SECTION BR
BRAKE SYSTEM

CONTENTS

HOW TO USE THIS MANUAL 5

APPLICATION NOTICE 5
How to Check Vehicle Type 5

PRECAUTION 6

PRECAUTIONS 6
Precaution for Technicians Using Medical Electric.....6
Point to Be Checked Before Starting Maintenance Work 6
Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER" 6
Precaution for Removing 12V Battery 7
Precaution for Procedure without Cowl Top Cover.....7
Precaution for Brake System 8
Precaution for Harness Repair 9

PREPARATION 10

PREPARATION 10
Commercial Service Tools 10

SYSTEM DESCRIPTION 11

COMPONENT PARTS 11
Component Parts Location 11
Electrically-driven Intelligent Brake Unit 13
Stroke Sensor 14
Warning Buzzer 14
Front Door Switch (Driver side) 14
Brake Power Supply Backup Unit 14

SYSTEM 15
System Description 15
Fail-Safe 19

COOPERATIVE REGENERATIVE BRAKE FUNCTION 20
COOPERATIVE REGENERATIVE BRAKE FUNCTION : System Description 20

HILL START ASSIST FUNCTION 26
hill start assist FUNCTION : System Description 26

WARNING/INDICATOR/CHIME LIST 29
WARNING/INDICATOR/CHIME LIST : Warning Lamp/Indicator Lamp 29
WARNING/INDICATOR/CHIME LIST : Brake System Warning Lamp (Yellow) 30
WARNING/INDICATOR/CHIME LIST : Brake Warning Lamp (Red) 32

DIAGNOSIS SYSTEM (ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT) 35
CONSULT Function 35

ECU DIAGNOSIS INFORMATION 39

ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT 39
Reference Value 39
Fail-Safe 41
DTC Inspection Priority Chart 43
DTC Index 44

WIRING DIAGRAM 46

BRAKE SYSTEM 46

TYPE 1 46
TYPE 1 : Wiring Diagram 46

TYPE 2 58
TYPE 2 : Wiring Diagram 59

BASIC INSPECTION 72

DIAGNOSIS AND REPAIR WORK FLOW 72
Work Flow 72
Diagnostic Work Sheet 73

ADDITIONAL SERVICE WHEN REPLACING ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT 75

Description 75

STROKE SENSOR 0 POINT LEARNING 76
Description 76
Work Procedure 76

DTC/CIRCUIT DIAGNOSIS 79

C1A60 CONTROL MODULE 79
DTC Logic 79
Diagnosis Procedure 79

C1A61 MOTOR 87
DTC Logic 87
Diagnosis Procedure 87

C1A62 CONTROL MODULE 95
DTC Logic 95
Diagnosis Procedure 95

C1A63 BRAKE POWER SUPPLY BACKUP UNIT 104
DTC Logic 104
Diagnosis Procedure 105

C1A65 INCOMPLETE STROKE SENSOR 113
DTC Logic 113
Diagnosis Procedure 113

C1A67 STOP LAMP SWITCH 125
DTC Logic 125
Diagnosis Procedure 125
Component Inspection 135

C1A69 MOTOR 137
DTC Logic 137
Diagnosis Procedure 137

C1A6B BRAKE POWER SUPPLY BACKUP UNIT 146
DTC Logic 146
Diagnosis Procedure 146

C1A6C BRAKE POWER SUPPLY BACKUP UNIT 156
DTC Logic 156
Diagnosis Procedure 157

C1A6D BRAKE POWER SUPPLY BACKUP UNIT 165
DTC Logic 165
Diagnosis Procedure 165

C1A6E EV SYSTEM 173
DTC Logic 173
Diagnosis Procedure 173

C1A6F VCM SYSTEM 182
DTC Logic 182
Diagnosis Procedure 182

C1A70 BRAKE CONTROL SYSTEM 191
DTC Logic 191
Diagnosis Procedure 191

C1A74 STEERING ANGLE SENSOR 200
DTC Logic 200
Diagnosis Procedure 200

C1A80 CONTROL MODULE 208
DTC Logic 208
Diagnosis Procedure 208

C1A81 CONTROL MODULE 216
DTC Logic 216
Diagnosis Procedure 216

C1A82 CONTROL MODULE 224
DTC Logic 224
Diagnosis Procedure 224

C1A83 CONTROL MODULE 232
DTC Logic 232
Diagnosis Procedure 232

C1A84 CONTROL MODULE 240
DTC Logic 240
Diagnosis Procedure 240

C1A85 CONTROL MODULE 248
DTC Logic 248
Diagnosis Procedure 249

C1A86 CONTROL MODULE 256
DTC Logic 256
Diagnosis Procedure 257

C1A87 CONTROL MODULE 264
DTC Logic 264
Diagnosis Procedure 264

C1A88 CONTROL MODULE 272
DTC Logic 272
Diagnosis Procedure 272

C1A89 CONTROL MODULE 280
DTC Logic 280
Diagnosis Procedure 280

C1A8A CONTROL MODULE 288
DTC Logic 288
Diagnosis Procedure 288

C1A8B CONTROL MODULE 296
DTC Logic 296
Diagnosis Procedure 296

C1A90 CONTROL MODULE 304
DTC Logic 304
Diagnosis Procedure 304

C1A91 CONTROL MODULE 313
DTC Logic 313
Diagnosis Procedure 313

C1A98 BRAKE POWER SUPPLY BACKUP UNIT 322
DTC Logic 322
Diagnosis Procedure 322

C1A99 BRAKE POWER SUPPLY BACKUP UNIT 331
DTC Logic 331
Diagnosis Procedure 331

C1A9A BRAKE POWER SUPPLY BACKUP UNIT 340
DTC Logic 340
Diagnosis Procedure 340

C1AA0 STROKE SENSOR 349
DTC Logic 349
Diagnosis Procedure 349

C1AA1 STROKE SENSOR 361
DTC Logic 361
Diagnosis Procedure 361

C1AA2 STROKE SENSOR 373
DTC Logic 373
Diagnosis Procedure 373

C1AA3 STROKE SENSOR 385
DTC Logic 385
Diagnosis Procedure 385

C1AA9 PRESSURE SENSOR 397
DTC Logic 397
Diagnosis Procedure 397

C1AB8 MOTOR 407
DTC Logic 407
Diagnosis Procedure 408

C1AB9 MOTOR 416
DTC Logic 416
Diagnosis Procedure 416

C1ABA MOTOR 425
DTC Logic 425
Diagnosis Procedure 425

C1AC0 CONTROL MODULE 434
DTC Logic 434
Diagnosis Procedure 435

C1AC1 CONTROL MODULE 443
DTC Logic 443
Diagnosis Procedure 444

C1AC8 BRAKE POWER SUPPLY BACKUP UNIT 452
DTC Logic 452
Diagnosis Procedure 452

C1AD0 BRAKE POWER SUPPLY BACKUP UNIT 462
DTC Logic 462
Diagnosis Procedure 463

U1000 CAN COMM CIRCUIT 471
Description 471
DTC Logic 471
Diagnosis Procedure 472

U1010 CONTROL UNIT (CAN) 473
Description 473
DTC Logic 473
Diagnosis Procedure 474

U1510 ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) COMMUNICATION . 475
DTC Logic 475
Diagnosis Procedure 475

U1511 BRAKE POWER SUPPLY BACKUP UNIT COMMUNICATION 483
DTC Logic 483
Diagnosis Procedure 483

POWER SUPPLY AND GROUND CIRCUIT .. 493
Diagnosis Procedure 493

WARNING BUZZER 497
Diagnosis Procedure 497
Component Inspection 497

DOOR SWITCH CIRCUIT 499
Diagnosis Procedure 499
Component Inspection 500

BRAKE WARNING LAMP 501
Component Function Check 501
Diagnosis Procedure 501

BRAKE SYSTEM WARNING LAMP 502
Component Function Check 502
Diagnosis Procedure 502

SYMPTOM DIAGNOSIS 503

UNEXPECTED BRAKE PEDAL REACTION . 503
Description 503
Diagnosis Procedure 503

THE BRAKING DISTANCE IS LONG 504
Description 504
Diagnosis Procedure 504

VEHICLE JERKS DURING 511
Description 511
Diagnosis Procedure 511

NORMAL OPERATING CONDITION 513
Description 513

PERIODIC MAINTENANCE 514

BRAKE PEDAL 514

Inspection and Adjustment 514

BRAKE FLUID 516
Inspection 516
Draining 516
Refilling 516
Bleeding Brake System 517

ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT 518
Inspection 518

FRONT DISC BRAKE 519

BRAKE PAD 519
BRAKE PAD : Inspection and Adjustment 519

DISC ROTOR 519
DISC ROTOR : Inspection and Adjustment 519

REAR DISC BRAKE 521

BRAKE PAD 521
BRAKE PAD : Inspection and Adjustment 521

DISC ROTOR 521
DISC ROTOR : Inspection and Adjustment 521

REMOVAL AND INSTALLATION 523

BRAKE PEDAL 523
Exploded View 523
Removal and Installation 523
Inspection and Adjustment 524

BRAKE PIPING 526

FRONT 526
FRONT : Exploded View 526
FRONT : Hydraulic Piping 527
FRONT : Removal and Installation 527
FRONT : Inspection 529

REAR 529
REAR : Exploded View 529
REAR : Hydraulic Piping 530
REAR : Removal and Installation 530
REAR : Inspection 532

ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT 533
Exploded View 533
Removal and installation 533
Inspection and Adjustment 535

BRAKE POWER SUPPLY BACKUP UNIT 536
Exploded View 536
Removal and Installation 536

WARNING BUZZER 538
Removal and Installation 538

FRONT DISC BRAKE 539

BRAKE PAD 539
BRAKE PAD : Exploded View 539
BRAKE PAD : Removal and Installation 539
BRAKE PAD : Inspection 541

BRAKE CALIPER ASSEMBLY 542
BRAKE CALIPER ASSEMBLY : Exploded View 542
BRAKE CALIPER ASSEMBLY : Removal and Installation 543
BRAKE CALIPER ASSEMBLY : Disassembly and Assembly 544
BRAKE CALIPER ASSEMBLY : Inspection 546

REAR DISC BRAKE 547

BRAKE PAD 547
BRAKE PAD : Exploded View 547
BRAKE PAD : Removal and Installation 547
BRAKE PAD : Inspection 549

BRAKE CALIPER ASSEMBLY 550
BRAKE CALIPER ASSEMBLY : Exploded View 550
BRAKE CALIPER ASSEMBLY : Removal and Installation 551
BRAKE CALIPER ASSEMBLY : Disassembly and Assembly 552
BRAKE CALIPER ASSEMBLY : Inspection 554

SERVICE DATA AND SPECIFICATIONS (SDS) 555

SERVICE DATA AND SPECIFICATIONS (SDS) 555
General Specifications 555
Brake Pedal 555
Electrically-driven Intelligent Brake 556
Front Disc Brake 556
Rear Disc Brake 556

HOW TO USE THIS MANUAL

APPLICATION NOTICE

How to Check Vehicle Type

INFOID:0000000010123163

Check the vehicle type (refer to GI-23, "Model Variation") to confirm the service information in BR section.

Service information	Vehicle type
TYPE 1	Early production
TYPE 2	Late production

PRECAUTION

PRECAUTIONS

Precaution for Technicians Using Medical Electric

INFOID:0000000009325847

OPERATION PROHIBITION

WARNING:

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

NORMAL CHARGE PRECAUTION

WARNING:

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

PRECAUTION AT TELEMATICS SYSTEM OPERATION

WARNING:

- **If a technician uses implantable cardiac pacemaker or implantable cardioverter defibrillator (ICD), avoid the device implanted part from approaching within approximately 220 mm (8.66 in) from interior/exterior antenna.**
- **The electromagnetic wave of TCU might affect the function of the implantable cardiac pacemaker or the implantable cardioverter defibrillator (ICD), when using the service, etc.**
- **If a technician uses other medical electric devices than implantable cardiac pacemaker or implantable cardioverter defibrillator (ICD), the electromagnetic wave of TCU might affect the function of the device. The possible effects on the devices must be checked with the device manufacturer before TCU use.**

PRECAUTION AT INTELLIGENT KEY SYSTEM OPERATION

WARNING:

- **If a technician uses implantable cardiac pacemaker or implantable cardioverter defibrillator (ICD), avoid the device implanted part from approaching within approximately 220 mm (8.66 in) from interior/exterior antenna.**
- **The electromagnetic wave of Intelligent Key might affect the function of the implantable cardiac pacemaker or the implantable cardioverter defibrillator (ICD), at door operation, at each request switch operation, or at engine starting.**
- **If a technician uses other medical electric devices than implantable cardiac pacemaker or implantable cardioverter defibrillator (ICD), the electromagnetic wave of Intelligent Key might affect the function of the device. The possible effects on the devices must be checked with the device manufacturer before Intelligent Key use.**

Point to Be Checked Before Starting Maintenance Work

INFOID:0000000008746709

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:0000000009254114

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

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

WARNING:

- **To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.**
- **Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see the SR section.**
- **Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.**

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

WARNING:

- **When working near the Airbag Diagnosis Sensor Unit or other Airbag System sensors with the Ignition ON or engine running, DO NOT use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.**
- **When using air or electric power tools or hammers, always switch the Ignition OFF, disconnect the battery and wait at least three minutes before performing any service.**

Precaution for Removing 12V Battery

INFOID:0000000008746711

1. Check that EVSE is not connected.
   NOTE:
   If EVSE is connected, the air conditioning system may be automatically activated by the timer A/C function.
2. Turn the power switch OFF → ON → OFF. Get out of the vehicle. Close all doors (including back door).
3. Check that the charge status indicator lamp does not blink and wait for 5 minutes or more.
   NOTE:
   If the battery is removed within 5 minutes after the power switch is turned OFF, plural DTCs may be detected.
4. Remove 12V battery within 1 hour after turning the power switch OFF → ON → OFF.
   NOTE:
   - The 12V battery automatic charge control may start automatically even when the power switch is in OFF state.
   - Once the power switch is turned ON → OFF, the 12V battery automatic charge control does not start for approximately 1 hour.

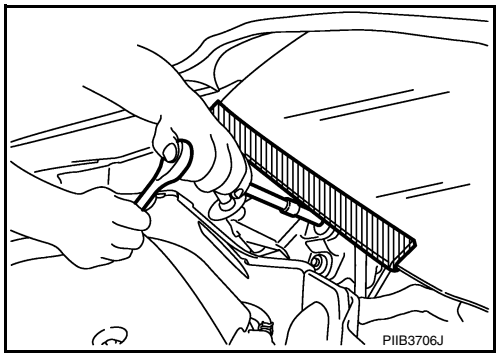
   CAUTION:

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

Precaution for Procedure without Cowl Top Cover

INFOID:0000000008746712

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



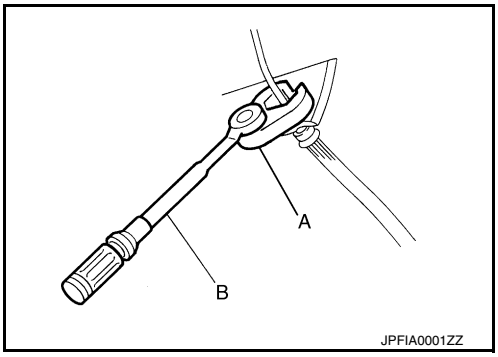
Precaution for Brake System

INFOID:0000000008746713

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-12, "Fluids and Lubricants".
- Never reuse drained brake fluid.
- Never spill or splash brake fluid on painted surfaces. Brake fluid may seriously damage paint. Wipe it off immediately and wash with water if it gets on a painted surface. For brake component parts, never wash them with water.
- Always confirm the specified tightening torque when installing the brake pipes.
- After pressing the brake pedal more deeply or harder than normal driving, such as air bleeding, check each item of brake pedal. Adjust brake pedal if it is outside the standard value.
- Always clean with new brake fluid when cleaning the brake caliper and other components.
- Never use mineral oils such as gasoline or light oil to clean. They may damage rubber parts and cause improper operation.
- Always loosen the brake tube flare nut with a flare nut wrench.
- Tighten the brake tube flare nut to the specified torque with a crow-foot (A) and torque wrench (B).
- Turn the power switch OFF to exit CONSULT. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. Disconnect the ABS actuator and electric unit (control unit) harness connector or the 12V battery negative terminal before performing the work.Refer to BR-7, "Precaution for Removing 12V Battery".



CAUTION:

Never operate the vehicle and CONSULT while waiting.

- Check that no brake fluid leakage is present after replacing the parts.
- Burnish the brake contact surfaces after refinishing or replacing rotors, after replacing pads, or if a soft pedal occurs at very low mileage.

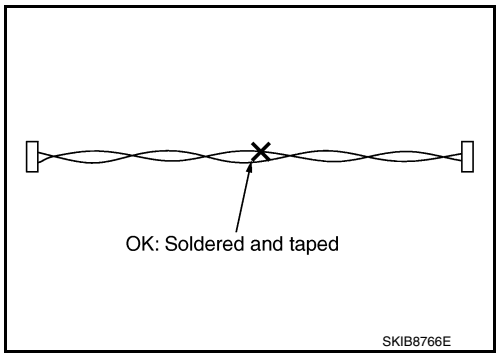
- Front brake pad: Refer to BR-519, "BRAKE PAD : Inspection and Adjustment".
- Front disc rotor: Refer to BR-519, "DISC ROTOR : Inspection and Adjustment".
- Rear brake pad: Refer to BR-521, "BRAKE PAD : Inspection and Adjustment".
- Rear disc rotor: Refer to BR-521, "DISC ROTOR : Inspection and Adjustment".

- When the brake pedal is operated, an operating sound may be heard from the electrically-driven intelligent brake unit. This occurs when the electrically-driven intelligent brake unit is operating sound and is not a malfunction.
- When the brake pedal is depressed when the EV system is not started, the brake pedal will feel heavy and the stroke will be shorter. When the unfamiliar feeling disappears and the brake warning lamp is OFF after the brake pedal was depressed, then this is not a malfunction. When the brake warning lamp is ON, use CONSULT and perform the “BRAKE” self diagnosis.
- When there is a malfunction in the power system of the electrically-driven intelligent brake unit (no voltage is generated), voltage is temporarily supplied to the electrically-driven intelligent brake unit from the brake power supply backup unit. At the same time, the brake warning lamp (red) and brake system warning lamp (yellow) turn ON, and the warning buzzer sounds.
- When a malfunction occurs in the electrically-driven intelligent brake unit, the VDC function performs control (boost operation).
- When a malfunction occurs in the PDM (Power Delivery Module) and 12V battery, the braking force is determined by the force pressing on the brake pedal (no boost operation). At the same time, the brake warning lamp (red) and the brake system warning lamp (yellow) turns ON.
- When a malfunction occurs in the electrically-driven intelligent brake and in the VDC function, the braking force is determined by the force pressing on the brake pedal (no boost operation). At the same time, the brake warning lamp (red) and brake system warning lamp (yellow) turn ON.
- When a malfunction occurs in the electrically-driven intelligent brake, VDC function, and power system, then cooperative regenerative brake control is not performed.
- When a malfunction occurs in the brake power supply backup unit, the brake system warning lamp (yellow) turns ON.

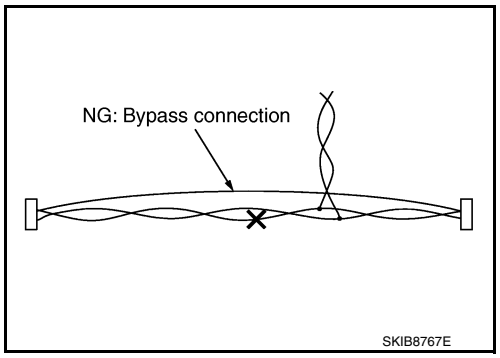
Precaution for Harness Repair

INFOID:0000000008746714

- 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.)

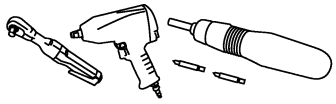
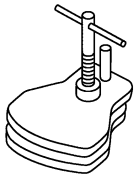


PREPARATION

PREPARATION

Commercial Service Tools

INFOID:0000000008746715

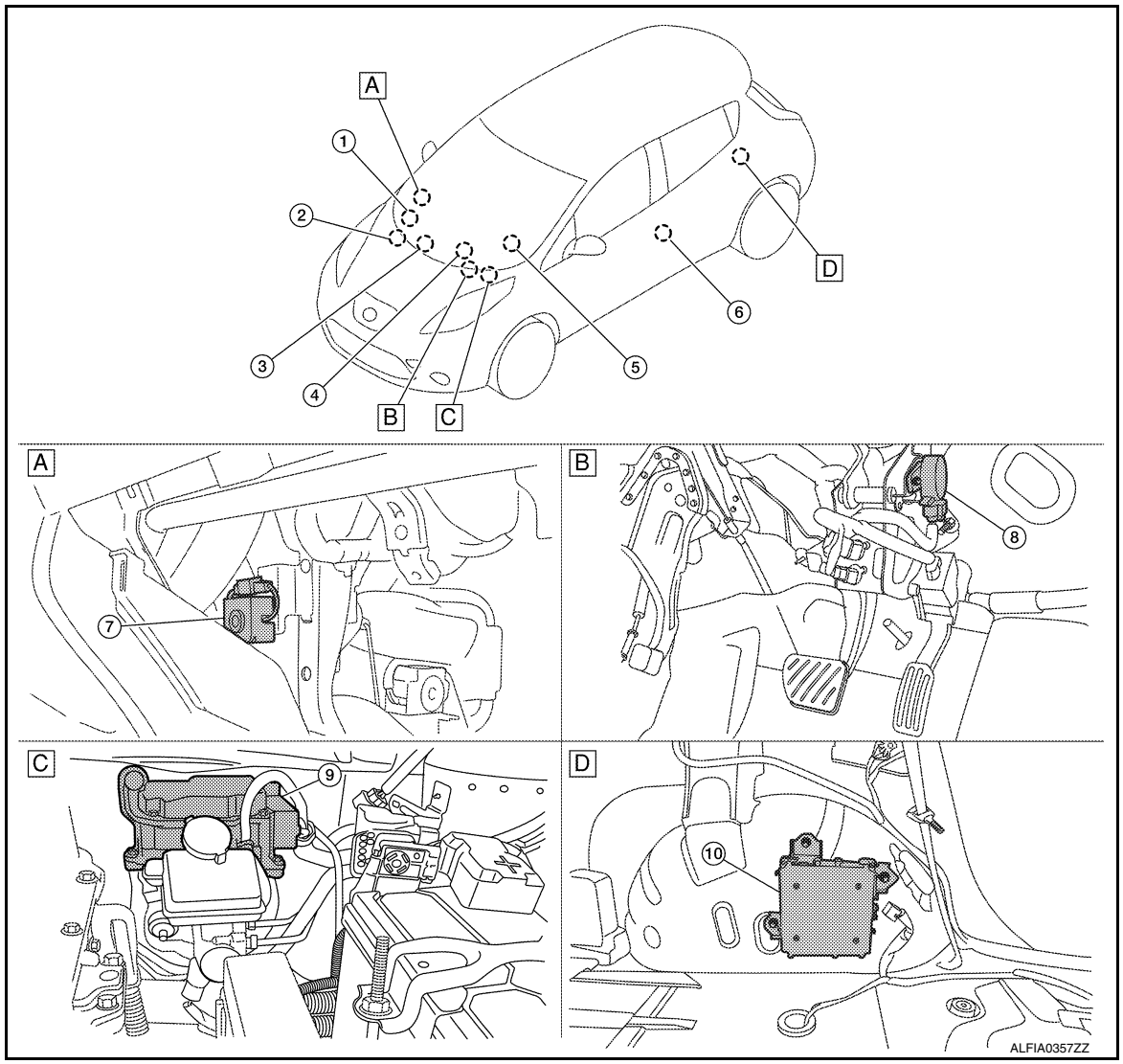
Tool name	Description
Power tool  PIIB1407E	Loosening nuts, screws and bolts
Brake caliper wrench  NNFIA0040ZZ	Return the piston

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:0000000008746716



A View with the glove box assembly removed

B Brake pedal

C Inside motor room (left)

D Inside luggage side lower finisher LH

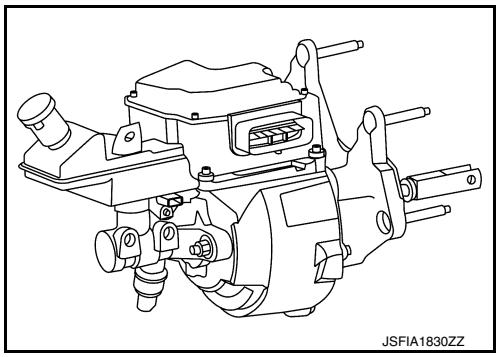
No.	Component parts	Function
①	VCM	Mainly transmits the following signals to electrically-driven intelligent brake unit via CAN communication. • VCM control signal • Current regenerative torque signal • VCM status signal • Shift position signal Mainly receives the following signal from electrically-driven intelligent brake unit via CAN communication. • Target braking force signal Refer to EVC-16, "Component Parts Location" for detailed installation location.
②	ABS actuator and electric unit (control unit)	Mainly transmits the following signals to electrically-driven intelligent brake unit via CAN communication. • ABS actuator and electric unit (control unit) control signal • Vehicle speed signal (ABS) • Decel G signal • Front LH wheel speed signal • Rear LH wheel speed signal • Front RH wheel speed signal • Rear RH wheel speed signal • Yaw rate signal • Side G signal • VDC malfunction signal • VDC OFF switch signal • Master cylinder fluid pressure signal Mainly receives the following signals from electrically-driven intelligent brake unit via CAN communication. • Electrically-driven intelligent brake control signal • Brake assist request signal • Brake power supply backup operation signal • Brake power supply backup operation request signal • Brake warning lamp request signal • Brake system warning lamp request signal Refer to BRC-10, "Component Parts Location" for detailed installation location.
③	BCM	Mainly transmits the following signals to electrically-driven intelligent brake unit via CAN communication. • Sleep wake up signal • Power switch ON signal Mainly transmits the following signals to electrically-driven intelligent brake unit. (Type 2 models) • Door switch signal Refer to BCS-5, "BODY CONTROL SYSTEM : Component Parts Location" for detailed installation location.
④	Combination meter (brake warning lamp, brake system warning lamp)	Mainly receives the following signals from ABS actuator electric unit (control unit) via electrically-driven intelligent brake unit via CAN communication. • Brake warning lamp signal • Brake system warning lamp signal Refer to MWI-6, "METER SYSTEM : Component Parts Location" for detailed installation location.
⑤	Steering angle sensor	Mainly transmits the following signal to electrically-driven intelligent brake unit via CAN communication. • Steering angle sensor signal Refer to BRC-10, "Component Parts Location" for detailed installation location.
⑥	Front door switch (driver side)*	BR-14, "Front Door Switch (Driver side)"
⑦	Warning buzzer	BR-14, "Warning Buzzer"
⑧	Stroke sensor	BR-14, "Stroke Sensor"
⑨	Electrically-driven intelligent brake unit	BR-13, "Electrically-driven Intelligent Brake Unit"
⑩	Brake power supply backup unit	BR-14, "Brake Power Supply Backup Unit"

*: Applied to Type 1 models

Electrically-driven Intelligent Brake Unit

INFOID:0000000008746717

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).



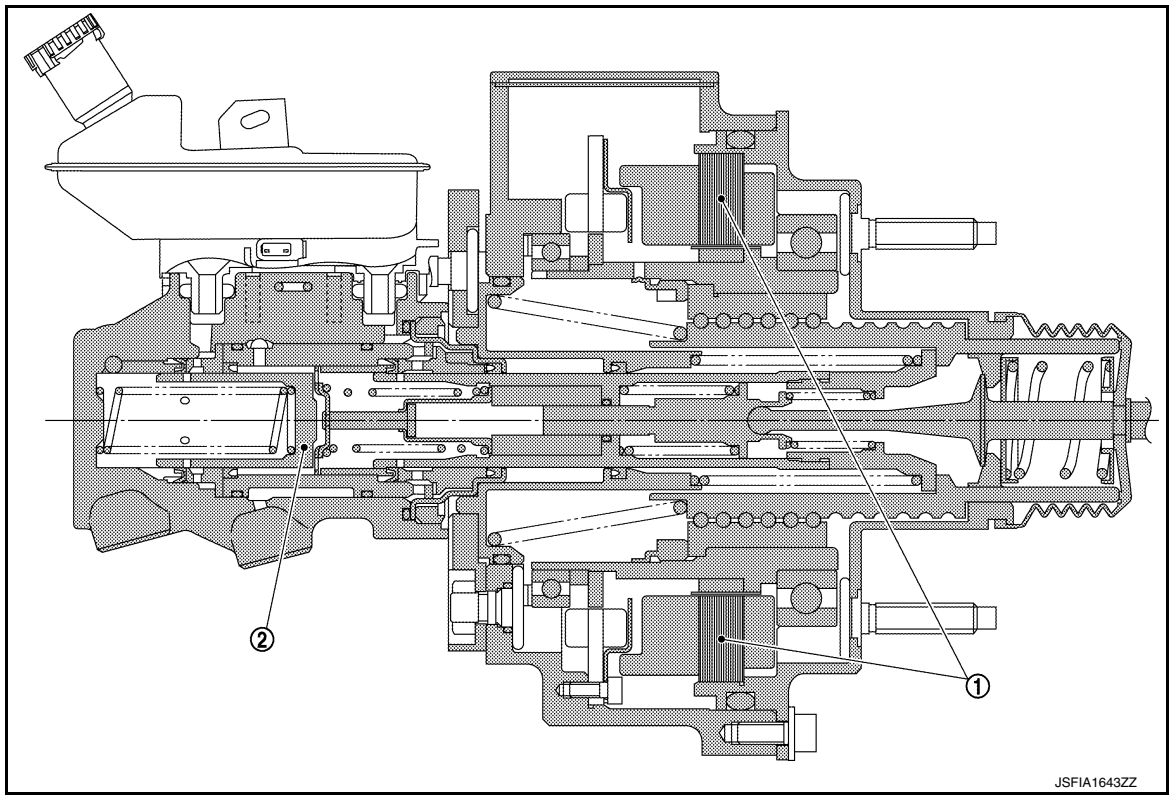
CONTROL MODULE

- 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



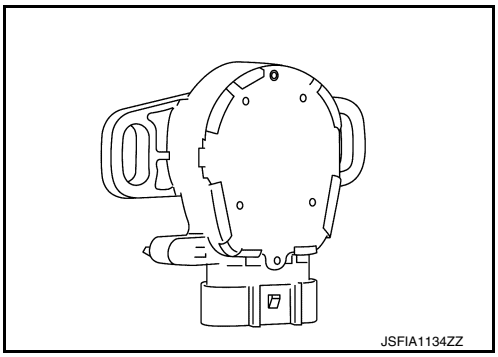
① Motor ② Piston

- 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.

Stroke Sensor

INFOID:0000000008746719

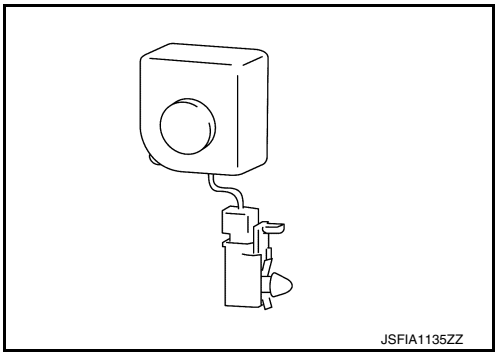
Detects the amount that the brake pedal is depressed and sends it to the electrically-driven intelligent brake unit.



Warning Buzzer

INFOID:0000000008746720

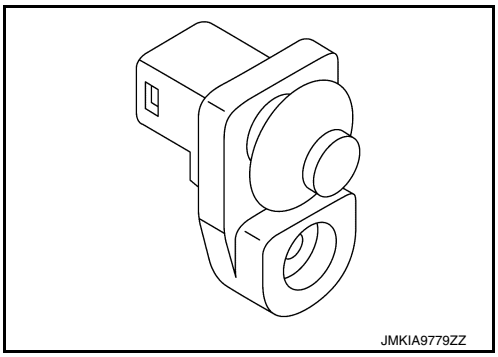
The warning buzzer operates based on the signal from the electrically-driven intelligent brake unit to notify the driver of the change in power supply circuits.



Front Door Switch (Driver side)

INFOID:0000000009246259

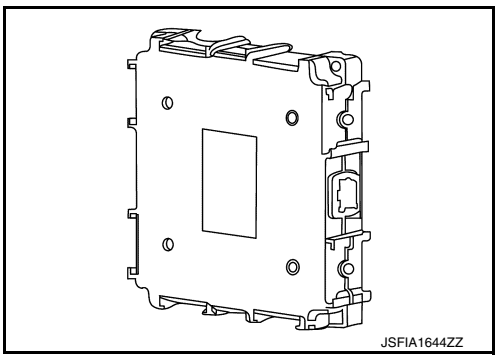
Detects the amount that the front door switch (driver LH side) is operated and sends it to the electrically-driven intelligent brake unit.
NOTE:
Front door switch is applied to type 1 models.



Brake Power Supply Backup Unit

INFOID:0000000008746721

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.



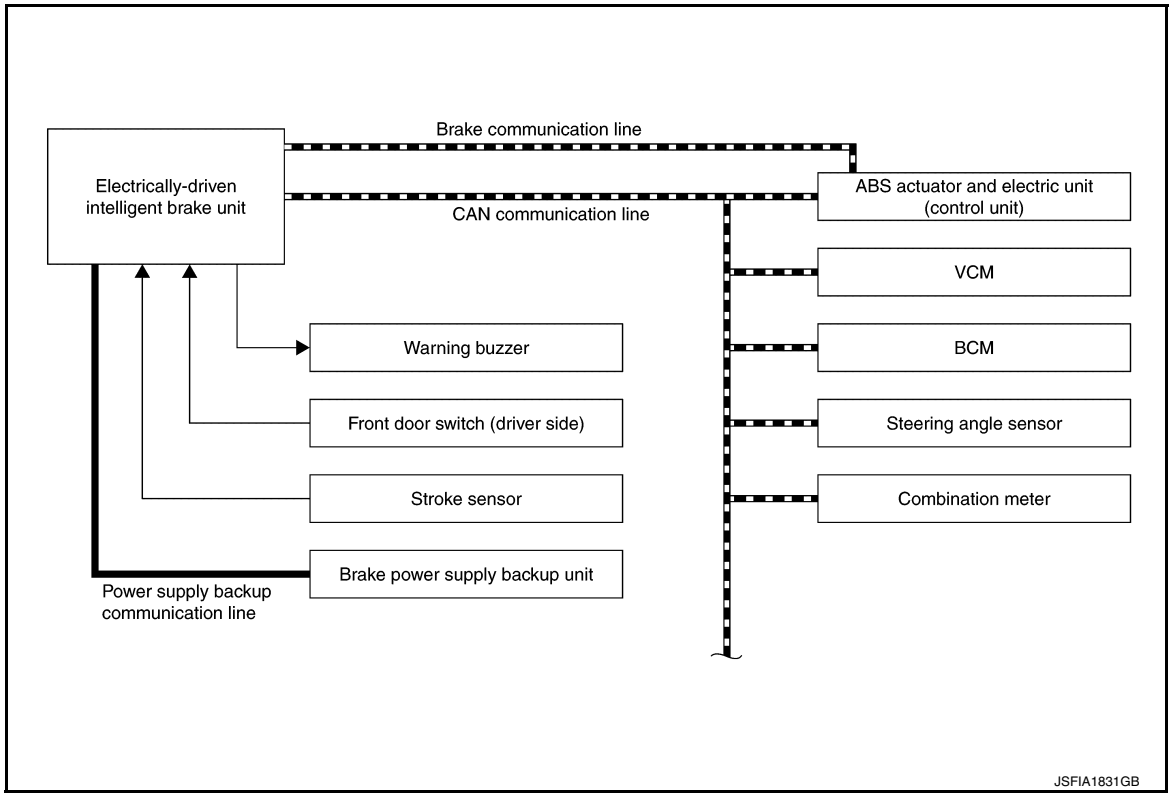
SYSTEM

System Description

INFOID:0000000008746722

- An electrically-driven intelligent brake is a booster system that generates assist force by using an internal motor to operate a piston inside the master cylinder.
- Control module is integrated with electrically-driven intelligent brake unit.
- When the brake pedal is depressed during driving, cooperative control of the braking force from the friction brake (regular brake) and the regenerative brake from the traction motor is used.
- The system performs cooperative control of the regenerative brake and friction brake (same brake as in conventional vehicles) and enables highly efficient energy recovery.
- The fluid pressure which is applied to each brake caliper is controlled according to the amount of traction motor regeneration.
- The amount of brake pedal operation is detected by the stroke sensor, and sent to the control module of the electrically-driven intelligent brake unit.
- Based on the commands from the control module of the electrically-driven intelligent brake unit, the motor inside the electrically-driven intelligent brake unit operates and presses the master cylinder piston.
- Pressing the master cylinder piston, and brake fluid is sent to the ABS actuator and electric unit (control unit).
- CONSULT can be used to diagnose the system diagnosis.
- When there is a malfunction in the power system of the electrically-driven intelligent brake unit (no voltage is generated), voltage is temporarily supplied to the electrically-driven intelligent brake unit from the brake power supply backup unit. At the same time, the brake warning lamp (red) and brake system warning lamp (yellow) turn ON, and the warning buzzer sounds.
- When a malfunction occurs in the electrically-driven intelligent brake unit, the VDC function performs control (boost operation). At the same time, the brake warning lamp (red) and brake system warning lamp (yellow) turn ON.
- When a malfunction occurs in the PDM (Power Delivery Module) and 12V battery, the braking force is determined by the force pressing on the brake pedal (no boost operation). At the same time, the brake warning lamp (red) and the brake system warning lamp (yellow) turn ON.
- When a malfunction occurs in the brake power supply backup unit, the brake system warning lamp (yellow) turn ON.
- When a malfunction occurs in the electrically-driven intelligent brake and in the VDC function, the braking force is determined by the force pressing on the brake pedal (no boost operation). At the same time, the brake warning lamp (red) and brake system warning lamp (yellow) turn ON.
- When a malfunction occurs in the electrically-driven intelligent brake, the VDC function, and the power system, then cooperative regenerative brake control is not performed.
- A fail-safe function is available and is activated when a system malfunction occurs. Refer to BR-19, "Fail-Safe".

SYSTEM DIAGRAM (TYPE 1)



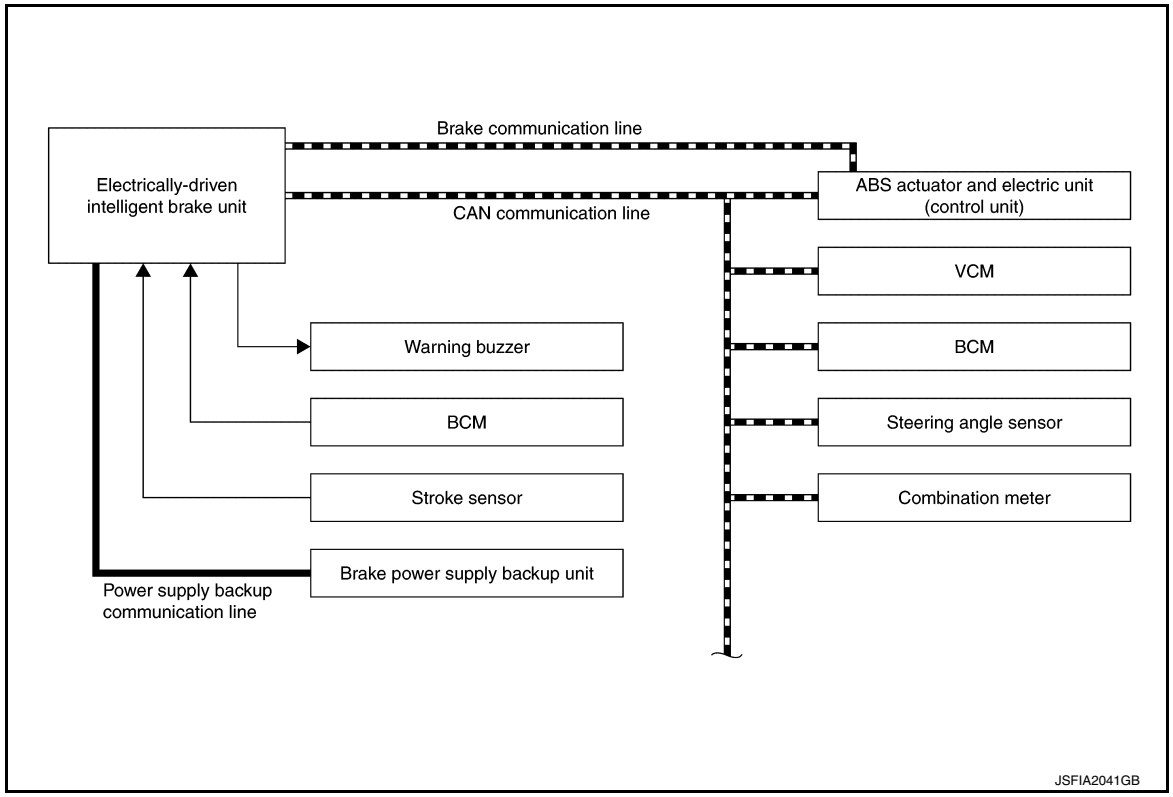
INPUT SIGNAL AND OUTPUT SIGNAL (TYPE 1)

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

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

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

SYSTEM DIAGRAM (TYPE 2)



INPUT SIGNAL AND OUTPUT SIGNAL (TYPE 2)

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

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

CONDITION FOR OPERATION OF THE WARNING LAMP AND THE WARNING BUZZER

Turns ON when power switch turns ON and turns OFF when the system is normal, for bulb check.

