 seconds with set the vehicle to READY. Check for any fluid leakage.

CAUTION:

Retighten the applicable connection to the specified torque and repair any abnormal (damaged, worn or deformed) part if any brake fluid leakage is present.

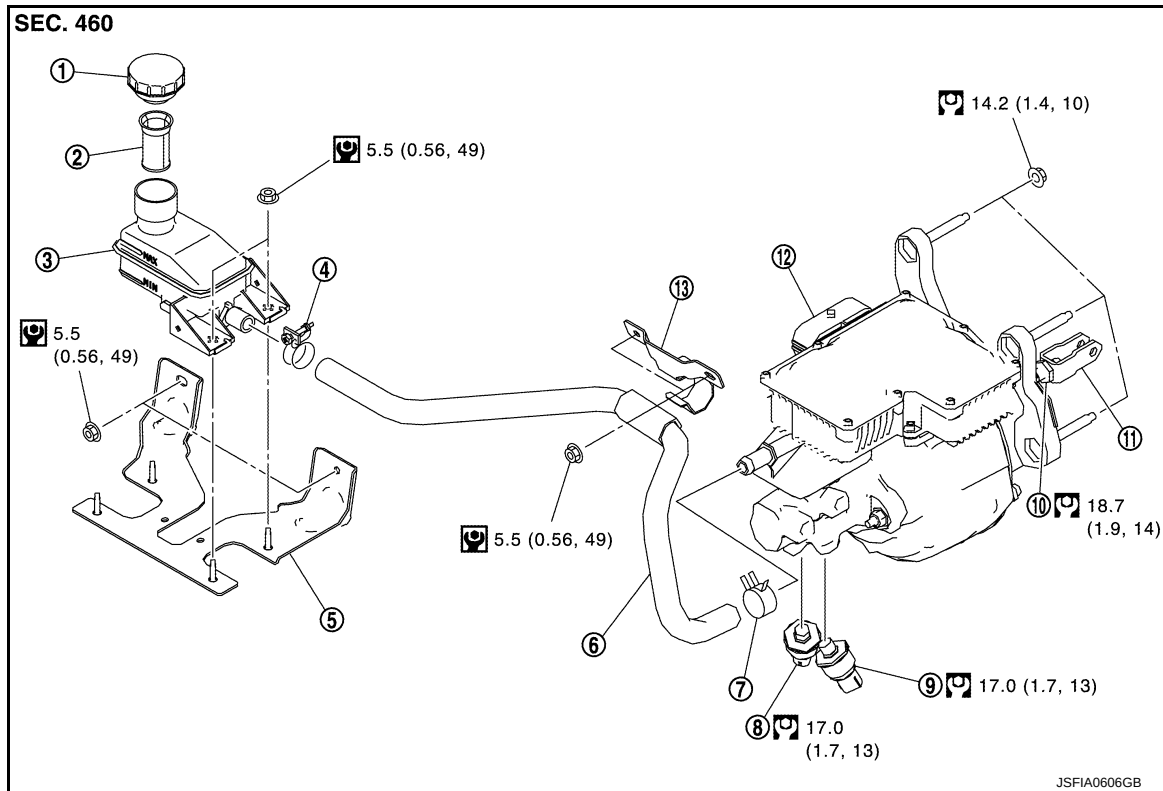
ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT

< REMOVAL AND INSTALLATION >

ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT

Exploded View

INFOID:000000007635874



- | | | |
|------------------|-------------------------------------|--|
| 1. Reservoir cap | 2. Oil strainer | 3. Reservoir tank |
| 4. Clamp | 5. Reservoir tank bracket | 6. Hose |
| 7. Clamp | 8. Master cylinder pressure sensor1 | 9. Master cylinder pressure sensor2 |
| 10. Lock nut | 11. Clevis | 12. Electrically-driven intelligent brake unit |
| 13. Hose bracket | | |

: N·m (kg-m, ft-lb)

: N·m (kg-m, in-lb)

Removal and installation

INFOID:000000007635875

CAUTION:

Never disassemble the electrically-driven intelligent brake unit.

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 tube. If this is not complied with, brake fluid may splash.

1. Perform inspection before removal. Refer to [BR-259, "Inspection and Adjustment"](#).
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.

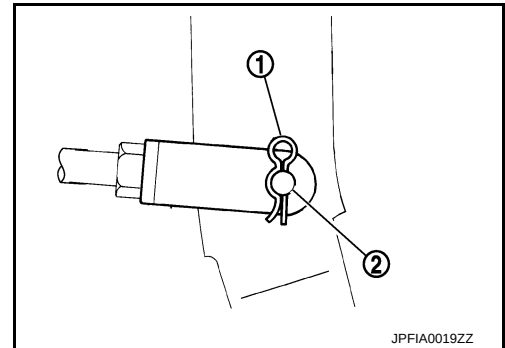
CAUTION:

Never operate the vehicle and CONSULT while waiting.

ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT

< REMOVAL AND INSTALLATION >

4. Remove 12V battery. Refer to [PG-101, "Removal and Installation"](#).
5. Move the fuse box.
6. Drain brake fluid. Refer to [BR-241, "Draining"](#).
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 [BR-248, "Removal and Installation"](#).
14. 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 [BR-259, "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 [BR-242, "Bleeding Brake System"](#).
- Check each item of brake pedal. Adjust it if the measurement value is not the standard. Refer to [BR-239, "Inspection and Adjustment"](#).
- Perform stroke sensor 0 point learning when electrically-driven intelligent brake unit is removed and installed, or replaced. Refer to [BR-35, "Work Procedure"](#).

Inspection and Adjustment

INFOID:0000000007635876

INSPECTION BEFORE REMOVAL

Check the brake fluid level switch. Refer to [BRC-110, "Component Inspection"](#).

INSPECTION AFTER REMOVAL

Input Rod Length Inspection

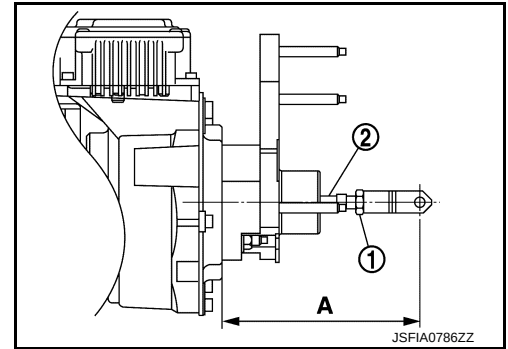
ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT

< REMOVAL AND INSTALLATION >

1. Loosen the lock nut (1) and adjust the input rod (2) to the specified length (A).

A : Refer to [BR-279, "Electrically-driven Intelligent Brake"](#).