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

Condition (status)	Brake warning lamp (red)	Brake system warning lamp (yellow)	Warning buzzer
Electrically-driven intelligent brake is malfunctioning	ON	ON	OFF
When brake fluid is less than the specified level (brake fluid level switch ON)	ON	OFF	OFF

Fail-Safe

INFOID:0000000008746724

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

DTC	Vehicle condition
C1A60	The following functions are suspended. • 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
C1A65	The following functions are suspended. • Boost operation by the electrically-driven intelligent brake • Cooperative regenerative brake control • Power supply from the brake power supply backup unit
C1A67	Normal control
C1A69	The following functions are suspended. • Boost operation by the electrically-driven intelligent brake • Cooperative regenerative brake control • Power supply from the brake power supply backup unit
C1A6B	The following function is suspended. • Backup power supply from the brake power supply backup unit
C1A6C	
C1A6D	
C1A6E	The following function is suspended. • Cooperative regenerative brake control • hill start assist function
C1A6F	The following function is suspended. • hill start assist function
C1A70	The following function is suspended. • Cooperative regenerative brake control • hill start assist function
C1A74	

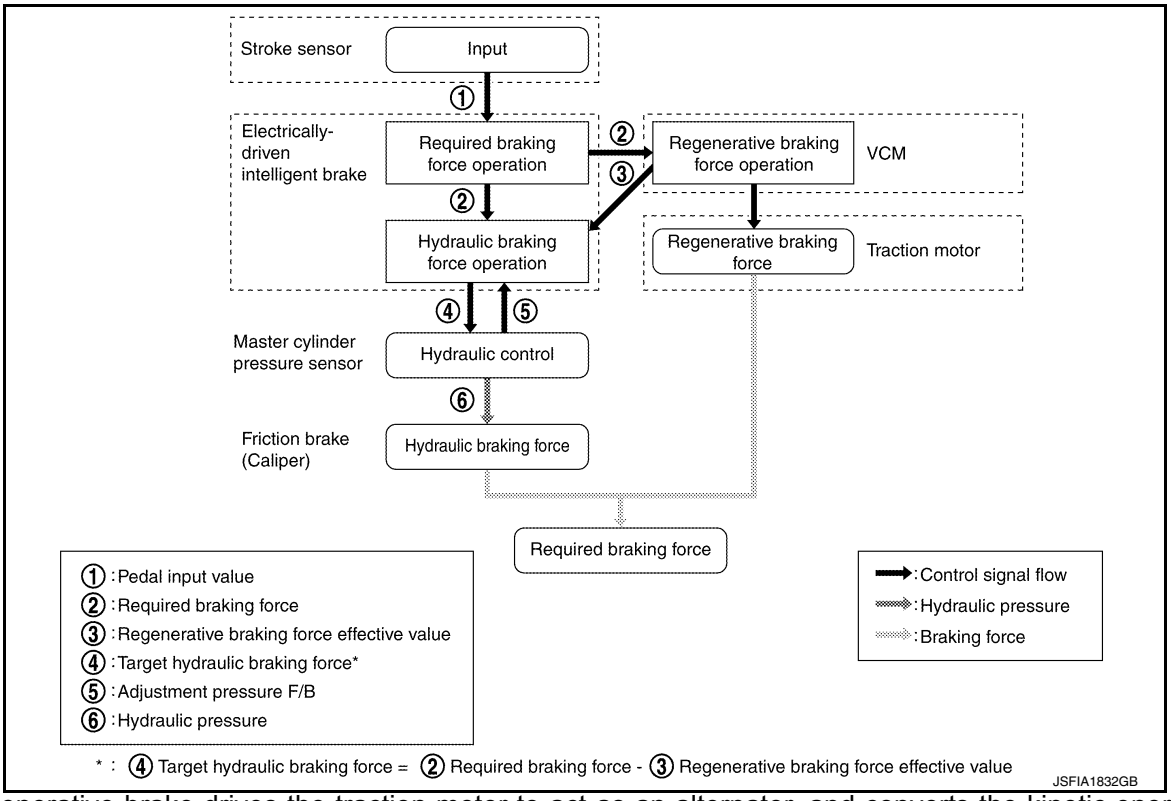
DTC	Vehicle condition
C1A80	The following functions are suspended. • Boost operation by the electrically-driven intelligent brake • Cooperative regenerative brake control • Power supply from the brake power supply backup unit
C1A81	
C1A82	
C1A83	
C1A84	
C1A85	
C1A86	
C1A87	
C1A88	
C1A89	
C1A8A	
C1A8B	
C1A90	
C1A91	The following function is suspended. • Cooperative regenerative brake control • hill start assist function
C1A98	The following function is suspended. • Power supply from the brake power supply backup unit
C1A99	
C1A9A	
C1AA0	The following functions are suspended. • Boost operation by the electrically-driven intelligent brake • Cooperative regenerative brake control • Power supply from the brake power supply backup unit
C1AA1	
C1AA2	
C1AA3	
C1AA9	The following function is suspended. • Cooperative regenerative brake control • hill start assist function
C1AB8	
C1AB9	The following functions are suspended. • Boost operation by the electrically-driven intelligent brake • Cooperative regenerative brake control • Power supply from the brake power supply backup unit
C1ABA	
C1AC0	The following function is suspended. • Cooperative regenerative brake control
C1AC1	The following functions are suspended. • Boost operation by the electrically-driven intelligent brake
C1AC8	Normal control
C1AD0	
U1000	The following function is suspended. • Cooperative regenerative brake control • hill start assist function
U1010	
U1510	
U1511	The following functions are suspended. • Power supply from the brake power supply backup unit

COOPERATIVE REGENERATIVE BRAKE FUNCTION

COOPERATIVE REGENERATIVE BRAKE FUNCTION : System Description

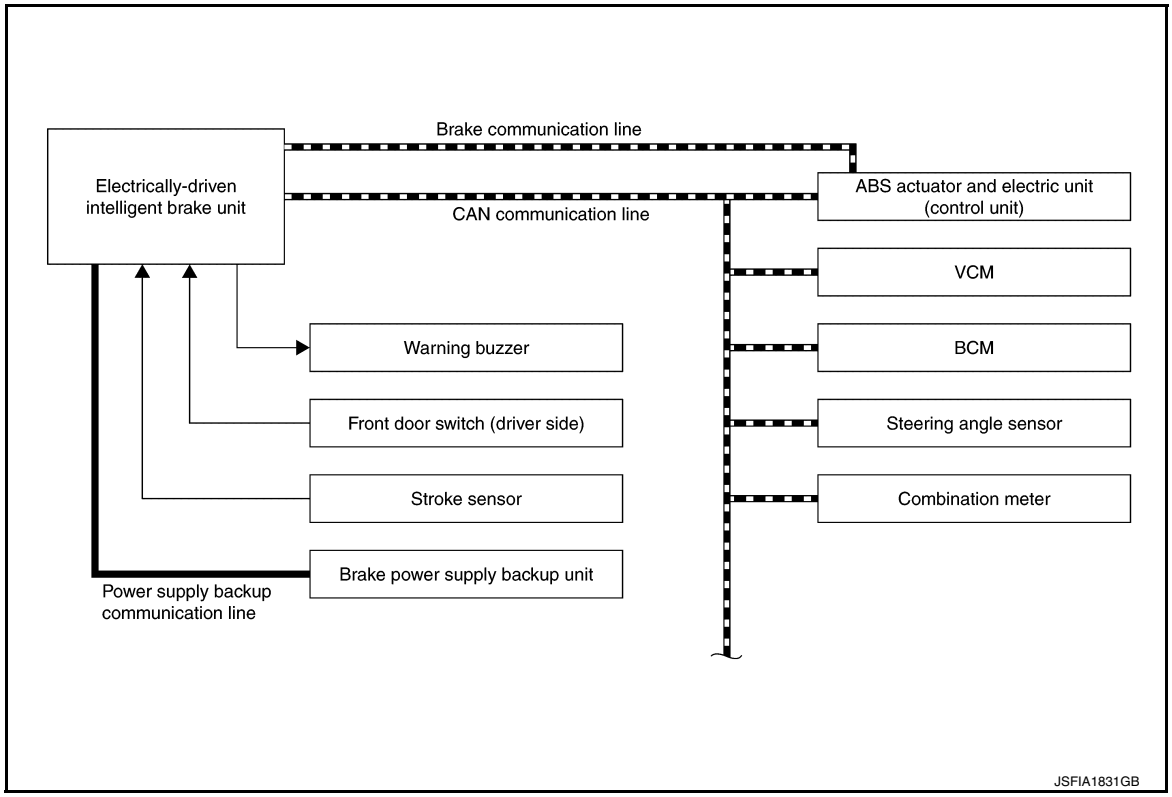
INFOID:0000000009246262

COOPERATIVE REGENERATIVE BRAKE CONTROL



- A regenerative brake drives the traction motor to act as an alternator, and converts the kinetic energy produced by rotation of the tires into electrical energy. The converted electrical energy charges the Li-ion battery.
- When the brakes are operated (during driving), the electrically-driven intelligent brake unit calculates the required braking force based on the input value from the stroke sensor (indicating the amount of brake pedal operation), and it sends the result to the VCM. At the same time, it calculates the hydraulic braking force needed to produce the required braking force.
- The VCM calculates the regenerative braking force needed to produce the required braking force, and sends the result to the electrically-driven intelligent brake unit. At the same time, the traction motor inverter uses the traction motor to perform regenerative braking.
- The electrically-driven intelligent brake unit calculates the hydraulic braking force again based on the regenerative braking force result from the VCM and the calculated result for hydraulic braking force.
- Based on the calculated result for hydraulic braking force, the electrically-driven intelligent brake unit uses the motor inside the electrically-driven intelligent brake unit to move the master cylinder piston, adjusting the fluid pressure inside the master cylinder to the master fluid pressure. It also performs adjustment so that the fluid pressure that is actually applied matches the target fluid pressure.
  NOTE:
  The fluid pressure applied to the master cylinder is detected by master cylinder pressure sensor and transmits the electrically-driven intelligent brake unit from ABS actuator and electric unit (control unit) via brake communication (CAN communication).
- The fluid pressure generated by the master cylinder is sent to each brake caliper via the ABS actuator and electric unit (control unit).
- When the cooperative regenerative brake is operating, the motor inside the electrically-driven intelligent brake unit moves the master cylinder piston according to the amount of regeneration.
- Moving the master cylinder piston increases the fluid pressure applied to the ABS actuator and electric unit (control unit). (The brake pedal stroke does not change.)
- When brake control is stopped (immediately before vehicle stop or while vehicle is stopped), cooperative regenerative brake control is not performed.

SYSTEM DIAGRAM (TYPE 1)



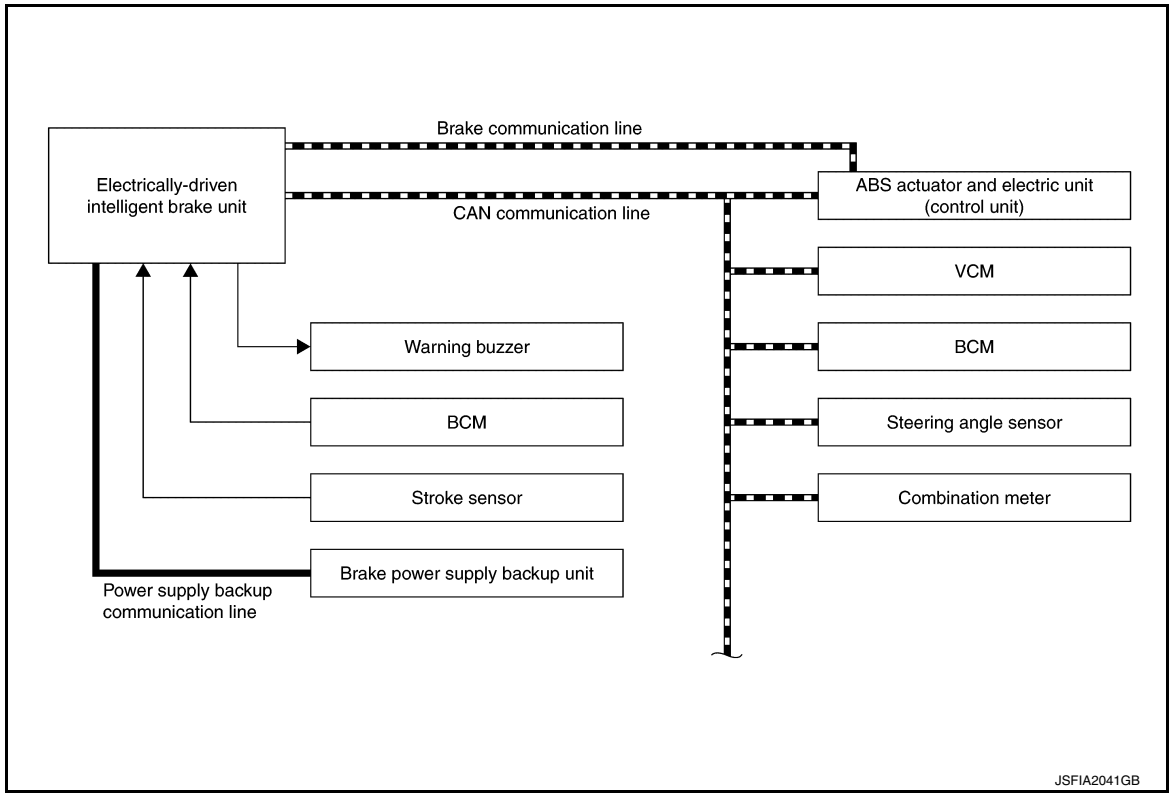
INPUT SIGNAL AND OUTPUT SIGNAL (TYPE 1)

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

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

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

SYSTEM DIAGRAM (TYPE 2)



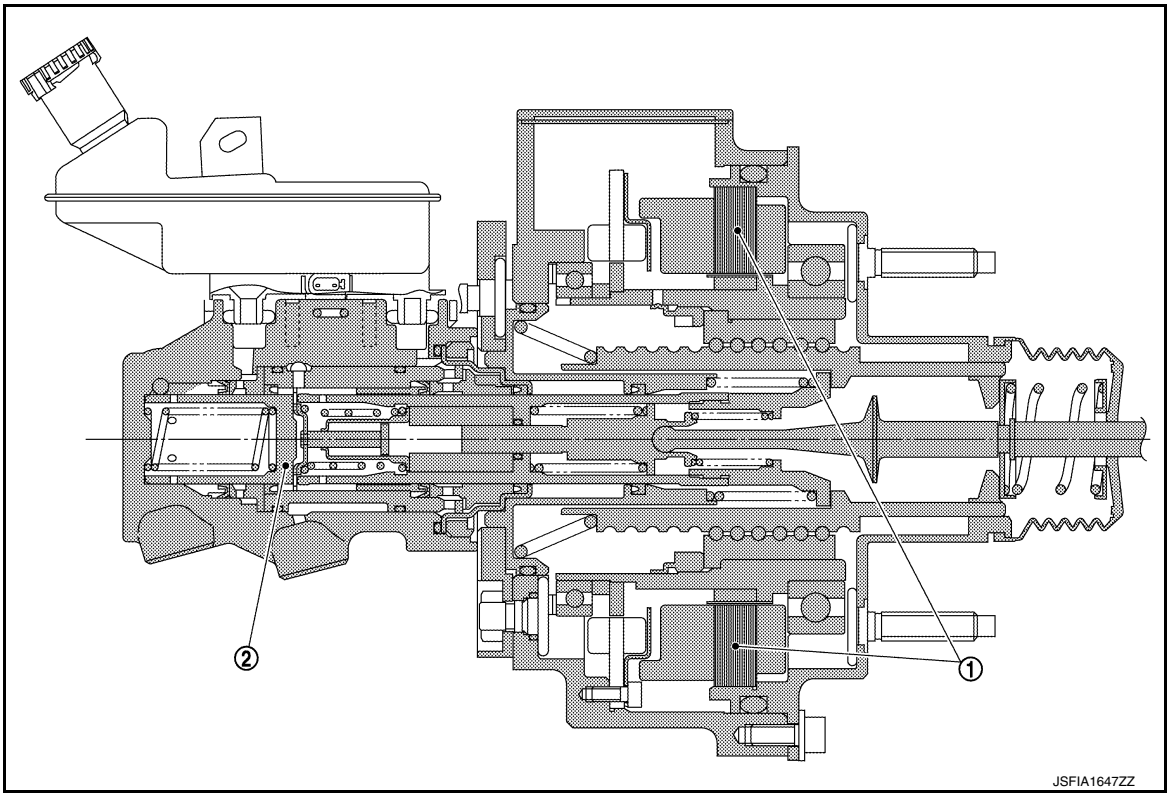
INPUT SIGNAL AND OUTPUT SIGNAL (TYPE 2)

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

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

OPERATION

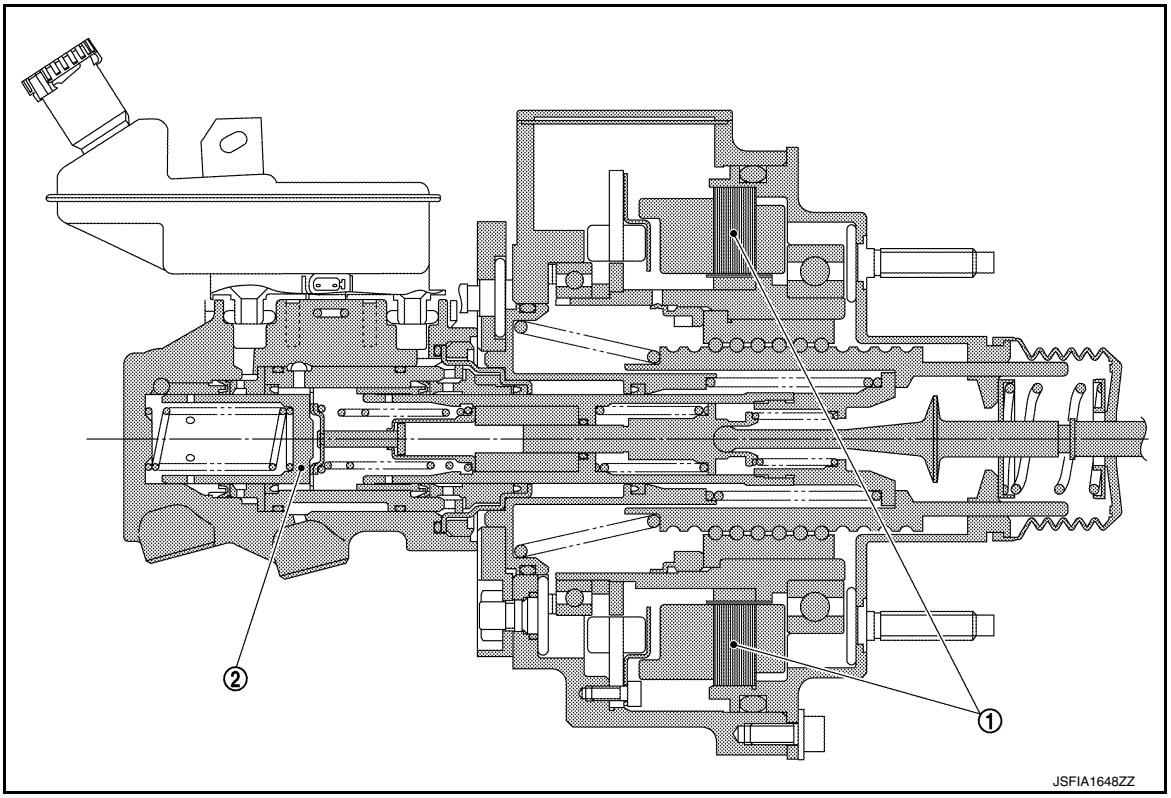
During Normal Braking



① Motor ② Piston

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

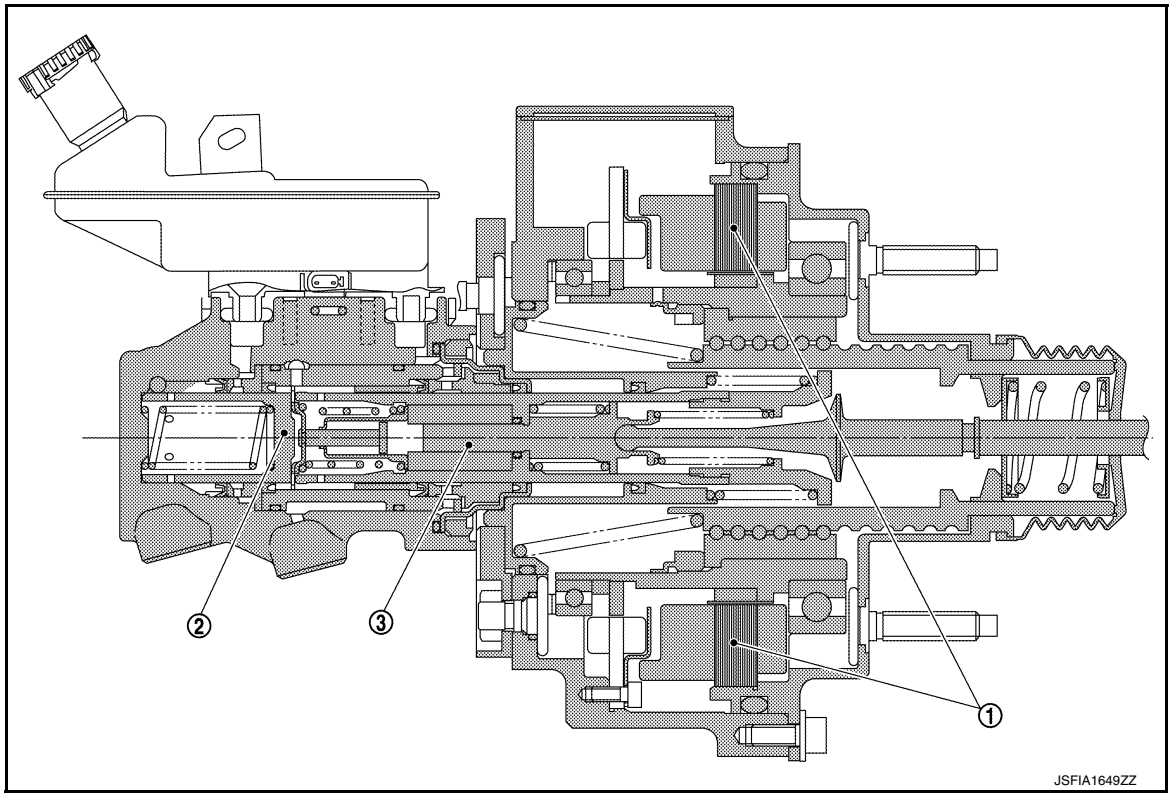
When Cooperative Regenerative Brake Control Is Operating



① Motor ② Piston

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

When Control Is Stopped



① Motor ② Piston ③ Input rod

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

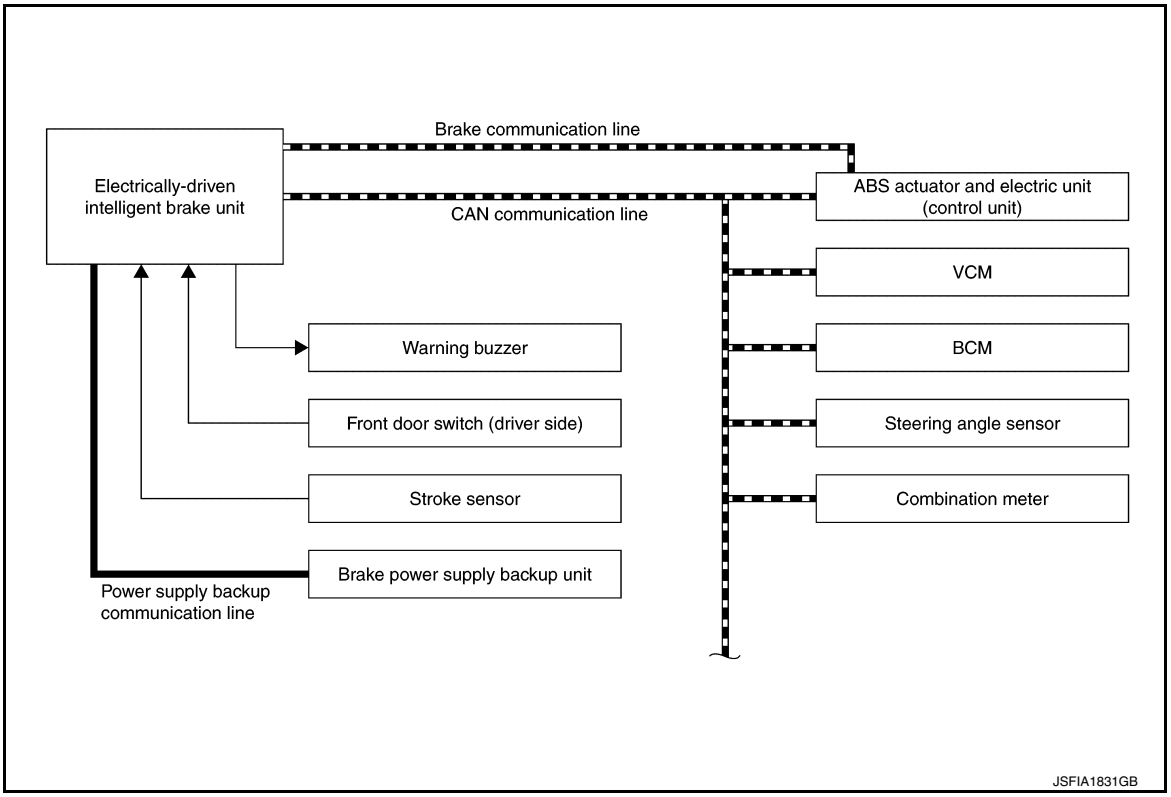
hill start assist FUNCTION

hill start assist FUNCTION : System Description

INFOID:0000000009246263

- This function maintains brake fluid pressure so that the vehicle does not move backwards even if brake pedal is released to depress accelerator pedal to start the vehicle while it is stopped on an uphill slope by depressing brake pedal.
- This function operates when the vehicle is in stop status on a uphill slope of slope ratio 10% or more and selector lever is in the position other than P or N.
- hill start assist function is only for the start aid. It maintains the brake fluid pressure for approx. 2 seconds after releasing the brake pedal, and then decreases the pressure gradually. If the vehicle can start by the accelerator operation, the brake is released automatically and a smooth start can be performed.
- Fail-safe function is adopted. When a malfunction occurs in hill start assist function, the control is suspended for hill start assist function. The vehicle status becomes the same as models without hill start assist function. Refer to BR-19, "Fail-Safe".

SYSTEM DIAGRAM (TYPE 1)



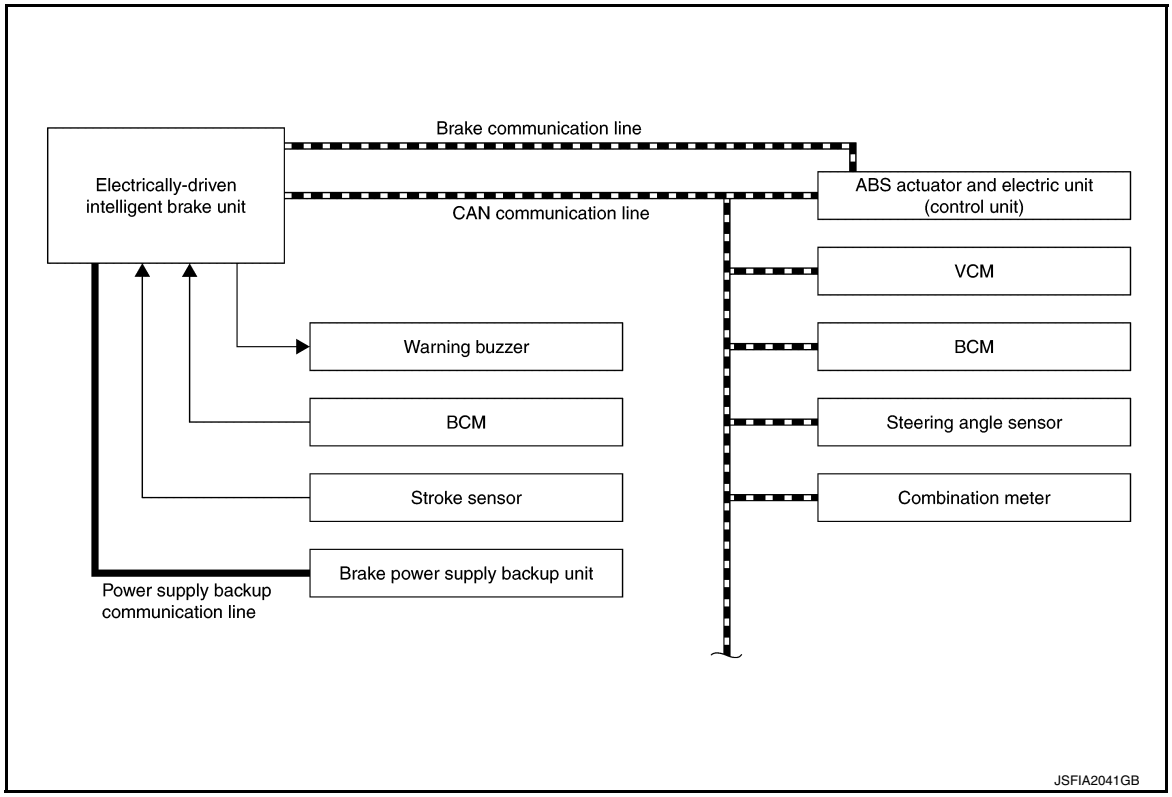
INPUT SIGNAL AND OUTPUT SIGNAL (TYPE 1)

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

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

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

SYSTEM DIAGRAM (TYPE 2)



INPUT SIGNAL AND OUTPUT SIGNAL (TYPE 2)

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

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

WARNING/INDICATOR/CHIME LIST

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

INFOID:0000000009298763

FOR U.S.A.

Name	Design	Layout/Function
Brake system warning lamp (yellow)	BRAKE	For layout: Refer to MWI-8, "METER SYSTEM : System Description". For function: Refer to BR-30, "WARNING/INDICATOR/CHIME LIST : Brake System Warning Lamp (Yellow)".
Brake warning lamp (red)	BRAKE	For layout: Refer to MWI-8, "METER SYSTEM : System Description". For function: Refer to BR-32, "WARNING/INDICATOR/CHIME LIST : Brake Warning Lamp (Red)".

Name	Design	Layout/Function
Brake system warning lamp (yellow)		For layout: Refer to MWI-8, "METER SYSTEM : System Description". For function: Refer to BR-30, "WARNING/INDICATOR/CHIME LIST : Brake System Warning Lamp (Yellow)".
Brake warning lamp (red)		For layout: Refer to MWI-8, "METER SYSTEM : System Description". For function: Refer to BR-32, "WARNING/INDICATOR/CHIME LIST : Brake Warning Lamp (Red)".

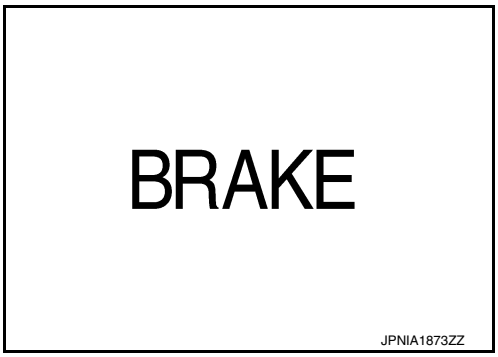
WARNING/INDICATOR/CHIME LIST : Brake System Warning Lamp (Yellow)

INFOID:0000000009298764

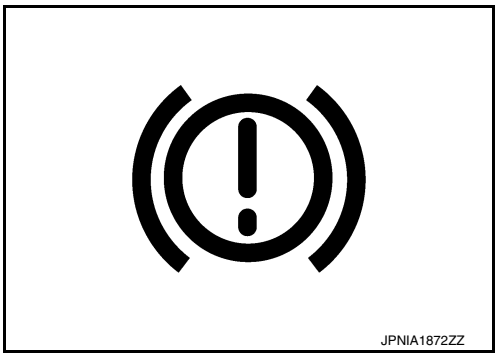
DESIGN/PURPOSE

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

- For U.S.A.



- For Canada



- The brake system warning lamp warns the driver of malfunction in hill start assist function.

NOTE:
The brake system warning lamp may turn ON simultaneously with the brake warning lamp. For details, refer to BR-15, "System Description".

BULB CHECK

Several seconds after power switch is turned ON

SYNCHRONIZATION WITH WARNING BUZZER

YES
For warning buzzer, refer to BR-14, "Warning Buzzer"

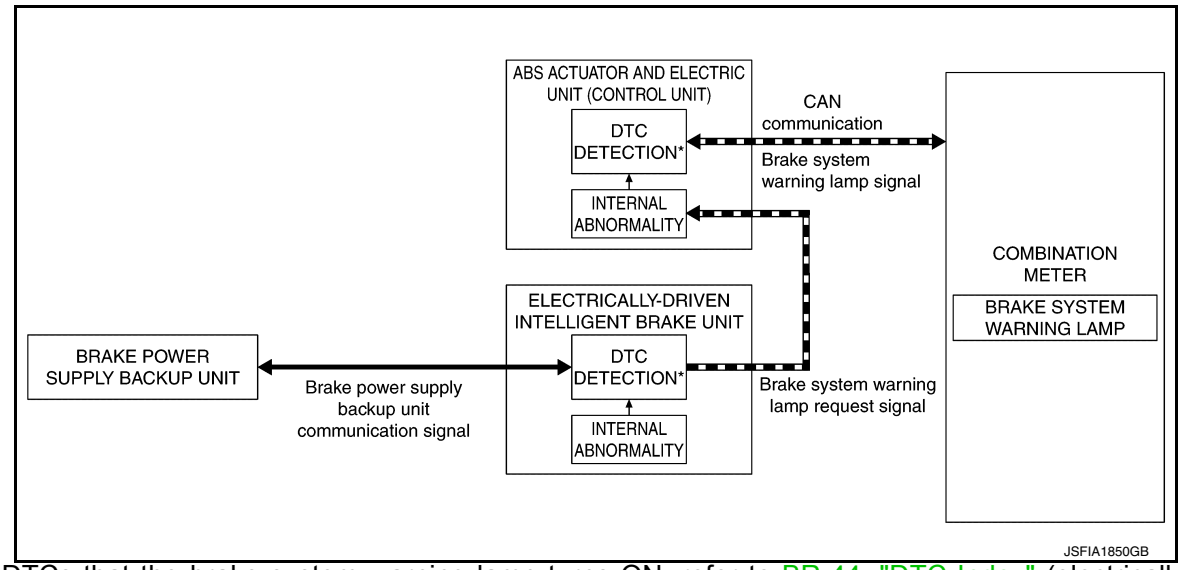
SYNCHRONIZATION WITH MASTER WARNING LAMP

Not applicable

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

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

SYSTEM DIAGRAM



*: For DTCs that the brake system warning lamp turns ON, refer to BR-44, "DTC Index" (electrically-driven intelligent brake unit) or BRC-57, "DTC Index" [ABS actuator and electric unit (control unit)].

SIGNAL PATH

- The electrically-driven intelligent brake unit transmits a brake system warning lamp request signal to the ABS actuator and electric unit (control unit) via CAN communication when detecting a malfunction in the electrically-driven intelligent brake unit.
- The ABS actuator and electric unit (control unit) receiving a brake system warning lamp request signal, and transmits a brake system warning lamp signal to the combination meter via CAN communication.
- The combination meter turns ON the brake system warning lamp when receiving a brake system warning lamp signal.
- For the relationship between warning lamp and DTC, refer to BR-44, "DTC Index".

LIGHTING CONDITION

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

- A malfunction is detected in the electrically-driven intelligent brake unit or the brake power supply backup unit.
- A malfunction is detected in the hill start assist function.
- For the relationship between warning lamp and DTC, refer to BR-44, "DTC Index".

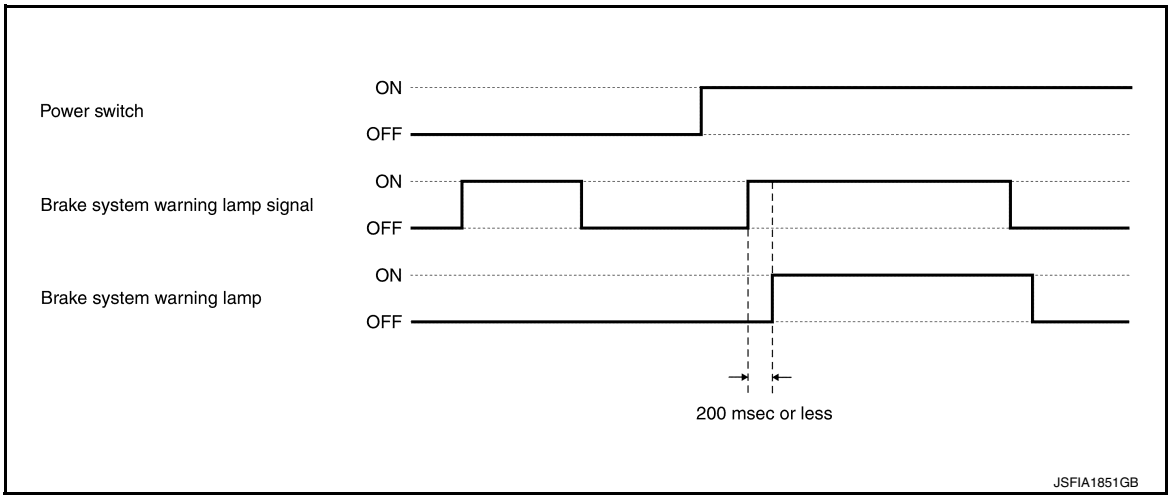
SHUTOFF CONDITION

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

- Erase DTC

- Power switch OFF

TIMING CHART



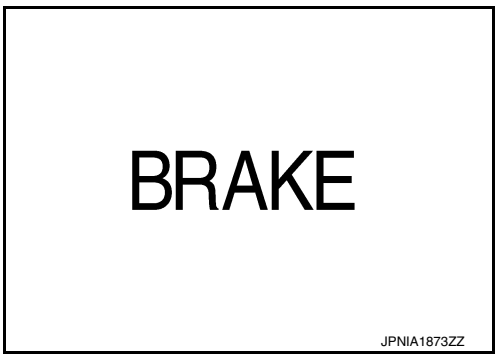
WARNING/INDICATOR/CHIME LIST : Brake Warning Lamp (Red)

INFOID:0000000009298765

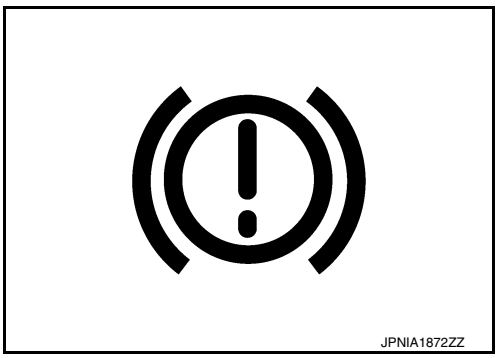
DESIGN/PURPOSE

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

- For U.S.A.



- For Canada



- The brake warning lamp warns the driver that the parking brake is engaged.
- The brake warning lamp warns the driver of a malfunction in the ABS actuator and electric unit (control unit).
- The brake warning lamp warns the driver of a malfunction in the electrically-driven intelligent brake unit.

NOTE:

The brake warning lamp may turn ON simultaneously with the ABS warning lamp, VDC warning lamp. For details, refer to BRC-16, "System Description" (ABS warning lamp, VDC warning lamp) and BR-15, "System Description" (brake system warning lamp).

BULB CHECK

Several seconds after power switch is turned ON

SYNCHRONIZATION WITH WARNING CHIME

YES

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

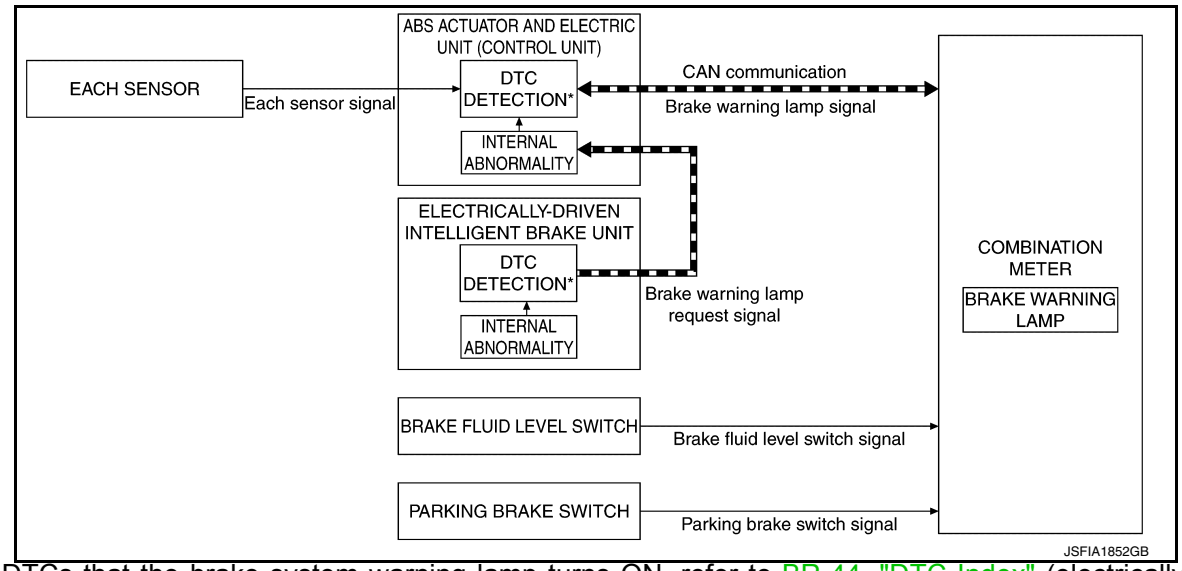
MASTER WARNING LAMP WITH WARNING CHIME

Not applicable

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

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

SYSTEM DIAGRAM



*: For DTCs that the brake system warning lamp turns ON, refer to BR-44, "DTC Index" (electrically-driven intelligent brake unit) or BRC-57, "DTC Index" [ABS actuator and electric unit (control unit)].

SIGNAL PATH

When Brake Fluid Is Insufficient

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

When Operating The Parking Brake

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

When The EBD Function Is In Abnormal State

- The ABS actuator and electric unit (control unit) transmits a brake warning lamp signal to the combination meter via CAN communication when detecting a malfunction in the EBD function.
- The combination meter turns ON the brake warning lamp when receiving a brake warning lamp signal.
- For the relationship between warning lamp and DTC, refer to BRC-57, "DTC Index".

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

- The electrically-driven intelligent brake unit transmits a brake warning lamp request signal to the ABS actuator and electric unit (control unit) via CAN communication when detecting a malfunction in the electrically-driven intelligent brake unit.
- The ABS actuator and electric unit (control unit) receiving a brake warning lamp request signal, and transmits a brake system warning lamp signal to the combination meter via CAN communication.
- The combination meter turns ON the brake system warning lamp when receiving a brake system warning lamp signal.
- For the relationship between warning lamp and DTC, refer to BR-44, "DTC Index".

LIGHTING CONDITION

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

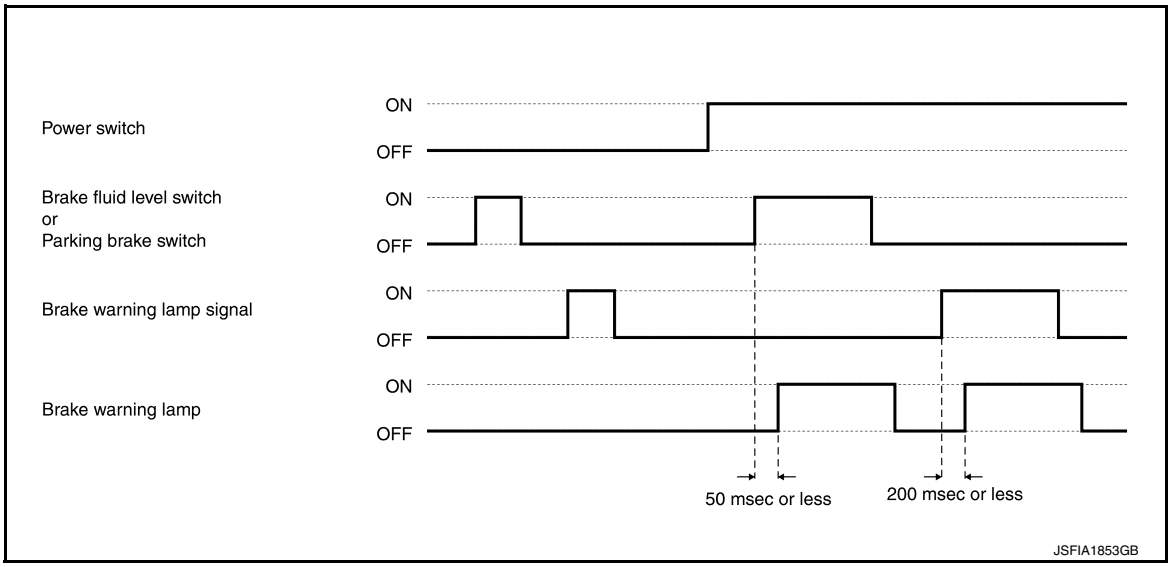
- Brake fluid level switch ON.
- Parking switch ON.