2. Tighten the lock nut to the specified torque.



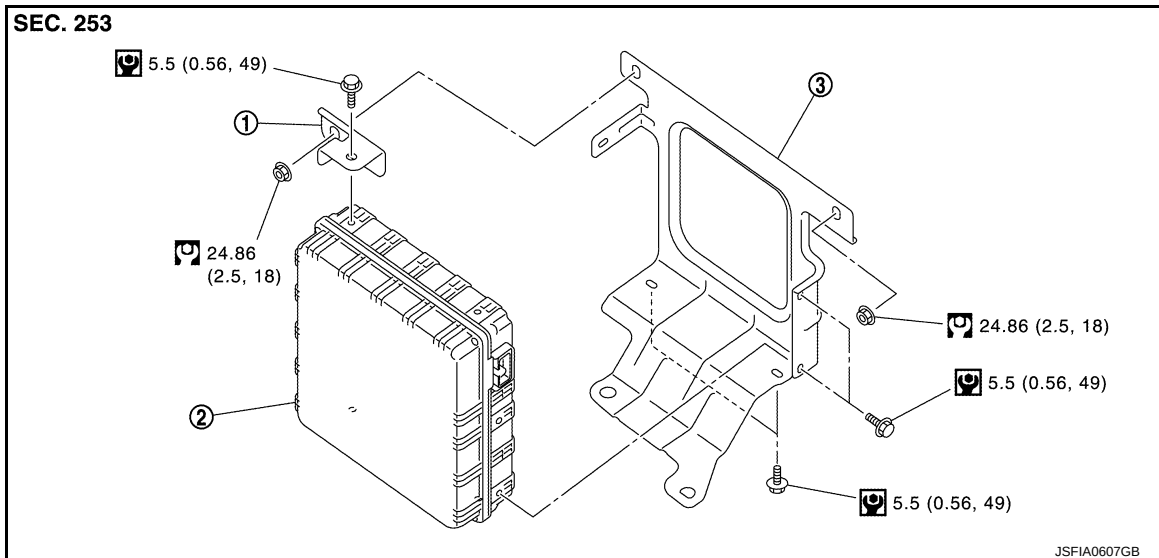
BRAKE POWER SUPPLY BACKUP UNIT

< REMOVAL AND INSTALLATION >

BRAKE POWER SUPPLY BACKUP UNIT

Exploded View

INFOID:000000007635877



1. Bracket
2. Brake power supply backup unit
3. Brake power supply backup unit bracket

: N·m (kg-m, ft-lb)

: N·m (kg-m, in-lb)

Removal and Installation

INFOID:000000007635878

REMOVAL

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. Remove electric parking control module. Refer to [PB-83, "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.

WARNING BUZZER

< REMOVAL AND INSTALLATION >

WARNING BUZZER

Removal and Installation

INFOID:000000007635879

REMOVAL

1. Remove glove box cover assembly. Refer to [IP-14, "Removal and Installation"](#).
2. Disconnect warning buzzer harness connector.
3. Remove warning buzzer.

INSTALLATION

Install in the reverse order of removal.

FRONT DISC BRAKE

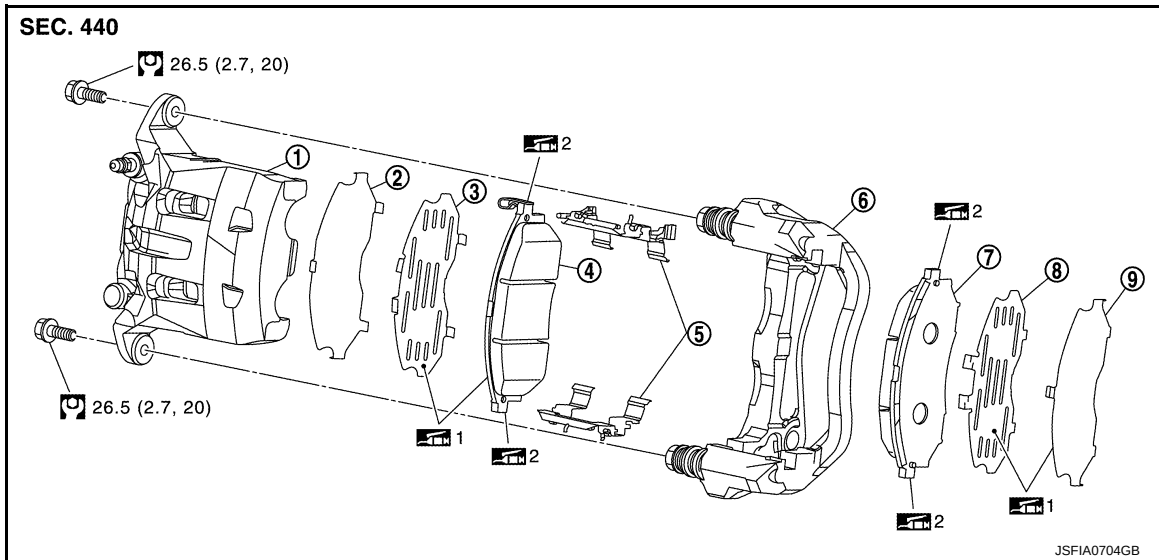
< REMOVAL AND INSTALLATION >

FRONT DISC BRAKE

BRAKE PAD

BRAKE PAD : Exploded View

INFOID:000000007635880



- | | | |
|-------------------------------------|---------------------|---------------------|
| 1. Cylinder body | 2. Inner shim cover | 3. inner shim |
| 4. Inner pad (with pad wear sensor) | 5. Pad retainer | 6. Torque member |
| 7. Outer pad | 8. Outer shim | 9. Outer shim cover |

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:000000007635881

REMOVAL

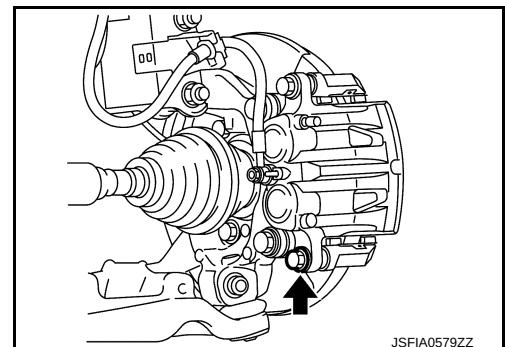
WARNING:

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.
2. Remove lower sliding pin bolt.

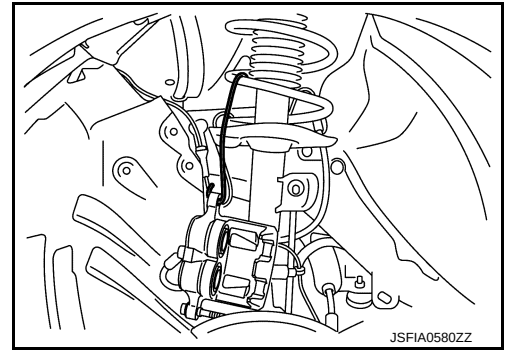


JSFIA0579ZZ

FRONT DISC BRAKE

< 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.

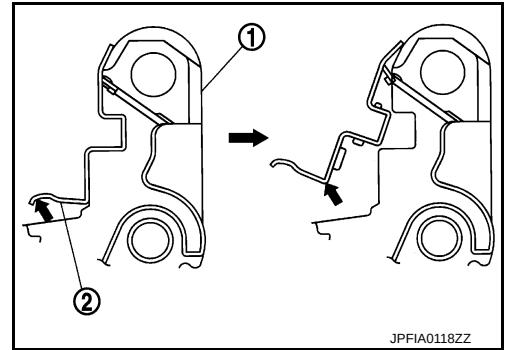


4. Remove the brake pads, shims, shim covers and pad retainers from the torque member.

CAUTION:

- To prevent damage to the parts, never deform the pad retainer (2) when removing the pad retainer from the torque member (1).
- 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-265. "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.