- A malfunction is detected in the EBD function of the ABS actuator and electric unit (control unit).
- A malfunction is detected in the electrically-driven intelligent brake unit.
- For the relationship between warning lamp and DTC, refer to BR-44, "DTC Index" (electrically-driven intelligent brake unit) or BRC-57, "DTC Index" [ABS actuator and electric unit (control unit)].

SHUTOFF CONDITION

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

TIMING CHART



DIAGNOSIS SYSTEM (ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT)

CONSULT Function

INFOID:0000000008746725

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. Never operate the vehicle 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-44, "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.
CONTROL MODULE TEMP	Displays the temperature of the control module that is integrated with the electrically-driven intelligent brake unit at the time the malfunction is detected.
MOTOR POWER SUPPLY	Displays the power voltage of the motor inside the electrically-driven intelligent brake unit at the time the malfunction is detected.
CONTROL MODULE POWER	Displays the power voltage of the control module that is integrated with the electrically-driven intelligent brake unit at the time the malfunction is detected.
Q axis current	Displays the current at the motor inside the electrically-driven intelligent brake unit at the time the malfunction is detected.
VEHICLE SPEED	Displays the vehicle speed at the time the malfunction is detected.

Item name	Display item	
DECEL G SENSOR	Displays the decel G at the time the malfunction is detected.	
ACTUAL GEAR POSITION	Displays the shift position at the time the malfunction is detected.	
MILEAGE	Displays the mileage at the time the malfunction is detected.	
SYSTEM OPERATING TIME (msec)	Time between the start of the electrically-driven intelligent brake unit and DTC detection is displayed by “msec”.	
SYSTEM OPERATING TIME (min)	Time between the start of the electrically-driven intelligent brake unit and DTC detection is displayed by “min”.	
BACKUP UNIT OUT VOLT	Displays the power voltage of the brake power supply backup unit at the time the malfunction is detected.	
WAKEUP SIGNAL STATUS	IGN ON	Displayed if the power switch is ON when DTC is detected.
	IGN OFF	Displayed if the power switch is in a state other than ON when DTC is detected.
	STOP LAMP SW ON	Displayed if the brake pedal is depressed when DTC is detected.
	STOP LAMP SW OFF	Displayed if the brake pedal is not depressed when DTC is detected.
	DOOR OPEN	Displayed if the driver's door is open when DTC is detected.
	DOOR CLOSE	Displayed if the driver's door is close when DTC is detected.
	SLEEP	Displayed if the electrically-driven intelligent brake unit is not active when DTC is detected.
	WAKE UP	Displayed if the electrically-driven intelligent brake unit is active when DTC is detected.
	READY ON	Displayed if the vehicle is in READY state when DTC is detected.
	READY OFF	Displayed if the vehicle is in a state other than READY state when DTC is detected.
	CAN COMM ON	Displayed if CAN communication is performed when DTC is detected.
	CAN COMM OFF	Displayed if CAN communication is not performed when DTC is detected.
IGNITION SIGNAL	Displays the status of ignition switch at the time a DTC is detected.	
STATUS STOP LAMP SW	Displays the status of brake pedal position at the time a DTC is detected.	
DOOR SWITCH	• Displays the status of driver′s door at the time a DTC detected.*1 (Type 1) • Displays the status of all doors (including back door) at the time a DTC is detected.*2 (Type 2)	
COMMAND WAKE UP SLEEP	Displays the status of the wake up permit of the electrically-driven intelligent brake unit at the time a DTC is detected.	
STATUS READY	Displays the status of READY where a DTC is detected.	
CONDITION CAN DIAG PERMIS	Displays the status of the CAN communication diagnosis permit at the time a DTC is detected.	

*1: When the driver′s door is open: “DOOR OPEN” is displayed. When the driver′s door is closed: “DOOR CLOSE” is displayed.
*2: When one or more doors including the back door are open: “DOOR OPEN” is displayed. When all doors including the back door are closed: “DOOR CLOSE” is displayed.

DATA MONITOR

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

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

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

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

WORK SUPPORT

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

ECU DIAGNOSIS INFORMATION

ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT

Reference Value

INFOID:0000000008746726

CONSULT DATA MONITOR STANDARD VALUE

NOTE:

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

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

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

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

*1: The stroke sensor contains two circuits: stroke sensor 1 and stroke sensor 2.
*2: Learning for stroke sensor 1, stroke sensor 2, and master cylinder fluid pressure.
*3: Check tire pressure under normal conditions.

Fail-Safe

INFOID:0000000008746727

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

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

DTC	Vehicle condition
C1A6B	The following function is suspended. • Backup power supply from the brake power supply backup unit
C1A6C	
C1A6D	
C1A6E	The following function is suspended. • Cooperative regenerative brake control • hill start assist function
C1A6F	The following function is suspended. • hill start assist function
C1A70	The following function is suspended. • Cooperative regenerative brake control • hill start assist function
C1A74	
C1A80	The following functions are suspended. • Boost operation by the electrically-driven intelligent brake • Cooperative regenerative brake control • Power supply from the brake power supply backup unit
C1A81	
C1A82	
C1A83	
C1A84	
C1A85	
C1A86	
C1A87	
C1A88	
C1A89	
C1A8A	
C1A8B	
C1A90	
C1A91	The following function is suspended. • Cooperative regenerative brake control • hill start assist function
C1A98	The following function is suspended. • Power supply from the brake power supply backup unit
C1A99	
C1A9A	
C1AA0	The following functions are suspended. • Boost operation by the electrically-driven intelligent brake • Cooperative regenerative brake control • Power supply from the brake power supply backup unit
C1AA1	
C1AA2	
C1AA3	
C1AA9	The following function is suspended. • Cooperative regenerative brake control • hill start assist function
C1AB8	
C1AB9	The following functions are suspended. • Boost operation by the electrically-driven intelligent brake • Cooperative regenerative brake control • Power supply from the brake power supply backup unit
C1ABA	
C1AC0	The following function is suspended. • Cooperative regenerative brake control
C1AC1	The following functions are suspended. • Boost operation by the electrically-driven intelligent brake
C1AC8	Normal control
C1AD0	

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

DTC Inspection Priority Chart

INFOID:0000000008746728

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 • C1A80 CONTROL MODULE-2 • C1A81 CONTROL MODULE-3 • C1A82 CONTROL MODULE-4 • C1A83 CONTROL MODULE-5 • C1A84 CONTROL MODULE-6 • C1A85 CONTROL MODULE-7 • C1A86 CONTROL MODULE-8 • C1A87 CONTROL MODULE-9 • C1A88 CONTROL MODULE-10 • C1A89 CONTROL MODULE-11 • C1A8A CONTROL MODULE-12 • C1A8B CONTROL MODULE-13 • C1AC8 POWER SUPPLY BACKUP UNIT-2
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 • C1A90 POWER SUPPLY MODE • C1A91 IGNITION POWER SUPPLY • C1A98 BACKUP POWER SUPPLY-2 • C1A99 BACKUP POWER SUPPLY-3 • C1A9A BACKUP POWER SUPPLY-4 • C1AD0 POWER SUP BACKUP UNIT VOLT-2
5	• C1A65 STROKE SENSOR SET • C1A67 STOP LAMP SWITCH • C1A69 MOTOR • C1A6D POWER SUPPLY BACKUP UNIT OUTPUT • C1AA0 STROKE SENSOR-2 • C1AA1 STROKE SENSOR-3 • C1AA2 STROKE SENSOR-4 • C1AA3 STROKE SENSOR-5 • C1AA9 PRESSURE SENSOR • C1AB8 MOTOR-2 • C1AB9 MOTOR-3 • C1ABA MOTOR-4 • C1AC0 CONTROL MODULE TEMP-2 • C1AC1 CONTROL MODULE TEMP-3

DTC Index

INFOID:0000000008746729

DTC	Display item	Brake warning lamp	Brake system warning lamp	Refer to
C1A60	CONTROL MODULE	ON	ON	BR-79, "DTC Logic"
C1A61	MOTOR POWER SUPPLY	ON	ON	BR-87, "DTC Logic"
C1A62	CONTROL MODULE POWER SUPPLY	ON	ON	BR-95, "DTC Logic"
C1A63	BACKUP POWER SUPPLY	OFF	ON	BR-104, "DTC Logic"
C1A65	STROKE SENSOR SET	ON	ON	BR-113, "DTC Logic"
C1A67	STOP LAMP SWITCH	OFF	ON	BR-125, "DTC Logic"
C1A69	MOTOR	ON	ON	BR-137, "DTC Logic"
C1A6B	POWER SUPPLY BACKUP UNIT	OFF	ON	BR-146, "DTC Logic"
C1A6C	POWER SUPPLY BACKUP UNIT VOLT	OFF	ON	BR-156, "DTC Logic"
C1A6D	POWER SUPPLY BACKUP UNIT OUTPUT	OFF	OFF	BR-165, "DTC Logic"
C1A6E	EV/HEV SYSTEM	OFF	ON	BR-173, "DTC Logic"
C1A6F	TCM/VCM SYSTEM	OFF	ON	BR-182, "DTC Logic"
C1A70	BRAKE CONTROL SYSTEM	OFF	ON	BR-191, "DTC Logic"
C1A74	ST ANG SEN CIRCUIT	OFF	ON	BR-200, "DTC Logic"
C1A80	CONTROL MODULE-2	ON	ON	BR-208, "DTC Logic"
C1A81	CONTROL MODULE-3	ON	ON	BR-216, "DTC Logic"
C1A82	CONTROL MODULE-4	ON	ON	BR-224, "DTC Logic"
C1A83	CONTROL MODULE-5	ON	ON	BR-232, "DTC Logic"
C1A84	CONTROL MODULE-6	ON	ON	BR-240, "DTC Logic"
C1A85	CONTROL MODULE-7	ON	ON	BR-248, "DTC Logic"
C1A86	CONTROL MODULE-8	ON	ON	BR-256, "DTC Logic"
C1A87	CONTROL MODULE-9	ON	ON	BR-264, "DTC Logic"
C1A88	CONTROL MODULE-10	ON	ON	BR-272, "DTC Logic"
C1A89	CONTROL MODULE-11	ON	ON	BR-280, "DTC Logic"
C1A8A	CONTROL MODULE-12	ON	ON	BR-288, "DTC Logic"
C1A8B	CONTROL MODULE-13	OFF	ON	BR-296, "DTC Logic"
C1A90	POWER SUPPLY MODE	OFF	OFF	BR-304, "DTC Logic"
C1A91	IGNITION POWER SUPPLY	OFF	ON	BR-313, "DTC Logic"
C1A98	BACKUP POWER SUPPLY-2	OFF	ON	BR-322, "DTC Logic"
C1A99	BACKUP POWER SUPPLY-3	OFF	ON	BR-331, "DTC Logic"
C1A9A	BACKUP POWER SUPPLY-4	OFF	ON	BR-340, "DTC Logic"
C1AA0	STROKE SENSOR-2	ON	ON	BR-349, "DTC Logic"
C1AA1	STROKE SENSOR-3	ON	ON	BR-361, "DTC Logic"
C1AA2	STROKE SENSOR-4	ON	ON	BR-373, "DTC Logic"
C1AA3	STROKE SENSOR-5	ON	ON	BR-385, "DTC Logic"
C1AA9	PRESSURE SENSOR	OFF	ON	BR-397, "DTC Logic"
C1AB8	MOTOR-2	OFF	ON	BR-407, "DTC Logic"
C1AB9	MOTOR-3	ON	ON	BR-416, "DTC Logic"
C1ABA	MOTOR-4	ON	ON	BR-425, "DTC Logic"
C1AC0	CONTROL MODULE TEMP-2	OFF	ON	BR-434, "DTC Logic"
C1AC1	CONTROL MODULE TEMP-3	ON	ON	BR-443, "DTC Logic"

DTC	Display item	Brake warning lamp	Brake system warning lamp	Refer to
C1AC8	POWER SUPPLY BACKUP UNIT-2	OFF	OFF	BR-452, "DTC Logic"
C1AD0	POWER SUP BACKUP UNIT VOLT-2	OFF	OFF	BR-462, "DTC Logic"
U1000	CAN COMM CIRCUIT	OFF	ON	BR-471, "DTC Logic"
U1010	CONTROL UNIT (CAN)	OFF	ON	BR-473, "DTC Logic"
U1510	BRAKE CONTROL COMMUNICATION	OFF	ON	BR-475, "DTC Logic"
U1511	POWER SUPPLY BACKUP UNIT COMM	OFF	ON	BR-483, "DTC Logic"

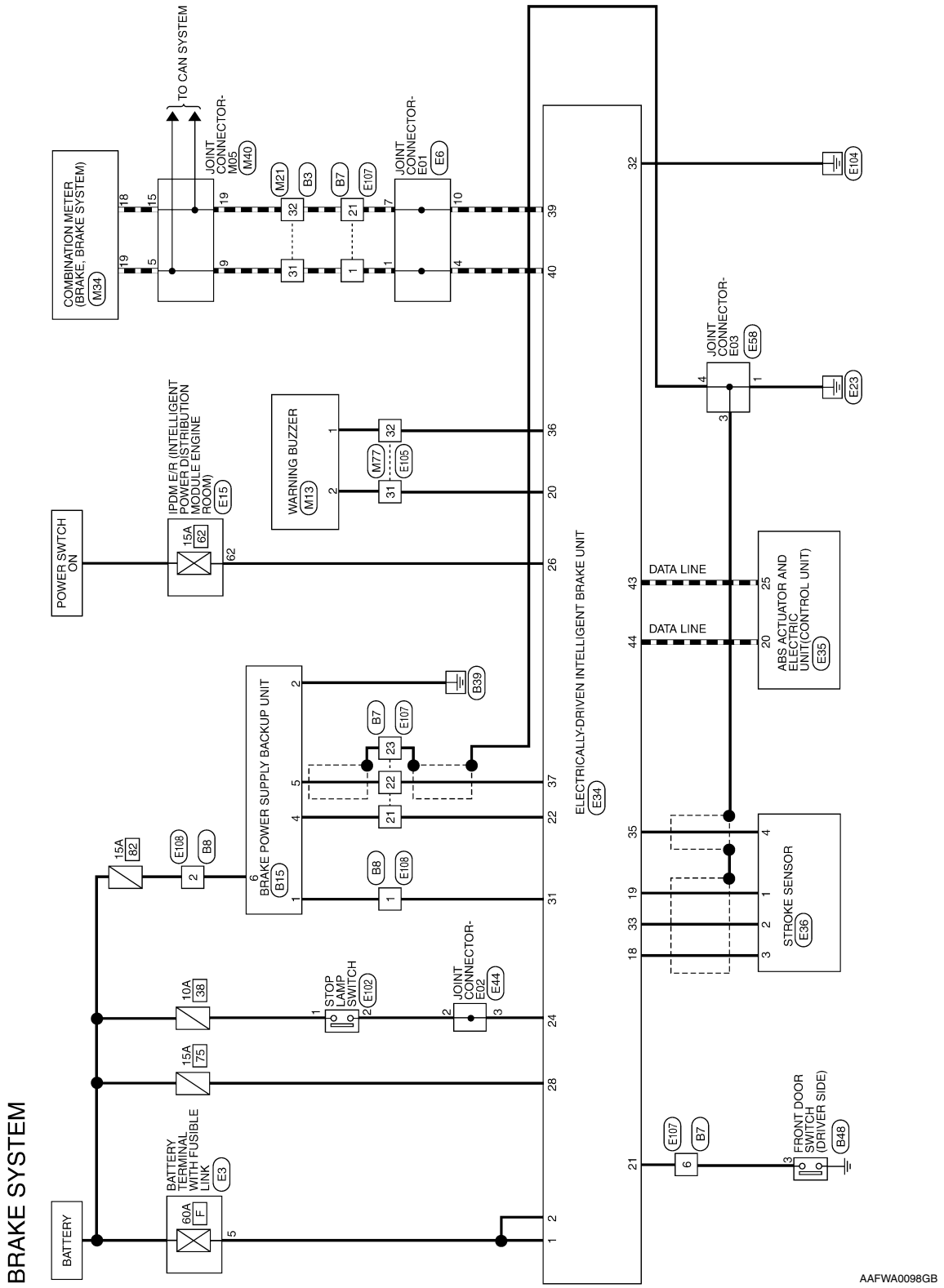
WIRING DIAGRAM

BRAKE SYSTEM

TYPE 1

TYPE 1 : Wiring Diagram

INFOID:0000000008746730



BRAKE SYSTEM - CONNECTORS

Connector No.	M13
Connector Name	WARNING BUZZER
Connector Color	BROWN

H.S.

1	2

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

Connector No.	M20
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

7	6	5	4	3	2	1
16	15	14	13	12	11	10	9	8

Terminal No.	Color of Wire	Signal Name
1	–	–
2	–	–
3	–	–
4	–	–
5	–	–

Terminal No.	Color of Wire	Signal Name
6	–	–
7	–	–
8	–	–
9	–	–
10	–	–
11	–	–
12	–	–
13	–	–
14	–	–
15	–	–
16	–	–

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

H.S.

16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17

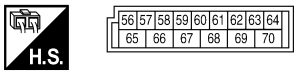
Terminal No.	Color of Wire	Signal Name
1	–	–
2	–	–
3	–	–
4	–	–
5	–	–
6	–	–
7	B	–
8	SHIELD	–

Terminal No.	Color of Wire	Signal Name
9	R	–
10	SB	–
11	P	–
12	V	–
13	GR	–
14	P	–
15	L	–
16	G	–
17	–	–
18	–	–
19	–	–
20	–	–

Terminal No.	Color of Wire	Signal Name
21	–	–
22	–	–
23	–	–
24	W	–
25	B	–
26	W	–
27	Y	–
28	–	–
29	W	–
30	L	–
31	L	–
32	P	–

AAFIA0194GB

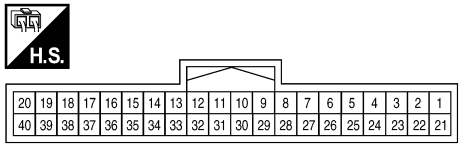
Connector No.	M25
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
56	LG	BATTERY SAVER OUTPUT
57	P	BATTERY (FUSE)
58	–	–
59	LG	DOOR UNLOCK OUTPUT (AS)
60	V	FLASHER OUTPUT (LEFT)
61	R	FLASHER OUTPUT (RIGHT)
62	–	–
63	BR	ROOM LAMP OUTPUT
64	–	–
65	V	DOOR LOCK OUTPUT
66	G	DOOR UNLOCK COMMON (DR)
67	B	GND
68	L	POWER WINDOW POWER SUPPLY (RAP)
69	R	POWER WINDOW POWER SUPPLY (BATTERY)
70	Y	BATTERY (F/L)

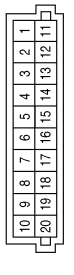
AAFIA0195GB

Connector No.	M34
Connector Name	COMBINATION METER
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	LG	BAT
2	Y	BAT (FOR UPPER)
3	GR	IGN
4	BG	IGN (FOR UPPER)
5	B	GND1 (ILL)
6	B	GND2 (POWER)
7	–	–
8	Y	WASHER SW
9	BR	CHARGE CONNECT
10	–	–
11	–	–
12	V	SW GND
13	G	MODE B SW
14	Y	MODE A SW
15	BR	TRIP RESET SW
16	P	ILL CONT UP
17	G	UPPER ILL CONT
18	P	CAN–H
19	L	CAN–L
20	LG	AS SEATBELT W/L
21	–	–
22	GR	GND (FOR UPPER)
23	–	–
24	BG	PKB SW
25	SB	BRAKE OIL
26	B	ILL CONT OUT
27	R	A/BAG WARN
28	R	SECURITY
29	–	–
30	GR	8 P/R O/P
31	–	–
32	W	SDA (12C)
33	G	SCL (12C)
34	L	CHARGE LAMP
35	–	–
36	–	–
37	–	–
38	V	LED H LAMP R
39	LG	LED H LAMP L
40	W	BUCKLE SW FR DR

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



Terminal No.	Color of Wire	Signal Name
1	L	–
2	L	–
3	BR	–
4	GR	–
5	L	–
6	L	–
7	L	–
8	L	–
9	L	–
10	L	–
11	LG	–
12	LG	–
13	L	–
14	R	–
15	P	–
16	P	–
17	P	–
18	P	–
19	P	–
20	P	–

ABFIA0808GB

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

H.S.

Terminal No.	Color of Wire	Signal Name
1	R	–
2	L	–
3	V	–
4	LG	–
6	P	–
7	GR	–
9	G	–
10	L	–
11	L	–
12	Y	–
13	V	–
14	R	–
15	G	–
16	W	–
17	R	–
18	G	–
19	W	–
20	GR	–
21	P	–
22	B	–

Terminal No.	Color of Wire	Signal Name
23	BG	–
24	B	–
25	W	–
26	G	–
27	B	–
28	B	–
29	R	–
31	R	–
32	W	–
33	GR	–
34	BR	–
35	BR	–
36	W	–
37	L	–
38	LG	–
39	SB	–
40	V	–
41	P	–
42	SB	–
43	G	–
44	LG	–
45	Y	–
46	R	–
47	W	–
48	L	–
49	G	–
50	L	–
51	SB	–
52	L	–
54	B	–
55	R	–
56	V	–
57	Y	–
58	L	–
60	Y	–

Terminal No.	Color of Wire	Signal Name
61	GR	–
62	W	–
63	BR	–
64	SHIELD	–
65	W	–
66	LG	–
67	R	–
68	G	–
69	BG	–
70	GR	–
71	R	–
72	R	–
73	B	–
74	W	–
76	L	–
80	W	–
81	LG	–
83	GR	–
84	L	–
85	Y	–
86	SB	–
88	R	–
89	G	–
90	SHIELD	–
91	Y	–
92	BR	–
93	W	–
94	P	–
95	L	–
96	P	–
97	G	–
98	V	–
99	LG	–
100	R	–

AAFIA0196GB

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

H.S.

Terminal No.	Color of Wire	Signal Name
5	R	–

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

H.S.

Terminal No.	Color of Wire	Signal Name
1	L	–
2	L	–
3	L	–
4	L	–
5	–	–
6	L	–
7	P	–
8	P	–
9	P	–
10	P	–
11	–	–
12	P	–

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

H.S.

Terminal No.	Color of Wire	Signal Name
47	–	–
48	–	–
49	Y	H/LAMP HI RH
50	G	H/LAMP HI LH
51	L	H/LAMP LO LH
52	P	H/LAMP LO RH
53	–	–
54	–	–
55	LG	FAST CHARGE
56	–	–
57	R	VCM IGN
58	O	REVERSE LAMP IGN
59	BR	ABS ECU IGN
60	GR	F/S RLY CONT
61	–	–
62	V	E-CACT/HAS IGN

AAFIA0197GB

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

Terminal No.	Color of Wire	Signal Name
1	Y	MOTOR POWER
2	Y	MOTOR POWER
3	–	–
4	–	–
5	–	–
6	–	–

Terminal No.	Color of Wire	Signal Name
7	–	
8	–	
9	–	
10	–	
11	–	
12	–	
13	–	
14	–	
15	–	
16	–	
17	–	
18	W/L	STROKE SENSOR POWER
19	L/O	STROKE SENSOR GND
20	R	BUZZER POWER
21	GR	DOOR SWITCH SIGNAL
22	O	DLC WAKE–UP
23	–	
24	SB	STOP LAMP SW

Terminal No.	Color of Wire	Signal Name
25	–	
26	V	IGN SWITCH SIGNAL
27	–	
28	L	ECU CONROL SYSTEM POWER
29	–	
30	–	
31	W	DLC BACKUP POWER
32	B	GND
33	L/Y	STROKE SENSOR1 SIGNAL
34	–	
35	B	STROKE SENSOR2 SIGNAL
36	W	BUZZER SIGNAL
37	W	DLC COMMUNICATION
38	–	
39	P	CAN–L
40	L	CAN–H
41	–	
42	–	
43	W	CAN–L
44	L	CAN–H
45	–	
46	–	

AAFIA0208GB

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

H.S.

Terminal No.	Color of Wire	Signal Name
1	G	MOTOR BATTERY
2	R	VALVE BATTERY
3	B	GROUND
4	B	GROUND
5	P	ESP OFF SW SIGNAL
6	O	BRAKE SW SIGNAL
7	L/Y	PRESS SENSOR SIGNAL
8	SB	STOP LAMP SW SIGNAL
9	P	CAN–L
10	W/L	PRESS SENSOR POWER SUPPLY
11	BR	RR RH WHEEL SENSOR POWER SUPPLY
12	W	FR RH WHEEL SENSOR SIGNAL

Terminal No.	Color of Wire	Signal Name
13	G	G SENSOR POWER SUPPLY
14	B	G SENSOR SIGNAL (+)
15	LG	RR RH WHEEL SENSOR SIGNAL
16	V	POWER SWITCH ON
17	–	
18	–	
19	–	
20	L	CAN2–H
21	B	FR RH WHEEL SENSOR POWER SUPPLY
22	L	CAN–H
23	R	FR LH WHEEL SENSOR POWER SUPPLY
24	–	
25	W	CAN2–L
26	B	RR LH WHEEL SENSOR POWER SUPPLY
27	Y	FR LH WHEEL SENSOR SIGNAL
28	R	G SENSOR GND
29	Y	G SENSOR SIGNAL (–)
30	G	RR LH WHEEL SENSOR SIGNAL
31	–	
32	L/O	PRESS SENSOR GND

Connector No.	E36
Connector Name	STROKE SENSOR
Connector Color	BLACK

H.S.

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

AAFIA0209GB

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

H.S.

Terminal No.	Color of Wire	Signal Name
1	W	–
2	SB	–
3	R	–
5	P	–

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

H.S.

Terminal No.	Color of Wire	Signal Name
1	B/R	–
2	SHIELD	–
3	SHIELD	–
4	SHIELD	–
5	–	–
6	–	–
7	–	–
8	–	–
9	–	–
10	B/R	–
11	SHIELD	–
12	SHIELD	–
13	W	–
14	W	–
15	W	–
16	W	–
17	W	–
18	W	–
19	G	–
20	G	–
21	–	–
22	V	–
23	V	–
24	V	–

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

H.S.

Terminal No.	Color of Wire	Signal Name
1	SB	–
2	SB	–
3	SB	–
4	SB	–
5	–	–
6	SB	–
7	O	–
8	O	–
9	O	–
10	O	–
11	O	–
12	–	–

AAFIA0210GB

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

H.S.

Terminal No.	Color of Wire	Signal Name
1	R	–
2	L	–
3	BW	– (WITHOUT FRONT FOG LAMPS)
3	R	– (WITH LED HEADLAMPS)
4	LG	– (WITH LED HEADLAMPS)
4	B/W	– (WITHOUT FRONT FOG LAMPS)
6	B/R	–
7	W	–
9	G	–
10	R	–
11	L	–
12	Y	–
13	W	–
14	R	–
15	G	–
16	G	–
17	R	–
18	O	–
19	W/L	–
20	BR	–
21	R	–
22	B	–
23	LG	–
24	B	–
25	W	–
26	W	–
27	B	–
28	O/L	–
29	W	–
31	R	–
32	W	–
33	G	–
34	BR	–
35	V	–
36	O	–
37	L	–
38	SB	–
39	P	–
40	V	–
41	O	–
42	Y	–
43	BR	–
44	W	–
45	G	–
46	P	–
47	LG	–
47	R	–
48	B	–
49	L	–
50	G	–
51	W	–
52	O	–
54	B	–
55	R	–
56	Y	–
57	Y	–
58	L	–
60	LG	–
61	GR	–
62	W	–
63	SB	–
64	SHIELD	–
65	W	–
66	G	–
67	V	–
68	R	–
69	B	–
70	BR	–
71	LG	–
72	R	–
73	B	–
74	O	–
76	L	–
77	Y	–
80	P	–
81	SB	–
83	GR	–
84	L	–
85	O	–
86	BR	–
88	B	–
89	W	–
90	SHIELD	–
91	Y	–
92	BR	–
93	O	–
94	R	–
95	V	–
96	P	–
97	G	–
98	W	–
99	O	–
100	SB	–

AAFIA0211GB

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

H.S.

1	2	3	4	5	6	7	8	9	10	11	12
13	14	15	16	17	18	19	20	21	22	23	24

Terminal No.	Color of Wire	Signal Name
1	W	–
2	Y	–
3	SB	–
4	R	–
5	–	–
6	GR	–
7	–	–
8	P	–
9	BR	–
10	W	–
11	R	–
12	B	–
13	G	–
14	B	–
15	LG	–
16	BR	–
17	G	–
18	B	–
19	Y	–
20	R	–
21	O	–
22	W	–
23	SHIELD	–
24	–	–

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

H.S.

1	2	3	4

Terminal No.	Color of Wire	Signal Name
1	W	–
2	Y	–
3	SB	–
4	R	–

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

H.S.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32

Terminal No.	Color of Wire	Signal Name
7	B	–
8	SHIELD	–
9	B	–
10	SB	–
11	P	–
12	BR	–
13	GR	–
14	P	–
15	L	–
16	G	–
24	R	–
25	W	–
26	LG	–
27	Y	–
29	R	–
30	GR	–
31	L	–
32	P	–

AAFIA0219GB

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

H.S.

12	11	10	9	8	7	6	5	4	3	2	1
24	23	22	21	20	19	18	17	16	15	14	13

Terminal No.	Color of Wire	Signal Name
1	L	–
2	P	–
3	Y	–
4	–	–
5	–	–
6	SB	–
7	–	–

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

H.S.

1	2
3	4
5	6

Terminal No.	Color of Wire	Signal Name
1	R	–
2	B	–
3	–	–
4	Y	–
5	W	–
6	L	–

Terminal No.	Color of Wire	Signal Name
8	P	–
9	V	–
10	Y	–
11	L	–
12	G	–
13	G	–
14	B	–
15	LG	–
16	BR	–
17	G	–
18	B	–
19	Y	–
20	R	–
21	Y	–
22	W	–
23	SHIELD	–
24	–	–

Connector No.	B26
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

1	2	3		4	5	6	7
8	9	10	11	12	13	14	15	16

Terminal No.	Color of Wire	Signal Name
1	–	–
2	–	–
3	–	–
4	–	–
5	–	–
6	–	–

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

H.S.

4	3	2	1

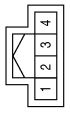
Terminal No.	Color of Wire	Signal Name
1	R	–
2	L	–
3	R	–
4	R	–

Terminal No.	Color of Wire	Signal Name
7	–	–
8	–	–
9	BR	–
10	–	–
11	–	–
12	–	–
13	–	–
14	–	–
15	–	–
16	–	–

AAFIA0220GB

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

H.S.



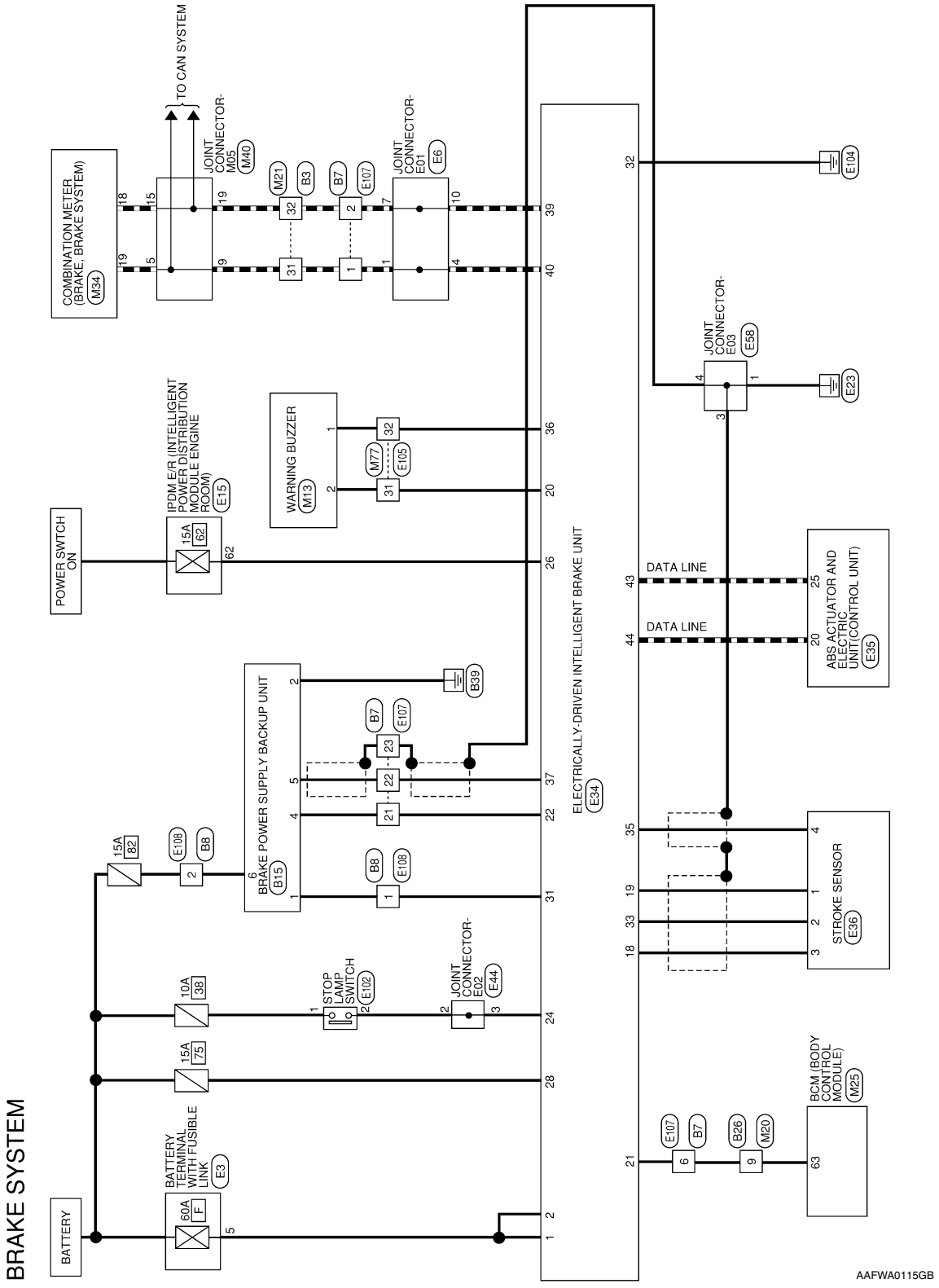
Terminal No.	Color of Wire	Signal Name
1	–	–
2	–	–
3	SB	–
4	–	–

ABFIA0807GB

TYPE 2

TYPE 2 : Wiring Diagram

INFOID:0000000010123164



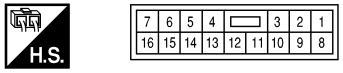
BRAKE SYSTEM - CONNECTORS

Connector No.	M13
Connector Name	WARNING BUZZER
Connector Color	BROWN



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

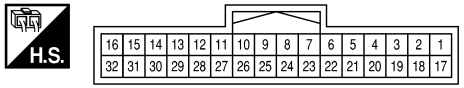
Connector No.	M20
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	–	–
2	–	–
3	–	–
4	–	–
5	–	–

Terminal No.	Color of Wire	Signal Name
6	–	–
7	–	–
8	–	–
9	–	–
10	–	–
11	–	–
12	–	–
13	–	–
14	–	–
15	–	–
16	–	–

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



Terminal No.	Color of Wire	Signal Name
1	–	–
2	–	–
3	–	–
4	–	–
5	–	–
6	–	–
7	B	–
8	SHIELD	–

Terminal No.	Color of Wire	Signal Name
9	R	–
10	SB	–
11	P	–
12	V	–
13	GR	–
14	P	–
15	L	–
16	G	–
17	–	–
18	–	–
19	–	–
20	–	–

Terminal No.	Color of Wire	Signal Name
21	–	–
22	–	–
23	–	–
24	W	–
25	B	–
26	W	–
27	Y	–
28	–	–
29	W	–
30	L	–
31	L	–
32	P	–

AAFIA0194GB

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

H.S.

56	57	58	59	60	61	62	63	64
65		66		67		68	69	70

Terminal No.	Color of Wire	Signal Name
56	LG	BATTERY SAVER OUTPUT
57	P	BATTERY (FUSE)
58	–	–
59	LG	DOOR UNLOCK OUTPUT (AS)
60	V	FLASHER OUTPUT (LEFT)
61	R	FLASHER OUTPUT (RIGHT)
62	–	–
63	BR	ROOM LAMP OUTPUT
64	–	–
65	V	DOOR LOCK OUTPUT
66	G	DOOR UNLOCK COMMON (DR)
67	B	GND
68	L	POWER WINDOW POWER SUPPLY (RAP)
69	R	POWER WINDOW POWER SUPPLY (BATTERY)
70	Y	BATTERY (F/L)

Connector No.	M34
Connector Name	COMBINATION METER
Connector Color	WHITE

H.S.

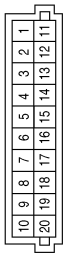
20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21

Terminal No.	Color of Wire	Signal Name
1	LG	BAT
2	Y	BAT (FOR UPPER)
3	GR	IGN
4	BG	IGN (FOR UPPER)
5	B	GND1 (ILL)
6	B	GND2 (POWER)
7	–	–
8	Y	WASHER SW
9	BR	CHARGE CONNECT
10	–	–
11	–	–
12	V	SW GND
13	G	MODE B SW
14	Y	MODE A SW
15	BR	TRIP RESET SW
16	P	ILL CONT UP

Terminal No.	Color of Wire	Signal Name
17	G	UPPER ILL CONT
18	P	CAN–H
19	L	CAN–L
20	LG	AS SEATBELT W/L
21	–	–
22	GR	GND (FOR UPPER)
23	–	–
24	BG	PKB SW
25	SB	BRAKE OIL
26	B	ILL CONT OUT
27	R	A/BAG WARN
28	R	SECURITY
29	–	–
30	GR	8 P/R O/P
31	–	–
32	W	SDA (12C)
33	G	SCL (12C)
34	L	CHARGE LAMP
35	–	–
36	–	–
37	–	–
38	V	LED H LAMP R
39	LG	LED H LAMP L
40	W	BUCKLE SW FR DR

AAFIA0195GB

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



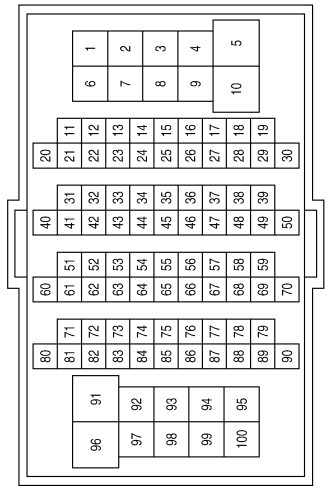
Terminal No.	Color of Wire	Signal Name
1	L	–
2	L	–
3	BR	–
4	GR	–
5	L	–
6	L	–
7	L	–
8	L	–
9	L	–
10	L	–
11	LG	–
12	LG	–
13	L	–
14	R	–
15	P	–
16	P	–
17	P	–
18	P	–
19	P	–
20	P	–

ABFIA0808GB

Terminal No.	Color of Wire	Signal Name
61	GR	–
62	W	–
63	BR	–
64	SHIELD	–
65	W	–
66	LG	–
67	R	–
68	G	–
69	BG	–
70	GR	–
71	R	–
72	R	–
73	B	–
74	W	–
76	L	–
80	W	–
81	LG	–
83	GR	–
84	L	–
85	Y	–
86	SB	–
88	R	–
89	G	–
90	SHIELD	–
91	Y	–
92	BR	–
93	W	–
94	P	–
95	L	–
96	P	–
97	G	–
98	V	–
99	LG	–
100	R	–

Terminal No.	Color of Wire	Signal Name
23	BG	–
24	B	–
25	W	–
26	G	–
27	B	–
28	B	–
29	R	–
31	R	–
32	W	–
33	GR	–
34	BR	–
35	BR	–
36	W	–
37	L	–
38	LG	–
39	SB	–
40	V	–
41	P	–
42	SB	–
43	G	–
44	LG	–
45	Y	–
46	R	–
47	W	–
48	L	–
49	G	–
50	L	–
51	SB	–
52	L	–
54	B	–
55	R	–
56	V	–
57	Y	–
58	L	–
60	Y	–

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



Terminal No.	Color of Wire	Signal Name
1	R	–
2	L	–
3	V	–
4	LG	–
6	P	–
7	GR	–
9	G	–
10	L	–
11	L	–
12	Y	–
13	V	–
14	R	–
15	G	–
16	W	–
17	R	–
18	G	–
19	W	–
20	GR	–
21	P	–
22	B	–

AAFIA0196GB

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

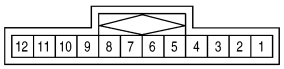
H.S.



Terminal No.	Color of Wire	Signal Name
5	R	–

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

H.S.

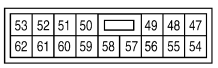


Terminal No.	Color of Wire	Signal Name
1	L	–
2	L	–
3	L	–
4	L	–

Terminal No.	Color of Wire	Signal Name
5	–	–
6	L	–
7	P	–
8	P	–
9	P	–
10	P	–
11	–	–
12	P	–

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

H.S.



Terminal No.	Color of Wire	Signal Name
47	–	–
48	–	–
49	Y	H/LAMP HI RH
50	G	H/LAMP HI LH

Terminal No.	Color of Wire	Signal Name
51	L	H/LAMP LO LH
52	P	H/LAMP LO RH
53	–	–
54	–	–
55	LG	FAST CHARGE
56	–	–
57	R	VCM IGN
58	O	REVERSE LAMP IGN
59	BR	ABS ECU IGN
60	GR	F/S RLY CONT
61	–	–
62	V	E-CACT/HAS IGN

AAFIA0197GB

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

H.S.

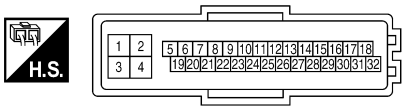
Terminal No.	Color of Wire	Signal Name
1	Y	MOTOR POWER
2	Y	MOTOR POWER
3	–	–
4	–	–
5	–	–
6	–	–

Terminal No.	Color of Wire	Signal Name
7	–	
8	–	
9	–	
10	–	
11	–	
12	–	
13	–	
14	–	
15	–	
16	–	
17	–	
18	W/L	STROKE SENSOR POWER
19	L/O	STROKE SENSOR GND
20	R	BUZZER POWER
21	GR	DOOR SWITCH SIGNAL
22	O	DLC WAKE–UP
23	–	
24	SB	STOP LAMP SW

Terminal No.	Color of Wire	Signal Name
25	–	
26	V	IGN SWITCH SIGNAL
27	–	
28	L	ECU CONROL SYSTEM POWER
29	–	
30	–	
31	W	DLC BACKUP POWER
32	B	GND
33	L/Y	STROKE SENSOR1 SIGNAL
34	–	
35	B	STROKE SENSOR2 SIGNAL
36	W	BUZZER SIGNAL
37	W	DLC COMMUNICATION
38	–	
39	P	CAN–L
40	L	CAN–H
41	–	
42	–	
43	W	CAN–L
44	L	CAN–H
45	–	
46	–	

AAFIA0208GB

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



Terminal No.	Color of Wire	Signal Name
1	G	MOTOR BATTERY
2	R	VALVE BATTERY
3	B	GROUND
4	B	GROUND
5	P	ESP OFF SW SIGNAL
6	O	BRAKE SW SIGNAL
7	L/Y	PRESS SENSOR SIGNAL
8	SB	STOP LAMP SW SIGNAL
9	P	CAN–L
10	W/L	PRESS SENSOR POWER SUPPLY
11	BR	RR RH WHEEL SENSOR POWER SUPPLY
12	W	FR RH WHEEL SENSOR SIGNAL
13	G	G SENSOR POWER SUPPLY
14	B	G SENSOR SIGNAL (+)
15	LG	RR RH WHEEL SENSOR SIGNAL
16	V	POWER SWITCH ON
17	–	
18	–	
19	–	
20	L	CAN2–H
21	B	FR RH WHEEL SENSOR POWER SUPPLY
22	L	CAN–H
23	R	FR LH WHEEL SENSOR POWER SUPPLY
24	–	
25	W	CAN2–L
26	B	RR LH WHEEL SENSOR POWER SUPPLY
27	Y	FR LH WHEEL SENSOR SIGNAL
28	R	G SENSOR GND
29	Y	G SENSOR SIGNAL (–)
30	G	RR LH WHEEL SENSOR SIGNAL
31	–	
32	L/O	PRESS SENSOR GND

Connector No.	E36
Connector Name	STROKE SENSOR
Connector Color	BLACK



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

AAFIA0209GB

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

H.S.

Terminal No.	Color of Wire	Signal Name
1	W	–
2	SB	–
3	R	–
5	P	–

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

H.S.

Terminal No.	Color of Wire	Signal Name
1	B/R	–
2	SHIELD	–
3	SHIELD	–
4	SHIELD	–
5	–	–
6	–	–
7	–	–
8	–	–
9	–	–
10	B/R	–
11	SHIELD	–
12	SHIELD	–
13	W	–
14	W	–
15	W	–
16	W	–
17	W	–
18	W	–
19	G	–
20	G	–
21	–	–
22	V	–
23	V	–
24	V	–

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

H.S.

Terminal No.	Color of Wire	Signal Name
1	SB	–
2	SB	–
3	SB	–
4	SB	–
5	–	–
6	SB	–
7	O	–
8	O	–
9	O	–
10	O	–
11	O	–
12	–	–

AAFIA0210GB

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

H.S.

Terminal No.	Color of Wire	Signal Name
1	R	–
2	L	–
3	BW	– (WITHOUT FRONT FOG LAMPS)
3	R	– (WITH LED HEADLAMPS)
4	LG	– (WITH LED HEADLAMPS)
4	B/W	– (WITHOUT FRONT FOG LAMPS)
6	B/R	–
7	W	–
9	G	–
10	R	–
11	L	–
12	Y	–
13	W	–
14	R	–
15	G	–
16	G	–
17	R	–
18	O	–
19	W/L	–
20	BR	–
21	R	–
22	B	–
23	LG	–
24	B	–
25	W	–
26	W	–
27	B	–
28	O/L	–
29	W	–
31	R	–
32	W	–
33	G	–
34	BR	–
35	V	–
36	O	–
37	L	–
38	SB	–
39	P	–
40	V	–
41	O	–
42	Y	–
43	BR	–
44	W	–
45	G	–
46	P	–
47	LG	–
47	R	–
48	B	–
49	L	–
50	G	–
51	W	–
52	O	–
54	B	–
55	R	–
56	Y	–
57	Y	–
58	L	–
60	LG	–
61	GR	–
62	W	–
63	SB	–
64	SHIELD	–
65	W	–
66	G	–
67	V	–
68	R	–
69	B	–
70	BR	–
71	LG	–
72	R	–
73	B	–
74	O	–
76	L	–
77	Y	–
80	P	–
81	SB	–
83	GR	–
84	L	–
85	O	–
86	BR	–
88	B	–
89	W	–
90	SHIELD	–
91	Y	–
92	BR	–
93	O	–
94	R	–
95	V	–
96	P	–
97	G	–
98	W	–
99	O	–
100	SB	–

AAFIA0211GB

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

H.S.

1	2	3	4	5	6	7	8	9	10	11	12
13	14	15	16	17	18	19	20	21	22	23	24

Terminal No.	Color of Wire	Signal Name
1	W	–
2	Y	–
3	SB	–
4	R	–
5	–	–
6	GR	–
7	–	–
8	P	–
9	BR	–
10	W	–
11	R	–
12	B	–
13	G	–
14	B	–
15	LG	–
16	BR	–
17	G	–
18	B	–
19	Y	–
20	R	–
21	O	–
22	W	–
23	SHIELD	–
24	–	–

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

H.S.

1	2	3	4

Terminal No.	Color of Wire	Signal Name
1	W	–
2	Y	–
3	SB	–
4	R	–

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

H.S.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32

Terminal No.	Color of Wire	Signal Name
7	B	–
8	SHIELD	–
9	B	–
10	SB	–
11	P	–
12	BR	–
13	GR	–
14	P	–
15	L	–
16	G	–
24	R	–
25	W	–
26	LG	–
27	Y	–
29	R	–
30	GR	–
31	L	–
32	P	–

AAFIA0219GB

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

H.S.

12	11	10	9	8	7	6	5	4	3	2	1	
24	23	22	21	20	19	18	17	16	15	14	13	

Terminal No.	Color of Wire	Signal Name
1	L	–
2	P	–
3	Y	–
4	–	–
5	–	–
6	SB	–
7	–	–

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

H.S.

1		2
3	4	5	6

Terminal No.	Color of Wire	Signal Name
1	R	–
2	B	–
3	–	–
4	Y	–
5	W	–
6	L	–

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

H.S.

4	3	2	1

Terminal No.	Color of Wire	Signal Name
1	R	–
2	L	–
3	R	–
4	R	–

Terminal No.	Color of Wire	Signal Name
8	P	–
9	V	–
10	Y	–
11	L	–
12	G	–
13	G	–
14	B	–
15	LG	–
16	BR	–
17	G	–
18	B	–
19	Y	–
20	R	–
21	Y	–
22	W	–
23	SHIELD	–
24	–	–

Connector No.	B26
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

1	2	3		4	5	6	7
8	9	10	11	12	13	14	15	16

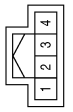
Terminal No.	Color of Wire	Signal Name
7	–	–
8	–	–
9	BR	–
10	–	–
11	–	–
12	–	–
13	–	–
14	–	–
15	–	–
16	–	–

Terminal No.	Color of Wire	Signal Name
1	–	–
2	–	–
3	–	–
4	–	–
5	–	–
6	–	–

AAFIA0220GB

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

H.S.



Terminal No.	Color of Wire	Signal Name
1	–	–
2	–	–
3	SB	–
4	–	–

ABFIA0807GB

BASIC INSPECTION

DIAGNOSIS AND REPAIR WORK FLOW

Work Flow

INFOID:0000000009256185

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-73, "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-19, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
4. Perform DTC reproduction procedures for the system that is malfunctioning.
   NOTE:
   When multiple DTCs are detected, refer to BR-43, "DTC Inspection Priority Chart" and then determine the order for performing the diagnosis.

Is DTC detected?

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

6.REPAIR OR REPLACE ERROR-DETECTED PART

1. Repair or replace the part that is malfunctioning. Reconnect part or connector after repairing or replacing. Erase DTC from the memory when DTC is detected.
2. Turn the power switch OFF to exit CONSULT.
3. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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-53, "Intermittent Incident".

8.FINAL CHECK

With CONSULT

1. Check the reference value for “BRAKE”. Refer to BR-39, "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:0000000009256186

Description

- 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

Description

INFOID:0000000009256187

When the electrically-driven intelligent brake unit was replaced, perform stroke sensor 0 point learning. BR-76, "Work Procedure".

STROKE SENSOR 0 POINT LEARNING

Description

INFOID:0000000009256188

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:0000000009256189

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-59, "Work Flow".

Is the inspection result normal?

YES >> GO TO 3.
NO >> Charge or replace the 12V battery. Refer to PG-59, "How to Handle 12V Battery" or PG-65, "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-514, "Inspection and Adjustment".

Is the inspection result normal?

YES >> GO TO 5.
NO >> Adjust each brake pedal height. Refer to BR-514, "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.

3. Turn the power switch OFF to exit CONSULT.
4. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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-44, "DTC Index". GO TO 6.
NO >> GO TO 6.

6. PERFORM PEDAL STROKE SENSOR 0 POINT LEARNING

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

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

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

7. CHECK DATA MONITOR

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

STROKE SEN 1 OUTPUT VOLT : 0.84 – 2.38 V

Is the inspection result normal?

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

8. ERASE SELF-DIAGNOSIS MEMORY

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

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

Are the memories erased?

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

DTC/CIRCUIT DIAGNOSIS

C1A60 CONTROL MODULE

DTC Logic

INFOID:0000000009256190

DTC DETECTION LOGIC

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

DTC REPRODUCTION PROCEDURE

1. PRECONDITIONING

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

>> GO TO 2.

2. CHECK DTC DETECTION

With CONSULT

1. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
9. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
11. Release brake pedal.
12. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A60” detected?

YES >> Proceed to BR-79, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000009256191

1. CHECK 12V BATTERY

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

CAUTION:
Never operate the vehicle and CONSULT while waiting.

3. Check the 12V battery terminal connections. Refer to BR-7, "Precaution for Removing 12V Battery" and PG-59, "Work Flow".
4. Check the 12V battery. Refer to PG-59, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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

CAUTION:
Never set the vehicle to READY.

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

Is DTC “C1A60” detected?

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

3.CHECK CONNECTOR TERMINALS

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

CAUTION:
Never operate the vehicle and CONSULT while waiting.

3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.

Is the inspection result normal?

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

4.PERFORM SELF-DIAGNOSIS (2)

With CONSULT

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

2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
4. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
5. Disconnect the electrically-driven intelligent brake unit harness connector.
6. Connect 12V battery cable to negative terminal.
7. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

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

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

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

Is the inspection result normal?

YES >> GO TO 8.

NO >> GO TO 6.

6. CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 15A fuse (#62).
5. Disconnect IPDM E/R harness connector.
6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

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

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

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

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to PG-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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
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 “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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Connect 12V battery cable to negative terminal.
6. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

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

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

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

Is the inspection result normal?

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

9. CHECK 12V BATTERY POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 60A fusible link (#F).
5. Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).
6. Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).
7. Check the 15A fuse (#75).
8. Check the continuity and for short circuit between harness connector terminal 28 of electrically-driven intelligent brake unit and 15A fuse (#75).

Is the inspection result normal?

YES >> Perform trouble diagnosis for 12V battery power supply. Refer to PG-15, "Wiring Diagram - BATTERY POWER SUPPLY -".
NO >> Repair or replace error-detected parts and GO TO 10.

10. PERFORM SELF-DIAGNOSIS (4)

With CONSULT
1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Check the continuity between electrically-driven intelligent brake unit and ground.

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

Is the inspection result normal?

YES >> GO TO 13.
NO >> Repair or replace error-detected parts and GO TO 12.

12. PERFORM SELF-DIAGNOSIS (5)

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

Never set the vehicle to READY.

4. Repeat step 3 two or more times.

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

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

CAUTION:
Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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-39, "Reference Value".

Is the inspection result normal?

YES >> GO TO 14.
NO >> Replace the electrically-driven intelligent brake unit. Refer to BR-533, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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-533, "Removal and installation".
NO >> INSPECTION END

C1A61 MOTOR

DTC Logic

INFOID:0000000009256192

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1A61	MOTOR POWER SUPPLY	Power voltage of motor inside electrically-driven intelligent brake unit is as shown below. • Motor power voltage: 9 V ≥ Motor power voltage • Motor power voltage: 16 V ≥ Motor power voltage	• Connector or harness • Electrically-driven intelligent brake unit

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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-87, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000009256193

1.CHECK 12V BATTERY

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

Never operate the vehicle and CONSULT while waiting.

3. Check the 12V battery terminal connections. Refer to BR-7, "Precaution for Removing 12V Battery" and PG-59, "Work Flow".
4. Check the 12V battery. Refer to PG-59, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
10. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
11. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
12. Release brake pedal.
13. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A61” detected?

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

3.CHECK CONNECTOR TERMINALS

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.

Is the inspection result normal?

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

4.PERFORM SELF-DIAGNOSIS (2)

With CONSULT

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

3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
11. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
13. Release brake pedal.
14. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A61” detected?

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

5. CHECK POWER SWITCH ON POWER SUPPLY

1. Connect 12V battery cable to negative terminal.
2. Turn the power switch OFF to exit CONSULT.
3. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
4. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
5. Disconnect the electrically-driven intelligent brake unit harness connector.
6. Connect 12V battery cable to negative terminal.
7. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

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

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

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

Is the inspection result normal?

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

6.CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 15A fuse (#62).
5. Disconnect IPDM E/R harness connector.
6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

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

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

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

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to PG-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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
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 “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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Connect 12V battery cable to negative terminal.
6. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

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

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

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

Is the inspection result normal?

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

9.CHECK 12V BATTERY POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 60A fusible link (#F).
5. Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).
6. Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).
7. Check the 15A fuse (#75).
8. Check the continuity and for short circuit between harness connector terminal 28 of electrically-driven intelligent brake unit and 15A fuse (#75).

Is the inspection result normal?

YES >> Perform trouble diagnosis for 12V battery power supply. Refer to PG-15, "Wiring Diagram - BATTERY POWER SUPPLY -".
NO >> Repair or replace error-detected parts and GO TO 10.

10. PERFORM SELF-DIAGNOSIS (4)

With CONSULT
1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Check the continuity between electrically-driven intelligent brake unit and ground.

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

Is the inspection result normal?

YES >> GO TO 13.
NO >> Repair or replace error-detected parts and GO TO 12.

12. PERFORM SELF-DIAGNOSIS (5)

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

Never set the vehicle to READY.

4. Repeat step 3 two or more times.

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

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

CAUTION:
Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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-39, "Reference Value".

Is the inspection result normal?

YES >> GO TO 14.
NO >> Replace the electrically-driven intelligent brake unit. Refer to BR-533, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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-533, "Removal and installation".
NO >> INSPECTION END

C1A62 CONTROL MODULE

DTC Logic

INFOID:0000000009256194

DTC DETECTION LOGIC

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

DTC REPRODUCTION PROCEDURE

1. PRECONDITIONING

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

>> GO TO 2.

2. CHECK DTC DETECTION

With CONSULT

1. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
2. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A62” detected?

YES >> Proceed to BR-95, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000009256195

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.

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
9. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
11. Release brake pedal.
12. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A62” detected?

YES >> GO TO 6.
NO >> INSPECTION END [DTC “C1A62” is detected when12V battery terminals are disconnected after turning the power switch OFF with any door open (including back door) or without waiting 3 minutes after closing all doors (including back door).]

6. CHECK 12V BATTERY

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Check the 12V battery terminal connections. Refer to BR-7, "Precaution for Removing 12V Battery" and PG-59, "Work Flow".
4. Check the 12V battery. Refer to PG-59, "Work Flow".

Is the inspection result normal?

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

7.PERFORM SELF-DIAGNOSIS (3)

With CONSULT
1. Connect 12V battery cable to negative terminal.
2. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
3. Repeat step 2 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
4. Turn the power switch OFF to exit CONSULT.
5. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.

Is the inspection result normal?

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

9.PERFORM SELF-DIAGNOSIS (4)

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

6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
4. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
5. Disconnect the electrically-driven intelligent brake unit harness connector.
6. Connect 12V battery cable to negative terminal.
7. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

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

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

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

Is the inspection result normal?

YES >> GO TO 13.
NO >> GO TO 11.

11. CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

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

3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 15A fuse (#62).
5. Disconnect IPDM E/R harness connector.
6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

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

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

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

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to PG-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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
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.

2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Connect 12V battery cable to negative terminal.
6. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

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

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

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

Is the inspection result normal?

YES >> GO TO 16.
NO >> GO TO 14.

14. CHECK 12V BATTERY POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 60A fusible link (#F).
5. Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).
6. Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).
7. Check the 15A fuse (#75).
8. Check the continuity and for short circuit between harness connector terminal 28 of electrically-driven intelligent brake unit and 15A fuse (#75).

Is the inspection result normal?

YES >> Perform trouble diagnosis for 12V battery power supply. Refer to PG-15, "Wiring Diagram - BATTERY POWER SUPPLY -".
NO >> Repair or replace error-detected parts and GO TO 15.

15. PERFORM SELF-DIAGNOSIS (6)

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

Never set the vehicle to READY.

4. Repeat step 3 two or more times.

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

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

CAUTION:
Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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

CAUTION:
Never operate the vehicle and CONSULT while waiting.

3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Check the continuity between electrically-driven intelligent brake unit and ground.

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

Is the inspection result normal?

YES >> GO TO 18.
NO >> Repair or replace error-detected parts and GO TO 17.

17. PERFORM SELF-DIAGNOSIS (7)

With CONSULT

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

CAUTION:
Never set the vehicle to READY.

4. Repeat step 3 two or more times.

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

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

CAUTION:
Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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-39, "Reference Value".

Is the inspection result normal?

YES >> GO TO 19.
NO >> Replace the electrically-driven intelligent brake unit. Refer to BR-533, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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

CAUTION:
Never operate the vehicle and CONSULT while waiting.

9. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
11. Release brake pedal.
12. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A62” detected?

YES >> GO TO 20.
NO >> INSPECTION END

20.CHECK BCM SYSTEM

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

Is any DTC detected?

YES >> Check the DTC. Refer to BCS-48, "DTC Index". GO TO 21.
NO >> Replace the electrically-driven intelligent brake unit. Refer to BR-533, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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-533, "Removal and installation".
NO >> INSPECTION END

C1A63 BRAKE POWER SUPPLY BACKUP UNIT

DTC Logic

INFOID:0000000009256196

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1A63	BACKUP POWER SUPPLY	• A open is detected in the circuit between electrically-driven intelligent brake unit and brake power supply backup unit. • A short circuit is detected in the circuit between electrically-driven intelligent brake unit and brake power supply backup unit. • A short to power supply circuit is detected in the circuit between electrically-driven intelligent brake unit and brake power supply backup 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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-105, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000009256197

1.CHECK 12V BATTERY

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Check the 12V battery terminal connections. Refer to BR-7, "Precaution for Removing 12V Battery" and PG-59, "Work Flow".
4. Check the 12V battery. Refer to PG-59, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.

5. Disconnect the brake power supply backup unit harness connector, then check for failures of pin terminals and connections.

Is the inspection result normal?

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

4. PERFORM SELF-DIAGNOSIS (2)

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
5. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
6. Disconnect the electrically-driven intelligent brake unit harness connector.
7. Connect 12V battery cable to negative terminal.
8. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

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

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

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

Is the inspection result normal?

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 15A fuse (#62).
5. Disconnect IPDM E/R harness connector.
6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

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

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

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

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to PG-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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
12. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
13. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
14. Release brake pedal.
15. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A63” detected?

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

8.CHECK 12V BATTERY POWER SUPPLY

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Connect 12V battery cable to negative terminal.
6. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

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

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

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

Is the inspection result normal?

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

9.CHECK 12V BATTERY POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 60A fusible link (#F).

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

Is the inspection result normal?

YES >> Perform trouble diagnosis for 12V battery power supply. Refer to PG-15, "Wiring Diagram - BATTERY POWER SUPPLY -".
NO >> Repair or replace error-detected parts and GO TO 10.

10. PERFORM SELF-DIAGNOSIS (4)

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Check the continuity between electrically-driven intelligent brake unit and ground.

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

Is the inspection result normal?

YES >> GO TO 13.
NO >> Repair or replace error-detected parts and GO TO 12.

12. PERFORM SELF-DIAGNOSIS (5)

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
11. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
13. Release brake pedal.
14. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A63” detected?

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

13. CHECK DATA MONITOR

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Start CONSULT and select “BRAKE” and “DATA MONITOR” according this order.
6. Check the “MOTOR POWER SUPPLY” and “CONTROL MODULE POWER”. Refer to BR-39, "Reference Value".

Is the inspection result normal?

YES >> GO TO 14.
NO >> Replace the electrically-driven intelligent brake unit. Refer to BR-533, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
9. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
11. Release brake pedal.
12. Start CONSULT and perform “BRAKE” self-diagnosis.

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

YES (C1A63)>>GO TO 15.
YES (C1A6B)>>Refer to BR-146, "Diagnosis Procedure".
YES (C1A6C)>>Refer to BR-157, "Diagnosis Procedure".
YES (C1A6D)>>Refer to BR-165, "Diagnosis Procedure".
YES (C1AC8)>>Refer to BR-452, "Diagnosis Procedure".
YES (C1AD0)>>Refer to BR-463, "Diagnosis Procedure".
NO >> INSPECTION END

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

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Check the continuity between electrically-driven intelligent brake unit and ground.

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

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

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

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

Electrically-driven intelligent brake unit		Brake power supply backup unit		Continuity
Connector	Terminal	Connector	Terminal	
E34	31	B15	1	Existed

Is the inspection result normal?

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

16. CHECK BRAKE POWER SUPPLY BACKUP UNIT GROUND CIRCUIT

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

Brake power supply backup unit		—	Continuity
Connector	Terminal		
B15	2	Ground	Existed

Is the inspection result normal?

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

17. PERFORM SELF-DIAGNOSIS (7)

With CONSULT
1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect the brake power supply backup unit harness connector.
3. Connect 12V battery cable to negative terminal.
4. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
5. Repeat step 4 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
6. Turn the power switch OFF to exit CONSULT.
7. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
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-533, "Removal and installation".
NO >> INSPECTION END

C1A65 INCOMPLETE STROKE SENSOR

DTC Logic

INFOID:0000000009256200

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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-113, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000009256201

1.CHECK 12V BATTERY

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

3. Check the 12V battery terminal connections. Refer to BR-7, "Precaution for Removing 12V Battery" and PG-59, "Work Flow".
4. Check the 12V battery. Refer to PG-59, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.
5. Disconnect the stroke sensor harness connector, then check for failures of pin terminals and connections.

Is the inspection result normal?

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

4.PERFORM SELF-DIAGNOSIS (2)

With CONSULT
1. Connect the electrically-driven intelligent brake unit harness connector.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
5. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
6. Disconnect the electrically-driven intelligent brake unit harness connector.
7. Connect 12V battery cable to negative terminal.
8. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

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

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

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

Is the inspection result normal?

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 15A fuse (#62).
5. Disconnect IPDM E/R harness connector.
6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

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

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

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

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to PG-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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
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 8.
NO >> INSPECTION END

8. CHECK 12V BATTERY POWER SUPPLY

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Connect 12V battery cable to negative terminal.
6. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

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

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

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

Is the inspection result normal?

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

9. CHECK 12V BATTERY POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 60A fusible link (#F).
5. Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).
6. Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).
7. Check the 15A fuse (#75).
8. Check the continuity and for short circuit between harness connector terminal 28 of electrically-driven intelligent brake unit and 15A fuse (#75).

Is the inspection result normal?

YES >> Perform trouble diagnosis for 12V battery power supply. Refer to PG-15, "Wiring Diagram - BATTERY POWER SUPPLY -".

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

10. PERFORM SELF-DIAGNOSIS (4)

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Check the continuity between electrically-driven intelligent brake unit and ground.

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

Is the inspection result normal?

YES >> GO TO 13.
NO >> Repair or replace error-detected parts and GO TO 12.

12. PERFORM SELF-DIAGNOSIS (5)

With CONSULT

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

CAUTION:
Never set the vehicle to READY.

4. Repeat step 3 two or more times.

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

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

CAUTION:
Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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-39, "Reference Value".

Is the inspection result normal?

YES >> GO TO 14.
NO >> Replace the electrically-driven intelligent brake unit. Refer to BR-533, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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-76, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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

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-514, "Inspection and Adjustment".

Is the inspection result normal?

YES >> GO TO 20.
NO >> Adjust each height. Refer to BR-514, "Inspection and Adjustment". GO TO 21.

20. STROKE SENOR 0 POINT LEARNING (2)

Perform stroke sensor 0 point learning. Refer to BR-76, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:

Never operate the vehicle and CONSULT while waiting.

3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the stroke sensor harness connector.
5. Disconnect the electrically-driven intelligent brake unit harness connector.
6. Check the continuity between stroke sensor harness connector and electrically-driven intelligent brake unit.

Stroke sensor		Electrically-driven intelligent brake unit		Continuity
Connector	Terminal	Connector	Terminal	
E36	3	E34	18	Existed
	3		33	Not existed
	3		19	Not existed
	3		35	Not existed
	2		18	Not existed
	2		33	Existed
	2		19	Not existed
	2		35	Not existed
	1		18	Not existed
	1		33	Not existed
	1		19	Existed
	1		35	Not existed
	4		18	Not existed
	4		33	Not existed
	4		19	Not existed
	4		35	Existed

Is the inspection result normal?

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

23. CHECK STROKE SENSOR POWER SUPPLY

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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.

2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect stroke sensor harness connector.
5. Disconnect the electrically-driven intelligent brake unit harness connector.
6. Check the continuity between stroke sensor and ground.

Stroke sensor		—	Continuity
Connector	Terminal		
E36	4	Ground	Not existed

Is the inspection result normal?

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

25. CHECK STROKE SENSOR RESISTANCE

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Connect stroke sensor harness connector.
5. Disconnect the electrically-driven intelligent brake unit harness connector.
6. Check the resistance between stroke sensor connector pin terminals.

Electrically-driven intelligent brake unit		Condition	Resistance
Connector	Terminal		
E34	33 – 19	Gradually depress the brake pedal.	Resistance value increases between 0.1 – 1.33 kΩ, according to the depth of brake depression.
	35 – 19		Resistance value decreases between 0.1 – 1.33 kΩ, according to the depth of brake depression.

Is the inspection result normal?

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

26. REPLACE STROKE SENSOR

Replace the stroke sensor. Refer to BR-523, "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-76, "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:

Never set the vehicle to READY.

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

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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

C1A67 STOP LAMP SWITCH

DTC Logic

INFOID:0000000009256204

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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-125, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000009256205

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?

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Connect 12V battery cable to negative terminal.
6. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

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

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

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

Is the inspection result normal?

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

3.CHECK STOP LAMP SWITCH CIRCUIT (2)

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect stop lamp switch harness connector.
5. Check the continuity between electrically-driven intelligent brake unit and stop lamp switch harness connector.

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

Is the inspection result normal?

YES >> Perform trouble diagnosis for 12V battery power supply. Refer to PG-15, "Wiring Diagram - BATTERY POWER SUPPLY -".
NO >> Repair or replace error-detected parts and GO TO 4.

4.CHECK 12V BATTERY

1. Turn the power switch OFF to exit CONSULT.

2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Check the 12V battery terminal connections. Refer to BR-7, "Precaution for Removing 12V Battery" and PG-59, "Work Flow".
4. Check the 12V battery. Refer to PG-59, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.
5. Check that there is no malfunction in pin terminals and connection of stop lamp switch harness connector.

Is the inspection result normal?

YES >> GO TO 8.
NO >> Repair or replace error-detected parts and GO TO 7.

7. PERFORM SELF-DIAGNOSIS (2)

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
5. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
6. Disconnect the electrically-driven intelligent brake unit harness connector.
7. Connect 12V battery cable to negative terminal.
8. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

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

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

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

Is the inspection result normal?

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

9. CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 15A fuse (#62).
5. Disconnect IPDM E/R harness connector.
6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

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

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

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

Is the inspection result normal?

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

10. PERFORM SELF-DIAGNOSIS (3)

With CONSULT
1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect IPDM E/R harness connector.
3. Connect stop lamp switch harness connector.
4. Connect 12V battery cable to negative terminal.
5. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
6. Repeat step 5 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
7. Turn the power switch OFF to exit CONSULT.
8. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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.

12. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
CAUTION:
Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
CAUTION:
Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Connect 12V battery cable to negative terminal.
6. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

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

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

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

Is the inspection result normal?

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

12. CHECK 12V BATTERY POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
CAUTION:
Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 60A fusible link (#F).
5. Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).

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

Is the inspection result normal?

YES >> Perform trouble diagnosis for 12V battery power supply. Refer to PG-15, "Wiring Diagram - BATTERY POWER SUPPLY -".
NO >> Repair or replace error-detected parts and GO TO 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Check the continuity between electrically-driven intelligent brake unit and ground.

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

Is the inspection result normal?

YES >> GO TO 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
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-39, "Reference Value".

Is the inspection result normal?

YES >> GO TO 17.
NO >> Replace the electrically-driven intelligent brake unit. Refer to BR-533, "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:

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

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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-514, "Inspection and Adjustment".

Is the inspection result normal?

YES >> GO TO 21.
NO >> Adjust each brake pedal height. Refer to BR-514, "Inspection and Adjustment". GO TO 28.

21. STROKE SENOR 0 POINT LEARNING

Perform stroke sensor 0 point learning. Refer to BR-76, "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-514, "Inspection and Adjustment".

Is the inspection result normal?

YES >> GO TO 24.
NO >> Adjust stop lamp switch clearance. Refer to BR-514, "Inspection and Adjustment". GO TO 28.

24. CHECK STOP LAMP SWITCH CIRCUIT (3)

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Connect 12V battery cable to negative terminal.
6. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

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

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

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

Is the inspection result normal?

YES >> GO TO 26.
NO >> GO TO 25.

25. CHECK STOP LAMP SWITCH CIRCUIT (4)

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect stop lamp switch harness connector.
5. Check the continuity between electrically-driven intelligent brake unit and stop lamp switch harness connector.

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

Is the inspection result normal?

YES >> Perform trouble diagnosis for 12V battery power supply. Refer to PG-15, "Wiring Diagram - BATTERY POWER SUPPLY -".
NO >> Repair or replace error-detected parts and GO TO 26.

26. CHECK STOP LAMP SWITCH

Check the stop lamp switch. Refer to BR-135, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 27.
NO >> Replace the stop lamp switch. Refer to BR-523, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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:0000000009256206

1.CHECK STOP LAMP SWITCH

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect stop lamp switch harness connector.
4. Check the continuity when stop lamp switch is operated.

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

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace the stop lamp switch. Refer to BR-523, "Removal and Installation".

C1A69 MOTOR

DTC Logic

INFOID:0000000009256207

DTC DETECTION LOGIC

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

DTC REPRODUCTION PROCEDURE

1.PRECONDITIONING

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

>> GO TO 2.

2.CHECK DTC DETECTION

With CONSULT

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
9. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
11. Release brake pedal.
12. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A69” detected?

YES >> Proceed to BR-137, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000009256208

1.CHECK 12V BATTERY

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

3. Check the 12V battery terminal connections. Refer to BR-7, "Precaution for Removing 12V Battery" and PG-59, "Work Flow".
4. Check the 12V battery. Refer to PG-59, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.

Is the inspection result normal?

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

4.PERFORM SELF-DIAGNOSIS (2)

With CONSULT

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

CAUTION:
Never set the vehicle to READY.

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

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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

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

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

CAUTION:
Never set the vehicle to READY.

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

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

Is the inspection result normal?

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

6.CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 15A fuse (#62).
5. Disconnect IPDM E/R harness connector.
6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

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

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

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

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to PG-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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
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 “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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Connect 12V battery cable to negative terminal.
6. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

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

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

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

Is the inspection result normal?

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

9.CHECK 12V BATTERY POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 60A fusible link (#F).
5. Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).
6. Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).
7. Check the 15A fuse (#75).
8. Check the continuity and for short circuit between harness connector terminal 28 of electrically-driven intelligent brake unit and 15A fuse (#75).

Is the inspection result normal?

YES >> Perform trouble diagnosis for 12V battery power supply. Refer to PG-15, "Wiring Diagram - BATTERY POWER SUPPLY -".
NO >> Repair or replace the error-detected parts and GO TO 10.

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Check the continuity between electrically-driven intelligent brake unit and ground.

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

Is the inspection result normal?

YES >> GO TO 13.
NO >> Repair or replace the error-detected parts and GO TO 12.

12. PERFORM SELF-DIAGNOSIS (5)

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

Never set the vehicle to READY.

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

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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-39, "Reference Value".

Is the inspection result normal?

YES >> GO TO 14.
NO >> Replace the electrically-driven intelligent brake unit. Refer to BR-533, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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-39, "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-533, "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-533, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.

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-533, "Removal and installation".
NO >> INSPECTION END

C1A6B BRAKE POWER SUPPLY BACKUP UNIT

DTC Logic

INFOID:0000000009256211

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1A6B	POWER SUPPLY BACKUP UNIT	• Reception/transmission of an unspecified signal for 2 consecutive seconds or more via brake power supply backup communication line. • Occurrence of a open in the wake up signal circuit of brake power supply backup unit.	• Harness or connector • Fuse • Brake power supply backup unit • Electrically-driven intelligent brake unit

DTC REPRODUCTION PROCEDURE

1.PRECONDITIONING

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

>> GO TO 2.

2.CHECK DTC DETECTION

With CONSULT

1. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
2. Repeat step 1 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
3. Turn the power switch OFF to exit CONSULT.
4. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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-146, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000009256212

1.CHECK 12V BATTERY

1. Turn the power switch OFF to exit CONSULT.

2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
CAUTION:
Never operate the vehicle and CONSULT while waiting.
3. Check the 12V battery terminal connections. Refer to BR-7, "Precaution for Removing 12V Battery" and PG-59, "Work Flow".
4. Check the 12V battery. Refer to PG-59, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
CAUTION:
Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
CAUTION:
Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
CAUTION:
Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.
5. Disconnect the brake power supply backup unit harness connector, then check for failures of pin terminals and connections.

Is the inspection result normal?

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

4. PERFORM SELF-DIAGNOSIS (2)

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
5. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
6. Disconnect the electrically-driven intelligent brake unit harness connector.
7. Connect 12V battery cable to negative terminal.
8. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

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

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

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

Is the inspection result normal?

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 15A fuse (#62).
5. Disconnect IPDM E/R harness connector.
6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

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

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

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

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to PG-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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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

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

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

CAUTION:
Never set the vehicle to READY.

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

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

Is the inspection result normal?

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

9. CHECK 12V BATTERY POWER SUPPLY CIRCUIT

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

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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

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

Is the inspection result normal?

YES >> Perform trouble diagnosis for 12V battery power supply. Refer to PG-15, "Wiring Diagram - BATTERY POWER SUPPLY -".
NO >> Repair or replace error-detected parts and GO TO 10.

10. PERFORM SELF-DIAGNOSIS (4)

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Check the continuity between electrically-driven intelligent brake unit and ground.

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

Is the inspection result normal?

YES >> GO TO 13.

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

12. PERFORM SELF-DIAGNOSIS (5)

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
11. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
13. Release brake pedal.
14. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A6B” detected?

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

13. CHECK DATA MONITOR

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Start CONSULT and select “BRAKE”, “DATE MONITOR” according this order.
6. Check the “MOTOR POWER SUPPLY” and “CONTROL MODULE POWER”. Refer to BR-39, "Reference Value".

Is the inspection result normal?

YES >> GO TO 14.
NO >> Replace the electrically-driven intelligent brake unit. Refer to BR-533, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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

CAUTION:
Never operate the vehicle and CONSULT while waiting.

3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Disconnect the brake power supply backup unit harness connector.
6. Check the continuity between electrically-driven intelligent brake unit and brake power supply backup unit.

Electrically-driven intelligent brake unit		Brake power supply backup unit		Continuity
Connector	Terminal	Connector	Terminal	
E34	31	B15	1	Existed
			4	Not existed
			5	Not existed
			6	Not existed

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

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

Is the inspection result normal?

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

16. CHECK BRAKE POWER SUPPLY BACKUP UNIT POWER SUPPLY

1. Connect 12V battery cable to negative terminal.
2. Check the voltage between brake power supply backup unit and ground.

Brake power supply backup unit		—	Voltage (Approx.)
Connector	Terminal		
B15	6	Ground	9 – 16 V

3. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Check the voltage between brake power supply backup unit and ground.

Brake power supply backup unit		—	Voltage (Approx.)
Connector	Terminal		
B15	6	Ground	9 – 16 V

Is the inspection result normal?

YES >> GO TO 18.
NO >> GO TO 17.

17. CHECK BRAKE POWER SUPPLY BACKUP UNIT POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Check the 15A fuse (#82).
4. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
5. Check the continuity and for short circuit between harness connector terminal 6 of brake power supply backup unit and 15A fuse (#82).

Is the inspection result normal?

YES >> GO TO 18.
NO >> Perform trouble diagnosis for 12V battery power supply. Refer to PG-15, "Wiring Diagram - BATTERY POWER SUPPLY -".

18. CHECK BRAKE POWER SUPPLY BACKUP UNIT COMMUNICATION CIRCUIT

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

Electrically-driven intelligent brake unit		Brake power supply backup unit		Continuity
Connector	Terminal	Connector	Terminal	
E34	37	B15	1	Not existed
			4	Not existed
			5	Existed
			6	Not existed

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

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

Is the inspection result normal?

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

19. CHECK BRAKE POWER SUPPLY BACKUP UNIT WAKE UP CIRCUIT

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

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

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

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

Is the inspection result normal?

YES >> Replace the brake power supply backup unit. Refer to BR-536, "Removal and Installation".
NO >> Repair or replace error-detected parts.

C1A6C BRAKE POWER SUPPLY BACKUP UNIT

DTC Logic

INFOID:0000000009256213

DTC DETECTION LOGIC

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

DTC REPRODUCTION PROCEDURE

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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-157, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000009256214

1.CHECK 12V BATTERY

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Check the 12V battery terminal connections. Refer to BR-7, "Precaution for Removing 12V Battery" and PG-59, "Work Flow".
4. Check the 12V battery. Refer to PG-59, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.

5. Disconnect the brake power supply backup unit harness connector, then check for failures of pin terminals and connections.

Is the inspection result normal?

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

4. PERFORM SELF-DIAGNOSIS (2)

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
5. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
6. Disconnect the electrically-driven intelligent brake unit harness connector.
7. Connect 12V battery cable to negative terminal.
8. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

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

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

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

Is the inspection result normal?

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 15A fuse (#62).
5. Disconnect IPDM E/R harness connector.
6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

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

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

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

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to PG-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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
12. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
13. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
14. Release brake pedal.
15. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A6C” detected?

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

8.CHECK 12V BATTERY POWER SUPPLY

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Connect 12V battery cable to negative terminal.
6. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

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

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

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

Is the inspection result normal?

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

9.CHECK 12V BATTERY POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 60A fusible link (#F).

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

Is the inspection result normal?

YES >> Perform trouble diagnosis for 12V battery power supply. Refer to PG-15, "Wiring Diagram - BATTERY POWER SUPPLY -".
NO >> Repair or replace error-detected parts and GO TO 10.

10. PERFORM SELF-DIAGNOSIS (4)

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Check the continuity between electrically-driven intelligent brake unit and ground.

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

Is the inspection result normal?

YES >> GO TO 13.
NO >> Repair or replace error-detected parts and GO TO 12.

12. PERFORM SELF-DIAGNOSIS (5)

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
11. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
13. Release brake pedal.
14. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A6C” detected?

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

13. CHECK DATA MONITOR

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Start CONSULT and select “BRAKE”, “DATE MONITOR” according this order.
6. Check the “MOTOR POWER SUPPLY” and “CONTROL MODULE POWER”. Refer to BR-39, "Reference Value".

Is the inspection result normal?

YES >> GO TO 14.
NO >> Replace the electrically-driven intelligent brake unit. Refer to BR-533, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
9. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
11. Release brake pedal.
12. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A6C” detected?

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

15. CHECK BRAKE POWER SUPPLY BACKUP UNIT POWER SUPPLY

1. Connect 12V battery cable to negative terminal.
2. Check the voltage between brake power supply backup unit and ground.

Brake power supply backup unit		—	Voltage (Approx.)
Connector	Terminal		
B15	6	Ground	9 – 16 V

3. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Check the voltage between brake power supply backup unit and ground.

Brake power supply backup unit		—	Voltage (Approx.)
Connector	Terminal		
B15	6	Ground	9 – 16 V

Is the inspection result normal?

YES >> Replace the brake power supply backup unit. Refer to BR-536, "Removal and Installation".
NO >> GO TO 16.

16. CHECK BRAKE POWER SUPPLY BACKUP UNIT POWER SUPPLY CIRCUIT

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

Never operate the vehicle and CONSULT while waiting.

3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 15A fusible link (#82).
5. Check the continuity and for short circuit between harness connector terminal 6 of brake power supply backup unit and 15A fuse (#82).

Is the inspection result normal?

YES >> Replace the brake power supply backup unit. Refer to BR-536, "Removal and Installation".
NO >> Perform trouble diagnosis for 12V battery power supply. Refer to PG-15, "Wiring Diagram - BATTERY POWER SUPPLY -".

C1A6D BRAKE POWER SUPPLY BACKUP UNIT

DTC Logic

INFOID:0000000009256215

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1A6D	POWER SUPPLY BACKUP UNIT OUTPUT	An internal malfunction (abnormal output circuit) is detected in brake power supply backup unit.	• Harness or connector • Brake power supply backup unit • Electrically-driven intelligent brake unit

DTC REPRODUCTION PROCEDURE

1.PRECONDITIONING

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

>> GO TO 2.

2.CHECK DTC DETECTION

With CONSULT

1. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
9. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
11. Release brake pedal.
12. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A6D” detected?

YES >> Proceed to BR-165, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000009256216

1.CHECK 12V BATTERY

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

CAUTION:
Never operate the vehicle and CONSULT while waiting.

3. Check the 12V battery terminal connections. Refer to BR-7, "Precaution for Removing 12V Battery" and PG-59, "Work Flow".
4. Check the 12V battery. Refer to PG-59, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.
5. Disconnect the brake power supply backup unit harness connector, then check for failures of pin terminals and connections.

Is the inspection result normal?

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

4.PERFORM SELF-DIAGNOSIS (2)

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
5. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
6. Disconnect the electrically-driven intelligent brake unit harness connector.
7. Connect 12V battery cable to negative terminal.
8. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

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

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

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

Is the inspection result normal?

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 15A fuse (#62).
5. Disconnect IPDM E/R harness connector.
6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

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

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

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

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to PG-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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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

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

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

CAUTION:
Never set the vehicle to READY.

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

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

Is the inspection result normal?

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

9. CHECK 12V BATTERY POWER SUPPLY CIRCUIT

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

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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

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

Is the inspection result normal?

YES >> Perform trouble diagnosis for 12V battery power supply. Refer to PG-15, "Wiring Diagram - BATTERY POWER SUPPLY -".
NO >> Repair or replace error-detected parts and GO TO 10.

10. PERFORM SELF-DIAGNOSIS (4)

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Check the continuity between electrically-driven intelligent brake unit and ground.

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

Is the inspection result normal?

YES >> GO TO 13.

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

12. PERFORM SELF-DIAGNOSIS (5)

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
11. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
13. Release brake pedal.
14. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A6D” detected?

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

13. CHECK DATA MONITOR

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Start CONSULT and select “BRAKE”, “DATE MONITOR” according this order.
6. Check the “MOTOR POWER SUPPLY” and “CONTROL MODULE POWER”. Refer to BR-39, "Reference Value".

Is the inspection result normal?

YES >> GO TO 14.
NO >> Replace the electrically-driven intelligent brake unit. Refer to BR-533, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
9. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
11. Release brake pedal.
12. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A6D” detected?