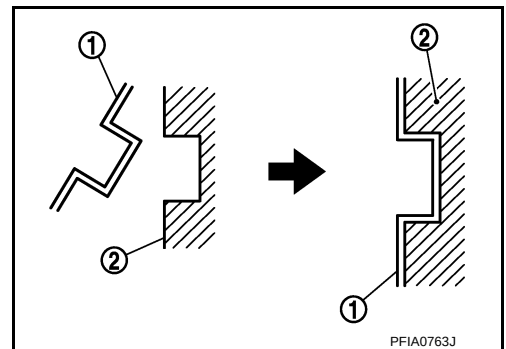
CAUTION:

- 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.

1. Install the pad retainers (1) to the torque member (2) if the pad retainers has been removed.

CAUTION:

- Securely assemble the pad retainers so that it will not be lifted up from the torque member.
- To prevent damage to the parts, never deform the pad retainers.

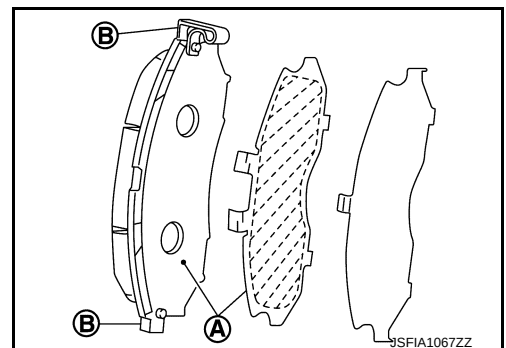


2. Apply MOLYKOTE® AS880N or silicone-based grease to the mating faces (A) between the inner pad and the inner shim, and install the inner shim and inner shim cover to the inner pad.

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.



FRONT DISC BRAKE

< REMOVAL AND INSTALLATION >

4. 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.

CAUTION:

To prevent damage to the parts, never deform the pad retainers.

7. Install cylinder body to torque member.

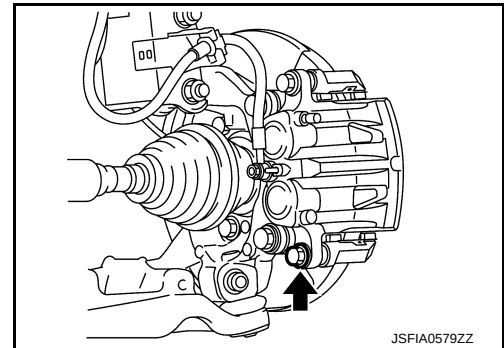
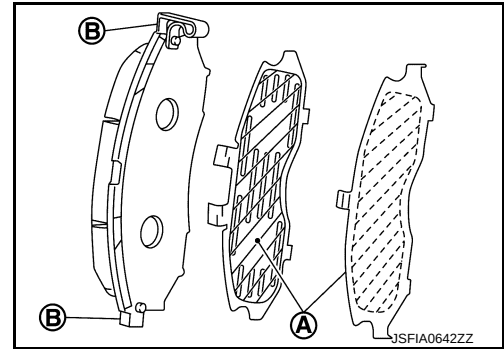
CAUTION:

- 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.
9. Depress the brake pedal several times to check that no drag feel is present for the front disc brake. Refer to [BR-265, "BRAKE PAD : Inspection"](#).
10. Install tires with power tool. Refer to [WT-45, "Removal and Installation"](#).



INFOID:000000007635882

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 [BR-263, "BRAKE PAD : Removal and Installation"](#).
 2. Press the pistons. Refer to [BR-263, "BRAKE PAD : Removal and Installation"](#).
 3. Install brake pads. Refer to [BR-263, "BRAKE PAD : Removal and Installation"](#).
 4. Securely depress the brake pedal several times.
 5. Check a drag of front disc brake again. If any drag is found, disassemble the cylinder body and replace if necessary. Refer to [BR-268, "BRAKE CALIPER ASSEMBLY : Disassembly and Assembly"](#)
- Burnish contact surfaces brake pads and disc rotor after refinishing or replacing brake pads, or if a soft pedal occurs at very low mileage. Refer to [BR-244, "BRAKE PAD : Inspection and Adjustment"](#).

BRAKE CALIPER ASSEMBLY

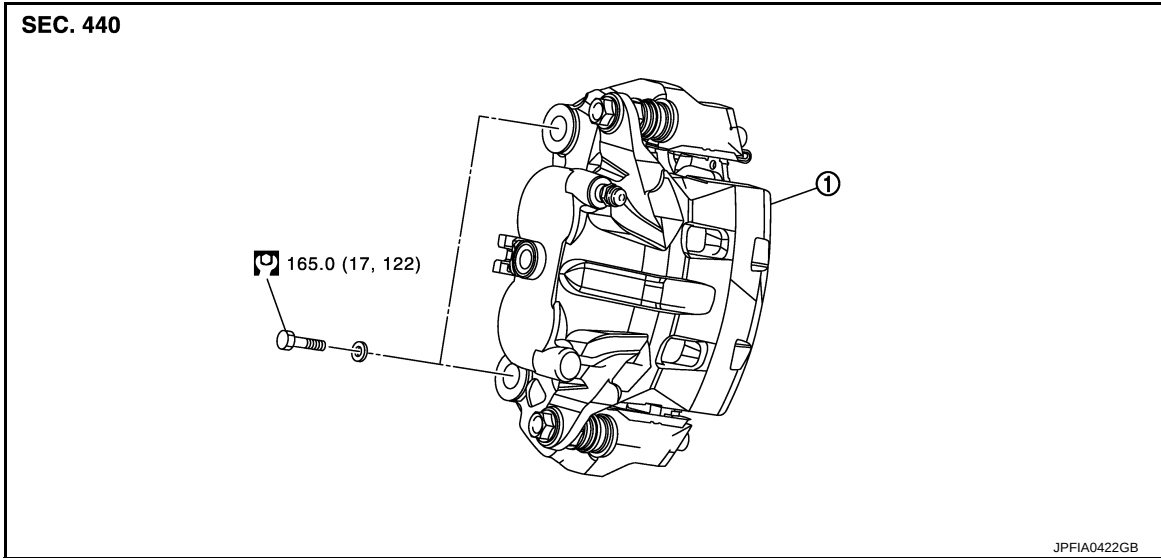
BRAKE CALIPER ASSEMBLY : Exploded View

INFOID:000000007635883

REMOVAL

FRONT DISC BRAKE

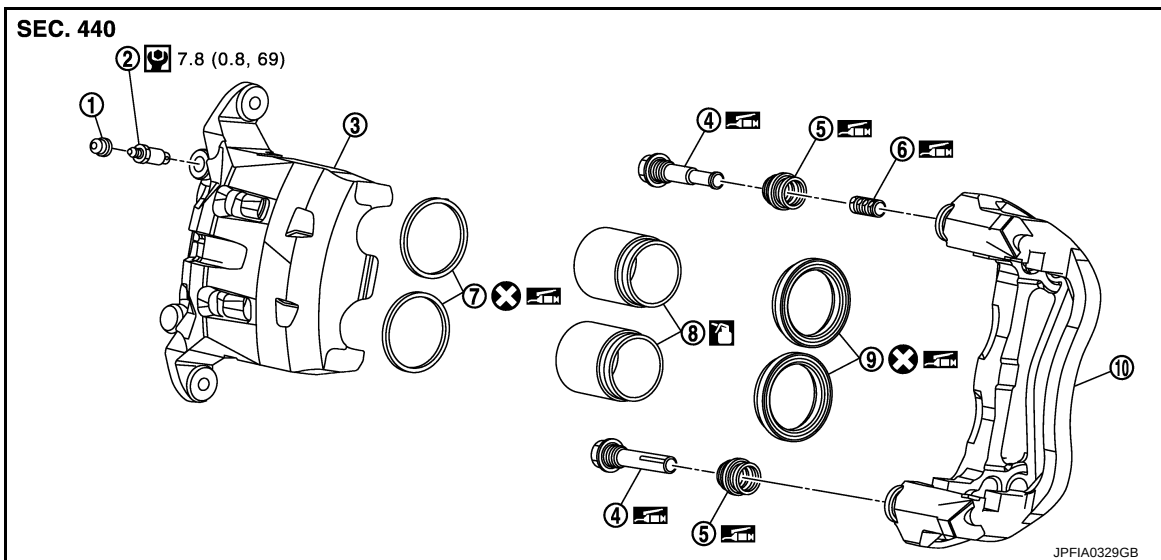
< REMOVAL AND INSTALLATION >



1. Brake caliper assembly

: N·m (kg-m, ft-lb)