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

15. CHECK BRAKE POWER SUPPLY BACKUP UNIT CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Disconnect the brake power supply backup unit harness connector.
6. Check the continuity between electrically-driven intelligent brake unit and brake power supply backup unit.

Electrically-driven intelligent brake unit		Brake power supply backup unit		Continuity
Connector	Terminal	Connector	Terminal	
E34	31	B15	1	Existed
	31		4	Not existed
	31		5	Not existed
	31		6	Not existed

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

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

Is the inspection result normal?

YES >> Replace the brake power supply backup unit. Refer to BR-536, "Removal and Installation".
NO >> Repair or replace error-detected parts.

C1A6E EV SYSTEM

DTC Logic

INFOID:0000000009256217

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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-173, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000009256218

1.PERFORM VCM SELF DIAGNOSIS

Start CONSULT and perform self-diagnosis for “EV/HEV”. Refer to EVC-73, "CONSULT Function".

Is any DTC detected?

YES >> Check the DTC. Refer to EVC-102, "DTC Index".

NO >> GO TO 2.

2.PERFORM SELF-DIAGNOSIS (1)

With CONSULT

1. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
2. Repeat step 1 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
3. Turn the power switch OFF to exit CONSULT.
4. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Check the 12V battery terminal connections. Refer to BR-7, "Precaution for Removing 12V Battery" and PG-59, "Work Flow".
4. Check the 12V battery. Refer to PG-59, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:

Never operate the vehicle and CONSULT while waiting.

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.

Is the inspection result normal?

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

6.PERFORM SELF-DIAGNOSIS (3)

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
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 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
4. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
5. Disconnect the electrically-driven intelligent brake unit harness connector.
6. Connect 12V battery cable to negative terminal.
7. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

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

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

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

Is the inspection result normal?

YES >> GO TO 10.
NO >> GO TO 8.

8. CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 15A fuse (#62).
5. Disconnect IPDM E/R harness connector.
6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

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

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

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

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to PG-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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Connect 12V battery cable to negative terminal.
6. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

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

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

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

Is the inspection result normal?

YES >> GO TO 13.
NO >> GO TO 11.

11. CHECK 12V BATTERY POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 60A fusible link (#F).
5. Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).
6. Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).
7. Check the 15A fuse (#75).
8. Check the continuity and for short circuit between harness connector terminal 28 of electrically-driven intelligent brake unit and 15A fuse (#75).

Is the inspection result normal?

YES >> Perform trouble diagnosis for 12V battery power supply. Refer to PG-15, "Wiring Diagram - BATTERY POWER SUPPLY -".
NO >> Repair or replace error-detected parts and GO TO 12.

12. PERFORM SELF-DIAGNOSIS (5)

With CONSULT
1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Check the continuity between electrically-driven intelligent brake unit and ground.

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

Is the inspection result normal?

YES >> GO TO 15.
NO >> Repair or replace error-detected parts and GO TO 14.

14. PERFORM SELF-DIAGNOSIS (6)

With CONSULT
1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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

CAUTION:
Never set the vehicle to READY.

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

Is DTC “C1A6E” detected?

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

15. CHECK DATA MONITOR

With CONSULT

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

CAUTION:
Never set the vehicle to READY.

4. Repeat step 3 two or more times.

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

5. Start CONSULT and select “BRAKE” and “DATA MONITOR” according this order.
6. Check the “MOTOR POWER SUPPLY” and “CONTROL MODULE POWER”. Refer to BR-39, "Reference Value".

Is the inspection result normal?

YES >> GO TO 16.
NO >> Replace the electrically-driven intelligent brake unit. Refer to BR-533, "Removal and installation".

16. PERFORM SELF-DIAGNOSIS (7)

With CONSULT

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

CAUTION:
Never set the vehicle to READY.

2. Repeat step 1 two or more times.

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

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

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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.

YES (“U1000”)>>Refer to BR-472, "Diagnosis Procedure".
NO >> INSPECTION END

C1A6F VCM SYSTEM

DTC Logic

INFOID:0000000009256219

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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-182, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000009256220

1.PERFORM VCM SELF DIAGNOSIS

Start CONSULT and perform self-diagnosis for “EV/HEV”. Refer to EVC-73, "CONSULT Function".

Is any DTC detected?

YES >> Check the DTC. Refer to EVC-102, "DTC Index".

NO >> GO TO 2.

2.PERFORM SELF-DIAGNOSIS (1)

With CONSULT

1. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
2. Repeat step 1 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
3. Turn the power switch OFF to exit CONSULT.
4. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Check the 12V battery terminal connections. Refer to BR-7, "Precaution for Removing 12V Battery" and PG-59, "Work Flow".
4. Check the 12V battery. Refer to PG-59, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:

Never operate the vehicle and CONSULT while waiting.

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.

Is the inspection result normal?

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

6.PERFORM SELF-DIAGNOSIS (3)

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
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 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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

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

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

CAUTION:
Never set the vehicle to READY.

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

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

Is the inspection result normal?

YES >> GO TO 10.
NO >> GO TO 8.

8. CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

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

CAUTION:
Never operate the vehicle and CONSULT while waiting.

3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 15A fuse (#62).
5. Disconnect IPDM E/R harness connector.
6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

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

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

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

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. PG-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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Connect 12V battery cable to negative terminal.
6. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

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

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

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

Is the inspection result normal?

YES >> GO TO 13.
NO >> GO TO 11.

11. CHECK 12V BATTERY POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
CAUTION:
Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 60A fusible link (#F).
5. Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).
6. Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).
7. Check the 15A fuse (#75).
8. Check the continuity and for short circuit between harness connector terminal 28 of electrically-driven intelligent brake unit and 15A fuse (#75).

Is the inspection result normal?

YES >> Perform trouble diagnosis for 12V battery power supply. Refer to PG-15, "Wiring Diagram - BATTERY POWER SUPPLY -".
NO >> Repair or replace error-detected parts and GO TO 12.

12. PERFORM SELF-DIAGNOSIS (5)

With CONSULT
1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY.
4. Repeat step 3 two or more times.
CAUTION:
Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
CAUTION:
Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Check the continuity between electrically-driven intelligent brake unit and ground.

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

Is the inspection result normal?

YES >> GO TO 15.
NO >> Repair or replace error-detected parts and GO TO 14.

14. PERFORM SELF-DIAGNOSIS (6)

With CONSULT
1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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

CAUTION:
Never set the vehicle to READY.

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

Is DTC “C1A6F” detected?

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

15. CHECK DATA MONITOR

With CONSULT

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

CAUTION:
Never set the vehicle to READY.

4. Repeat step 3 two or more times.

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

5. Start CONSULT and select “BRAKE” and “DATA MONITOR” according this order.
6. Check the “MOTOR POWER SUPPLY” and “CONTROL MODULE POWER”. Refer to BR-39, "Reference Value".

Is the inspection result normal?

YES >> GO TO 16.
NO >> Replace the electrically-driven intelligent brake unit. Refer to BR-533, "Removal and installation".

16. PERFORM SELF-DIAGNOSIS (7)

With CONSULT

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

CAUTION:
Never set the vehicle to READY.

2. Repeat step 1 two or more times.

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

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

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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.

YES (“U1000”)>>Refer to BR-472, "Diagnosis Procedure".
NO >> INSPECTION END

C1A70 BRAKE CONTROL SYSTEM

DTC Logic

INFOID:0000000009256221

DTC DETECTION LOGIC

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

DTC REPRODUCTION PROCEDURE

1.PRECONDITIONING

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

>> GO TO 2.

2.CHECK DTC DETECTION

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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-191, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000009256222

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

Start CONSULT and perform self-diagnosis for “ABS”. Refer to BRC-47, "CONSULT Function".

Is any DTC detected?

YES >> Check the DTC. Refer to BRC-57, "DTC Index".
NO >> GO TO 2.

2.PERFORM SELF-DIAGNOSIS (1)

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

Is DTC “C1A70” detected?

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

3.CHECK 12V BATTERY

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Check the 12V battery terminal connections. Refer to BR-7, "Precaution for Removing 12V Battery" and PG-59, "Work Flow".
4. Check the 12V battery. Refer to PG-59, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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

CAUTION:
Never operate the vehicle and CONSULT while waiting.

3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.

Is the inspection result normal?

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

6. PERFORM SELF-DIAGNOSIS (3)

With CONSULT

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

CAUTION:
Never set the vehicle to READY.

4. Repeat step 3 two or more times.

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

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

CAUTION:
Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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

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

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

CAUTION:
Never set the vehicle to READY.

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

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

Is the inspection result normal?

YES >> GO TO 10.
NO >> GO TO 8.

8. CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

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

CAUTION:
Never operate the vehicle and CONSULT while waiting.

3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 15A fuse (#62).
5. Disconnect IPDM E/R harness connector.
6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

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

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

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

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to PG-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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Connect 12V battery cable to negative terminal.
6. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

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

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

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

Is the inspection result normal?

YES >> GO TO 13.
NO >> GO TO 11.

11. CHECK 12V BATTERY POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 60A fusible link (#F).
5. Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).
6. Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).
7. Check the 15A fuse (#75).
8. Check the continuity and for short circuit between harness connector terminal 28 of electrically-driven intelligent brake unit and 15A fuse (#75).

Is the inspection result normal?

YES >> Perform trouble diagnosis for 12V battery power supply. Refer to PG-15, "Wiring Diagram - BATTERY POWER SUPPLY -".
NO >> Repair or replace error-detected parts and GO TO 12.

12. PERFORM SELF-DIAGNOSIS (5)

With CONSULT
1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Check the continuity between electrically-driven intelligent brake unit and ground.

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

Is the inspection result normal?

YES >> GO TO 15.
NO >> Repair or replace error-detected parts and GO TO 14.

14. PERFORM SELF-DIAGNOSIS (6)

With CONSULT
1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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

CAUTION:
Never set the vehicle to READY.

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

Is DTC “C1A70” detected?

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

15. CHECK DATA MONITOR

With CONSULT

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

CAUTION:
Never set the vehicle to READY.

4. Repeat step 3 two or more times.

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

5. Start CONSULT and select “BRAKE” and “DATA MONITOR” according this order.
6. Check the “MOTOR POWER SUPPLY” and “CONTROL MODULE POWER”. Refer to BR-39, "Reference Value".

Is the inspection result normal?

YES >> GO TO 16.
NO >> Replace the electrically-driven intelligent brake unit. Refer to BR-533, "Removal and installation".

16. PERFORM SELF-DIAGNOSIS (7)

With CONSULT

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

CAUTION:
Never set the vehicle to READY.

2. Repeat step 1 two or more times.

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

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

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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.

YES (“U1000”)>>Refer to BR-472, "Diagnosis Procedure".
NO >> INSPECTION END

C1A74 STEERING ANGLE SENSOR

DTC Logic

INFOID:0000000009256223

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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-200, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000009256224

1.CHECK 12V BATTERY

1. Turn the power switch OFF to exit CONSULT.

2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
CAUTION:
Never operate the vehicle and CONSULT while waiting.
3. Check the 12V battery terminal connections. Refer to BR-7, "Precaution for Removing 12V Battery" and PG-59, "Work Flow".
4. Check the 12V battery. Refer to PG-59, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
CAUTION:
Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
CAUTION:
Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
CAUTION:
Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.

Is the inspection result normal?

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

4.PERFORM SELF-DIAGNOSIS (2)

With CONSULT
1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
11. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
13. Release brake pedal.
14. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A74” detected?

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

5. CHECK POWER SWITCH ON POWER SUPPLY

1. Connect 12V battery cable to negative terminal.
2. Turn the power switch OFF to exit CONSULT.
3. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
4. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
5. Disconnect the electrically-driven intelligent brake unit harness connector.
6. Connect 12V battery cable to negative terminal.
7. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

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

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

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

Is the inspection result normal?

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

6. CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 15A fuse (#62).
5. Disconnect IPDM E/R harness connector.
6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

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

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

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

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. PG-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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
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 “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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Connect 12V battery cable to negative terminal.
6. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

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

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

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

Is the inspection result normal?

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

9. CHECK 12V BATTERY POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 60A fusible link (#F).
5. Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).
6. Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).
7. Check the 15A fuse (#75).
8. Check the continuity and for short circuit between harness connector terminal 28 of electrically-driven intelligent brake unit and 15A fuse (#75).

Is the inspection result normal?

YES >> Perform trouble diagnosis for 12V battery power supply. Refer to PG-15, "Wiring Diagram - BATTERY POWER SUPPLY -".
NO >> Repair or replace error-detected parts and GO TO 10.

10. PERFORM SELF-DIAGNOSIS (4)

With CONSULT
1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Check the continuity between electrically-driven intelligent brake unit and ground.

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

Is the inspection result normal?

YES >> GO TO 13.
NO >> Repair or replace error-detected parts and GO TO 12.

12. PERFORM SELF-DIAGNOSIS (5)

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

2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
11. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
13. Release brake pedal.
14. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A74” detected?

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

13. CHECK DATA MONITOR

With CONSULT
1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable from negative terminal
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Start CONSULT and select “BRAKE” and “DATA MONITOR” according this order.
6. Check the “MOTOR POWER SUPPLY” and “CONTROL MODULE POWER”. Refer to BR-39, "Reference Value".

Is the inspection result normal?

YES >> GO TO 14.
NO >> Replace the electrically-driven intelligent brake unit. Refer to BR-533, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:

Never operate the vehicle and CONSULT while waiting.

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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-472, "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-47, "CONSULT Function".

Is any DTC detected?

YES >> Check the DTC. Refer to BRC-57, "DTC Index". GO TO 16.
NO >> GO TO 16.

16. PERFORM SELF-DIAGNOSIS (7)

With CONSULT

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

Is DTC “C1A74” detected?

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

C1A80 CONTROL MODULE

DTC Logic

INFOID:0000000009282325

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1A80	CONTROL MODULE-2	• A malfunction is detected in the control module of electrically-driven intelligent brake unit. (Sum of 3-phase current values is excessively large.) • A malfunction is detected in the control module of electrically-driven intelligent brake unit. (Sum of 3-phase current values is excessively small.)	Electrically-driven intelligent brake unit

DTC 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
9. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
11. Release brake pedal.
12. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A80” detected?

YES >> Proceed to BR-208, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000009282379

1.CHECK 12V BATTERY

1. Turn the power switch OFF to exit CONSULT.

2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
CAUTION:
Never operate the vehicle and CONSULT while waiting.
3. Check the 12V battery terminal connections. Refer to BR-7, "Precaution for Removing 12V Battery" and PG-59, "Work Flow".
4. Check the 12V battery. Refer to PG-59, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
CAUTION:
Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
CAUTION:
Never operate the vehicle and CONSULT while waiting.
10. Turn the power switch ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY.
11. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
12. Release brake pedal.
13. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A80” detected?

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

3.CHECK CONNECTOR TERMINALS

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
CAUTION:
Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.

Is the inspection result normal?

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

4.PERFORM SELF-DIAGNOSIS (2)

With CONSULT
1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
11. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
13. Release brake pedal.
14. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A80” detected?

YES >> GO TO 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
4. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
5. Disconnect the electrically-driven intelligent brake unit harness connector.
6. Connect 12V battery cable to negative terminal.
7. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

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

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

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

Is the inspection result normal?

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

6. CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 15A fuse (#62).
5. Disconnect IPDM E/R harness connector.
6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

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

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

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

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to PG-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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
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 “C1A80” detected?

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

8.CHECK 12V BATTERY POWER SUPPLY

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Connect 12V battery cable to negative terminal.
6. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

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

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

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

Is the inspection result normal?

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

9.CHECK 12V BATTERY POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 60A fusible link (#F).
5. Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).
6. Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).
7. Check the 15A fuse (#75).
8. Check the continuity and for short circuit between harness connector terminal 28 of electrically-driven intelligent brake unit and 15A fuse (#75).

Is the inspection result normal?

YES >> Perform trouble diagnosis for 12V battery power supply. Refer to PG-15, "Wiring Diagram - BATTERY POWER SUPPLY -".
NO >> Repair or replace error-detected parts and GO TO 10.

10. PERFORM SELF-DIAGNOSIS (4)

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
11. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
13. Release brake pedal.
14. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A80” detected?

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

11. CHECK GROUND CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Check the continuity between electrically-driven intelligent brake unit and ground.

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

Is the inspection result normal?

YES >> GO TO 13.
NO >> Repair or replace error-detected parts and GO TO 12.

12. PERFORM SELF-DIAGNOSIS (5)

With CONSULT

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

2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
11. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
13. Release brake pedal.
14. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A80” detected?

YES >> GO TO 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-39, "Reference Value".

Is the inspection result normal?

YES >> GO TO 14.
NO >> Replace the electrically-driven intelligent brake unit. Refer to BR-533, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:

Never operate the vehicle and CONSULT while waiting.

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
9. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
11. Release brake pedal.
12. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A80” detected?

YES >> Replace the electrically-driven intelligent brake unit. Refer to BR-533, "Removal and installation".
NO >> INSPECTION END

C1A81 CONTROL MODULE

DTC Logic

INFOID:0000000009282327

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1A81	CONTROL MODULE-3	• A malfunction is detected in the control module of electrically-driven intelligent brake unit. (Power supply current is excessively large.) • A malfunction is detected in the control module of electrically-driven intelligent brake unit. (Power supply current is excessively small.)	Electrically-driven intelligent brake unit

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
9. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
11. Release brake pedal.
12. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A81” detected?

YES >> Proceed to BR-216, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000009282328

1.CHECK 12V BATTERY

1. Turn the power switch OFF to exit CONSULT.

2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Check the 12V battery terminal connections. Refer to BR-7, "Precaution for Removing 12V Battery" and PG-59, "Work Flow".
4. Check the 12V battery. Refer to PG-59, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
10. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
11. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
12. Release brake pedal.
13. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A81” detected?

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

3.CHECK CONNECTOR TERMINALS

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.

Is the inspection result normal?

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

4.PERFORM SELF-DIAGNOSIS (2)

With CONSULT
1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
11. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
13. Release brake pedal.
14. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A81” detected?

YES >> GO TO 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
4. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
5. Disconnect the electrically-driven intelligent brake unit harness connector.
6. Connect 12V battery cable to negative terminal.
7. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

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

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

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

Is the inspection result normal?

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

6. CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 15A fuse (#62).
5. Disconnect IPDM E/R harness connector.
6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

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

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

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

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to PG-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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
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 “C1A81” detected?

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

8.CHECK 12V BATTERY POWER SUPPLY

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Connect 12V battery cable to negative terminal.
6. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

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

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

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

Is the inspection result normal?

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

9.CHECK 12V BATTERY POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 60A fusible link (#F).
5. Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).
6. Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).
7. Check the 15A fuse (#75).
8. Check the continuity and for short circuit between harness connector terminal 28 of electrically-driven intelligent brake unit and 15A fuse (#75).

Is the inspection result normal?

YES >> Perform trouble diagnosis for 12V battery power supply. Refer to PG-15, "Wiring Diagram - BATTERY POWER SUPPLY -".
NO >> Repair or replace error-detected parts and GO TO 10.

10. PERFORM SELF-DIAGNOSIS (4)

With CONSULT
1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
11. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
13. Release brake pedal.
14. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A81” detected?

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

11. CHECK GROUND CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Check the continuity between electrically-driven intelligent brake unit and ground.

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

Is the inspection result normal?

YES >> GO TO 13.
NO >> Repair or replace error-detected parts and GO TO 12.

12. PERFORM SELF-DIAGNOSIS (5)

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

2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
11. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
13. Release brake pedal.
14. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A81” detected?

YES >> GO TO 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-39, "Reference Value".

Is the inspection result normal?

YES >> GO TO 14.
NO >> Replace the electrically-driven intelligent brake unit. Refer to BR-533, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:

Never operate the vehicle and CONSULT while waiting.

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
9. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
11. Release brake pedal.
12. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A81” detected?

YES >> Replace the electrically-driven intelligent brake unit. Refer to BR-533, "Removal and installation".
NO >> INSPECTION END

C1A82 CONTROL MODULE

DTC Logic

INFOID:0000000009282329

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1A82	CONTROL MODULE-4	A malfunction is detected in the control module of electrically-driven intelligent brake unit. (Abnormal EEP-ROM)	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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
9. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
11. Release brake pedal.
12. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A82” detected?

YES >> Proceed to BR-224, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000009282330

1.CHECK 12V BATTERY

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

3. Check the 12V battery terminal connections. Refer to BR-7, "Precaution for Removing 12V Battery" and PG-59, "Work Flow".
4. Check the 12V battery. Refer to PG-59, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
10. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
11. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
12. Release brake pedal.
13. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A82” detected?

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

3.CHECK CONNECTOR TERMINALS

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.

Is the inspection result normal?

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

4.PERFORM SELF-DIAGNOSIS (2)

With CONSULT

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

CAUTION:
Never set the vehicle to READY.

4. Repeat step 3 two or more times.

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

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

CAUTION:
Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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

CAUTION:
Never set the vehicle to READY.

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

Is DTC “C1A82” detected?

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

5.CHECK POWER SWITCH ON POWER SUPPLY

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

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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

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

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

CAUTION:
Never set the vehicle to READY.

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

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

Is the inspection result normal?

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

6.CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 15A fuse (#62).
5. Disconnect IPDM E/R harness connector.
6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

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

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

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

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to PG-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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
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 “C1A82” detected?

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

8. CHECK 12V BATTERY POWER SUPPLY

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Connect 12V battery cable to negative terminal.
6. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

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

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

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

Is the inspection result normal?

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

9. CHECK 12V BATTERY POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 60A fusible link (#F).
5. Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).
6. Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).
7. Check the 15A fuse (#75).
8. Check the continuity and for short circuit between harness connector terminal 28 of electrically-driven intelligent brake unit and 15A fuse (#75).

Is the inspection result normal?

YES >> Perform trouble diagnosis for 12V battery power supply. Refer to PG-15, "Wiring Diagram - BATTERY POWER SUPPLY -".
NO >> Repair or replace error-detected parts and GO TO 10.

10. PERFORM SELF-DIAGNOSIS (4)

With CONSULT
1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
11. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
13. Release brake pedal.
14. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A82” detected?

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

11. CHECK GROUND CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Check the continuity between electrically-driven intelligent brake unit and ground.

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

Is the inspection result normal?

YES >> GO TO 13.
NO >> Repair or replace error-detected parts and GO TO 12.

12. PERFORM SELF-DIAGNOSIS (5)

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

Never set the vehicle to READY.

4. Repeat step 3 two or more times.

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

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

CAUTION:
Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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

CAUTION:
Never set the vehicle to READY.

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

Is DTC “C1A82” detected?

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

13. CHECK DATA MONITOR

With CONSULT

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

CAUTION:
Never set the vehicle to READY.

4. Repeat step 3 two or more times.

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

5. Start CONSULT and select “BRAKE” and “DATA MONITOR” according this order.
6. Check the “MOTOR POWER SUPPLY” and “CONTROL MODULE POWER”. Refer to BR-39, "Reference Value".

Is the inspection result normal?

YES >> GO TO 14.
NO >> Replace the electrically-driven intelligent brake unit. Refer to BR-533, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
9. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
11. Release brake pedal.
12. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A82” detected?

YES >> Replace the electrically-driven intelligent brake unit. Refer to BR-533, "Removal and installation".
NO >> INSPECTION END

C1A83 CONTROL MODULE

DTC Logic

INFOID:0000000009282331

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1A83	CONTROL MODULE-5	A malfunction is detected in the control module of electrically-driven intelligent brake unit. (Abnormal power supply in main CPU)	Electrically-driven intelligent brake unit

DTC REPRODUCTION PROCEDURE

1.PRECONDITIONING

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

>> GO TO 2.

2.CHECK DTC DETECTION

With CONSULT

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
9. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
11. Release brake pedal.
12. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A83” detected?

YES >> Proceed to BR-232, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000009282332

1.CHECK 12V BATTERY

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

3. Check the 12V battery terminal connections. Refer to BR-7, "Precaution for Removing 12V Battery" and PG-59, "Work Flow".
4. Check the 12V battery. Refer to PG-59, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
10. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
11. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
12. Release brake pedal.
13. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A83” detected?

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

3.CHECK CONNECTOR TERMINALS

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.

Is the inspection result normal?

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

4.PERFORM SELF-DIAGNOSIS (2)

With CONSULT

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

CAUTION:
Never set the vehicle to READY.

4. Repeat step 3 two or more times.

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

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

CAUTION:
Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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

CAUTION:
Never set the vehicle to READY.

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

Is DTC “C1A83” detected?

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

5.CHECK POWER SWITCH ON POWER SUPPLY

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

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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

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

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

CAUTION:
Never set the vehicle to READY.

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

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

Is the inspection result normal?

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

6.CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 15A fuse (#62).
5. Disconnect IPDM E/R harness connector.
6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

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

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

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

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to PG-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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
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 “C1A83” detected?

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

8. CHECK 12V BATTERY POWER SUPPLY

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Connect 12V battery cable to negative terminal.
6. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

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

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

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

Is the inspection result normal?

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

9. CHECK 12V BATTERY POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 60A fusible link (#F).
5. Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).
6. Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).
7. Check the 15A fuse (#75).
8. Check the continuity and for short circuit between harness connector terminal 28 of electrically-driven intelligent brake unit and 15A fuse (#75).

Is the inspection result normal?

YES >> Perform trouble diagnosis for 12V battery power supply. Refer to PG-15, "Wiring Diagram - BATTERY POWER SUPPLY -".
NO >> Repair or replace error-detected parts and GO TO 10.

10. PERFORM SELF-DIAGNOSIS (4)

With CONSULT
1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
11. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
13. Release brake pedal.
14. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A83” detected?

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

11. CHECK GROUND CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Check the continuity between electrically-driven intelligent brake unit and ground.

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

Is the inspection result normal?

YES >> GO TO 13.
NO >> Repair or replace error-detected parts and GO TO 12.

12. PERFORM SELF-DIAGNOSIS (5)

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

Never set the vehicle to READY.

4. Repeat step 3 two or more times.

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

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

CAUTION:
Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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

CAUTION:
Never set the vehicle to READY.

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

Is DTC “C1A83” detected?

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

13. CHECK DATA MONITOR

With CONSULT

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

CAUTION:
Never set the vehicle to READY.

4. Repeat step 3 two or more times.

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

5. Start CONSULT and select “BRAKE” and “DATA MONITOR” according this order.
6. Check the “MOTOR POWER SUPPLY” and “CONTROL MODULE POWER”. Refer to BR-39, "Reference Value".

Is the inspection result normal?

YES >> GO TO 14.
NO >> Replace the electrically-driven intelligent brake unit. Refer to BR-533, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
9. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
11. Release brake pedal.
12. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A83” detected?

YES >> Replace the electrically-driven intelligent brake unit. Refer to BR-533, "Removal and installation".
NO >> INSPECTION END

C1A84 CONTROL MODULE

DTC Logic

INFOID:0000000009282333

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1A84	CONTROL MODULE-6	A malfunction is detected in the control module of electrically-driven intelligent brake unit. (Abnormal power supply in sub CPU)	Electrically-driven intelligent brake unit

DTC REPRODUCTION PROCEDURE

1.PRECONDITIONING

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

>> GO TO 2.

2.CHECK DTC DETECTION

With CONSULT

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
9. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
11. Release brake pedal.
12. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A84” detected?

YES >> Proceed to BR-240, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000009282334

1.CHECK 12V BATTERY

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

3. Check the 12V battery terminal connections. Refer to BR-7, "Precaution for Removing 12V Battery" and PG-59, "Work Flow".
4. Check the 12V battery. Refer to PG-59, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
10. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
11. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
12. Release brake pedal.
13. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A84” detected?

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

3.CHECK CONNECTOR TERMINALS

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.

Is the inspection result normal?

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

4.PERFORM SELF-DIAGNOSIS (2)

With CONSULT

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

CAUTION:
Never set the vehicle to READY.

4. Repeat step 3 two or more times.

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

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

CAUTION:
Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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

CAUTION:
Never set the vehicle to READY.

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

Is DTC “C1A84” detected?

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

5.CHECK POWER SWITCH ON POWER SUPPLY

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

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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

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

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

CAUTION:
Never set the vehicle to READY.

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

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

Is the inspection result normal?

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

6.CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 15A fuse (#62).
5. Disconnect IPDM E/R harness connector.
6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

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

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

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

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to PG-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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
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 “C1A84” detected?

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

8. CHECK 12V BATTERY POWER SUPPLY

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Connect 12V battery cable to negative terminal.
6. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

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

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

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

Is the inspection result normal?

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

9. CHECK 12V BATTERY POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 60A fusible link (#F).
5. Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).
6. Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).
7. Check the 15A fuse (#75).
8. Check the continuity and for short circuit between harness connector terminal 28 of electrically-driven intelligent brake unit and 15A fuse (#75).

Is the inspection result normal?

YES >> Perform trouble diagnosis for 12V battery power supply. Refer to PG-15, "Wiring Diagram - BATTERY POWER SUPPLY -".
NO >> Repair or replace error-detected parts and GO TO 10.

10. PERFORM SELF-DIAGNOSIS (4)

With CONSULT
1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
11. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
13. Release brake pedal.
14. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A84” detected?

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

11. CHECK GROUND CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Check the continuity between electrically-driven intelligent brake unit and ground.

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

Is the inspection result normal?

YES >> GO TO 13.
NO >> Repair or replace error-detected parts and GO TO 12.

12. PERFORM SELF-DIAGNOSIS (5)

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

Never set the vehicle to READY.

4. Repeat step 3 two or more times.

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

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

CAUTION:
Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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

CAUTION:
Never set the vehicle to READY.

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

Is DTC “C1A84” detected?

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

13. CHECK DATA MONITOR

With CONSULT

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

CAUTION:
Never set the vehicle to READY.

4. Repeat step 3 two or more times.

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

5. Start CONSULT and select “BRAKE” and “DATA MONITOR” according this order.
6. Check the “MOTOR POWER SUPPLY” and “CONTROL MODULE POWER”. Refer to BR-39, "Reference Value".

Is the inspection result normal?

YES >> GO TO 14.
NO >> Replace the electrically-driven intelligent brake unit. Refer to BR-533, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
9. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
11. Release brake pedal.
12. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A84” detected?

YES >> Replace the electrically-driven intelligent brake unit. Refer to BR-533, "Removal and installation".
NO >> INSPECTION END

C1A85 CONTROL MODULE

DTC Logic

INFOID:0000000009282335

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1A85	CONTROL MODULE-7	• A malfunction is detected in the control module of electrically-driven intelligent brake unit. (Malfunction in internal power supply circuit of Main CPU) • A malfunction is detected in the control module of electrically-driven intelligent brake unit. [Abnormal analog-digital converter (AD converter) of main CPU] • A malfunction is detected in the control module of electrically-driven intelligent brake unit. (Abnormal RAM of main CPU) • A malfunction is detected in the control module of electrically-driven intelligent brake unit. (Abnormal ROM of main CPU)	Electrically-driven intelligent brake unit

DTC REPRODUCTION PROCEDURE

1.PRECONDITIONING

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

>> GO TO 2.

2.CHECK DTC DETECTION

With CONSULT

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

Is DTC “C1A85” detected?

YES >> Proceed to BR-249, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000009282336

1.CHECK 12V BATTERY

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Check the 12V battery terminal connections. Refer to BR-7, "Precaution for Removing 12V Battery" and PG-59, "Work Flow".
4. Check the 12V battery. Refer to PG-59, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
10. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
11. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
12. Release brake pedal.
13. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A85” detected?

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

3.CHECK CONNECTOR TERMINALS

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.

Is the inspection result normal?

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

4. PERFORM SELF-DIAGNOSIS (2)

With CONSULT
1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
11. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
13. Release brake pedal.
14. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A85” detected?

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

5. CHECK POWER SWITCH ON POWER SUPPLY

1. Connect 12V battery cable to negative terminal.
2. Turn the power switch OFF to exit CONSULT.
3. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
4. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
5. Disconnect the electrically-driven intelligent brake unit harness connector.
6. Connect 12V battery cable to negative terminal.
7. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

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

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

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

Is the inspection result normal?

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

6. CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 15A fuse (#62).
5. Disconnect IPDM E/R harness connector.
6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

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

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

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

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to PG-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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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

CAUTION:
Never set the vehicle to READY.

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

Is DTC “C1A85” detected?

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

8. CHECK 12V BATTERY POWER SUPPLY

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

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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

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

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

CAUTION:
Never set the vehicle to READY.

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

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

Is the inspection result normal?

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

9. CHECK 12V BATTERY POWER SUPPLY CIRCUIT

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

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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

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

Is the inspection result normal?

YES >> Perform trouble diagnosis for 12V battery power supply. Refer to PG-15, "Wiring Diagram - BATTERY POWER SUPPLY -".
NO >> Repair or replace error-detected parts and GO TO 10.

10. PERFORM SELF-DIAGNOSIS (4)

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
11. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
13. Release brake pedal.
14. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A85” detected?

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

11. CHECK GROUND CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Check the continuity between electrically-driven intelligent brake unit and ground.

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

Is the inspection result normal?

YES >> GO TO 13.

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

12. PERFORM SELF-DIAGNOSIS (5)

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
11. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
13. Release brake pedal.
14. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A85” detected?

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

13. CHECK DATA MONITOR

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Start CONSULT and select “BRAKE” and “DATA MONITOR” according this order.
6. Check the “MOTOR POWER SUPPLY” and “CONTROL MODULE POWER”. Refer to BR-39, "Reference Value".

Is the inspection result normal?

YES >> GO TO 14.
NO >> Replace the electrically-driven intelligent brake unit. Refer to BR-533, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
9. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
11. Release brake pedal.
12. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A85” detected?

YES >> Replace the electrically-driven intelligent brake unit. Refer to BR-533, "Removal and installation".
NO >> INSPECTION END

C1A86 CONTROL MODULE

DTC Logic

INFOID:0000000009282337

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1A86	CONTROL MODULE-8	• A malfunction is detected in the control module of electrically-driven intelligent brake unit. (Malfunction in internal power supply circuit of sub CPU) • A malfunction is detected in the control module of electrically-driven intelligent brake unit. [Abnormal analog-digital converter (AD converter) of sub CPU] • A malfunction is detected in the control module of electrically-driven intelligent brake unit. (Abnormal RAM of sub CPU) • A malfunction is detected in the control module of electrically-driven intelligent brake unit. (Abnormal ROM of sub CPU)	Electrically-driven intelligent brake unit

DTC REPRODUCTION PROCEDURE

1.PRECONDITIONING

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

>> GO TO 2.

2.CHECK DTC DETECTION

With CONSULT

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

Is DTC “C1A86” detected?

YES >> Proceed to BR-257, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000009282338

1.CHECK 12V BATTERY

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Check the 12V battery terminal connections. Refer to BR-7, "Precaution for Removing 12V Battery" and PG-59, "Work Flow".
4. Check the 12V battery. Refer to PG-59, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
10. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
11. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
12. Release brake pedal.
13. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A86” detected?

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

3.CHECK CONNECTOR TERMINALS

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.

Is the inspection result normal?

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

4. PERFORM SELF-DIAGNOSIS (2)

With CONSULT
1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
11. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
13. Release brake pedal.
14. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A86” detected?

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

5. CHECK POWER SWITCH ON POWER SUPPLY

1. Connect 12V battery cable to negative terminal.
2. Turn the power switch OFF to exit CONSULT.
3. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
4. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
5. Disconnect the electrically-driven intelligent brake unit harness connector.
6. Connect 12V battery cable to negative terminal.
7. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

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

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

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

Is the inspection result normal?

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

6. CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 15A fuse (#62).
5. Disconnect IPDM E/R harness connector.
6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

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

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

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

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to PG-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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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

CAUTION:
Never set the vehicle to READY.

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

Is DTC “C1A86” detected?

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

8.CHECK 12V BATTERY POWER SUPPLY

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

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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

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

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

CAUTION:
Never set the vehicle to READY.

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

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

Is the inspection result normal?

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

9.CHECK 12V BATTERY POWER SUPPLY CIRCUIT

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

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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

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

Is the inspection result normal?

YES >> Perform trouble diagnosis for 12V battery power supply. Refer to PG-15, "Wiring Diagram - BATTERY POWER SUPPLY -".
NO >> Repair or replace error-detected parts and GO TO 10.

10. PERFORM SELF-DIAGNOSIS (4)

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
11. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
13. Release brake pedal.
14. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A86” detected?

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

11. CHECK GROUND CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Check the continuity between electrically-driven intelligent brake unit and ground.

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

Is the inspection result normal?

YES >> GO TO 13.

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

12. PERFORM SELF-DIAGNOSIS (5)

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
11. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
13. Release brake pedal.
14. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A86” detected?

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

13. CHECK DATA MONITOR

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Start CONSULT and select “BRAKE” and “DATA MONITOR” according this order.
6. Check the “MOTOR POWER SUPPLY” and “CONTROL MODULE POWER”. Refer to BR-39, "Reference Value".

Is the inspection result normal?

YES >> GO TO 14.
NO >> Replace the electrically-driven intelligent brake unit. Refer to BR-533, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
9. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
11. Release brake pedal.
12. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A86” detected?

YES >> Replace the electrically-driven intelligent brake unit. Refer to BR-533, "Removal and installation".
NO >> INSPECTION END

C1A87 CONTROL MODULE

DTC Logic

INFOID:0000000009282340

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1A87	CONTROL MODULE-9	A malfunction is detected in the control module of electrically-driven intelligent brake unit. (Abnormal sub CPU)	Electrically-driven intelligent brake unit

DTC REPRODUCTION PROCEDURE

1.PRECONDITIONING

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

>> GO TO 2.

2.CHECK DTC DETECTION

With CONSULT

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
9. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
11. Release brake pedal.
12. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A87” detected?

YES >> Proceed to BR-264, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000009282341

1.CHECK 12V BATTERY

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

3. Check the 12V battery terminal connections. Refer to BR-7, "Precaution for Removing 12V Battery" and PG-59, "Work Flow".
4. Check the 12V battery. Refer to PG-59, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
10. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
11. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
12. Release brake pedal.
13. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A87” detected?

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

3.CHECK CONNECTOR TERMINALS

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.

Is the inspection result normal?

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

4.PERFORM SELF-DIAGNOSIS (2)

With CONSULT

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

CAUTION:
Never set the vehicle to READY.

4. Repeat step 3 two or more times.

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

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

CAUTION:
Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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

CAUTION:
Never set the vehicle to READY.

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

Is DTC “C1A87” detected?

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

5.CHECK POWER SWITCH ON POWER SUPPLY

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

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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

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

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

CAUTION:
Never set the vehicle to READY.

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

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

Is the inspection result normal?

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

6.CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 15A fuse (#62).
5. Disconnect IPDM E/R harness connector.
6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

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

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

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

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to PG-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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
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 “C1A87” detected?

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

8. CHECK 12V BATTERY POWER SUPPLY

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Connect 12V battery cable to negative terminal.
6. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

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

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

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

Is the inspection result normal?

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

9. CHECK 12V BATTERY POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 60A fusible link (#F).
5. Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).
6. Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).
7. Check the 15A fuse (#75).
8. Check the continuity and for short circuit between harness connector terminal 28 of electrically-driven intelligent brake unit and 15A fuse (#75).

Is the inspection result normal?

YES >> Perform trouble diagnosis for 12V battery power supply. Refer to PG-15, "Wiring Diagram - BATTERY POWER SUPPLY -".
NO >> Repair or replace error-detected parts and GO TO 10.

10. PERFORM SELF-DIAGNOSIS (4)

With CONSULT
1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
11. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
13. Release brake pedal.
14. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A87” detected?

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

11. CHECK GROUND CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Check the continuity between electrically-driven intelligent brake unit and ground.

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

Is the inspection result normal?

YES >> GO TO 13.
NO >> Repair or replace error-detected parts and GO TO 12.

12. PERFORM SELF-DIAGNOSIS (5)

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

Never set the vehicle to READY.

4. Repeat step 3 two or more times.

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

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

CAUTION:
Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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

CAUTION:
Never set the vehicle to READY.

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

Is DTC “C1A87” detected?

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

13. CHECK DATA MONITOR

With CONSULT

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

CAUTION:
Never set the vehicle to READY.

4. Repeat step 3 two or more times.

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

5. Start CONSULT and select “BRAKE” and “DATA MONITOR” according this order.
6. Check the “MOTOR POWER SUPPLY” and “CONTROL MODULE POWER”. Refer to BR-39, "Reference Value".

Is the inspection result normal?

YES >> GO TO 14.
NO >> Replace the electrically-driven intelligent brake unit. Refer to BR-533, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
9. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
11. Release brake pedal.
12. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A87” detected?

YES >> Replace the electrically-driven intelligent brake unit. Refer to BR-533, "Removal and installation".
NO >> INSPECTION END

C1A88 CONTROL MODULE

DTC Logic

INFOID:0000000009282342

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1A88	CONTROL MODULE-10	A malfunction is detected in the control module of electrically-driven intelligent brake unit. (Abnormal main CPU)	Electrically-driven intelligent brake unit

DTC REPRODUCTION PROCEDURE

1.PRECONDITIONING

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

>> GO TO 2.

2.CHECK DTC DETECTION

With CONSULT

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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 “C1A88” detected?

YES >> Proceed to BR-272, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000009282343

1.CHECK 12V BATTERY

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

3. Check the 12V battery terminal connections. Refer to BR-7, "Precaution for Removing 12V Battery" and PG-59, "Work Flow".
4. Check the 12V battery. Refer to PG-59, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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 “C1A88” detected?

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

3.CHECK CONNECTOR TERMINALS

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.

Is the inspection result normal?

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

4.PERFORM SELF-DIAGNOSIS (2)

With CONSULT

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

CAUTION:
Never set the vehicle to READY.

4. Repeat step 3 two or more times.

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

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

CAUTION:
Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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 “C1A88” 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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

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

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

CAUTION:
Never set the vehicle to READY.

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

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

Is the inspection result normal?

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

6.CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 15A fuse (#62).
5. Disconnect IPDM E/R harness connector.
6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

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

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

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

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to PG-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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
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 “C1A88” detected?

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

8.CHECK 12V BATTERY POWER SUPPLY

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Connect 12V battery cable to negative terminal.
6. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

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

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

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

Is the inspection result normal?

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

9.CHECK 12V BATTERY POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 60A fusible link (#F).
5. Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).
6. Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).
7. Check the 15A fuse (#75).
8. Check the continuity and for short circuit between harness connector terminal 28 of electrically-driven intelligent brake unit and 15A fuse (#75).

Is the inspection result normal?

YES >> Perform trouble diagnosis for 12V battery power supply. Refer to PG-15, "Wiring Diagram - BATTERY POWER SUPPLY -".
NO >> Repair or replace error-detected parts and GO TO 10.

10. PERFORM SELF-DIAGNOSIS (4)

With CONSULT
1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
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 “C1A88” detected?

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

11. CHECK GROUND CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Check the continuity between electrically-driven intelligent brake unit and ground.

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

Is the inspection result normal?

YES >> GO TO 13.
NO >> Repair or replace error-detected parts and GO TO 12.

12. PERFORM SELF-DIAGNOSIS (5)

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

Never set the vehicle to READY.

4. Repeat step 3 two or more times.

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

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

CAUTION:
Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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 “C1A88” 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-39, "Reference Value".

Is the inspection result normal?

YES >> GO TO 14.
NO >> Replace the electrically-driven intelligent brake unit. Refer to BR-533, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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 “C1A88” detected?

YES >> Replace the electrically-driven intelligent brake unit. Refer to BR-533, "Removal and installation".
NO >> INSPECTION END

C1A89 CONTROL MODULE

DTC Logic

INFOID:0000000009282344

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1A89	CONTROL MODULE-11	• A malfunction is detected in the control module of electrically-driven intelligent brake unit. (Abnormal initial diagnosis) • A malfunction is detected in the control module of electrically-driven intelligent brake unit. (Abnormal motor current)	Electrically-driven intelligent brake unit

DTC 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
9. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
11. Release brake pedal.
12. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A89” detected?

YES >> Proceed to BR-280, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000009282345

1.CHECK 12V BATTERY

1. Turn the power switch OFF to exit CONSULT.

2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Check the 12V battery terminal connections. Refer to BR-7, "Precaution for Removing 12V Battery" and PG-59, "Work Flow".
4. Check the 12V battery. Refer to PG-59, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
10. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
11. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
12. Release brake pedal.
13. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A89” detected?

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

3.CHECK CONNECTOR TERMINALS

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.

Is the inspection result normal?

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

4.PERFORM SELF-DIAGNOSIS (2)

With CONSULT
1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
11. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
13. Release brake pedal.
14. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A89” detected?

YES >> GO TO 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
4. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
5. Disconnect the electrically-driven intelligent brake unit harness connector.
6. Connect 12V battery cable to negative terminal.
7. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

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

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

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

Is the inspection result normal?

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

6. CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 15A fuse (#62).
5. Disconnect IPDM E/R harness connector.
6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

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

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

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

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to PG-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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
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 “C1A89” detected?

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

8.CHECK 12V BATTERY POWER SUPPLY

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Connect 12V battery cable to negative terminal.
6. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

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

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

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

Is the inspection result normal?

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

9.CHECK 12V BATTERY POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 60A fusible link (#F).
5. Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).
6. Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).
7. Check the 15A fuse (#75).
8. Check the continuity and for short circuit between harness connector terminal 28 of electrically-driven intelligent brake unit and 15A fuse (#75).

Is the inspection result normal?

YES >> Perform trouble diagnosis for 12V battery power supply. Refer to PG-15, "Wiring Diagram - BATTERY POWER SUPPLY -".
NO >> Repair or replace error-detected parts and GO TO 10.

10. PERFORM SELF-DIAGNOSIS (4)

With CONSULT
1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
11. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
13. Release brake pedal.
14. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A89” detected?

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

11. CHECK GROUND CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Check the continuity between electrically-driven intelligent brake unit and ground.

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

Is the inspection result normal?

YES >> GO TO 13.
NO >> Repair or replace error-detected parts and GO TO 12.

12. PERFORM SELF-DIAGNOSIS (5)

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

2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
11. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
13. Release brake pedal.
14. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A89” detected?

YES >> GO TO 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-39, "Reference Value".

Is the inspection result normal?

YES >> GO TO 14.
NO >> Replace the electrically-driven intelligent brake unit. Refer to BR-533, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:

Never operate the vehicle and CONSULT while waiting.

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
9. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
11. Release brake pedal.
12. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A89” detected?

YES >> Replace the electrically-driven intelligent brake unit. Refer to BR-533, "Removal and installation".
NO >> INSPECTION END

C1A8A CONTROL MODULE

DTC Logic

INFOID:0000000009282346

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1A8A	CONTROL MODULE-12	A malfunction is detected in the control module of electrically-driven intelligent brake unit. (Abnormal relay)	Electrically-driven intelligent brake unit

DTC REPRODUCTION PROCEDURE

1.PRECONDITIONING

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

>> GO TO 2.

2.CHECK DTC DETECTION

With CONSULT

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
9. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
11. Release brake pedal.
12. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A8A” detected?

YES >> Proceed to BR-288, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000009282347

1.CHECK 12V BATTERY

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

3. Check the 12V battery terminal connections. Refer to BR-7, "Precaution for Removing 12V Battery" and PG-59, "Work Flow".
4. Check the 12V battery. Refer to PG-59, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
10. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
11. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
12. Release brake pedal.
13. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A8A” detected?

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

3.CHECK CONNECTOR TERMINALS

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.

Is the inspection result normal?

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

4.PERFORM SELF-DIAGNOSIS (2)

With CONSULT

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

CAUTION:
Never set the vehicle to READY.

4. Repeat step 3 two or more times.

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

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

CAUTION:
Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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

CAUTION:
Never set the vehicle to READY.

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

Is DTC “C1A8A” detected?

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

5.CHECK POWER SWITCH ON POWER SUPPLY

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

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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

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

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

CAUTION:
Never set the vehicle to READY.

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

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

Is the inspection result normal?

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

6. CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 15A fuse (#62).
5. Disconnect IPDM E/R harness connector.
6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

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

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

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

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to PG-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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
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 “C1A8A” detected?

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

8. CHECK 12V BATTERY POWER SUPPLY

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Connect 12V battery cable to negative terminal.
6. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

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

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

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

Is the inspection result normal?

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

9. CHECK 12V BATTERY POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 60A fusible link (#F).
5. Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).
6. Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).
7. Check the 15A fuse (#75).
8. Check the continuity and for short circuit between harness connector terminal 28 of electrically-driven intelligent brake unit and 15A fuse (#75).

Is the inspection result normal?

YES >> Perform trouble diagnosis for 12V battery power supply. Refer to PG-15, "Wiring Diagram - BATTERY POWER SUPPLY -".
NO >> Repair or replace error-detected parts and GO TO 10.

10. PERFORM SELF-DIAGNOSIS (4)

With CONSULT
1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
11. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
13. Release brake pedal.
14. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A8A” detected?

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

11. CHECK GROUND CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Check the continuity between electrically-driven intelligent brake unit and ground.

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

Is the inspection result normal?

YES >> GO TO 13.
NO >> Repair or replace error-detected parts and GO TO 12.

12. PERFORM SELF-DIAGNOSIS (5)

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

Never set the vehicle to READY.

4. Repeat step 3 two or more times.

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

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

CAUTION:
Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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

CAUTION:
Never set the vehicle to READY.

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

Is DTC “C1A8A” detected?

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

13.CHECK DATA MONITOR

With CONSULT

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

CAUTION:
Never set the vehicle to READY.

4. Repeat step 3 two or more times.

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

5. Start CONSULT and select “BRAKE” and “DATA MONITOR” according this order.
6. Check the “MOTOR POWER SUPPLY” and “CONTROL MODULE POWER”. Refer to BR-39, "Reference Value".

Is the inspection result normal?

YES >> GO TO 14.
NO >> Replace the electrically-driven intelligent brake unit. Refer to BR-533, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
9. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
11. Release brake pedal.
12. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A8A” detected?

YES >> Replace the electrically-driven intelligent brake unit. Refer to BR-533, "Removal and installation".
NO >> INSPECTION END

C1A8B CONTROL MODULE

DTC Logic

INFOID:0000000009282348

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1A8B	CONTROL MODULE-13	A malfunction is detected in the control module of electrically-driven intelligent brake unit. (Abnormal CAN communication line)	Electrically-driven intelligent brake unit

DTC REPRODUCTION PROCEDURE

1.PRECONDITIONING

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

>> GO TO 2.

2.CHECK DTC DETECTION

With CONSULT

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
9. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
11. Release brake pedal.
12. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A8B” detected?

YES >> Proceed to BR-296, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000009282349

1.CHECK 12V BATTERY

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

3. Check the 12V battery terminal connections. Refer to BR-7, "Precaution for Removing 12V Battery" and PG-59, "Work Flow".
4. Check the 12V battery. Refer to PG-59, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
10. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
11. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
12. Release brake pedal.
13. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A8B” detected?

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

3.CHECK CONNECTOR TERMINALS

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.

Is the inspection result normal?

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

4.PERFORM SELF-DIAGNOSIS (2)

With CONSULT

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

CAUTION:
Never set the vehicle to READY.

4. Repeat step 3 two or more times.

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

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

CAUTION:
Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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

CAUTION:
Never set the vehicle to READY.

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

Is DTC “C1A8B” detected?

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

5.CHECK POWER SWITCH ON POWER SUPPLY

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

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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

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

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

CAUTION:
Never set the vehicle to READY.

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

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

Is the inspection result normal?

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

6.CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 15A fuse (#62).
5. Disconnect IPDM E/R harness connector.
6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

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

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

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

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to PG-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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
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 “C1A8B” detected?

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

8.CHECK 12V BATTERY POWER SUPPLY

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Connect 12V battery cable to negative terminal.
6. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

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

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

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

Is the inspection result normal?

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

9.CHECK 12V BATTERY POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 60A fusible link (#F).
5. Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).
6. Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).
7. Check the 15A fuse (#75).
8. Check the continuity and for short circuit between harness connector terminal 28 of electrically-driven intelligent brake unit and 15A fuse (#75).

Is the inspection result normal?

YES >> Perform trouble diagnosis for 12V battery power supply. Refer to PG-15, "Wiring Diagram - BATTERY POWER SUPPLY -".
NO >> Repair or replace error-detected parts and GO TO 10.

10. PERFORM SELF-DIAGNOSIS (4)

With CONSULT
1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
11. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
13. Release brake pedal.
14. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A8B” detected?

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

11. CHECK GROUND CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Check the continuity between electrically-driven intelligent brake unit and ground.

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

Is the inspection result normal?

YES >> GO TO 13.
NO >> Repair or replace error-detected parts and GO TO 12.

12. PERFORM SELF-DIAGNOSIS (5)

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

Never set the vehicle to READY.

4. Repeat step 3 two or more times.

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

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

CAUTION:
Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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

CAUTION:
Never set the vehicle to READY.

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

Is DTC “C1A8B” detected?

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

13. CHECK DATA MONITOR

With CONSULT

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

CAUTION:
Never set the vehicle to READY.

4. Repeat step 3 two or more times.

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

5. Start CONSULT and select “BRAKE” and “DATA MONITOR” according this order.
6. Check the “MOTOR POWER SUPPLY” and “CONTROL MODULE POWER”. Refer to BR-39, "Reference Value".

Is the inspection result normal?

YES >> GO TO 14.
NO >> Replace the electrically-driven intelligent brake unit. Refer to BR-533, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
9. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
11. Release brake pedal.
12. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A8B” detected?

YES >> Replace the electrically-driven intelligent brake unit. Refer to BR-533, "Removal and installation".
NO >> INSPECTION END

C1A90 CONTROL MODULE

DTC Logic

INFOID:0000000009282350

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1A90	POWER SUPPLY MODE	Power supply to the electrically-driven intelligent brake unit is switched from 12V battery to the brake power supply backup unit and the warning buzzer is activated.	• 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 “C1A90” detected?

YES >> Proceed to BR-304, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000009282380

1.PERFORM SELF-DIAGNOSIS (1)

With CONSULT

1. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
2. Start CONSULT and perform “BRAKE” self-diagnosis.

“PAST” or “CRNT” shown in self-diagnosis results (“C1A90”)?

YES (“PAST”)>>GO TO 2.
YES (“CRNT”)>>GO TO 6.
NO >> INSPECTION END

2.INTERVIEW FROM THE CUSTOMER (1)

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

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

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

3.INTERVIEW FROM THE CUSTOMER (2)

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

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

YES >> GO TO 6.
NO >> GO TO 4.

4.INTERVIEW FROM THE CUSTOMER (3)

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

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
9. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
11. Release brake pedal.
12. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A90” detected?

YES >> GO TO 6.
NO >> INSPECTION END [DTC “C1A90” is detected when12V battery terminals are disconnected after turning the power switch OFF with any door open (including back door) or without waiting 3 minutes after closing all doors (including back door).]

6. CHECK 12V BATTERY

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Check the 12V battery terminal connections. Refer to BR-7, "Precaution for Removing 12V Battery" and PG-59, "Work Flow".
4. Check the 12V battery. Refer to PG-59, "Work Flow".

Is the inspection result normal?

YES >> GO TO 7.
NO >> Repair or replace error-detected parts and GO TO 7.

7. PERFORM SELF-DIAGNOSIS (3)

With CONSULT

1. Connect 12V battery cable to negative terminal.
2. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
3. Repeat step 2 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.

4. Turn the power switch OFF to exit CONSULT.
5. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
10. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
11. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
12. Release brake pedal.
13. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A90” detected?

YES >> GO TO 8.
NO >> INSPECTION END

8.CHECK CONNECTOR TERMINALS

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.

Is the inspection result normal?

YES >> GO TO 9.
NO >> Repair or replace error-detected parts and GO TO 9.

9.PERFORM SELF-DIAGNOSIS (4)

With CONSULT
1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

11. Turn the power switch ON without depressing the brake pedal.

CAUTION:
Never set the vehicle to READY.

12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
13. Release brake pedal.
14. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A90” detected?

YES >> GO TO 10.
NO >> INSPECTION END

10. CHECK POWER SWITCH ON POWER SUPPLY

1. Connect 12V battery cable to negative terminal.
2. Turn the power switch OFF to exit CONSULT.
3. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

4. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
5. Disconnect the electrically-driven intelligent brake unit harness connector.
6. Connect 12V battery cable to negative terminal.
7. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit		—	Voltage (Approx.)
Connector	Terminal		
E34	26	Ground	0 V

8. Turn the power switch ON without depressing the brake pedal.

CAUTION:
Never set the vehicle to READY.

9. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit		—	Voltage (Approx.)
Connector	Terminal		
E34	26	Ground	10 – 16 V

Is the inspection result normal?

YES >> GO TO 13.
NO >> GO TO 11.

11. CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 15A fuse (#62).
5. Disconnect IPDM E/R harness connector.
6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

Electrically-driven intelligent brake unit		IPDM E/R		Continuity
Connector	Terminal	Connector	Terminal	
E34	26	E15	62	Existed

7. Check the continuity between electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit		—	Continuity
Connector	Terminal		
E34	26	Ground	Not existed

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to PG-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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
12. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
13. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
14. Release brake pedal.
15. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A90” detected?

YES >> GO TO 13.

NO >> INSPECTION END

13. CHECK 12V BATTERY POWER SUPPLY

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Connect 12V battery cable to negative terminal.
6. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

Electrically-driven intelligent brake unit		Voltage (Approx.)
Connector	Terminal	
E34	1 – 32	10 – 16 V
	2 – 32	
	28 – 32	

7. Turn the power switch ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY.
8. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

Electrically-driven intelligent brake unit		Voltage (Approx.)
Connector	Terminal	
E34	1 – 32	10 – 16 V
	2 – 32	
	28 – 32	

Is the inspection result normal?

YES >> GO TO 16.
NO >> GO TO 14.

14. CHECK 12V BATTERY POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
CAUTION:
Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 60A fusible link (#F).
5. Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).
6. Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).
7. Check the 15A fuse (#75).
8. Check the continuity and for short circuit between harness connector terminal 28 of electrically-driven intelligent brake unit and 15A fuse (#75).

Is the inspection result normal?

YES >> Perform trouble diagnosis for 12V battery power supply. Refer to PG-15, "Wiring Diagram - BATTERY POWER SUPPLY -".
NO >> Repair or replace error-detected parts and GO TO 15.

15. PERFORM SELF-DIAGNOSIS (6)

With CONSULT
1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY.
4. Repeat step 3 two or more times.
CAUTION:
Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
CAUTION:
Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
11. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
13. Release brake pedal.
14. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A90” detected?

YES >> GO TO 16.
NO >> INSPECTION END

16. CHECK GROUND CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Check the continuity between electrically-driven intelligent brake unit and ground.

Electrically-driven intelligent brake unit		—	Continuity
Connector	Terminal		
E34	32	Ground	Existed

Is the inspection result normal?

YES >> GO TO 18.
NO >> Repair or replace error-detected parts and GO TO 17.

17. PERFORM SELF-DIAGNOSIS (7)

With CONSULT
1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

11. Turn the power switch ON without depressing the brake pedal.

CAUTION:
Never set the vehicle to READY.

12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
13. Release brake pedal.
14. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A90” detected?

YES >> GO TO 18.
NO >> INSPECTION END

18. CHECK DATA MONITOR

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.

CAUTION:
Never set the vehicle to READY.

4. Repeat step 3 two or more times.

CAUTION:
Be sure to wait for 5 seconds or more after turning the power switch OFF.

5. Start CONSULT and select “BRAKE” and “DATA MONITOR” according this order.
6. Check the “MOTOR POWER SUPPLY” and “CONTROL MODULE POWER”. Refer to BR-39, "Reference Value".

Is the inspection result normal?

YES >> GO TO 19.
NO >> Replace the electrically-driven intelligent brake unit. Refer to BR-533, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

9. Turn the power switch ON without depressing the brake pedal.

CAUTION:
Never set the vehicle to READY.

10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
11. Release brake pedal.
12. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A90” detected?

YES >> GO TO 20.

NO >> INSPECTION END

20. CHECK BCM SYSTEM

With CONSULT

Perform self-diagnosis for “BCM”. Refer to BCS-23, "BCM : CONSULT Function (BCM - BCM)".

Is any DTC detected?

YES >> Check the DTC. Refer to BCS-48, "DTC Index". GO TO 21.
NO >> Replace the electrically-driven intelligent brake unit. Refer to BR-533, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
9. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
11. Release brake pedal.
12. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A90” detected?

YES >> Replace the electrically-driven intelligent brake unit. Refer to BR-533, "Removal and installation".
NO >> INSPECTION END

C1A91 CONTROL MODULE

DTC Logic

INFOID:0000000009282352

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1A91	IGNITION POWER SUPPLY	A power switch ON signal which is input from BCM via CAN communication is input without an input of a power switch ON signal which is directly input to the electrically-driven intelligent brake unit.	• Harness or connector • Electrically-driven intelligent brake unit

DTC REPRODUCTION PROCEDURE

1.PRECONDITIONING

If “DTC CONFIRMATION PROCEDURE” has been previously conducted, always turn power switch OFF and wait at least 10 seconds before conducting the next test.

>> GO TO 2.

2.CHECK DTC DETECTION

With CONSULT

1. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
2. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A91” detected?

YES >> Proceed to BR-313, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000009282353

1.PERFORM SELF-DIAGNOSIS (1)

With CONSULT

1. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
2. Start CONSULT and perform “BRAKE” self-diagnosis.

“PAST” or “CRNT” shown in self-diagnosis results (“C1A91”)?

YES (“PAST”)>>GO TO 2.
YES (“CRNT”)>>GO TO 6.
NO >> INSPECTION END

2.INTERVIEW FROM THE CUSTOMER (1)

Check to see if there is a removal history of 12V battery or 12V battery terminals.

Is there a removal history of 12V battery or 12V battery terminals?

YES >> GO TO 3.
NO >> GO TO 6.

3.INTERVIEW FROM THE CUSTOMER (2)

Check to see if there is a lighting history of the brake system warning lamp (yellow).

Is there a lighting history of the brake system warning lamp (yellow)?

YES >> GO TO 6.
NO >> GO TO 4.

4.INTERVIEW FROM THE CUSTOMER (3)

Check to see if the customer has an experience of feeling unusual braking force (brake pedal operation).

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
9. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
11. Release brake pedal.
12. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A91” detected?

YES >> GO TO 6.
NO >> INSPECTION END [DTC “C1A91” is detected when12V battery terminals are disconnected after turning the power switch OFF with any door open (including back door) or without waiting 3 minutes after closing all doors (including back door).]

6. CHECK 12V BATTERY

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Check the 12V battery terminal connections. Refer to BR-7, "Precaution for Removing 12V Battery" and PG-59, "Work Flow".
4. Check the 12V battery. Refer to PG-59, "Work Flow".

Is the inspection result normal?

YES >> GO TO 7.
NO >> Repair or replace error-detected parts and GO TO 7.

7. PERFORM SELF-DIAGNOSIS (3)

With CONSULT

1. Connect 12V battery cable to negative terminal.
2. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
3. Repeat step 2 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.

4. Turn the power switch OFF to exit CONSULT.
5. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
10. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
11. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
12. Release brake pedal.
13. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A91” detected?

YES >> GO TO 8.
NO >> INSPECTION END

8.CHECK CONNECTOR TERMINALS

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.

Is the inspection result normal?

YES >> GO TO 9.
NO >> Repair or replace error-detected parts and GO TO 9.

9.PERFORM SELF-DIAGNOSIS (4)

With CONSULT
1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

11. Turn the power switch ON without depressing the brake pedal.

CAUTION:
Never set the vehicle to READY.

12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
13. Release brake pedal.
14. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A91” detected?

YES >> GO TO 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

4. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
5. Disconnect the electrically-driven intelligent brake unit harness connector.
6. Connect 12V battery cable to negative terminal.
7. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit		—	Voltage (Approx.)
Connector	Terminal		
E34	26	Ground	0 V

8. Turn the power switch ON without depressing the brake pedal.

CAUTION:
Never set the vehicle to READY.

9. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit		—	Voltage (Approx.)
Connector	Terminal		
E34	26	Ground	10 – 16 V

Is the inspection result normal?

YES >> GO TO 13.
NO >> GO TO 11.

11.CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 15A fuse (#62).
5. Disconnect IPDM E/R harness connector.
6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

Electrically-driven intelligent brake unit		IPDM E/R		Continuity
Connector	Terminal	Connector	Terminal	
E34	26	E15	62	Existed

7. Check the continuity between electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit		—	Continuity
Connector	Terminal		
E34	26	Ground	Not existed

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to PG-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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
12. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
13. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
14. Release brake pedal.
15. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A91” detected?

YES >> GO TO 13.

NO >> INSPECTION END

13. CHECK 12V BATTERY POWER SUPPLY

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Connect 12V battery cable to negative terminal.
6. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

Electrically-driven intelligent brake unit		Voltage (Approx.)
Connector	Terminal	
E34	1 – 32	10 – 16 V
	2 – 32	
	28 – 32	

7. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
8. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

Electrically-driven intelligent brake unit		Voltage (Approx.)
Connector	Terminal	
E34	1 – 32	10 – 16 V
	2 – 32	
	28 – 32	

Is the inspection result normal?

YES >> GO TO 16.
NO >> GO TO 14.

14. CHECK 12V BATTERY POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 60A fusible link (#F).
5. Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).
6. Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).
7. Check the 15A fuse (#75).
8. Check the continuity and for short circuit between harness connector terminal 28 of electrically-driven intelligent brake unit and 15A fuse (#75).

Is the inspection result normal?

YES >> Perform trouble diagnosis for 12V battery power supply. Refer to PG-15, "Wiring Diagram - BATTERY POWER SUPPLY -".
NO >> Repair or replace error-detected parts and GO TO 15.

15. PERFORM SELF-DIAGNOSIS (6)

With CONSULT
1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
11. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
13. Release brake pedal.
14. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A91” detected?

YES >> GO TO 16.
NO >> INSPECTION END

16.CHECK GROUND CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Check the continuity between electrically-driven intelligent brake unit and ground.

Electrically-driven intelligent brake unit		—	Continuity
Connector	Terminal		
E34	32	Ground	Existed

Is the inspection result normal?

YES >> GO TO 18.
NO >> Repair or replace error-detected parts and GO TO 17.

17.PERFORM SELF-DIAGNOSIS (7)

With CONSULT
1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

11. Turn the power switch ON without depressing the brake pedal.

CAUTION:
Never set the vehicle to READY.

12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
13. Release brake pedal.
14. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A91” detected?

YES >> GO TO 18.
NO >> INSPECTION END

18. CHECK DATA MONITOR

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.

CAUTION:
Never set the vehicle to READY.

4. Repeat step 3 two or more times.

CAUTION:
Be sure to wait for 5 seconds or more after turning the power switch OFF.

5. Start CONSULT and select “BRAKE” and “DATA MONITOR” according this order.
6. Check the “MOTOR POWER SUPPLY” and “CONTROL MODULE POWER”. Refer to BR-39, "Reference Value".

Is the inspection result normal?

YES >> GO TO 19.
NO >> Replace the electrically-driven intelligent brake unit. Refer to BR-533, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

9. Turn the power switch ON without depressing the brake pedal.

CAUTION:
Never set the vehicle to READY.

10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
11. Release brake pedal.
12. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A91” detected?

YES >> GO TO 20.

NO >> INSPECTION END

20. CHECK BCM SYSTEM

With CONSULT

Perform self-diagnosis for “BCM”. Refer to BCS-23, "BCM : CONSULT Function (BCM - BCM)".

Is any DTC detected?

YES >> Check the DTC. Refer to BCS-48, "DTC Index". GO TO 21.

NO >> Replace the electrically-driven intelligent brake unit. Refer to BR-533, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
9. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
11. Release brake pedal.
12. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A91” detected?

YES >> Replace the electrically-driven intelligent brake unit. Refer to BR-533, "Removal and installation".

NO >> INSPECTION END

C1A98 BRAKE POWER SUPPLY BACKUP UNIT

DTC Logic

INFOID:0000000009282354

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1A98	BACKUP POWER SUPPLY-2	A malfunction is detected in the backup power supply circuit. (Abnormal relay in the control module of the electrically-driven intelligent brake unit)	• 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
9. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
11. Release brake pedal.
12. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A98" detected?

YES >> Proceed to BR-322, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000009282381

1.CHECK 12V BATTERY

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.

3. Check the 12V battery terminal connections. Refer to BR-7, "Precaution for Removing 12V Battery" and PG-59, "Work Flow".
4. Check the 12V battery. Refer to PG-59, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
10. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
11. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
12. Release brake pedal.
13. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A98” detected?

YES >> GO TO 3.
NO >> INSPECTION END

3.CHECK CONNECTOR TERMINALS

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.
5. Disconnect the brake power supply backup unit harness connector, then check for failures of pin terminals and connections.

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair or replace error-detected parts and GO TO 4.

4.PERFORM SELF-DIAGNOSIS (2)

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
12. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
13. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
14. Release brake pedal.
15. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A98” detected?

YES >> GO TO 5.
NO >> INSPECTION END

5. CHECK POWER SWITCH ON POWER SUPPLY

1. Connect the brake power supply backup unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to exit CONSULT.
4. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
5. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
6. Disconnect the electrically-driven intelligent brake unit harness connector.
7. Connect 12V battery cable to negative terminal.
8. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit		—	Voltage (Approx.)
Connector	Terminal		
E34	26	Ground	0 V

9. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
10. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit		—	Voltage (Approx.)
Connector	Terminal		
E34	26	Ground	10 – 16 V

Is the inspection result normal?

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 15A fuse (#62).
5. Disconnect IPDM E/R harness connector.
6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

Electrically-driven intelligent brake unit		IPDM E/R		Continuity
Connector	Terminal	Connector	Terminal	
E34	26	E15	62	Existed

7. Check the continuity between electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit		—	Continuity
Connector	Terminal		
E34	26	Ground	Not existed

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to PG-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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
12. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.

13. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
14. Release brake pedal.
15. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A98” detected?

YES >> GO TO 8.
NO >> INSPECTION END

8.CHECK 12V BATTERY POWER SUPPLY

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Connect 12V battery cable to negative terminal.
6. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

Electrically-driven intelligent brake unit		Voltage (Approx.)
Connector	Terminal	
E34	1 – 32	10 – 16 V
	2 – 32	
	28 – 32	

7. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
8. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

Electrically-driven intelligent brake unit		Voltage (Approx.)
Connector	Terminal	
E34	1 – 32	10 – 16 V
	2 – 32	
	28 – 32	

Is the inspection result normal?

YES >> GO TO 11.
NO >> GO TO 9.

9.CHECK 12V BATTERY POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 60A fusible link (#F).
5. Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).
6. Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).
7. Check the 15A fuse (#75).
8. Check the continuity and for short circuit between harness connector terminal 28 of electrically-driven intelligent brake unit and 15A fuse (#75).

Is the inspection result normal?

YES >> Perform trouble diagnosis for 12V battery power supply. Refer to PG-15, "Wiring Diagram - BATTERY POWER SUPPLY -".
NO >> Repair or replace error-detected parts and GO TO 10.

10. PERFORM SELF-DIAGNOSIS (4)

With CONSULT
1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
11. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
13. Release brake pedal.
14. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A98” detected?

YES >> GO TO 11.
NO >> INSPECTION END

11. CHECK GROUND CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Check the continuity between electrically-driven intelligent brake unit and ground.

Electrically-driven intelligent brake unit		—	Continuity
Connector	Terminal		
E34	32	Ground	Existed

Is the inspection result normal?

YES >> GO TO 13.
NO >> Repair or replace error-detected parts and GO TO 12.

12. PERFORM SELF-DIAGNOSIS (5)

With CONSULT
1. Connect the electrically-driven intelligent brake unit harness connector.

2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
11. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
13. Release brake pedal.
14. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A98” detected?

YES >> GO TO 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-39, "Reference Value".

Is the inspection result normal?

YES >> GO TO 14.
NO >> Replace the electrically-driven intelligent brake unit. Refer to BR-533, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:

Never operate the vehicle and CONSULT while waiting.

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
9. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
11. Release brake pedal.
12. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A98”, “C1A6B”, “C1A6C”, “C1A6D”, “C1AC8” or “C1AD0” detected?

YES (C1A98)>>GO TO 15.
YES (C1A6B)>>Refer to BR-146, "Diagnosis Procedure".
YES (C1A6C)>>Refer to BR-157, "Diagnosis Procedure".
YES (C1A6D)>>Refer to BR-165, "Diagnosis Procedure".
YES (C1AC8)>>Refer to BR-452, "Diagnosis Procedure".
YES (C1AD0)>>Refer to BR-463, "Diagnosis Procedure".
NO >> INSPECTION END

15. CHECK CIRCUIT BETWEEN ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT AND BRAKE POWER SUPPLY BACKUP UNIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Check the continuity between electrically-driven intelligent brake unit and ground.

Electrically-driven intelligent brake unit		—	Continuity
Connector	Terminal		
E34	32	Ground	Existed

6. Check the continuity between electrically-driven intelligent brake unit and ground.

Electrically-driven intelligent brake unit		—	Continuity
Connector	Terminal		
E34	31	Ground	Not existed

7. Disconnect the brake power supply backup unit harness connector.
8. Check the continuity between electrically-driven intelligent brake unit and brake power supply backup unit.

Electrically-driven intelligent brake unit		Brake power supply backup unit		Continuity
Connector	Terminal	Connector	Terminal	
E34	31	B15	1	Existed

Is the inspection result normal?

YES >> GO TO 16.
NO >> Repair or replace error-detected parts and GO TO 16.

16. CHECK BRAKE POWER SUPPLY BACKUP UNIT GROUND CIRCUIT

Check the continuity between brake power supply backup unit and ground.

Brake power supply backup unit		—	Continuity
Connector	Terminal		
B15	2	Ground	Existed

Is the inspection result normal?

YES >> GO TO 17.
NO >> Repair or replace error-detected parts and GO TO 17.

17. PERFORM SELF-DIAGNOSIS (7)

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect the brake power supply backup unit harness connector.
3. Connect 12V battery cable to negative terminal.
4. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
5. Repeat step 4 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
6. Turn the power switch OFF to exit CONSULT.
7. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
12. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
13. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
14. Release brake pedal.
15. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A98” detected?

YES >> Replace the electrically-driven intelligent brake unit. Refer to BR-533, "Removal and installation".
NO >> INSPECTION END

C1A99 BRAKE POWER SUPPLY BACKUP UNIT

DTC Logic

INFOID:0000000009282357

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1A99	BACKUP POWER SUPPLY-3	A malfunction is detected in the backup power supply circuit. (Abnormal diode in the control module of the electrically-driven intelligent brake unit)	• Harness or connector • Electrically-driven intelligent brake unit

DTC REPRODUCTION PROCEDURE

1.PRECONDITIONING

If DTC CONFIRMATION PROCEDURE" has been previously conducted, always turn power switch OFF and wait at least 10 seconds before conducting the next test.

>> GO TO 2.

2.CHECK DTC DETECTION

With CONSULT

1. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
2. Repeat step 1 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
3. Turn the power switch OFF to exit CONSULT.
4. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
9. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
11. Release brake pedal.
12. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A99" detected?

YES >> Proceed to BR-331, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000009282358

1.CHECK 12V BATTERY

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.

3. Check the 12V battery terminal connections. Refer to BR-7, "Precaution for Removing 12V Battery" and PG-59, "Work Flow".
4. Check the 12V battery. Refer to PG-59, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
10. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
11. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
12. Release brake pedal.
13. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A99” detected?

YES >> GO TO 3.
NO >> INSPECTION END

3.CHECK CONNECTOR TERMINALS

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.
5. Disconnect the brake power supply backup unit harness connector, then check for failures of pin terminals and connections.

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair or replace error-detected parts and GO TO 4.

4.PERFORM SELF-DIAGNOSIS (2)

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
12. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
13. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
14. Release brake pedal.
15. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A99” detected?

YES >> GO TO 5.
NO >> INSPECTION END

5. CHECK POWER SWITCH ON POWER SUPPLY

1. Connect the brake power supply backup unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to exit CONSULT.
4. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
5. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
6. Disconnect the electrically-driven intelligent brake unit harness connector.
7. Connect 12V battery cable to negative terminal.
8. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit		—	Voltage (Approx.)
Connector	Terminal		
E34	26	Ground	0 V

9. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
10. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit		—	Voltage (Approx.)
Connector	Terminal		
E34	26	Ground	10 – 16 V

Is the inspection result normal?

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 15A fuse (#62).
5. Disconnect IPDM E/R harness connector.
6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

Electrically-driven intelligent brake unit		IPDM E/R		Continuity
Connector	Terminal	Connector	Terminal	
E34	26	E15	62	Existed

7. Check the continuity between electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit		—	Continuity
Connector	Terminal		
E34	26	Ground	Not existed

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to PG-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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
12. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.

13. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
14. Release brake pedal.
15. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A99” detected?

YES >> GO TO 8.
NO >> INSPECTION END

8. CHECK 12V BATTERY POWER SUPPLY

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Connect 12V battery cable to negative terminal.
6. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

Electrically-driven intelligent brake unit		Voltage (Approx.)
Connector	Terminal	
E34	1 – 32	10 – 16 V
	2 – 32	
	28 – 32	

7. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
8. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

Electrically-driven intelligent brake unit		Voltage (Approx.)
Connector	Terminal	
E34	1 – 32	10 – 16 V
	2 – 32	
	28 – 32	

Is the inspection result normal?

YES >> GO TO 11.
NO >> GO TO 9.

9. CHECK 12V BATTERY POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 60A fusible link (#F).
5. Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).
6. Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).
7. Check the 15A fuse (#75).
8. Check the continuity and for short circuit between harness connector terminal 28 of electrically-driven intelligent brake unit and 15A fuse (#75).

Is the inspection result normal?

YES >> Perform trouble diagnosis for 12V battery power supply. Refer to PG-15, "Wiring Diagram - BATTERY POWER SUPPLY -".
NO >> Repair or replace error-detected parts and GO TO 10.

10. PERFORM SELF-DIAGNOSIS (4)

With CONSULT
1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
11. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
13. Release brake pedal.
14. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A99” detected?

YES >> GO TO 11.
NO >> INSPECTION END

11. CHECK GROUND CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Check the continuity between electrically-driven intelligent brake unit and ground.

Electrically-driven intelligent brake unit		—	Continuity
Connector	Terminal		
E34	32	Ground	Existed

Is the inspection result normal?

YES >> GO TO 13.
NO >> Repair or replace error-detected parts and GO TO 12.

12. PERFORM SELF-DIAGNOSIS (5)

With CONSULT
1. Connect the electrically-driven intelligent brake unit harness connector.

2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
11. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
13. Release brake pedal.
14. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A99” detected?

YES >> GO TO 13.
NO >> INSPECTION END

13. CHECK DATA MONITOR

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Start CONSULT and select “BRAKE” and “DATA MONITOR” according this order.
6. Check the “MOTOR POWER SUPPLY” and “CONTROL MODULE POWER”. Refer to BR-39, "Reference Value".

Is the inspection result normal?

YES >> GO TO 14.
NO >> Replace the electrically-driven intelligent brake unit. Refer to BR-533, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:

Never operate the vehicle and CONSULT while waiting.

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
9. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
11. Release brake pedal.
12. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A99”, “C1A6B”, “C1A6C”, “C1A6D”, “C1AC8” or “C1AD0” detected?

YES (C1A99)>>GO TO 15.
YES (C1A6B)>>Refer to BR-146, "Diagnosis Procedure".
YES (C1A6C)>>Refer to BR-157, "Diagnosis Procedure".
YES (C1A6D)>>Refer to BR-165, "Diagnosis Procedure".
YES (C1AC8)>>Refer to BR-452, "Diagnosis Procedure".
YES (C1AD0)>>Refer to BR-463, "Diagnosis Procedure".
NO >> INSPECTION END

15. CHECK CIRCUIT BETWEEN ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT AND BRAKE POWER SUPPLY BACKUP UNIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Check the continuity between electrically-driven intelligent brake unit and ground.

Electrically-driven intelligent brake unit		—	Continuity
Connector	Terminal		
E34	32	Ground	Existed

6. Check the continuity between electrically-driven intelligent brake unit and ground.

Electrically-driven intelligent brake unit		—	Continuity
Connector	Terminal		
E34	31	Ground	Not existed

7. Disconnect the brake power supply backup unit harness connector.
8. Check the continuity between electrically-driven intelligent brake unit and brake power supply backup unit.

Electrically-driven intelligent brake unit		Brake power supply backup unit		Continuity
Connector	Terminal	Connector	Terminal	
E34	31	B15	1	Existed

Is the inspection result normal?

YES >> GO TO 16.
NO >> Repair or replace error-detected parts and GO TO 16.

16. CHECK BRAKE POWER SUPPLY BACKUP UNIT GROUND CIRCUIT

Check the continuity between brake power supply backup unit and ground.

Brake power supply backup unit		—	Continuity
Connector	Terminal		
B15	2	Ground	Existed

Is the inspection result normal?

YES >> GO TO 17.
NO >> Repair or replace error-detected parts and GO TO 17.

17. PERFORM SELF-DIAGNOSIS (7)

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect the brake power supply backup unit harness connector.
3. Connect 12V battery cable to negative terminal.
4. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
5. Repeat step 4 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
6. Turn the power switch OFF to exit CONSULT.
7. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
12. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
13. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
14. Release brake pedal.
15. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A99” detected?

YES >> Replace the electrically-driven intelligent brake unit. Refer to BR-533, "Removal and installation".
NO >> INSPECTION END

C1A9A BRAKE POWER SUPPLY BACKUP UNIT

DTC Logic

INFOID:0000000009282359

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1A9A	BACKUP POWER SUPPLY-4	A malfunction is detected in the backup power supply circuit. (Abnormal initial diagnosis of the control module of the electrically-driven intelligent brake unit)	• 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
9. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
11. Release brake pedal.
12. Start CONSULT and perform "BRAKE" self-diagnosis.

Is DTC "C1A9A" detected?

YES >> Proceed to BR-340, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000009282360

1.CHECK 12V BATTERY

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.

3. Check the 12V battery terminal connections. Refer to BR-7, "Precaution for Removing 12V Battery" and PG-59, "Work Flow".
4. Check the 12V battery. Refer to PG-59, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
10. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
11. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
12. Release brake pedal.
13. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A9A” detected?

YES >> GO TO 3.
NO >> INSPECTION END

3.CHECK CONNECTOR TERMINALS

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.
5. Disconnect the brake power supply backup unit harness connector, then check for failures of pin terminals and connections.

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair or replace error-detected parts and GO TO 4.

4.PERFORM SELF-DIAGNOSIS (2)

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
12. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
13. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
14. Release brake pedal.
15. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A9A” detected?

YES >> GO TO 5.
NO >> INSPECTION END

5. CHECK POWER SWITCH ON POWER SUPPLY

1. Connect the brake power supply backup unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to exit CONSULT.
4. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
5. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
6. Disconnect the electrically-driven intelligent brake unit harness connector.
7. Connect 12V battery cable to negative terminal.
8. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit		—	Voltage (Approx.)
Connector	Terminal		
E34	26	Ground	0 V

9. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
10. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit		—	Voltage (Approx.)
Connector	Terminal		
E34	26	Ground	10 – 16 V

Is the inspection result normal?

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 15A fuse (#62).
5. Disconnect IPDM E/R harness connector.
6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

Electrically-driven intelligent brake unit		IPDM E/R		Continuity
Connector	Terminal	Connector	Terminal	
E34	26	E15	62	Existed

7. Check the continuity between electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit		—	Continuity
Connector	Terminal		
E34	26	Ground	Not existed

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to PG-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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
12. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.

13. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
14. Release brake pedal.
15. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A9A” detected?

YES >> GO TO 8.
NO >> INSPECTION END

8.CHECK 12V BATTERY POWER SUPPLY

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Connect 12V battery cable to negative terminal.
6. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

Electrically-driven intelligent brake unit		Voltage (Approx.)
Connector	Terminal	
E34	1 – 32	10 – 16 V
	2 – 32	
	28 – 32	

7. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
8. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

Electrically-driven intelligent brake unit		Voltage (Approx.)
Connector	Terminal	
E34	1 – 32	10 – 16 V
	2 – 32	
	28 – 32	

Is the inspection result normal?

YES >> GO TO 11.
NO >> GO TO 9.

9.CHECK 12V BATTERY POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 60A fusible link (#F).
5. Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).
6. Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).
7. Check the 15A fuse (#75).
8. Check the continuity and for short circuit between harness connector terminal 28 of electrically-driven intelligent brake unit and 15A fuse (#75).

Is the inspection result normal?

YES >> Perform trouble diagnosis for 12V battery power supply. Refer to PG-15, "Wiring Diagram - BATTERY POWER SUPPLY -".
NO >> Repair or replace error-detected parts and GO TO 10.

10. PERFORM SELF-DIAGNOSIS (4)

With CONSULT
1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
11. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
13. Release brake pedal.
14. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A9A” detected?

YES >> GO TO 11.
NO >> INSPECTION END

11. CHECK GROUND CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Check the continuity between electrically-driven intelligent brake unit and ground.

Electrically-driven intelligent brake unit		—	Continuity
Connector	Terminal		
E34	32	Ground	Existed

Is the inspection result normal?

YES >> GO TO 13.
NO >> Repair or replace error-detected parts and GO TO 12.

12. PERFORM SELF-DIAGNOSIS (5)

With CONSULT
1. Connect the electrically-driven intelligent brake unit harness connector.

2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
11. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
13. Release brake pedal.
14. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A9A” detected?

YES >> GO TO 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-39, "Reference Value".

Is the inspection result normal?

YES >> GO TO 14.
NO >> Replace the electrically-driven intelligent brake unit. Refer to BR-533, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:

Never operate the vehicle and CONSULT while waiting.

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
9. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
11. Release brake pedal.
12. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A9A”, “C1A6B”, “C1A6C”, “C1A6D”, “C1AC8” or “C1AD0” detected?

YES (C1A9A)>>GO TO 15.
YES (C1A6B)>>Refer to BR-146, "Diagnosis Procedure".
YES (C1A6C)>>Refer to BR-157, "Diagnosis Procedure".
YES (C1A6D)>>Refer to BR-165, "Diagnosis Procedure".
YES (C1AC8)>>Refer to BR-452, "Diagnosis Procedure".
YES (C1AD0)>>Refer to BR-463, "Diagnosis Procedure".
NO >> INSPECTION END

15. CHECK CIRCUIT BETWEEN ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT AND BRAKE POWER SUPPLY BACKUP UNIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Check the continuity between electrically-driven intelligent brake unit and ground.