DISASSEMBLY



- | | | |
|-------------------|---------------------|------------------|
| 1. Cap | 2. Bleeder valve | 3. Cylinder body |
| 4. Sliding pin | 5. Sliding pin boot | 6. Bushing |
| 7. Piston seal | 8. Piston | 9. Piston boot |
| 10. Torque member | | |

: Apply rubber grease.

: Apply brake fluid.

: N·m (kg-m, in-lb)

: Always replace after every disassembly.

BRAKE CALIPER ASSEMBLY : Removal and Installation

INFOID:0000000007635884

REMOVAL

WARNING:

FRONT DISC BRAKE

< 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:

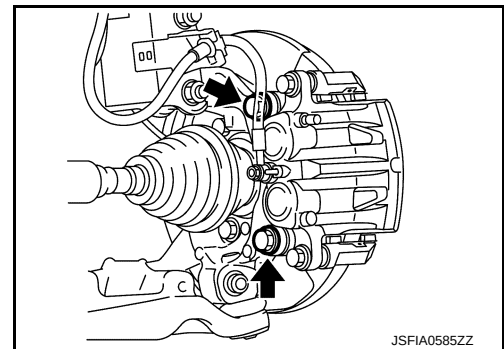
- Never spill or splash brake fluid on painted surfaces. Brake fluid may seriously damage paint. Wipe it out immediately and wash with water if it gets on a protect surface. For brake component parts, never wash them with water.
- Never depress brake pedal. While removing the brake hose. If this is not 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 [BR-241, "Draining"](#).
4. Separate brake hose from caliper assembly. Refer to [BR-252, "FRONT : 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 [FAX-10, "Removal and Installation"](#).



INSTALLATION

WARNING:

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

CAUTION:

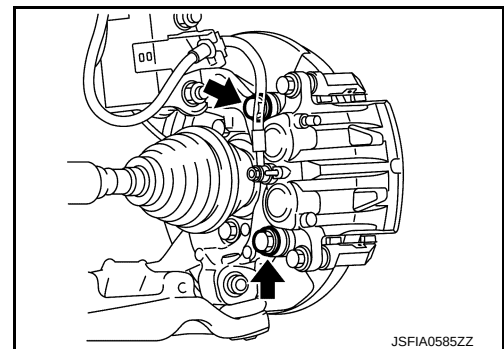
- Never spill or splash brake fluid on painted surfaces. Brake fluid may seriously damage paint. Wipe it out immediately and wash with water if it gets on a protect surface. For brake component parts, never wash them with water.
- Never depress brake pedal. While removing the brake hose. If this is not 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 [BR-252, "FRONT : Removal and Installation"](#).
4. Perform the air bleeding. Refer to [BR-242, "Bleeding Brake System"](#).
5. Check a drag of front disc brake. If any drag is found, refer to [BR-270, "BRAKE CALIPER ASSEMBLY : Inspection"](#).
6. Install tires with power tool. Refer to [WT-45, "Removal and Installation"](#).
7. Perform inspection after installation. Refer to [BR-270, "BRAKE CALIPER ASSEMBLY : Inspection"](#).



FRONT DISC BRAKE

< REMOVAL AND INSTALLATION >

BRAKE CALIPER ASSEMBLY : Disassembly and Assembly

INFOID:000000007635885

DISASSEMBLY

NOTE:

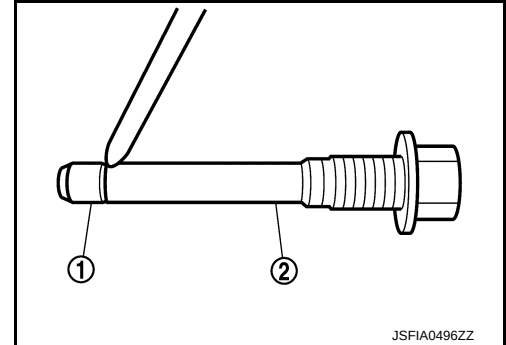
Never remove the torque member, brake pad and pad retainers when disassembling and assembling the cylinder body.

1. Remove the sliding pin bolt, and remove the cylinder body from the torque member. Refer to [BR-263. "BRAKE PAD : Removal and Installation"](#).

CAUTION:

To prevent damage to the parts, fix the brake pad at suitable tape so that the brake pad will not drop.

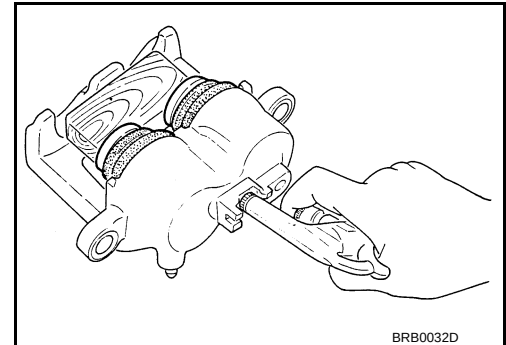
2. Remove sliding pins and sliding pin boots from torque member.
3. Remove bushing (1) from sliding pin (2).



4. 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.

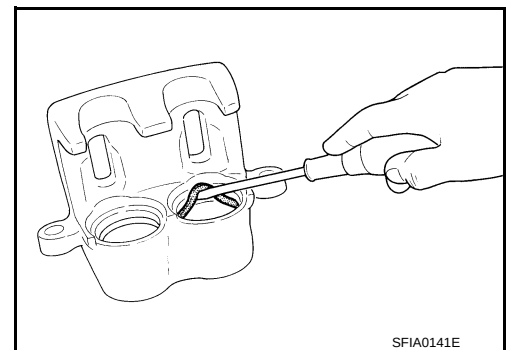


5. Remove piston seal from cylinder body using seal pick tool.

CAUTION:

To prevent damage to the parts, be careful not to damage a cylinder inner wall.

6. Remove bleeder valve and cap.
7. Perform inspection after disassembly. Refer to [BR-270. "BRAKE CALIPER ASSEMBLY : Inspection"](#).



ASSEMBLY

1. Install bleeder valve and cap.

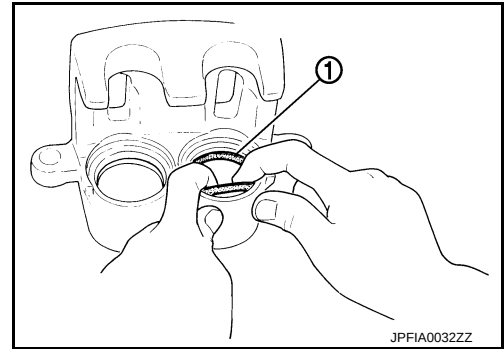
FRONT DISC BRAKE

< REMOVAL AND INSTALLATION >

2. Apply rubber grease to piston seals (1), and install them to cylinder body.

CAUTION:

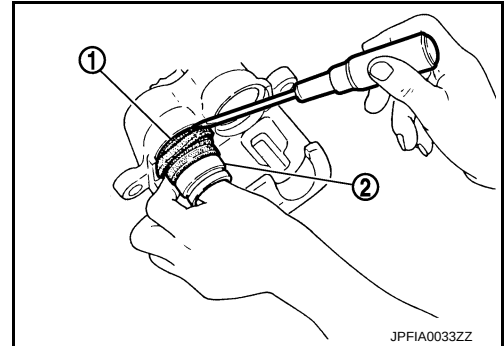
Never reuse piston seals.



3. Apply rubber grease to piston boots (1). Cover the piston (2) end with piston boot, and then install cylinder side lip on piston boot securely into a groove on cylinder body.

CAUTION:

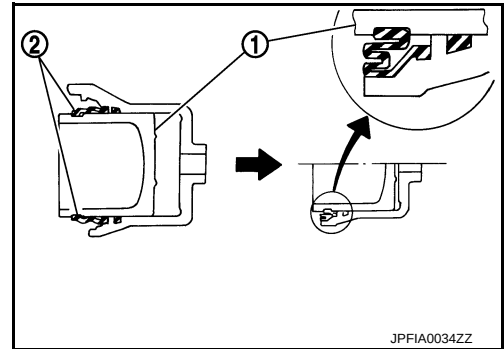
Never reuse piston boots.



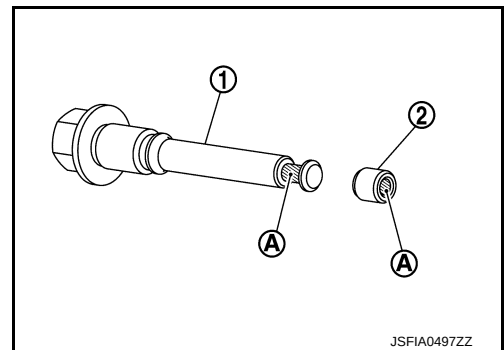
4. Apply new brake fluid to pistons (1). Push piston into cylinder body by hand and push piston boot (2) piston-side lip into the piston groove.

CAUTION:

To prevent damage to the parts, press the pistons evenly and vary the pressing point to prevent cylinder inner wall from being rubbed.



5. Apply rubber grease to mating faces (A) between sliding pin (1) and bushing (2), and install bushing to sliding pin.

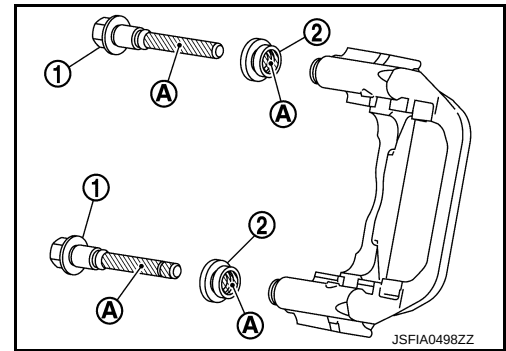


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FRONT DISC BRAKE

< 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.
7. Install the cylinder body to tighten cylinder body mounting bolts to the specified torque. Refer to [BR-263, "BRAKE PAD : Exploded View"](#).



BRAKE CALIPER ASSEMBLY : Inspection

INFOID:000000007635886

INSPECTION AFTER DISASSEMBLY

Check the following items and replace if necessary.

Cylinder Body

Check the inner wall of the cylinder for rust, wear, cracks or damage.

CAUTION:

Always clean with new brake fluid. Never clean with mineral oil such as gasoline and light oil.

Torque Member

Check the torque member for rust, wear, cracks or damage.

Pistons

Check the surface of the piston for rust, wear, cracks or damage.

CAUTION:

To prevent damage to the parts, piston sliding surface is plated. Never polish with sandpaper.

Sliding Pin, Sliding Pin Boot and Bushing

Check the sliding pins, sliding boots and bushing for rust, wear, cracks or damage.

INSPECTION AFTER INSTALLATION

- Check a drag of front disc brake. If any drag is found, follow the procedure described below.
 1. Remove brake pads. Refer to [BR-263, "BRAKE PAD : Removal and Installation"](#).
 2. Press the pistons. Refer to [BR-263, "BRAKE PAD : Removal and Installation"](#).
 3. Install brake pads. Refer to [BR-263, "BRAKE PAD : Removal and Installation"](#).
 4. Securely depress the brake pedal several times.
 5. Check a drag of front disc brake again. If any drag is found, disassemble the cylinder body and replace if necessary. Refer to [BR-268, "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-244, "DISC ROTOR : Inspection and Adjustment"](#).

REAR DISC BRAKE

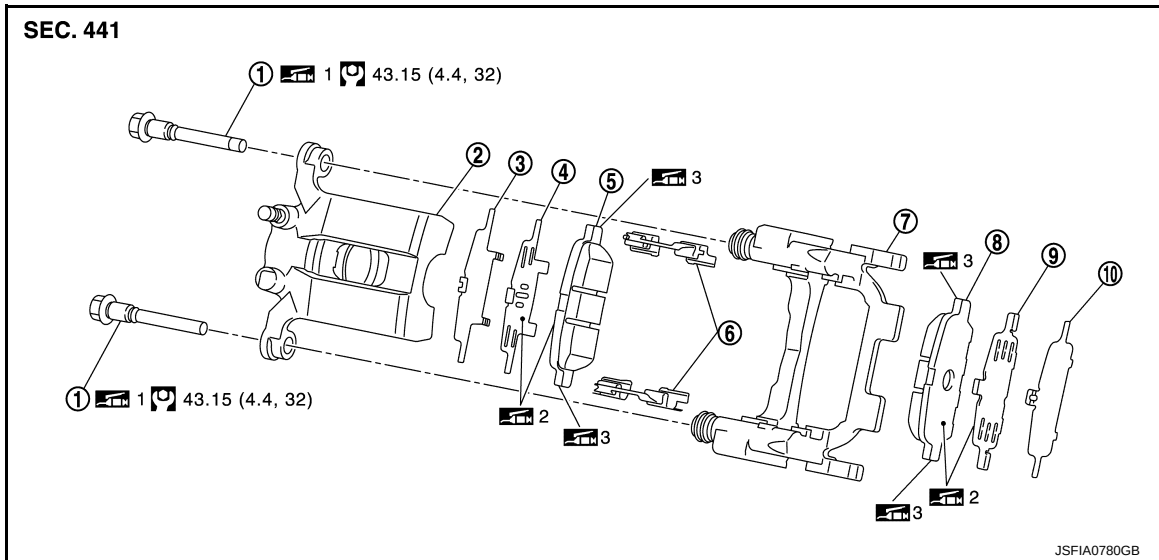
< REMOVAL AND INSTALLATION >

REAR DISC BRAKE

BRAKE PAD

BRAKE PAD : Exploded View

INFOID:000000007635887



- | | | |
|----------------------|-------------------------------------|---------------------|
| 1. Sliding pin bolt | 2. Cylinder body | 3. Inner shim cover |
| 4. Inner shim | 5. Inner pad (with pad wear sensor) | 6. Pad retainer |
| 7. Torque member | 8. Outer pad | 9. Outer shim |
| 10. Outer shim cover | | |

1 Apply rubber grease.

2 Apply MOLYKOTE® AS880N or silicone-based grease.

3 Apply MOLYKOTE® 7439 or equivalent

: N·m (kg-m, ft-lb)

BRAKE PAD : Removal and Installation

INFOID:000000007635888

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:

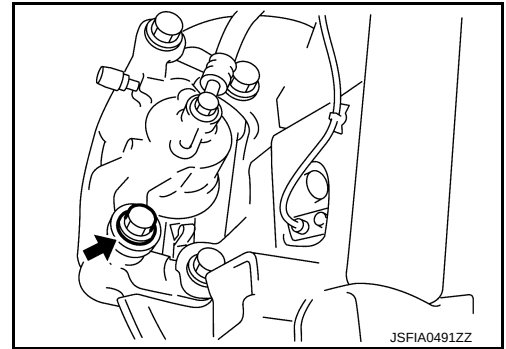
- Never depress brake pedal. While removing the brake pads because the piston may pop out.
- To prevent damage to the parts, never spill or splash brake fluid on the disc rotor.
- To prevent damage to the parts, if the brake fluid or grease adheres to the disc rotor, quickly wipe it off.

1. Remove tires with power tool.

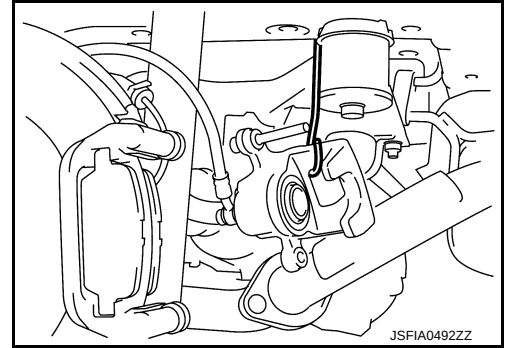
REAR DISC BRAKE

< REMOVAL AND INSTALLATION >

2. Remove lower sliding pin bolt.



3. Remove cylinder body from torque member, and suspend the cylinder body with suitable wire so that the brake hose will not stretch.

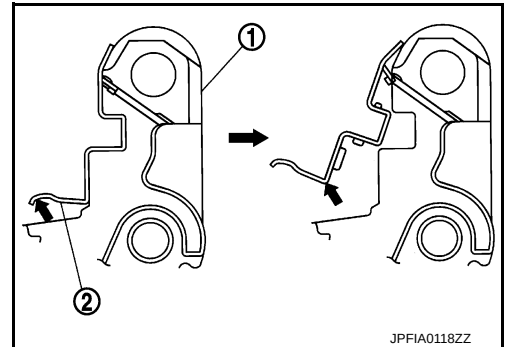


4. Remove the brake pads, shims, shim covers and pad retainers from the torque member.

CAUTION:

- 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 [BR-273. "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.

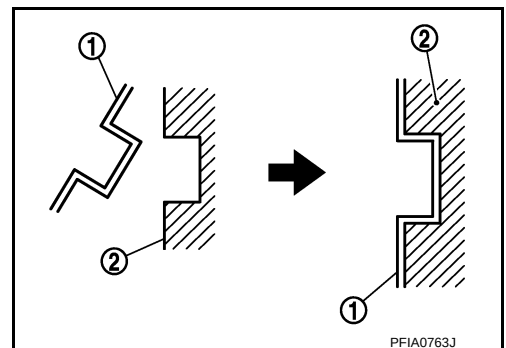
CAUTION:

- 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.

1. Install the pad retainers (1) to the torque member (2) if the pad retainers has been removed.

CAUTION:

- Securely assemble the pad retainers so that it will not be lifted up from the torque member.
- To prevent damage to the parts, never deform the pad retainers.



REAR DISC BRAKE

< REMOVAL AND INSTALLATION >

2. 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.
4. 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.

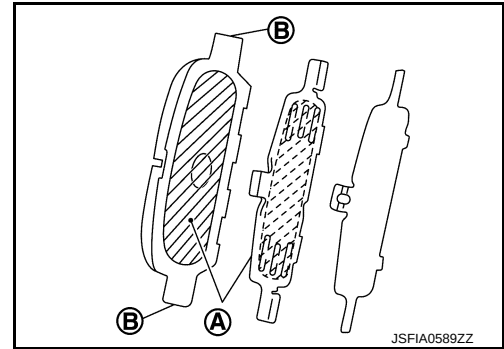
CAUTION:

- To prevent damage to the parts, never damage the piston boot.

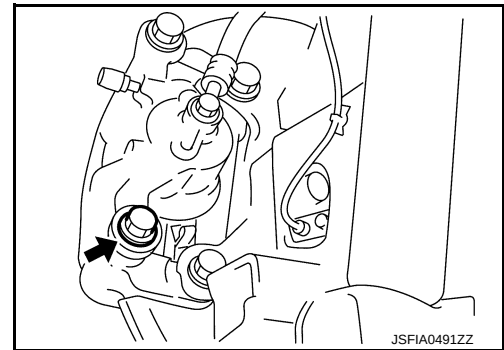
- When replacing brake pad with new one, check a brake fluid level in the reservoir tank because brake fluid returns to master cylinder reservoir tank when pressing piston in.

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.
7. Depress the brake pedal several times to check that no drag feel is present for the rear disc brake. Refer to [BR-273, "BRAKE PAD : Inspection"](#).
8. Install tires with power tool. Refer to [WT-45, "Removal and Installation"](#).



BRAKE PAD : Inspection

INFOID:000000007635889

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 [BR-271, "BRAKE PAD : Removal and Installation"](#).
 2. Press the pistons. Refer to [BR-271, "BRAKE PAD : Removal and Installation"](#).
 3. Install brake pads. Refer to [BR-271, "BRAKE PAD : Removal and Installation"](#).
 4. Securely depress the brake pedal several times.
 5. Check a drag of rear disc brake again. If any drag is found, disassemble the cylinder body and replace if necessary. Refer to [BR-276, "BRAKE CALIPER ASSEMBLY : Disassembly and Assembly"](#)
- Burnish contact surfaces brake pads and disc rotor after refinishing or replacing brake pads, or if a soft pedal occurs at very low mileage. Refer to [BR-246, "BRAKE PAD : Inspection and Adjustment"](#).

BRAKE CALIPER ASSEMBLY

BRAKE CALIPER ASSEMBLY : Exploded View

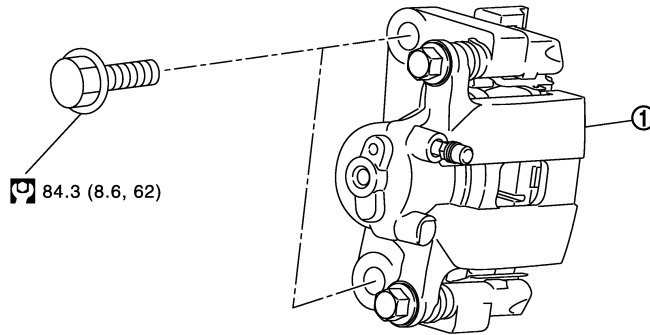
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REMOVAL

REAR DISC BRAKE

< REMOVAL AND INSTALLATION >

SEC. 441



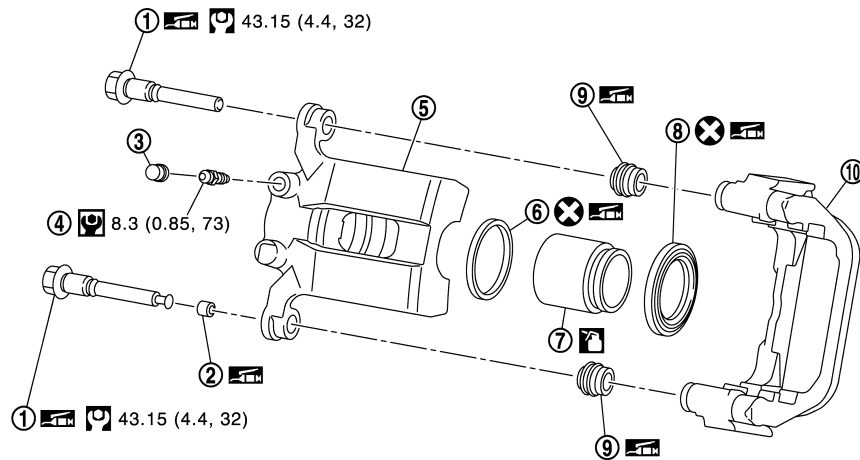
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1. Brake caliper assembly

: N·m (kg-m, ft-lb)

DISASSEMBLY

SEC. 441



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- | | | |
|---------------------|------------------|---------------------|
| 1. Sliding pin bolt | 2. Bushing | 3. Cap |
| 4. Bleeder valve | 5. Cylinder body | 6. Piston seal |
| 7. Piston | 8. Piston boot | 9. Sliding pin boot |
| 10. Torque member | | |

: Apply rubber grease.

: Apply brake fluid.

: N·m (kg-m, ft-lb)

: N·m (kg-m, in-lb)

: Always replace after every disassembly.

REAR DISC BRAKE

< REMOVAL AND INSTALLATION >

BRAKE CALIPER ASSEMBLY : Removal and Installation

INFOID:000000007635891

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.

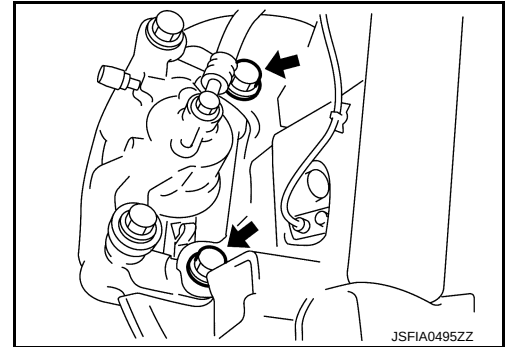
1. Remove tires with power tool.
2. Fix the disc rotor using wheel nuts.
3. Drain brake fluid. Refer to [BR-241. "Draining"](#).
4. Separate brake hose from caliper assembly. Refer to [BR-255. "REAR : Removal and Installation"](#).

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 [RAX-6. "Removal and Installation"](#).



INSTALLATION

WARNING:

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

CAUTION:

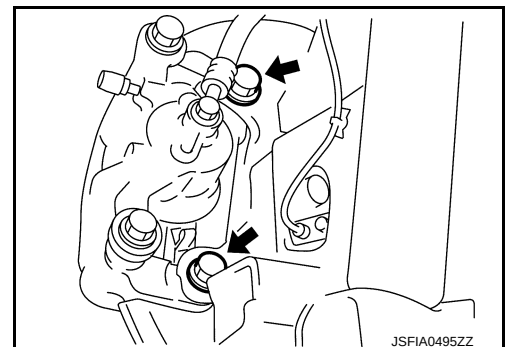
- Never spill or splash brake fluid on painted surfaces. Brake fluid may seriously damage paint. Wipe it out immediately and wash with water if it gets on a protect surface. For brake component parts, never wash them with water.
- Never depress brake pedal. While removing the brake hose. If this is not 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 [BR-255. "REAR : Removal and Installation"](#).
4. Perform the air bleeding. Refer to [BR-242. "Bleeding Brake System"](#).



REAR DISC BRAKE

< REMOVAL AND INSTALLATION >

5. Check a drag of rear disc brake. If any drag is found, refer to [BR-273. "BRAKE PAD : Inspection"](#).
6. Install tires with power tool. Refer to [WT-45, "Removal and Installation"](#).
7. Perform inspection after installation. Refer to [BR-278. "BRAKE CALIPER ASSEMBLY : Inspection"](#).

BRAKE CALIPER ASSEMBLY : Disassembly and Assembly

INFOID:000000007635892

DISASSEMBLY

NOTE:

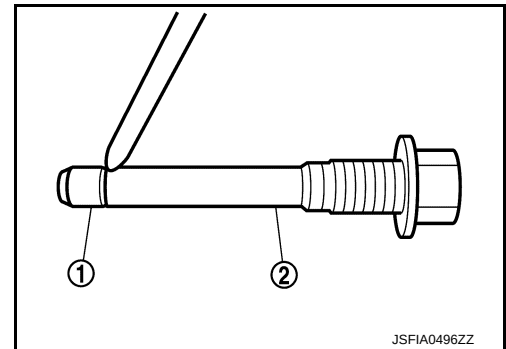
Never remove the torque member, brake pad and pad retainers when disassembling and assembling the cylinder body.

1. Remove the sliding pin bolt, and remove the cylinder body from the torque member. Refer to [BR-271. "BRAKE PAD : Removal and Installation"](#).

CAUTION:

To prevent damage to the parts, fix the brake pad at suitable tape so that the brake pad will not drop.

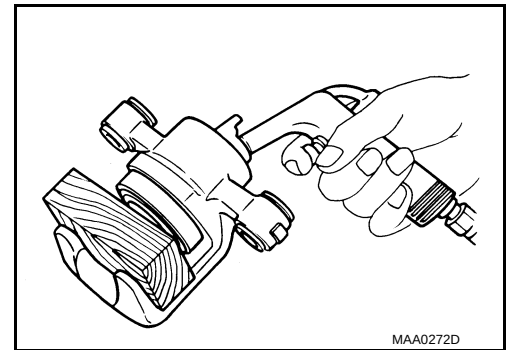
2. Remove sliding pin boots from torque member.
3. Remove bushing (1) from sliding pin bolt (2).



4. Place a wooden block as shown 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.

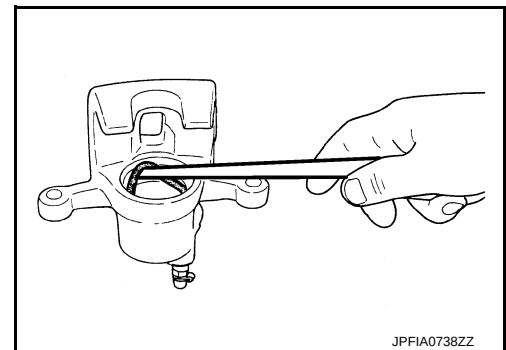


5. Remove piston seal from cylinder body using seal pick tool.

CAUTION:

To prevent damage to the parts, be careful not to damage a cylinder inner wall.

6. Remove bleeder valve and cap.
7. Perform inspection after disassembly. Refer to [BR-278. "BRAKE CALIPER ASSEMBLY : Inspection"](#).



ASSEMBLY

1. Install bleeder valve and cap.

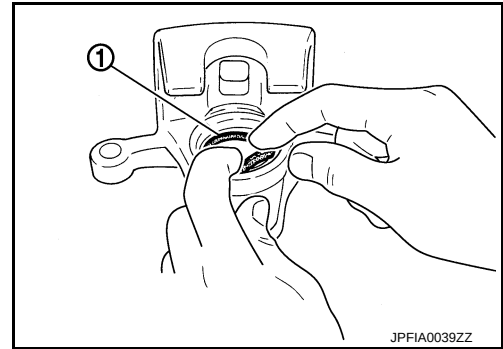
REAR DISC BRAKE

< REMOVAL AND INSTALLATION >

2. Apply rubber grease to piston seals (1), and install them to cylinder body.

CAUTION:

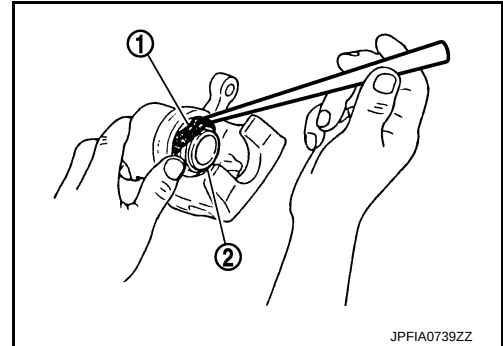
Never reuse piston seals.



3. Apply rubber grease to piston boots (1). Cover the piston (2) end with piston boot, and then install cylinder side lip on piston boot securely into a groove on cylinder body.

CAUTION:

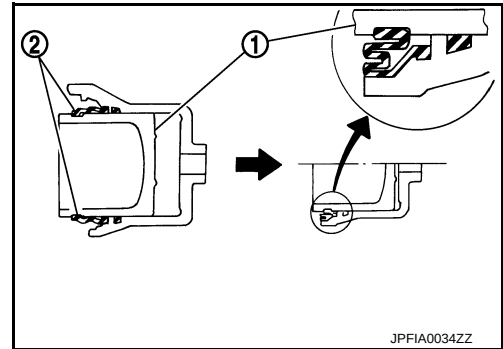
Never reuse piston boots.



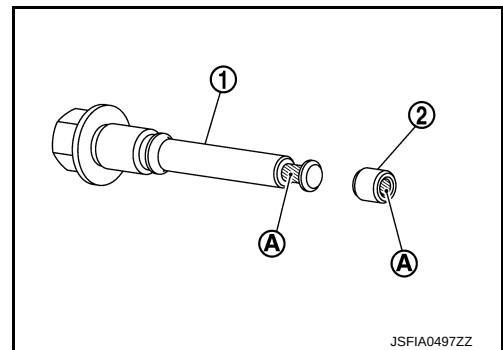
4. Apply new brake fluid to pistons (1). Push piston into cylinder body by hand and push piston boot (2) piston-side lip into the piston groove.

CAUTION:

To prevent damage to the parts, press the pistons evenly and vary the pressing point to prevent cylinder inner wall from being rubbed.



5. Apply rubber grease to mating faces (A) between sliding pin bolt (1) and bushing (2), and install bushing to sliding pin.

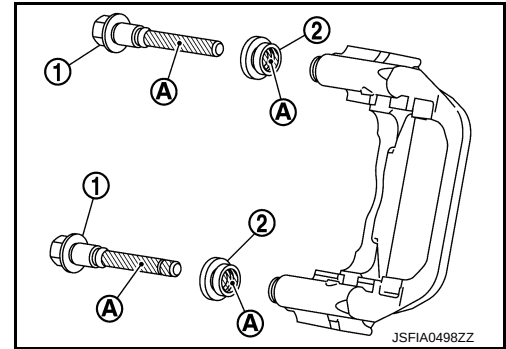


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REAR DISC BRAKE

< REMOVAL AND INSTALLATION >

6. Apply rubber grease to mating faces (A) between sliding pin bolt (1) and sliding pin boot (2), and install sliding pin boot to torque member.
7. Install the cylinder body to tighten sliding pin bolts to the specified torque. Refer to [BR-271, "BRAKE PAD : Exploded View"](#).



BRAKE CALIPER ASSEMBLY : Inspection

INFOID:000000007635893

INSPECTION AFTER DISASSEMBLY

Check the following items and replace if necessary.

Cylinder Body

Check the inner wall of the cylinder for rust, wear, cracks or damage.

CAUTION:

Always clean with new brake fluid. Never clean with mineral oil such as gasoline and light oil.

Torque Member

Check the torque member for rust, wear, cracks or damage.

Pistons

Check the surface of the piston for rust, wear, cracks or damage.

CAUTION:

A piston sliding surface is plated. Never polish with sandpaper.

Sliding Pin, Sliding Pin Boot and Bushing

Check the sliding pins, sliding boots and bushing for rust, wear, cracks or damage.

INSPECTION AFTER INSTALLATION

- Check a drag of rear disc brake. If any drag is found, follow the procedure described below.
 1. Remove brake pads. Refer to [BR-271, "BRAKE PAD : Removal and Installation"](#).
 2. Press the pistons. Refer to [BR-271, "BRAKE PAD : Removal and Installation"](#).
 3. Install brake pads. Refer to [BR-271, "BRAKE PAD : Removal and Installation"](#).
 4. Securely depress the brake pedal several times.
 5. Check a drag of rear disc brake again. If any drag is found, disassemble the cylinder body and replace if necessary. Refer to [BR-276, "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-246, "DISC ROTOR : Inspection and Adjustment"](#).

SERVICE DATA AND SPECIFICATIONS (SDS)

< SERVICE DATA AND SPECIFICATIONS (SDS)

SERVICE DATA AND SPECIFICATIONS (SDS)

SERVICE DATA AND SPECIFICATIONS (SDS)

General Specifications

INFOID:0000000007635894

Unit: mm (in)

Front brake	Cylinder bore diameter	45.0 (1.772) × 2
	Pad length × width × thickness	140.0 × 48.0 × 9.5 (5.51 × 1.890 × 0.374)
	Rotor outer diameter × thickness	283 × 28.0 (11.14 × 1.102)
Rear brake	Cylinder bore diameter	38.1 (1.500)
	Pad length × width × thickness	83.0 × 31.9 × 8.5 (3.268 × 1.265 × 0.355)
	Rotor outer diameter × thickness	292 × 16.0 (11.50 × 0.630)
Master cylinder	Cylinder bore diameter	25.4 (1)
Control valve	Valve type	Electric brake force distribution
Recommended brake fluid		Refer to MA-13, "FOR NORTH AMERICA : Fluids and Lubricants" (for North America), MA-14, "FOR BRAZIL : Fluids and Lubricants" (for Brazil).

Brake Pedal

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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:0000000007635896

Unit: mm (in)

Item	Standard
Input rod length	154.5 – 155.5 (6.08 – 6.12)

Front Disc Brake

INFOID:0000000007635897

Unit: mm (in)

Item		Limit
Brake pad	Wear thickness	2.0 (0.079)
	Wear thickness	26.0 (1.024)
Disc rotor	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:0000000007635898

Unit: mm (in)

Item		Limit
Brake pad	Wear thickness	2.0 (0.079)

SERVICE DATA AND SPECIFICATIONS (SDS)

< SERVICE DATA AND SPECIFICATIONS (SDS)

Item		Limit
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)