Electrically-driven intelligent brake unit		—	Continuity
Connector	Terminal		
E34	32	Ground	Existed

6. Check the continuity between electrically-driven intelligent brake unit and ground.

Electrically-driven intelligent brake unit		—	Continuity
Connector	Terminal		
E34	31	Ground	Not existed

7. Disconnect the brake power supply backup unit harness connector.
8. Check the continuity between electrically-driven intelligent brake unit and brake power supply backup unit.

Electrically-driven intelligent brake unit		Brake power supply backup unit		Continuity
Connector	Terminal	Connector	Terminal	
E34	31	B15	1	Existed

Is the inspection result normal?

YES >> GO TO 16.
NO >> Repair or replace error-detected parts and GO TO 16.

16. CHECK BRAKE POWER SUPPLY BACKUP UNIT GROUND CIRCUIT

Check the continuity between brake power supply backup unit and ground.

Brake power supply backup unit		—	Continuity
Connector	Terminal		
B15	2	Ground	Existed

Is the inspection result normal?

YES >> GO TO 17.
NO >> Repair or replace error-detected parts and GO TO 17.

17. PERFORM SELF-DIAGNOSIS (7)

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect the brake power supply backup unit harness connector.
3. Connect 12V battery cable to negative terminal.
4. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
5. Repeat step 4 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
6. Turn the power switch OFF to exit CONSULT.
7. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
12. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
13. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
14. Release brake pedal.
15. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1A9A” detected?

YES >> Replace the electrically-driven intelligent brake unit. Refer to BR-533, "Removal and installation".
NO >> INSPECTION END

C1AA0 STROKE SENSOR

DTC Logic

INFOID:0000000009256198

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1AA0	STROKE SENSOR-2	• Open circuit is detected in stroke sensor circuit. • Short circuit is detected in stroke sensor circuit. • Malfunction is detected in stroke sensor circuit.	• Harness or connector • Stroke sensor • Electrically-driven intelligent brake unit

DTC REPRODUCTION PROCEDURE

1.PRECONDITIONING

If “DTC CONFIRMATION PROCEDURE” has been previously conducted, always turn power switch OFF and wait at least 10 seconds before conducting the next test.

>> GO TO 2.

2.CHECK DTC DETECTION

With CONSULT

1. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
2. Repeat step 1 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
3. Turn the power switch OFF to exit CONSULT.
4. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
9. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
11. Release brake pedal.
12. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AA0” detected?

YES >> Proceed to BR-349, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000009256199

1.CHECK 12V BATTERY

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:

Never operate the vehicle and CONSULT while waiting.

3. Check the 12V battery terminal connections. Refer to BR-7, "Precaution for Removing 12V Battery" and PG-59, "Work Flow".
4. Check the 12V battery. Refer to PG-59, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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 “C1AA0” detected?

YES >> GO TO 3.
NO >> INSPECTION END

3.CHECK CONNECTOR TERMINALS

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.
5. Disconnect the stroke sensor harness connector, then check for failures of pin terminals and connections.

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair or replace error-detected parts and GO TO 4.

4.PERFORM SELF-DIAGNOSIS (2)

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
12. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
13. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
14. Release brake pedal.
15. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AA0” detected?

YES >> GO TO 5.
NO >> INSPECTION END

5. CHECK POWER SWITCH ON POWER SUPPLY

1. Connect stroke sensor harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to exit CONSULT.
4. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
5. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
6. Disconnect the electrically-driven intelligent brake unit harness connector.
7. Connect 12V battery cable to negative terminal.
8. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit		—	Voltage (Approx.)
Connector	Terminal		
E34	26	Ground	0 V

9. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
10. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit		—	Voltage (Approx.)
Connector	Terminal		
E34	26	Ground	10 – 16 V

Is the inspection result normal?

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 15A fuse (#62).
5. Disconnect IPDM E/R harness connector.
6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

Electrically-driven intelligent brake unit		IPDM E/R		Continuity
Connector	Terminal	Connector	Terminal	
E34	26	E15	62	Existed

7. Check the continuity between electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit		—	Continuity
Connector	Terminal		
E34	26	Ground	Not existed

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to PG-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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
12. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.

13. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
14. Release brake pedal.
15. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AA0” detected?

YES >> GO TO 8.
NO >> INSPECTION END

8.CHECK 12V BATTERY POWER SUPPLY

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Connect 12V battery cable to negative terminal.
6. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

Electrically-driven intelligent brake unit		Voltage (Approx.)
Connector	Terminal	
E34	1 – 32	10 – 16 V
	2 – 32	
	28 – 32	

7. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
8. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

Electrically-driven intelligent brake unit		Voltage (Approx.)
Connector	Terminal	
E34	1 – 32	10 – 16 V
	2 – 32	
	28 – 32	

Is the inspection result normal?

YES >> GO TO 11.
NO >> GO TO 9.

9.CHECK 12V BATTERY POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 60A fusible link (#F).
5. Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).
6. Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).
7. Check the 15A fuse (#75).
8. Check the continuity and for short circuit between harness connector terminal 28 of electrically-driven intelligent brake unit and 15A fuse (#75).

Is the inspection result normal?

YES >> Perform trouble diagnosis for 12V battery power supply. Refer to PG-15, "Wiring Diagram - BATTERY POWER SUPPLY -".
NO >> Repair or replace error-detected parts and GO TO 10.

10. PERFORM SELF-DIAGNOSIS (4)

With CONSULT
1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
11. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
13. Release brake pedal.
14. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AA0” detected?

YES >> GO TO 11.
NO >> INSPECTION END

11. CHECK GROUND CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Check the continuity between electrically-driven intelligent brake unit and ground.

Electrically-driven intelligent brake unit		—	Continuity
Connector	Terminal		
E34	32	Ground	Existed

Is the inspection result normal?

YES >> GO TO 13.
NO >> Repair or replace error-detected parts and GO TO 12.

12. PERFORM SELF-DIAGNOSIS (5)

With CONSULT
1. Connect the electrically-driven intelligent brake unit harness connector.

2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
11. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
13. Release brake pedal.
14. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AA0” detected?

YES >> GO TO 13.
NO >> INSPECTION END

13. CHECK DATA MONITOR

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Start CONSULT and select “BRAKE”, “DATA MONITOR” according this order.
6. Check the “MOTOR POWER SUPPLY” and “CONTROL MODULE POWER. Refer to BR-39, "Reference Value".

Is the inspection result normal?

YES >> GO TO 14.
NO >> Replace the electrically-driven intelligent brake unit. Refer to BR-533, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:

Never operate the vehicle and CONSULT while waiting.

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
9. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
11. Release brake pedal.
12. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AA0” detected?

YES >> GO TO 15.
NO >> INSPECTION END

15. STROKE SENSOR 0 POINT LEARNING (1)

With CONSULT
Perform stroke sensor 0 point learning. Refer to BR-76, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
9. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
11. Release brake pedal.
12. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AA0” detected?

YES >> GO TO 17.
NO >> INSPECTION END

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-514, "Inspection and Adjustment".

Is the inspection result normal?

YES >> GO TO 20.
NO >> Adjust each height. Refer to BR-514, "Inspection and Adjustment". GO TO 21.

20. STROKE SENOR 0 POINT LEARNING (2)

Perform stroke sensor 0 point learning. Refer to BR-76, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
9. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
11. Release brake pedal.
12. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AA0” detected?

YES >> GO TO 22.
NO >> INSPECTION END

22. CHECK STROKE SENSOR CIRCUIT (1)

1. Turn the power switch OFF to exit CONSULT.

2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the stroke sensor harness connector.
5. Disconnect the electrically-driven intelligent brake unit harness connector.
6. Check the continuity between stroke sensor harness connector and electrically-driven intelligent brake unit.

Stroke sensor		Electrically-driven intelligent brake unit		Continuity
Connector	Terminal	Connector	Terminal	
E36	3	E34	18	Existed
	3		33	Not existed
	3		19	Not existed
	3		35	Not existed
	2		18	Not existed
	2		33	Existed
	2		19	Not existed
	2		35	Not existed
	1		18	Not existed
	1		33	Not existed
	1		19	Existed
	1		35	Not existed
	4		18	Not existed
	4		33	Not existed
	4		19	Not existed
	4		35	Existed

Is the inspection result normal?

YES >> GO TO 23.
NO >> Repair or replace error-detected parts and GO TO 28.

23. CHECK STROKE SENSOR POWER SUPPLY

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect stroke sensor harness connector.
5. Disconnect the electrically-driven intelligent brake unit harness connector.
6. Check the continuity between stroke sensor and ground.

Stroke sensor		—	Continuity
Connector	Terminal		
E36	4	Ground	Existed

Is the inspection result normal?

YES >> GO TO 25.
NO >> Repair or replace error-detected parts and GO TO 25.

25. CHECK STROKE SENSOR RESISTANCE

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Connect stroke sensor harness connector.
5. Disconnect the electrically-driven intelligent brake unit harness connector.
6. Check the resistance between stroke sensor connector pin terminals.

Electrically-driven intelligent brake unit		Condition	Resistance
Connector	Terminal		
E34	33 – 19	Gradually depress the brake pedal.	Resistance value increases between 0.1 – 1.33 kΩ, according to the depth of brake depression.
	35 – 19		Resistance value decreases between 0.1 – 1.33 kΩ, according to the depth of brake depression.

Is the inspection result normal?

YES >> GO TO 28.
NO >> GO TO 26.

26. REPLACE STROKE SENSOR

Replace the stroke sensor. Refer to BR-523, "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-76, "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:
   Never set the vehicle to READY.
4. 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
11. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
13. Release brake pedal.
14. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AA0” detected?

YES >> GO TO 22.
NO >> INSPECTION END

C1AA1 STROKE SENSOR

DTC Logic

INFOID:0000000009282361

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1AA1	STROKE SENSOR-3	An internal malfunction is detected in the stroke sensor. (With fluctuations in output voltage of the stroke sensor)	• Harness or connector • Stroke sensor • Electrically-driven intelligent brake unit

DTC REPRODUCTION PROCEDURE

1.PRECONDITIONING

If “DTC CONFIRMATION PROCEDURE” has been previously conducted, always turn power switch OFF and wait at least 10 seconds before conducting the next test.

>> GO TO 2.

2.CHECK DTC DETECTION

With CONSULT

1. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
2. Repeat step 1 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
3. Turn the power switch OFF to exit CONSULT.
4. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
9. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
11. Release brake pedal.
12. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AA1” detected?

YES >> Proceed to BR-361, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000009282382

1.CHECK 12V BATTERY

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:

Never operate the vehicle and CONSULT while waiting.

3. Check the 12V battery terminal connections. Refer to BR-7, "Precaution for Removing 12V Battery" and PG-59, "Work Flow".
4. Check the 12V battery. Refer to PG-59, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
10. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
11. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
12. Release brake pedal.
13. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AA1” detected?

YES >> GO TO 3.
NO >> INSPECTION END

3.CHECK CONNECTOR TERMINALS

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.
5. Disconnect the stroke sensor harness connector, then check for failures of pin terminals and connections.

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair or replace error-detected parts and GO TO 4.

4.PERFORM SELF-DIAGNOSIS (2)

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
12. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
13. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
14. Release brake pedal.
15. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AA1” detected?

YES >> GO TO 5.
NO >> INSPECTION END

5. CHECK POWER SWITCH ON POWER SUPPLY

1. Connect stroke sensor harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to exit CONSULT.
4. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
5. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
6. Disconnect the electrically-driven intelligent brake unit harness connector.
7. Connect 12V battery cable to negative terminal.
8. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit		—	Voltage (Approx.)
Connector	Terminal		
E34	26	Ground	0 V

9. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
10. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit		—	Voltage (Approx.)
Connector	Terminal		
E34	26	Ground	10 – 16 V

Is the inspection result normal?

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 15A fuse (#62).
5. Disconnect IPDM E/R harness connector.
6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

Electrically-driven intelligent brake unit		IPDM E/R		Continuity
Connector	Terminal	Connector	Terminal	
E34	26	E15	62	Existed

7. Check the continuity between electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit		—	Continuity
Connector	Terminal		
E34	26	Ground	Not existed

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to PG-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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
12. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.

13. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
14. Release brake pedal.
15. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AA1” detected?

YES >> GO TO 8.
NO >> INSPECTION END

8.CHECK 12V BATTERY POWER SUPPLY

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Connect 12V battery cable to negative terminal.
6. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

Electrically-driven intelligent brake unit		Voltage (Approx.)
Connector	Terminal	
E34	1 – 32	10 – 16 V
	2 – 32	
	28 – 32	

7. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
8. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

Electrically-driven intelligent brake unit		Voltage (Approx.)
Connector	Terminal	
E34	1 – 32	10 – 16 V
	2 – 32	
	28 – 32	

Is the inspection result normal?

YES >> GO TO 11.
NO >> GO TO 9.

9.CHECK 12V BATTERY POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 60A fusible link (#F).
5. Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).
6. Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).
7. Check the 15A fuse (#75).
8. Check the continuity and for short circuit between harness connector terminal 28 of electrically-driven intelligent brake unit and 15A fuse (#75).

Is the inspection result normal?

YES >> Perform trouble diagnosis for 12V battery power supply. Refer to PG-15, "Wiring Diagram - BATTERY POWER SUPPLY -".
NO >> Repair or replace error-detected parts and GO TO 10.

10. PERFORM SELF-DIAGNOSIS (4)

With CONSULT
1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
11. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
13. Release brake pedal.
14. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AA1” detected?

YES >> GO TO 11.
NO >> INSPECTION END

11. CHECK GROUND CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Check the continuity between electrically-driven intelligent brake unit and ground.

Electrically-driven intelligent brake unit		—	Continuity
Connector	Terminal		
E34	32	Ground	Existed

Is the inspection result normal?

YES >> GO TO 13.
NO >> Repair or replace error-detected parts and GO TO 12.

12. PERFORM SELF-DIAGNOSIS (5)

With CONSULT
1. Connect the electrically-driven intelligent brake unit harness connector.

2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
11. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
13. Release brake pedal.
14. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AA1” detected?

YES >> GO TO 13.
NO >> INSPECTION END

13. CHECK DATA MONITOR

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Start CONSULT and select “BRAKE”, “DATA MONITOR” according this order.
6. Check the “MOTOR POWER SUPPLY” and “CONTROL MODULE POWER. Refer to BR-39, "Reference Value".

Is the inspection result normal?

YES >> GO TO 14.
NO >> Replace the electrically-driven intelligent brake unit. Refer to BR-533, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:

Never operate the vehicle and CONSULT while waiting.

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
9. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
11. Release brake pedal.
12. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AA1” detected?

YES >> GO TO 15.
NO >> INSPECTION END

15. STROKE SENSOR 0 POINT LEARNING (1)

With CONSULT
Perform stroke sensor 0 point learning. Refer to BR-76, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
9. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
11. Release brake pedal.
12. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AA1” detected?

YES >> GO TO 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-514, "Inspection and Adjustment".

Is the inspection result normal?

YES >> GO TO 20.
NO >> Adjust each height. Refer to BR-514, "Inspection and Adjustment". GO TO 21.

20. STROKE SENOR 0 POINT LEARNING (2)

Perform stroke sensor 0 point learning. Refer to BR-76, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
9. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
11. Release brake pedal.
12. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AA1” detected?

YES >> GO TO 22.
NO >> INSPECTION END

22. CHECK STROKE SENSOR CIRCUIT (1)

1. Turn the power switch OFF to exit CONSULT.

2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the stroke sensor harness connector.
5. Disconnect the electrically-driven intelligent brake unit harness connector.
6. Check the continuity between stroke sensor harness connector and electrically-driven intelligent brake unit.

Stroke sensor		Electrically-driven intelligent brake unit		Continuity
Connector	Terminal	Connector	Terminal	
E36	3	E34	18	Existed
	3		33	Not existed
	3		19	Not existed
	3		35	Not existed
	2		18	Not existed
	2		33	Existed
	2		19	Not existed
	2		35	Not existed
	1		18	Not existed
	1		33	Not existed
	1		19	Existed
	1		35	Not existed
	4		18	Not existed
	4		33	Not existed
	4		19	Not existed
	4		35	Existed

Is the inspection result normal?

YES >> GO TO 23.
NO >> Repair or replace error-detected parts and GO TO 28.

23. CHECK STROKE SENSOR POWER SUPPLY

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect stroke sensor harness connector.
5. Disconnect the electrically-driven intelligent brake unit harness connector.
6. Check the continuity between stroke sensor and ground.

Stroke sensor		—	Continuity
Connector	Terminal		
E36	4	Ground	Existed

Is the inspection result normal?

YES >> GO TO 25.
NO >> Repair or replace error-detected parts and GO TO 25.

25. CHECK STROKE SENSOR RESISTANCE

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Connect stroke sensor harness connector.
5. Disconnect the electrically-driven intelligent brake unit harness connector.
6. Check the resistance between stroke sensor connector pin terminals.

Electrically-driven intelligent brake unit		Condition	Resistance
Connector	Terminal		
E34	33 – 19	Gradually depress the brake pedal.	Resistance value increases between 0.1 – 1.33 kΩ, according to the depth of brake depression.
	35 – 19		Resistance value decreases between 0.1 – 1.33 kΩ, according to the depth of brake depression.

Is the inspection result normal?

YES >> GO TO 28.
NO >> GO TO 26.

26. REPLACE STROKE SENSOR

Replace the stroke sensor. Refer to BR-523, "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-76, "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:
   Never set the vehicle to READY.
4. 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
11. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
13. Release brake pedal.
14. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AA1” detected?

YES >> GO TO 22.
NO >> INSPECTION END

C1AA2 STROKE SENSOR

DTC Logic

INFOID:0000000009282363

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1AA2	STROKE SENSOR-4	An internal malfunction is detected in the stroke sensor. (Without fluctuations in output voltage of the stroke sensor)	• Harness or connector • Stroke sensor • Electrically-driven intelligent brake unit

DTC REPRODUCTION PROCEDURE

1.PRECONDITIONING

If “DTC CONFIRMATION PROCEDURE” has been previously conducted, always turn power switch OFF and wait at least 10 seconds before conducting the next test.

>> GO TO 2.

2.CHECK DTC DETECTION

With CONSULT

1. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
2. Repeat step 1 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
3. Turn the power switch OFF to exit CONSULT.
4. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
9. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
11. Release brake pedal.
12. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AA2” detected?

YES >> Proceed to BR-373, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000009282364

1.CHECK 12V BATTERY

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:

Never operate the vehicle and CONSULT while waiting.

3. Check the 12V battery terminal connections. Refer to BR-7, "Precaution for Removing 12V Battery" and PG-59, "Work Flow".
4. Check the 12V battery. Refer to PG-59, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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 “C1AA2” detected?

YES >> GO TO 3.
NO >> INSPECTION END

3.CHECK CONNECTOR TERMINALS

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.
5. Disconnect the stroke sensor harness connector, then check for failures of pin terminals and connections.

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair or replace error-detected parts and GO TO 4.

4.PERFORM SELF-DIAGNOSIS (2)

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
12. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
13. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
14. Release brake pedal.
15. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AA2” detected?

YES >> GO TO 5.
NO >> INSPECTION END

5. CHECK POWER SWITCH ON POWER SUPPLY

1. Connect stroke sensor harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to exit CONSULT.
4. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
5. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
6. Disconnect the electrically-driven intelligent brake unit harness connector.
7. Connect 12V battery cable to negative terminal.
8. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit		—	Voltage (Approx.)
Connector	Terminal		
E34	26	Ground	0 V

9. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
10. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit		—	Voltage (Approx.)
Connector	Terminal		
E34	26	Ground	10 – 16 V

Is the inspection result normal?

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 15A fuse (#62).
5. Disconnect IPDM E/R harness connector.
6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

Electrically-driven intelligent brake unit		IPDM E/R		Continuity
Connector	Terminal	Connector	Terminal	
E34	26	E15	62	Existed

7. Check the continuity between electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit		—	Continuity
Connector	Terminal		
E34	26	Ground	Not existed

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to PG-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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
12. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.

13. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
14. Release brake pedal.
15. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AA2” detected?

YES >> GO TO 8.
NO >> INSPECTION END

8.CHECK 12V BATTERY POWER SUPPLY

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Connect 12V battery cable to negative terminal.
6. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

Electrically-driven intelligent brake unit		Voltage (Approx.)
Connector	Terminal	
E34	1 – 32	10 – 16 V
	2 – 32	
	28 – 32	

7. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
8. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

Electrically-driven intelligent brake unit		Voltage (Approx.)
Connector	Terminal	
E34	1 – 32	10 – 16 V
	2 – 32	
	28 – 32	

Is the inspection result normal?

YES >> GO TO 11.
NO >> GO TO 9.

9.CHECK 12V BATTERY POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 60A fusible link (#F).
5. Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).
6. Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).
7. Check the 15A fuse (#75).
8. Check the continuity and for short circuit between harness connector terminal 28 of electrically-driven intelligent brake unit and 15A fuse (#75).

Is the inspection result normal?

YES >> Perform trouble diagnosis for 12V battery power supply. Refer to PG-15, "Wiring Diagram - BATTERY POWER SUPPLY -".
NO >> Repair or replace error-detected parts and GO TO 10.

10. PERFORM SELF-DIAGNOSIS (4)

With CONSULT
1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
11. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
13. Release brake pedal.
14. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AA2” detected?

YES >> GO TO 11.
NO >> INSPECTION END

11. CHECK GROUND CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Check the continuity between electrically-driven intelligent brake unit and ground.

Electrically-driven intelligent brake unit		—	Continuity
Connector	Terminal		
E34	32	Ground	Existed

Is the inspection result normal?

YES >> GO TO 13.
NO >> Repair or replace error-detected parts and GO TO 12.

12. PERFORM SELF-DIAGNOSIS (5)

With CONSULT
1. Connect the electrically-driven intelligent brake unit harness connector.

2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
11. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
13. Release brake pedal.
14. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AA2” detected?

YES >> GO TO 13.
NO >> INSPECTION END

13. CHECK DATA MONITOR

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Start CONSULT and select “BRAKE”, “DATA MONITOR” according this order.
6. Check the “MOTOR POWER SUPPLY” and “CONTROL MODULE POWER. Refer to BR-39, "Reference Value".

Is the inspection result normal?

YES >> GO TO 14.
NO >> Replace the electrically-driven intelligent brake unit. Refer to BR-533, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:

Never operate the vehicle and CONSULT while waiting.

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
9. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
11. Release brake pedal.
12. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AA2” detected?

YES >> GO TO 15.
NO >> INSPECTION END

15. STROKE SENSOR 0 POINT LEARNING (1)

With CONSULT
Perform stroke sensor 0 point learning. Refer to BR-76, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
9. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
11. Release brake pedal.
12. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AA2” detected?

YES >> GO TO 17.
NO >> INSPECTION END

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-514, "Inspection and Adjustment".

Is the inspection result normal?

YES >> GO TO 20.
NO >> Adjust each height. Refer to BR-514, "Inspection and Adjustment". GO TO 21.

20. STROKE SENOR 0 POINT LEARNING (2)

Perform stroke sensor 0 point learning. Refer to BR-76, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
9. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
11. Release brake pedal.
12. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AA2” detected?

YES >> GO TO 22.
NO >> INSPECTION END

22. CHECK STROKE SENSOR CIRCUIT (1)

1. Turn the power switch OFF to exit CONSULT.

2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the stroke sensor harness connector.
5. Disconnect the electrically-driven intelligent brake unit harness connector.
6. Check the continuity between stroke sensor harness connector and electrically-driven intelligent brake unit.

Stroke sensor		Electrically-driven intelligent brake unit		Continuity
Connector	Terminal	Connector	Terminal	
E36	3	E34	18	Existed
	3		33	Not existed
	3		19	Not existed
	3		35	Not existed
	2		18	Not existed
	2		33	Existed
	2		19	Not existed
	2		35	Not existed
	1		18	Not existed
	1		33	Not existed
	1		19	Existed
	1		35	Not existed
	4		18	Not existed
	4		33	Not existed
	4		19	Not existed
	4		35	Existed

Is the inspection result normal?

YES >> GO TO 23.
NO >> Repair or replace error-detected parts and GO TO 28.

23. CHECK STROKE SENSOR POWER SUPPLY

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect stroke sensor harness connector.
5. Disconnect the electrically-driven intelligent brake unit harness connector.
6. Check the continuity between stroke sensor and ground.

Stroke sensor		—	Continuity
Connector	Terminal		
E36	4	Ground	Existed

Is the inspection result normal?

YES >> GO TO 25.
NO >> Repair or replace error-detected parts and GO TO 25.

25. CHECK STROKE SENSOR RESISTANCE

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Connect stroke sensor harness connector.
5. Disconnect the electrically-driven intelligent brake unit harness connector.
6. Check the resistance between stroke sensor connector pin terminals.

Electrically-driven intelligent brake unit		Condition	Resistance
Connector	Terminal		
E34	33 – 19	Gradually depress the brake pedal.	Resistance value increases between 0.1 – 1.33 kΩ, according to the depth of brake depression.
	35 – 19		Resistance value decreases between 0.1 – 1.33 kΩ, according to the depth of brake depression.

Is the inspection result normal?

YES >> GO TO 28.
NO >> GO TO 26.

26. REPLACE STROKE SENSOR

Replace the stroke sensor. Refer to BR-523, "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-76, "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:
   Never set the vehicle to READY.
4. 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
11. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
13. Release brake pedal.
14. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AA2” detected?

YES >> GO TO 22.
NO >> INSPECTION END

C1AA3 STROKE SENSOR

DTC Logic

INFOID:0000000009282365

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1AA3	STROKE SENSOR-5	• An internal malfunction is detected in the stroke sensor. • Poor installation is detected in the stroke sensor.	• Harness or connector • Stroke sensor • Electrically-driven intelligent brake unit

DTC REPRODUCTION PROCEDURE

1.PRECONDITIONING

If “DTC CONFIRMATION PROCEDURE” has been previously conducted, always turn power switch OFF and wait at least 10 seconds before conducting the next test.

>> GO TO 2.

2.CHECK DTC DETECTION

With CONSULT

1. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
2. Repeat step 1 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
3. Turn the power switch OFF to exit CONSULT.
4. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
9. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
11. Release brake pedal.
12. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AA3” detected?

YES >> Proceed to BR-385, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000009282366

1.CHECK 12V BATTERY

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:

Never operate the vehicle and CONSULT while waiting.

3. Check the 12V battery terminal connections. Refer to BR-7, "Precaution for Removing 12V Battery" and PG-59, "Work Flow".
4. Check the 12V battery. Refer to PG-59, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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 “C1AA3” detected?

YES >> GO TO 3.
NO >> INSPECTION END

3.CHECK CONNECTOR TERMINALS

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.
5. Disconnect the stroke sensor harness connector, then check for failures of pin terminals and connections.

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair or replace error-detected parts and GO TO 4.

4.PERFORM SELF-DIAGNOSIS (2)

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
12. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
13. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
14. Release brake pedal.
15. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AA3” detected?

YES >> GO TO 5.
NO >> INSPECTION END

5. CHECK POWER SWITCH ON POWER SUPPLY

1. Connect stroke sensor harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to exit CONSULT.
4. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
5. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
6. Disconnect the electrically-driven intelligent brake unit harness connector.
7. Connect 12V battery cable to negative terminal.
8. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit		—	Voltage (Approx.)
Connector	Terminal		
E34	26	Ground	0 V

9. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
10. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit		—	Voltage (Approx.)
Connector	Terminal		
E34	26	Ground	10 – 16 V

Is the inspection result normal?

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 15A fuse (#62).
5. Disconnect IPDM E/R harness connector.
6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

Electrically-driven intelligent brake unit		IPDM E/R		Continuity
Connector	Terminal	Connector	Terminal	
E34	26	E15	62	Existed

7. Check the continuity between electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit		—	Continuity
Connector	Terminal		
E34	26	Ground	Not existed

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to PG-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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
12. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.

13. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
14. Release brake pedal.
15. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AA3” detected?

YES >> GO TO 8.
NO >> INSPECTION END

8.CHECK 12V BATTERY POWER SUPPLY

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Connect 12V battery cable to negative terminal.
6. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

Electrically-driven intelligent brake unit		Voltage (Approx.)
Connector	Terminal	
E34	1 – 32	10 – 16 V
	2 – 32	
	28 – 32	

7. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
8. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

Electrically-driven intelligent brake unit		Voltage (Approx.)
Connector	Terminal	
E34	1 – 32	10 – 16 V
	2 – 32	
	28 – 32	

Is the inspection result normal?

YES >> GO TO 11.
NO >> GO TO 9.

9.CHECK 12V BATTERY POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 60A fusible link (#F).
5. Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).
6. Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).
7. Check the 15A fuse (#75).
8. Check the continuity and for short circuit between harness connector terminal 28 of electrically-driven intelligent brake unit and 15A fuse (#75).

Is the inspection result normal?

YES >> Perform trouble diagnosis for 12V battery power supply. Refer to PG-15, "Wiring Diagram - BATTERY POWER SUPPLY -".
NO >> Repair or replace error-detected parts and GO TO 10.

10. PERFORM SELF-DIAGNOSIS (4)

With CONSULT
1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
11. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
13. Release brake pedal.
14. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AA3” detected?

YES >> GO TO 11.
NO >> INSPECTION END

11. CHECK GROUND CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Check the continuity between electrically-driven intelligent brake unit and ground.

Electrically-driven intelligent brake unit		—	Continuity
Connector	Terminal		
E34	32	Ground	Existed

Is the inspection result normal?

YES >> GO TO 13.
NO >> Repair or replace error-detected parts and GO TO 12.

12. PERFORM SELF-DIAGNOSIS (5)

With CONSULT
1. Connect the electrically-driven intelligent brake unit harness connector.

2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
11. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
13. Release brake pedal.
14. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AA3” detected?

YES >> GO TO 13.
NO >> INSPECTION END

13. CHECK DATA MONITOR

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Start CONSULT and select “BRAKE”, “DATA MONITOR” according this order.
6. Check the “MOTOR POWER SUPPLY” and “CONTROL MODULE POWER. Refer to BR-39, "Reference Value".

Is the inspection result normal?

YES >> GO TO 14.
NO >> Replace the electrically-driven intelligent brake unit. Refer to BR-533, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:

Never operate the vehicle and CONSULT while waiting.

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
9. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
11. Release brake pedal.
12. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AA3” detected?

YES >> GO TO 15.
NO >> INSPECTION END

15. STROKE SENSOR 0 POINT LEARNING (1)

With CONSULT
Perform stroke sensor 0 point learning. Refer to BR-76, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
9. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
11. Release brake pedal.
12. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AA3” detected?

YES >> GO TO 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-514, "Inspection and Adjustment".

Is the inspection result normal?

YES >> GO TO 20.
NO >> Adjust each height. Refer to BR-514, "Inspection and Adjustment". GO TO 21.

20. STROKE SENOR 0 POINT LEARNING (2)

Perform stroke sensor 0 point learning. Refer to BR-76, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
9. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
11. Release brake pedal.
12. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AA3” detected?

YES >> GO TO 22.
NO >> INSPECTION END

22. CHECK STROKE SENSOR CIRCUIT (1)

1. Turn the power switch OFF to exit CONSULT.

2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the stroke sensor harness connector.
5. Disconnect the electrically-driven intelligent brake unit harness connector.
6. Check the continuity between stroke sensor harness connector and electrically-driven intelligent brake unit.

Stroke sensor		Electrically-driven intelligent brake unit		Continuity
Connector	Terminal	Connector	Terminal	
E36	3	E34	18	Existed
	3		33	Not existed
	3		19	Not existed
	3		35	Not existed
	2		18	Not existed
	2		33	Existed
	2		19	Not existed
	2		35	Not existed
	1		18	Not existed
	1		33	Not existed
	1		19	Existed
	1		35	Not existed
	4		18	Not existed
	4		33	Not existed
	4		19	Not existed
	4		35	Existed

Is the inspection result normal?

YES >> GO TO 23.
NO >> Repair or replace error-detected parts and GO TO 28.

23. CHECK STROKE SENSOR POWER SUPPLY

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect stroke sensor harness connector.
5. Disconnect the electrically-driven intelligent brake unit harness connector.
6. Check the continuity between stroke sensor and ground.

Stroke sensor		—	Continuity
Connector	Terminal		
E36	4	Ground	Existed

Is the inspection result normal?

YES >> GO TO 25.
NO >> Repair or replace error-detected parts and GO TO 25.

25. CHECK STROKE SENSOR RESISTANCE

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Connect stroke sensor harness connector.
5. Disconnect the electrically-driven intelligent brake unit harness connector.
6. Check the resistance between stroke sensor connector pin terminals.

Electrically-driven intelligent brake unit		Condition	Resistance
Connector	Terminal		
E34	33 – 19	Gradually depress the brake pedal.	Resistance value increases between 0.1 – 1.33 kΩ, according to the depth of brake depression.
	35 – 19		Resistance value decreases between 0.1 – 1.33 kΩ, according to the depth of brake depression.

Is the inspection result normal?

YES >> GO TO 28.
NO >> GO TO 26.

26. REPLACE STROKE SENSOR

Replace the stroke sensor. Refer to BR-523, "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-76, "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:
   Never set the vehicle to READY.
4. 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
11. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
13. Release brake pedal.
14. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AA3” detected?

YES >> GO TO 22.
NO >> INSPECTION END

C1AA9 PRESSURE SENSOR

DTC Logic

INFOID:0000000009256202

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1AA9	PRESSURE SENSOR	A malfunction is detected in the master cylinder pressure sensor.	• Harness or connector • Master cylinder pressure sensor improper installation • Master cylinder pressure sensor • Electrically-driven intelligent brake unit

DTC REPRODUCTION PROCEDURE

1.PRECONDITIONING

If “DTC CONFIRMATION PROCEDURE” has been previously conducted, always turn power switch OFF and wait at least 10 seconds before conducting the next test.

>> GO TO 2.

2.CHECK DTC DETECTION

With CONSULT

1. Turn the power switch OFF to ON without depressing the brake pedal.
   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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
9. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
11. Release brake pedal.
12. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AA9” detected?

YES >> Proceed to BR-397, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000009256203

1.CHECK 12V BATTERY

1. Turn the power switch OFF to exit CONSULT.

2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Check the 12V battery terminal connections. Refer to BR-7, "Precaution for Removing 12V Battery" and PG-59, "Work Flow".
4. Check the 12V battery. Refer to PG-59, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
10. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
11. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
12. Release brake pedal.
13. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AA9” detected?

YES >> GO TO 3.
NO >> INSPECTION END

3.CHECK CONNECTOR TERMINALS

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.
5. Check that there is no malfunction in pin terminals and connection of master cylinder pressure sensor harness connector.

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair or replace error-detected parts and GO TO 4.

4. PERFORM SELF-DIAGNOSIS (2)

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect master cylinder pressure sensor harness connector.
3. Connect 12V battery cable to negative terminal.
4. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
5. Repeat step 4 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
6. Turn the power switch OFF to exit CONSULT.
7. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
8. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
9. Erase self-diagnosis result of “BRAKE”.
10. Turn the power switch OFF to exit CONSULT.
11. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle 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 “C1AA9” detected?

YES >> GO TO 5.
NO >> INSPECTION END

5. CHECK POWER SWITCH ON POWER SUPPLY

1. Connect master cylinder pressure sensor harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to exit CONSULT.
4. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
5. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
6. Disconnect the electrically-driven intelligent brake unit harness connector.
7. Connect 12V battery cable to negative terminal.
8. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit		—	Voltage (Approx.)
Connector	Terminal		
E34	26	Ground	0 V

9. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
10. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit		—	Voltage (Approx.)
Connector	Terminal		
E34	26	Ground	10 – 16 V

Is the inspection result normal?

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 15A fuse (#62).
5. Disconnect IPDM E/R harness connector.
6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

Electrically-driven intelligent brake unit		IPDM E/R		Continuity
Connector	Terminal	Connector	Terminal	
E34	26	E15	62	Existed

7. Check the continuity between electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit		—	Continuity
Connector	Terminal		
E34	26	Ground	Not existed

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to PG-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 sensor 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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.

12. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
CAUTION:
Never operate the vehicle 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 “C1AA9” detected?

YES >> GO TO 8.
NO >> INSPECTION END

8.CHECK 12V BATTERY POWER SUPPLY

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
CAUTION:
Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Connect 12V battery cable to negative terminal.
6. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

Electrically-driven intelligent brake unit		Voltage (Approx.)
Connector	Terminal	
E34	1 – 32	10 – 16 V
	2 – 32	
	28 – 32	

7. Turn the power switch ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY.
8. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

Electrically-driven intelligent brake unit		Voltage (Approx.)
Connector	Terminal	
E34	1 – 32	10 – 16 V
	2 – 32	
	28 – 32	

Is the inspection result normal?

YES >> GO TO 11.
NO >> GO TO 9.

9.CHECK 12V BATTERY POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
CAUTION:
Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 60A fusible link (#F).
5. Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).

6. Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).
7. Check the 15A fuse (#75).
8. Check the continuity and for short circuit between harness connector terminal 28 of electrically-driven intelligent brake unit and 15A fuse (#75).

Is the inspection result normal?

YES >> Perform trouble diagnosis for 12V battery power supply. Refer to PG-15, "Wiring Diagram - BATTERY POWER SUPPLY -".
NO >> Repair or replace error-detected parts and GO TO 10.

10. PERFORM SELF-DIAGNOSIS (4)

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
11. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
13. Release brake pedal.
14. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AA9” detected?

YES >> GO TO 11.
NO >> INSPECTION END

11. CHECK GROUND CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Check the continuity between electrically-driven intelligent brake unit and ground.

Electrically-driven intelligent brake unit		—	Continuity
Connector	Terminal		
E34	32	Ground	Existed

Is the inspection result normal?

YES >> GO TO 13.
NO >> Repair or replace error-detected parts and GO TO 12.

12. PERFORM SELF-DIAGNOSIS (5)

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
11. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
13. Release brake pedal.
14. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AA9” detected?

YES >> GO TO 13.
NO >> INSPECTION END

13. CHECK DATA MONITOR (1)

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Start CONSULT and select “BRAKE” and “DATA MONITOR” according this order.
6. Check the “MOTOR POWER SUPPLY” and “CONTROL MODULE POWER”. Refer to BR-39, "Reference Value".

Is the inspection result normal?

YES >> GO TO 14.
NO >> Replace the electrically-driven intelligent brake unit. Refer to BR-533, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
9. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
11. Release brake pedal.
12. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AA9” detected?

YES >> GO TO 15.
NO >> INSPECTION END

15. CHECK MASTER CYLINDER PRESSURE SENSOR INSTALLATION

1. Turn the power switch OFF to exit CONSULT.
2. Check the master cylinder pressure sensor for looseness and disconnection. Refer to BR-533, "Exploded View".

Is the inspection result normal?

YES >> GO TO 16.
NO >> Repair or replace error-detected parts and GO TO 16.

16. PERFORM SELF-DIAGNOSIS (7)

With CONSULT
1. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
2. Repeat step 1 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
3. Turn the power switch OFF to exit CONSULT.
4. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
9. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.

10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
11. Release brake pedal.
12. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AA9” detected?

YES >> GO TO 17.
NO >> INSPECTION END

17. CHECK MASTER CYLINDER PRESSURE SENSOR CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Disconnect master cylinder pressure sensor harness connector.
3. Disconnect the ABS actuator and electric unit (control unit) harness connector.
4. Check the continuity between master cylinder pressure sensor harness connector and ABS actuator and electric unit (control unit) harness connector harness connector. Refer to BRC-122, "Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 18.
NO >> Repair or replace error-detected parts and GO TO 20.

18. CHECK MASTER CYLINDER PRESSURE SENSOR POWER CIRCUIT

Check the master cylinder pressure sensor power voltage. Refer to BRC-122, "Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 19.
NO >> Repair or replace error-detected parts and GO TO 20.

19. CHECK DATA MONITOR (2)

With CONSULT

1. Turn the power switch OFF to exit CONSULT.
2. Connect master cylinder pressure sensor harness connector.
3. Connect ABS actuator and electric unit (control unit) harness connector.
4. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
5. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
6. Connect 12V battery cable to negative terminal.
7. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
8. Repeat step 7 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
9. Start CONSULT and select “BRAKE” and “DATA MONITOR” according this order.
10. Check the “MASTER CYL PRESSURE”. Refer to BR-39, "Reference Value".

Is the inspection result normal?

YES >> GO TO 20.
NO >> Check the ABS actuator and electric unit (control unit). Refer to BRC-47, "CONSULT Function".

20. PERFORM SELF-DIAGNOSIS (8)

With CONSULT

1. Connect master cylinder pressure sensor harness connector.
2. Connect ABS actuator and electric unit (control unit) harness connector.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.

6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
11. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
13. Release brake pedal.
14. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AA9” detected?

YES >> GO TO 21.
NO >> INSPECTION END

21. CHECK MASTER CYLINDER PRESSURE SENSOR

1. Disconnect master cylinder pressure sensor harness connector.
2. Check that the voltage between master cylinder pressure sensor harness connector changes with the depth of pedal depression.

Is the inspection result normal?

YES >> Replace the electrically-driven intelligent brake unit. Refer to BR-533, "Removal and installation".
NO >> Check the ABS actuator and electric unit (control unit). Refer to BRC-47, "CONSULT Function".

C1AB8 MOTOR

DTC Logic

INFOID:0000000009282367

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1AB8	MOTOR-2	• Temperature of motor that is integrated with electrically-driven intelligent brake unit is as shown below. - Motor temperature: –50°C (–122°F) ≥ Motor temperature - Motor temperature: 115°C (239°F) ≤ Motor temperature • A malfunction is detected in the temperature detection circuit of the motor that is integrated with the electrically-driven intelligent brake unit.	Electrically-driven intelligent brake unit

DTC REPRODUCTION PROCEDURE

1.PRECONDITIONING

If “DTC CONFIRMATION PROCEDURE” has been previously conducted, always turn power switch OFF and wait at least 10 seconds before conducting the next test.

>> GO TO 2.

2.CHECK DTC DETECTION

With CONSULT

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
9. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
11. Release brake pedal.
12. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AB8” detected?

YES >> Proceed to BR-408, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000009282383

1.CHECK 12V BATTERY

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Check the 12V battery terminal connections. Refer to BR-7, "Precaution for Removing 12V Battery" and PG-59, "Work Flow".
4. Check the 12V battery. Refer to PG-59, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
10. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
11. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
12. Release brake pedal.
13. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AB8” detected?

YES >> GO TO 3.
NO >> INSPECTION END

3.CHECK CONNECTOR TERMINALS

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair or replace error-detected part and GO TO 4.

4. PERFORM SELF-DIAGNOSIS (2)

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
11. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
13. Release brake pedal.
14. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AB8” detected?

YES >> GO TO 5.
NO >> INSPECTION END

5. CHECK POWER SWITCH ON POWER SUPPLY

1. Connect 12V battery cable to negative terminal.
2. Turn the power switch OFF to exit CONSULT.
3. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
4. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
5. Disconnect the electrically-driven intelligent brake unit harness connector.
6. Connect 12V battery cable to negative terminal.
7. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit		—	Voltage (Approx.)
Connector	Terminal		
E34	26	Ground	0 V

8. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
9. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit		—	Voltage (Approx.)
Connector	Terminal		
E34	26	Ground	10 – 16 V

Is the inspection result normal?

YES >> GO TO 8.
NO >> GO TO 6.

6.CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 15A fuse (#62).
5. Disconnect IPDM E/R harness connector.
6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

Electrically-driven intelligent brake unit		IPDM E/R		Continuity
Connector	Terminal	Connector	Terminal	
E34	26	E15	62	Existed

7. Check the continuity between electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit		—	Continuity
Connector	Terminal		
E34	26	Ground	Not existed

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to PG-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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

12. Turn the power switch ON without depressing the brake pedal.

CAUTION:
Never set the vehicle to READY.

13. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
14. Release brake pedal.
15. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AB8” detected?

YES >> GO TO 8.
NO >> INSPECTION END

8.CHECK 12V BATTERY POWER SUPPLY

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Connect 12V battery cable to negative terminal.
6. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

Electrically-driven intelligent brake unit		Voltage (Approx.)
Connector	Terminal	
E34	1 – 32	10 – 16 V
	2 – 32	
	28 – 32	

7. Turn the power switch ON without depressing the brake pedal.

CAUTION:
Never set the vehicle to READY.

8. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

Electrically-driven intelligent brake unit		Voltage (Approx.)
Connector	Terminal	
E34	1 – 32	10 – 16 V
	2 – 32	
	28 – 32	

Is the inspection result normal?

YES >> GO TO 11.
NO >> GO TO 9.

9.CHECK 12V BATTERY POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 60A fusible link (#F).
5. Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).
6. Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).

7. Check the 15A fuse (#75).
8. Check the continuity and for short circuit between harness connector terminal 28 of electrically-driven intelligent brake unit and 15A fuse (#75).

Is the inspection result normal?

YES >> Perform trouble diagnosis for 12V battery power supply. Refer to PG-15, "Wiring Diagram - BATTERY POWER SUPPLY -".
NO >> Repair or replace the error-detected parts and GO TO 10.

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
11. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
13. Release brake pedal.
14. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AB8” detected?

YES >> GO TO 4.
NO >> INSPECTION END

11. CHECK GROUND CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Check the continuity between electrically-driven intelligent brake unit and ground.

Electrically-driven intelligent brake unit		—	Continuity
Connector	Terminal		
E34	32	Ground	Existed

Is the inspection result normal?

YES >> GO TO 13.

NO >> Repair or replace the error-detected parts and GO TO 12.

12. PERFORM SELF-DIAGNOSIS (5)

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
11. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
13. Release brake pedal.
14. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AB8” detected?

YES >> GO TO 13.
NO >> INSPECTION END

13. CHECK DATA MONITOR (1)

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Start CONSULT and select “BRAKE”, “DATA MONITOR” according this order.
6. Check the “MOTOR POWER SUPPLY” and “CONTROL MODULE POWER”. Refer to BR-39, "Reference Value".

Is the inspection result normal?

YES >> GO TO 14.
NO >> Replace the electrically-driven intelligent brake unit. Refer to BR-533, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

9. Turn the power switch ON without depressing the brake pedal.

CAUTION:
Never set the vehicle to READY.

10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
11. Release brake pedal.
12. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AB8” detected?

YES >> 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-39, "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-533, "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-533, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

9. Turn the power switch ON without depressing the brake pedal.

CAUTION:
Never set the vehicle to READY.

10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
11. Release brake pedal.
12. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AB8” detected?

YES >> Replace the electrically-driven intelligent brake unit. Refer to BR-533, "Removal and installation".
NO >> INSPECTION END

C1AB9 MOTOR

DTC Logic

INFOID:0000000009282369

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1AB9	MOTOR-3	The occurrence of malfunction in the motor (resolver) of the electrically-driven intelligent brake unit.	Electrically-driven intelligent brake unit

DTC REPRODUCTION PROCEDURE

1.PRECONDITIONING

If “DTC CONFIRMATION PROCEDURE” has been previously conducted, always turn power switch OFF and wait at least 10 seconds before conducting the next test.

>> GO TO 2.

2.CHECK DTC DETECTION

With CONSULT

1. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
2. Repeat step 1 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
3. Turn the power switch OFF to exit CONSULT.
4. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
9. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
11. Release brake pedal.
12. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AB9” detected?

YES >> Proceed to BR-416, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000009282370

1.CHECK 12V BATTERY

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.

3. Check the 12V battery terminal connections. Refer to BR-7, "Precaution for Removing 12V Battery" and PG-59, "Work Flow".
4. Check the 12V battery. Refer to PG-59, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
10. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
11. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
12. Release brake pedal.
13. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AB9” detected?

YES >> GO TO 3.
NO >> INSPECTION END

3.CHECK CONNECTOR TERMINALS

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair or replace error-detected part and GO TO 4.

4.PERFORM SELF-DIAGNOSIS (2)

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.

CAUTION:
Never set the vehicle to READY.

4. 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

11. Turn the power switch ON without depressing the brake pedal.

CAUTION:
Never set the vehicle to READY.

12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
13. Release brake pedal.
14. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AB9” detected?

YES >> GO TO 5.
NO >> INSPECTION END

5.CHECK POWER SWITCH ON POWER SUPPLY

1. Connect 12V battery cable to negative terminal.
2. Turn the power switch OFF to exit CONSULT.
3. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

4. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
5. Disconnect the electrically-driven intelligent brake unit harness connector.
6. Connect 12V battery cable to negative terminal.
7. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit		—	Voltage (Approx.)
Connector	Terminal		
E34	26	Ground	0 V

8. Turn the power switch ON without depressing the brake pedal.

CAUTION:
Never set the vehicle to READY.

9. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit		—	Voltage (Approx.)
Connector	Terminal		
E34	26	Ground	10 – 16 V

Is the inspection result normal?

YES >> GO TO 8.
NO >> GO TO 6.

6.CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 15A fuse (#62).
5. Disconnect IPDM E/R harness connector.
6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

Electrically-driven intelligent brake unit		IPDM E/R		Continuity
Connector	Terminal	Connector	Terminal	
E34	26	E15	62	Existed

7. Check the continuity between electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit		—	Continuity
Connector	Terminal		
E34	26	Ground	Not existed

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to PG-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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
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 “C1AB9” detected?

YES >> GO TO 8.
NO >> INSPECTION END

8.CHECK 12V BATTERY POWER SUPPLY

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Connect 12V battery cable to negative terminal.
6. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

Electrically-driven intelligent brake unit		Voltage (Approx.)
Connector	Terminal	
E34	1 – 32	10 – 16 V
	2 – 32	
	28 – 32	

7. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
8. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

Electrically-driven intelligent brake unit		Voltage (Approx.)
Connector	Terminal	
E34	1 – 32	10 – 16 V
	2 – 32	
	28 – 32	

Is the inspection result normal?

YES >> GO TO 11.
NO >> GO TO 9.

9.CHECK 12V BATTERY POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 60A fusible link (#F).
5. Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).
6. Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).
7. Check the 15A fuse (#75).
8. Check the continuity and for short circuit between harness connector terminal 28 of electrically-driven intelligent brake unit and 15A fuse (#75).

Is the inspection result normal?

YES >> Perform trouble diagnosis for 12V battery power supply. Refer to PG-15, "Wiring Diagram - BATTERY POWER SUPPLY -".
NO >> Repair or replace the error-detected parts and GO TO 10.

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
11. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
13. Release brake pedal.
14. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AB9” detected?

YES >> GO TO 4.
NO >> INSPECTION END

11. CHECK GROUND CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Check the continuity between electrically-driven intelligent brake unit and ground.

Electrically-driven intelligent brake unit		—	Continuity
Connector	Terminal		
E34	32	Ground	Existed

Is the inspection result normal?

YES >> GO TO 13.
NO >> Repair or replace the error-detected parts and GO TO 12.

12. PERFORM SELF-DIAGNOSIS (5)

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:

Never set the vehicle to READY.

4. 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

11. Turn the power switch ON without depressing the brake pedal.

CAUTION:
Never set the vehicle to READY.

12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
13. Release brake pedal.
14. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AB9” detected?

YES >> GO TO 13.
NO >> INSPECTION END

13. CHECK DATA MONITOR (1)

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.

CAUTION:
Never set the vehicle to READY.

4. Repeat step 3 two or more times.

CAUTION:
Be sure to wait for 5 seconds or more after turning the power switch OFF.

5. Start CONSULT and select “BRAKE”, “DATA MONITOR” according this order.
6. Check the “MOTOR POWER SUPPLY” and “CONTROL MODULE POWER”. Refer to BR-39, "Reference Value".

Is the inspection result normal?

YES >> GO TO 14.
NO >> Replace the electrically-driven intelligent brake unit. Refer to BR-533, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
9. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
11. Release brake pedal.
12. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AB9” detected?

YES >> GO TO 15.
NO >> INSPECTION END

15.CHECK DATA MONITOR (2)

With CONSULT

1. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
2. Repeat step 1 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
3. Start CONSULT and select “BRAKE”, “DATA MONITOR” according this order.
4. Check the “MOTOR TEMPERATURE”. Refer to BR-39, "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-533, "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-533, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.

9. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
11. Release brake pedal.
12. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AB9” detected?

YES >> Replace the electrically-driven intelligent brake unit. Refer to BR-533, "Removal and installation".
NO >> INSPECTION END

C1ABA MOTOR

DTC Logic

INFOID:0000000009282371

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1ABA	MOTOR-4	The occurrence of malfunction in the motor (resolver position) of the electrically-driven intelligent brake unit.	Electrically-driven intelligent brake unit

DTC REPRODUCTION PROCEDURE

1.PRECONDITIONING

If “DTC CONFIRMATION PROCEDURE” has been previously conducted, always turn power switch OFF and wait at least 10 seconds before conducting the next test.

>> GO TO 2.

2.CHECK DTC DETECTION

With CONSULT

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
9. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
11. Release brake pedal.
12. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1ABA” detected?

YES >> Proceed to BR-425, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000009282372

1.CHECK 12V BATTERY

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.

3. Check the 12V battery terminal connections. Refer to BR-7, "Precaution for Removing 12V Battery" and PG-59, "Work Flow".
4. Check the 12V battery. Refer to PG-59, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
10. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
11. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
12. Release brake pedal.
13. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1ABA” detected?

YES >> GO TO 3.
NO >> INSPECTION END

3.CHECK CONNECTOR TERMINALS

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair or replace error-detected part and GO TO 4.

4.PERFORM SELF-DIAGNOSIS (2)

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.

CAUTION:
Never set the vehicle to READY.

4. 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

11. Turn the power switch ON without depressing the brake pedal.

CAUTION:
Never set the vehicle to READY.

12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
13. Release brake pedal.
14. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1ABA” detected?

YES >> GO TO 5.
NO >> INSPECTION END

5. CHECK POWER SWITCH ON POWER SUPPLY

1. Connect 12V battery cable to negative terminal.
2. Turn the power switch OFF to exit CONSULT.
3. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

4. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
5. Disconnect the electrically-driven intelligent brake unit harness connector.
6. Connect 12V battery cable to negative terminal.
7. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit		—	Voltage (Approx.)
Connector	Terminal		
E34	26	Ground	0 V

8. Turn the power switch ON without depressing the brake pedal.

CAUTION:
Never set the vehicle to READY.

9. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit		—	Voltage (Approx.)
Connector	Terminal		
E34	26	Ground	10 – 16 V

Is the inspection result normal?

YES >> GO TO 8.
NO >> GO TO 6.

6.CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 15A fuse (#62).
5. Disconnect IPDM E/R harness connector.
6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

Electrically-driven intelligent brake unit		IPDM E/R		Continuity
Connector	Terminal	Connector	Terminal	
E34	26	E15	62	Existed

7. Check the continuity between electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit		—	Continuity
Connector	Terminal		
E34	26	Ground	Not existed

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to PG-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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
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 “C1ABA” detected?

YES >> GO TO 8.
NO >> INSPECTION END

8. CHECK 12V BATTERY POWER SUPPLY

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Connect 12V battery cable to negative terminal.
6. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

Electrically-driven intelligent brake unit		Voltage (Approx.)
Connector	Terminal	
E34	1 – 32	10 – 16 V
	2 – 32	
	28 – 32	

7. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
8. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

Electrically-driven intelligent brake unit		Voltage (Approx.)
Connector	Terminal	
E34	1 – 32	10 – 16 V
	2 – 32	
	28 – 32	

Is the inspection result normal?

YES >> GO TO 11.
NO >> GO TO 9.

9. CHECK 12V BATTERY POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 60A fusible link (#F).
5. Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).
6. Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).
7. Check the 15A fuse (#75).
8. Check the continuity and for short circuit between harness connector terminal 28 of electrically-driven intelligent brake unit and 15A fuse (#75).

Is the inspection result normal?

YES >> Perform trouble diagnosis for 12V battery power supply. Refer to PG-15, "Wiring Diagram - BATTERY POWER SUPPLY -".
NO >> Repair or replace the error-detected parts and GO TO 10.

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
11. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
13. Release brake pedal.
14. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1ABA” detected?

YES >> GO TO 4.
NO >> INSPECTION END

11. CHECK GROUND CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Check the continuity between electrically-driven intelligent brake unit and ground.

Electrically-driven intelligent brake unit		—	Continuity
Connector	Terminal		
E34	32	Ground	Existed

Is the inspection result normal?

YES >> GO TO 13.
NO >> Repair or replace the error-detected parts and GO TO 12.

12. PERFORM SELF-DIAGNOSIS (5)

With CONSULT
1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:

Never set the vehicle to READY.

4. 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

11. Turn the power switch ON without depressing the brake pedal.

CAUTION:
Never set the vehicle to READY.

12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
13. Release brake pedal.
14. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1ABA” detected?

YES >> GO TO 13.
NO >> INSPECTION END

13. CHECK DATA MONITOR (1)

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.

CAUTION:
Never set the vehicle to READY.

4. Repeat step 3 two or more times.

CAUTION:
Be sure to wait for 5 seconds or more after turning the power switch OFF.

5. Start CONSULT and select “BRAKE”, “DATA MONITOR” according this order.
6. Check the “MOTOR POWER SUPPLY” and “CONTROL MODULE POWER”. Refer to BR-39, "Reference Value".

Is the inspection result normal?

YES >> GO TO 14.
NO >> Replace the electrically-driven intelligent brake unit. Refer to BR-533, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
9. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
11. Release brake pedal.
12. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1ABA” detected?

YES >> GO TO 15.
NO >> INSPECTION END

15.CHECK DATA MONITOR (2)

With CONSULT

1. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
2. Repeat step 1 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
3. Start CONSULT and select “BRAKE”, “DATA MONITOR” according this order.
4. Check the “MOTOR TEMPERATURE”. Refer to BR-39, "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-533, "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-533, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.

9. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
11. Release brake pedal.
12. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1ABA” detected?

YES >> Replace the electrically-driven intelligent brake unit. Refer to BR-533, "Removal and installation".
NO >> INSPECTION END

C1AC0 CONTROL MODULE

DTC Logic

INFOID:0000000009256209

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1AC0	CONTROL MODULE TEMP-2	• Temperature signal of control module that is integrated with electrically-driven intelligent brake unit is as shown below. - Control module temperature signal: –50°C (–122°F) ≥ Control module temperature signal - Control module temperature signal: 150°C (302°F) ≤ Control module temperature signal • A malfunction is detected in the temperature detection circuit of the control module that is integrated with the electrically-driven intelligent brake unit.	• Harness or connector • Electrically-driven intelligent brake unit

DTC 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
9. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
11. Release brake pedal.
12. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AC0” detected?

YES >> Proceed to BR-435, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000009256210

1.CHECK 12V BATTERY

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Check the 12V battery terminal connections. Refer to BR-7, "Precaution for Removing 12V Battery" and PG-59, "Work Flow".
4. Check the 12V battery. Refer to PG-59, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
10. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
11. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
12. Release brake pedal.
13. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AC0” detected?

YES >> GO TO 3.
NO >> INSPECTION END

3.CHECK CONNECTOR TERMINALS

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair or replace error-detected parts and GO TO 4.

4. PERFORM SELF-DIAGNOSIS (2)

With CONSULT
1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
11. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
13. Release brake pedal.
14. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AC0” detected?

YES >> GO TO 5.
NO >> INSPECTION END

5. CHECK POWER SWITCH ON POWER SUPPLY

1. Connect 12V battery cable to negative terminal.
2. Turn the power switch OFF to exit CONSULT.
3. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
4. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
5. Disconnect the electrically-driven intelligent brake unit harness connector.
6. Connect 12V battery cable to negative terminal.
7. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit		—	Voltage (Approx.)
Connector	Terminal		
E34	26	Ground	0 V

8. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
9. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit		—	Voltage (Approx.)
Connector	Terminal		
E34	26	Ground	10 – 16 V

Is the inspection result normal?

YES >> GO TO 8.
NO >> GO TO 6.

6. CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 15A fuse (#62).
5. Disconnect IPDM E/R harness connector.
6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

Electrically-driven intelligent brake unit		IPDM E/R		Continuity
Connector	Terminal	Connector	Terminal	
E34	26	E15	62	Existed

7. Check the continuity between electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit		—	Continuity
Connector	Terminal		
E34	26	Ground	Not existed

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to PG-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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

12. Turn the power switch ON without depressing the brake pedal.

CAUTION:
Never set the vehicle to READY.

13. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
14. Release brake pedal.
15. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AC0” detected?

YES >> GO TO 8.
NO >> INSPECTION END

8.CHECK 12V BATTERY POWER SUPPLY

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Connect 12V battery cable to negative terminal.
6. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

Electrically-driven intelligent brake unit		Voltage (Approx.)
Connector	Terminal	
E34	1 – 32	10 – 16 V
	2 – 32	
	28 – 32	

7. Turn the power switch ON without depressing the brake pedal.

CAUTION:
Never set the vehicle to READY.

8. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

Electrically-driven intelligent brake unit		Voltage (Approx.)
Connector	Terminal	
E34	1 – 32	10 – 16 V
	2 – 32	
	28 – 32	

Is the inspection result normal?

YES >> GO TO 11.
NO >> GO TO 9.

9.CHECK 12V BATTERY POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 60A fusible link (#F).
5. Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).
6. Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).

7. Check the 15A fuse (#75).
8. Check the continuity and for short circuit between harness connector terminal 28 of electrically-driven intelligent brake unit and 15A fuse (#75).

Is the inspection result normal?

YES >> Perform trouble diagnosis for 12V battery power supply. Refer to PG-15, "Wiring Diagram - BATTERY POWER SUPPLY -".
NO >> Repair or replace error-detected parts and GO TO 10.

10. PERFORM SELF-DIAGNOSIS (4)

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
11. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
13. Release brake pedal.
14. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AC0” detected?

YES >> GO TO 11.
NO >> INSPECTION END

11. CHECK GROUND CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Check the continuity between electrically-driven intelligent brake unit and ground.

Electrically-driven intelligent brake unit		—	Continuity
Connector	Terminal		
E34	32	Ground	Existed

Is the inspection result normal?

YES >> GO TO 13.

NO >> Repair or replace error-detected parts and GO TO 12.

12. PERFORM SELF-DIAGNOSIS (5)

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
11. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
13. Release brake pedal.
14. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AC0” detected?

YES >> GO TO 13.
NO >> INSPECTION END

13. CHECK DATA MONITOR (1)

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Start CONSULT and select “BRAKE” and “DATA MONITOR” according this order.
6. Check the “MOTOR POWER SUPPLY” and “CONTROL MODULE POWER”. Refer to BR-39, "Reference Value".

Is the inspection result normal?

YES >> GO TO 14.
NO >> Replace the electrically-driven intelligent brake unit. Refer to BR-533, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

9. Turn the power switch ON without depressing the brake pedal.

CAUTION:
Never set the vehicle to READY.

10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
11. Release brake pedal.
12. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AC0” detected?

YES >> GO TO 15.
NO >> INSPECTION END

15. CHECK DATA MONITOR (2)

With CONSULT

1. Turn the power switch OFF to ON without depressing the brake pedal.

CAUTION:
Never set the vehicle to READY.

2. Repeat step 1 two or more times.

CAUTION:
Be sure to wait for 5 seconds or more after turning the power switch OFF.

3. Start CONSULT and select “BRAKE” and “DATA MONITOR” according this order.
4. Check the “CONTROL MODULE TEMP”. Refer to BR-39, "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-533, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

9. Turn the power switch ON without depressing the brake pedal.

CAUTION:
Never set the vehicle to READY.

10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
11. Release brake pedal.
12. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AC0” detected?

YES >> Replace the electrically-driven intelligent brake unit. Refer to BR-533, "Removal and installation".
NO >> INSPECTION END

C1AC1 CONTROL MODULE

DTC Logic

INFOID:0000000009282373

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1AC1	CONTROL MODULE TEMP-3	• Temperature of control module that is integrated with electrically-driven intelligent brake unit is as shown below. - Control module temperature: –50°C (–122°F) ≥ Control module temperature - Control module temperature: 150°C (302°F) ≤ Control module temperature • A malfunction is detected in the temperature detection circuit of the control module that is integrated with the electrically-driven intelligent brake unit.	• Harness or connector • Electrically-driven intelligent brake unit

DTC REPRODUCTION PROCEDURE

1.PRECONDITIONING

If “DTC CONFIRMATION PROCEDURE” has been previously conducted, always turn power switch OFF and wait at least 10 seconds before conducting the next test.

>> GO TO 2.

2.CHECK DTC DETECTION

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
9. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
11. Release brake pedal.
12. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AC1” detected?

YES >> Proceed to BR-444, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000009282374

1.CHECK 12V BATTERY

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Check the 12V battery terminal connections. Refer to BR-7, "Precaution for Removing 12V Battery" and PG-59, "Work Flow".
4. Check the 12V battery. Refer to PG-59, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
10. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
11. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
12. Release brake pedal.
13. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AC1” detected?

YES >> GO TO 3.
NO >> INSPECTION END

3.CHECK CONNECTOR TERMINALS

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair or replace error-detected parts and GO TO 4.

4. PERFORM SELF-DIAGNOSIS (2)

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
11. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
13. Release brake pedal.
14. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AC1” detected?

YES >> GO TO 5.
NO >> INSPECTION END

5. CHECK POWER SWITCH ON POWER SUPPLY

1. Connect 12V battery cable to negative terminal.
2. Turn the power switch OFF to exit CONSULT.
3. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
4. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
5. Disconnect the electrically-driven intelligent brake unit harness connector.
6. Connect 12V battery cable to negative terminal.
7. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit		—	Voltage (Approx.)
Connector	Terminal		
E34	26	Ground	0 V

8. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
9. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit		—	Voltage (Approx.)
Connector	Terminal		
E34	26	Ground	10 – 16 V

Is the inspection result normal?

YES >> GO TO 8.
NO >> GO TO 6.

6. CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 15A fuse (#62).
5. Disconnect IPDM E/R harness connector.
6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

Electrically-driven intelligent brake unit		IPDM E/R		Continuity
Connector	Terminal	Connector	Terminal	
E34	26	E15	62	Existed

7. Check the continuity between electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit		—	Continuity
Connector	Terminal		
E34	26	Ground	Not existed

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to PG-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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

12. Turn the power switch ON without depressing the brake pedal.

CAUTION:
Never set the vehicle to READY.

13. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
14. Release brake pedal.
15. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AC1” detected?

YES >> GO TO 8.
NO >> INSPECTION END

8.CHECK 12V BATTERY POWER SUPPLY

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Connect 12V battery cable to negative terminal.
6. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

Electrically-driven intelligent brake unit		Voltage (Approx.)
Connector	Terminal	
E34	1 – 32	10 – 16 V
	2 – 32	
	28 – 32	

7. Turn the power switch ON without depressing the brake pedal.

CAUTION:
Never set the vehicle to READY.

8. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

Electrically-driven intelligent brake unit		Voltage (Approx.)
Connector	Terminal	
E34	1 – 32	10 – 16 V
	2 – 32	
	28 – 32	

Is the inspection result normal?

YES >> GO TO 11.
NO >> GO TO 9.

9.CHECK 12V BATTERY POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 60A fusible link (#F).
5. Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).
6. Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).

7. Check the 15A fuse (#75).
8. Check the continuity and for short circuit between harness connector terminal 28 of electrically-driven intelligent brake unit and 15A fuse (#75).

Is the inspection result normal?

YES >> Perform trouble diagnosis for 12V battery power supply. Refer to PG-15, "Wiring Diagram - BATTERY POWER SUPPLY -".
NO >> Repair or replace error-detected parts and GO TO 10.

10. PERFORM SELF-DIAGNOSIS (4)

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
11. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
13. Release brake pedal.
14. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AC1” detected?

YES >> GO TO 11.
NO >> INSPECTION END

11. CHECK GROUND CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Check the continuity between electrically-driven intelligent brake unit and ground.

Electrically-driven intelligent brake unit		—	Continuity
Connector	Terminal		
E34	32	Ground	Existed

Is the inspection result normal?

YES >> GO TO 13.

NO >> Repair or replace error-detected parts and GO TO 12.

12. PERFORM SELF-DIAGNOSIS (5)

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
11. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
13. Release brake pedal.
14. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AC1” detected?

YES >> GO TO 13.
NO >> INSPECTION END

13. CHECK DATA MONITOR (1)

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Start CONSULT and select “BRAKE” and “DATA MONITOR” according this order.
6. Check the “MOTOR POWER SUPPLY” and “CONTROL MODULE POWER”. Refer to BR-39, "Reference Value".

Is the inspection result normal?

YES >> GO TO 14.
NO >> Replace the electrically-driven intelligent brake unit. Refer to BR-533, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

9. Turn the power switch ON without depressing the brake pedal.

CAUTION:
Never set the vehicle to READY.

10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
11. Release brake pedal.
12. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AC1” detected?

YES >> 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-39, "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-533, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

9. Turn the power switch ON without depressing the brake pedal.

CAUTION:
Never set the vehicle to READY.

10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
11. Release brake pedal.
12. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AC1” detected?

YES >> Replace the electrically-driven intelligent brake unit. Refer to BR-533, "Removal and installation".
NO >> INSPECTION END

C1AC8 BRAKE POWER SUPPLY BACKUP UNIT

DTC Logic

INFOID:0000000009282375

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1AC8	POWER SUPPLY BACKUP UNIT-2	A malfunction is detected in the internal circuit of the brake power supply backup unit.	• Harness or connector • Fuse • Brake power supply backup unit • Electrically-driven intelligent brake unit

DTC REPRODUCTION PROCEDURE

1.PRECONDITIONING

If “DTC CONFIRMATION PROCEDURE” has been previously conducted, always turn power switch OFF and wait at least 10 seconds before conducting the next test.

>> GO TO 2.

2.CHECK DTC DETECTION

With CONSULT

1. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
2. Repeat step 1 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
3. Turn the power switch OFF to exit CONSULT.
4. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
9. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
11. Release brake pedal.
12. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AC8” detected?

YES >> Proceed to BR-452, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000009282376

1.CHECK 12V BATTERY

1. Turn the power switch OFF to exit CONSULT.

2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
CAUTION:
Never operate the vehicle and CONSULT while waiting.
3. Check the 12V battery terminal connections. Refer to BR-7, "Precaution for Removing 12V Battery" and PG-59, "Work Flow".
4. Check the 12V battery. Refer to PG-59, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
CAUTION:
Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
CAUTION:
Never operate the vehicle and CONSULT while waiting.
10. Turn the power switch ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY.
11. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
12. Release brake pedal.
13. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AC8” detected?

YES >> GO TO 3.
NO >> INSPECTION END

3.CHECK CONNECTOR TERMINALS

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
CAUTION:
Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.
5. Disconnect the brake power supply backup unit harness connector, then check for failures of pin terminals and connections.

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair or replace error-detected parts and GO TO 4.

4. PERFORM SELF-DIAGNOSIS (2)

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
12. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
13. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
14. Release brake pedal.
15. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AC8” detected?

YES >> GO TO 5.
NO >> INSPECTION END

5. CHECK POWER SWITCH ON POWER SUPPLY

1. Connect the brake power supply backup unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to exit CONSULT.
4. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
5. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
6. Disconnect the electrically-driven intelligent brake unit harness connector.
7. Connect 12V battery cable to negative terminal.
8. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit		—	Voltage (Approx.)
Connector	Terminal		
E34	26	Ground	0 V

9. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
10. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit		—	Voltage (Approx.)
Connector	Terminal		
E34	26	Ground	10 – 16 V

Is the inspection result normal?

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 15A fuse (#62).
5. Disconnect IPDM E/R harness connector.
6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

Electrically-driven intelligent brake unit		IPDM E/R		Continuity
Connector	Terminal	Connector	Terminal	
E34	26	E15	62	Existed

7. Check the continuity between electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit		—	Continuity
Connector	Terminal		
E34	26	Ground	Not existed

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to PG-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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

12. Turn the power switch ON without depressing the brake pedal.

CAUTION:
Never set the vehicle to READY.

13. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
14. Release brake pedal.
15. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AC8” detected?

YES >> GO TO 8.
NO >> INSPECTION END

8. CHECK 12V BATTERY POWER SUPPLY

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Connect 12V battery cable to negative terminal.
6. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

Electrically-driven intelligent brake unit		Voltage (Approx.)
Connector	Terminal	
E34	1 – 32	10 – 16 V
	2 – 32	
	28 – 32	

7. Turn the power switch ON without depressing the brake pedal.

CAUTION:
Never set the vehicle to READY.

8. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

Electrically-driven intelligent brake unit		Voltage (Approx.)
Connector	Terminal	
E34	1 – 32	10 – 16 V
	2 – 32	
	28 – 32	

Is the inspection result normal?

YES >> GO TO 11.
NO >> GO TO 9.

9. CHECK 12V BATTERY POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 60A fusible link (#F).
5. Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).
6. Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).

7. Check the 15A fuse (#75).
8. Check the continuity and for short circuit between harness connector terminal 28 of electrically-driven intelligent brake unit and 15A fuse (#75).

Is the inspection result normal?

YES >> Perform trouble diagnosis for 12V battery power supply. Refer to PG-15, "Wiring Diagram - BATTERY POWER SUPPLY -".
NO >> Repair or replace error-detected parts and GO TO 10.

10. PERFORM SELF-DIAGNOSIS (4)

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
11. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
13. Release brake pedal.
14. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AC8” detected?

YES >> GO TO 11.
NO >> INSPECTION END

11. CHECK GROUND CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Check the continuity between electrically-driven intelligent brake unit and ground.

Electrically-driven intelligent brake unit		—	Continuity
Connector	Terminal		
E34	32	Ground	Existed

Is the inspection result normal?

YES >> GO TO 13.

NO >> Repair or replace error-detected parts and GO TO 12.

12. PERFORM SELF-DIAGNOSIS (5)

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
11. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
13. Release brake pedal.
14. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AC8” detected?

YES >> GO TO 13.
NO >> INSPECTION END

13. CHECK DATA MONITOR (1)

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Start CONSULT and select “BRAKE”, “DATE MONITOR” according this order.
6. Check the “MOTOR POWER SUPPLY” and “CONTROL MODULE POWER”. Refer to BR-39, "Reference Value".

Is the inspection result normal?

YES >> GO TO 14.
NO >> Replace the electrically-driven intelligent brake unit. Refer to BR-533, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
9. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
11. Release brake pedal.
12. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AC8” detected?

YES >> GO TO 15.
NO >> INSPECTION END

15. CHECK DATA MONITOR (2)

With CONSULT

1. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
2. Repeat step 1 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
3. Start CONSULT and select “BRAKE”, “DATE MONITOR” according this order.
4. Check the “BACKUP UINT DIAG RESULT”. Refer to BR-39, "Reference Value".

What was the displayed data monitor result?

“NORMAL”>>INSPECTION END
“ERR1”>> GO TO 16.
“ERR2”>> GO TO 16.
“ERR3”>> Replace the brake power supply backup unit. Refer to BR-536, "Removal and Installation".
“ERR4”>> Replace the brake power supply backup unit. Refer to BR-536, "Removal and Installation".
“ERR5”>> Replace the brake power supply backup unit. Refer to BR-536, "Removal and Installation".
“ERR6”>> Replace the brake power supply backup unit. Refer to BR-536, "Removal and Installation".
“ERR7”>> GO TO 16.
“ERR8”>> GO TO 16.
“ERR9”>> Replace the brake power supply backup unit. Refer to BR-536, "Removal and Installation".
“ERR10”>>Replace the brake power supply backup unit. Refer to BR-536, "Removal and Installation".
“ERR11”>>Replace the brake power supply backup unit. Refer to BR-536, "Removal and Installation".
“ERR12”>>GO TO 16.
“ERR13”>>Replace the brake power supply backup unit. Refer to BR-536, "Removal and Installation".
“ERR14”>>Replace the brake power supply backup unit. Refer to BR-536, "Removal and Installation".
“ERR15”>>GO TO 16.

16. CHECK BRAKE POWER SUPPLY BACKUP UNIT CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.

3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Disconnect the brake power supply backup unit harness connector.
6. Check the continuity between electrically-driven intelligent brake unit and brake power supply backup unit.

Electrically-driven intelligent brake unit		Brake power supply backup unit		Continuity
Connector	Terminal	Connector	Terminal	
E34	31	B15	1	Existed
			4	Not existed
			5	Not existed
			6	Not existed

7. Check the continuity between brake power supply backup unit and ground.

Brake power supply backup unit		—	Continuity
Connector	Terminal		
B15	1	Ground	Not existed

Is the inspection result normal?

YES >> GO TO 17.
NO >> Repair or replace error-detected parts and GO TO 17.

17. CHECK BRAKE POWER SUPPLY BACKUP UNIT POWER SUPPLY

1. Connect 12V battery cable to negative terminal.
2. Check the voltage between brake power supply backup unit and ground.

Brake power supply backup unit		—	Voltage (Approx.)
Connector	Terminal		
B15	6	Ground	9 – 16 V

3. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Check the voltage between brake power supply backup unit and ground.

Brake power supply backup unit		—	Voltage (Approx.)
Connector	Terminal		
B15	6	Ground	9 – 16 V

Is the inspection result normal?

YES >> GO TO 19.
NO >> GO TO 18.

18. CHECK BRAKE POWER SUPPLY BACKUP UNIT POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Check the 15A fuse (#82).
4. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
5. Check the continuity and for short circuit between harness connector terminal 6 of brake power supply backup unit and 15A fuse (#82).

Is the inspection result normal?

YES >> GO TO 19.

NO >> Perform trouble diagnosis for 12V battery power supply. Refer to PG-15, "Wiring Diagram - BATTERY POWER SUPPLY -".

19. CHECK BRAKE POWER SUPPLY BACKUP UNIT COMMUNICATION CIRCUIT

1. Check the continuity between electrically-driven intelligent brake unit and brake power supply backup unit.

Electrically-driven intelligent brake unit		Brake power supply backup unit		Continuity
Connector	Terminal	Connector	Terminal	
E34	37	B15	1	Not existed
			4	Not existed
			5	Existed
			6	Not existed

2. Check the continuity between brake power supply backup unit and ground.

Brake power supply backup unit		—	Continuity
Connector	Terminal		
B15	5	Ground	Not existed

Is the inspection result normal?

YES >> GO TO 20.
NO >> Repair or replace error-detected parts. GO TO 20.

20. CHECK BRAKE POWER SUPPLY BACKUP UNIT WAKE UP CIRCUIT

1. Check the continuity between electrically-driven intelligent brake unit and brake power supply backup unit.

Electrically-driven intelligent brake unit		Brake power supply backup unit		Continuity
Connector	Terminal	Connector	Terminal	
E34	22	B15	1	Not existed
			4	Existed
			5	Not existed
			6	Not existed

2. Check the continuity between brake power supply backup unit and ground.

Brake power supply backup unit		—	Continuity
Connector	Terminal		
B15	4	Ground	Not existed

Is the inspection result normal?

YES >> Replace the brake power supply backup unit. Refer to BR-536, "Removal and Installation".
NO >> Repair or replace error-detected parts.

C1AD0 BRAKE POWER SUPPLY BACKUP UNIT

DTC Logic

INFOID:0000000009282377

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
C1AD0	POWER SUPPLY BACKUP UNIT VOLT-2	• An internal malfunction (overvoltage) is detected in the brake power supply backup unit. • Power voltage of brake power supply backup unit is as shown below. - Power voltage of brake power supply backup unit: 9 V ≥ Power voltage of brake power supply backup unit - Power voltage of brake power supply backup unit: 16 V ≤ Power voltage of brake power supply backup unit	• Harness or connector • Fuse • Brake power supply backup unit • Electrically-driven intelligent brake unit • 12V battery is low

DTC REPRODUCTION PROCEDURE

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
9. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
11. Release brake pedal.
12. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AD0” detected?

YES >> Proceed to BR-463, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000009282378

1.CHECK 12V BATTERY

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Check the 12V battery terminal connections. Refer to BR-7, "Precaution for Removing 12V Battery" and PG-59, "Work Flow".
4. Check the 12V battery. Refer to PG-59, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
10. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
11. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
12. Release brake pedal.
13. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AD0” detected?

YES >> GO TO 3.
NO >> INSPECTION END

3.CHECK CONNECTOR TERMINALS

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.

5. Disconnect the brake power supply backup unit harness connector, then check for failures of pin terminals and connections.

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair or replace error-detected parts and GO TO 4.

4. PERFORM SELF-DIAGNOSIS (2)

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
12. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
13. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
14. Release brake pedal.
15. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AD0” detected?

YES >> GO TO 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
5. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
6. Disconnect the electrically-driven intelligent brake unit harness connector.
7. Connect 12V battery cable to negative terminal.
8. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit		—	Voltage (Approx.)
Connector	Terminal		
E34	26	Ground	0 V

9. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
10. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit		—	Voltage (Approx.)
Connector	Terminal		
E34	26	Ground	10 – 16 V

Is the inspection result normal?

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 15A fuse (#62).
5. Disconnect IPDM E/R harness connector.
6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

Electrically-driven intelligent brake unit		IPDM E/R		Continuity
Connector	Terminal	Connector	Terminal	
E34	26	E15	62	Existed

7. Check the continuity between electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit		—	Continuity
Connector	Terminal		
E34	26	Ground	Not existed

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to PG-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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
12. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
13. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
14. Release brake pedal.
15. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AD0” detected?

YES >> GO TO 8.
NO >> INSPECTION END

8.CHECK 12V BATTERY POWER SUPPLY

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Connect 12V battery cable to negative terminal.
6. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

Electrically-driven intelligent brake unit		Voltage (Approx.)
Connector	Terminal	
E34	1 – 32	10 – 16 V
	2 – 32	
	28 – 32	

7. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
8. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

Electrically-driven intelligent brake unit		Voltage (Approx.)
Connector	Terminal	
E34	1 – 32	10 – 16 V
	2 – 32	
	28 – 32	

Is the inspection result normal?

YES >> GO TO 11.
NO >> GO TO 9.

9.CHECK 12V BATTERY POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 60A fusible link (#F).

5. Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).
6. Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).
7. Check the 15A fuse (#75).
8. Check the continuity and for short circuit between harness connector terminal 28 of electrically-driven intelligent brake unit and 15A fuse (#75).

Is the inspection result normal?

YES >> Perform trouble diagnosis for 12V battery power supply. Refer to PG-15, "Wiring Diagram - BATTERY POWER SUPPLY -".
NO >> Repair or replace error-detected parts and GO TO 10.

10. PERFORM SELF-DIAGNOSIS (4)

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
11. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
13. Release brake pedal.
14. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AD0” detected?

YES >> GO TO 11.
NO >> INSPECTION END

11. CHECK GROUND CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Check the continuity between electrically-driven intelligent brake unit and ground.

Electrically-driven intelligent brake unit		—	Continuity
Connector	Terminal		
E34	32	Ground	Existed

Is the inspection result normal?

YES >> GO TO 13.
NO >> Repair or replace error-detected parts and GO TO 12.

12. PERFORM SELF-DIAGNOSIS (5)

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
11. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
13. Release brake pedal.
14. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AD0” detected?

YES >> GO TO 13.
NO >> INSPECTION END

13. CHECK DATA MONITOR

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery 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-39, "Reference Value".

Is the inspection result normal?

YES >> GO TO 14.
NO >> Replace the electrically-driven intelligent brake unit. Refer to BR-533, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
9. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
11. Release brake pedal.
12. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “C1AD0” detected?

YES >> GO TO 15.
NO >> INSPECTION END

15. CHECK BRAKE POWER SUPPLY BACKUP UNIT POWER SUPPLY

1. Connect 12V battery cable to negative terminal.
2. Check the voltage between brake power supply backup unit and ground.

Brake power supply backup unit		—	Voltage (Approx.)
Connector	Terminal		
B15	6	Ground	9 – 16 V

3. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Check the voltage between brake power supply backup unit and ground.

Brake power supply backup unit		—	Voltage (Approx.)
Connector	Terminal		
B15	6	Ground	9 – 16 V

Is the inspection result normal?

YES >> Replace the brake power supply backup unit. Refer to BR-536, "Removal and Installation".
NO >> GO TO 16.

16. CHECK BRAKE POWER SUPPLY BACKUP UNIT POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:

Never operate the vehicle and CONSULT while waiting.

3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 15A fusible link (#82).
5. Check the continuity and for short circuit between harness connector terminal 6 of brake power supply backup unit and 15A fuse (#82).

Is the inspection result normal?

YES >> Replace the brake power supply backup unit. Refer to BR-536, "Removal and Installation".
NO (9 V or less)>>Perform trouble diagnosis for 12V battery power supply. Refer to PG-15, "Wiring Diagram - BATTERY POWER SUPPLY -".
NO (16 V or more)>>Perform diagnosis for the PDM (Power Delivery Module). Refer to VC-28, "CONSULT Function".

U1000 CAN COMM CIRCUIT

Description

INFOID:0000000009256225

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:0000000009256226

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

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
9. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
11. Release brake pedal.
12. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “U1000” detected?

YES >> Proceed to BR-472, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000009256227

Proceed to LAN-16, "Trouble Diagnosis Flow Chart".

U1010 CONTROL UNIT (CAN)

Description

INFOID:0000000009256228

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:0000000009256229

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

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
9. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
10. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
11. Release brake pedal.
12. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “U1010” detected?

YES >> Proceed to BR-474, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000009256230

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-533, "Removal and installation".
NO >> Repair or replace error-detected parts.

U1510 ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) COMMUNICATION

DTC Logic

INFOID:0000000009256231

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)

*: CAN communications line between electrically-driven intelligent brake unit and ABS actuator control unit

DTC REPRODUCTION PROCEDURE

1.PRECONDITIONING

If “DTC CONFIRMATION PROCEDURE” has been previously conducted, always turn power switch OFF and wait at least 10 seconds before conducting the next test.

>> GO TO 2.

2.CHECK DTC DETECTION

With CONSULT

1. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
2. Repeat step 1 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
3. Turn the power switch OFF to exit CONSULT.
4. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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-475, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000009256232

1.CHECK 12V BATTERY

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Check the 12V battery terminal connections. Refer to BR-7, "Precaution for Removing 12V Battery" and PG-59, "Work Flow".
4. Check the 12V battery. Refer to PG-59, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair or replace error-detected parts and GO TO 4.

4.PERFORM SELF-DIAGNOSIS (2)

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
11. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
13. Release brake pedal.
14. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “U1510” detected?

YES >> GO TO 5.
NO >> INSPECTION END

5. CHECK POWER SWITCH ON POWER SUPPLY

1. Connect 12V battery cable to negative terminal.
2. Turn the power switch OFF to exit CONSULT.
3. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
4. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
5. Disconnect the electrically-driven intelligent brake unit harness connector.
6. Connect 12V battery cable to negative terminal.
7. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit		—	Voltage (Approx.)
Connector	Terminal		
E34	26	Ground	0 V

8. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
9. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit		—	Voltage (Approx.)
Connector	Terminal		
E34	26	Ground	10 – 16 V

Is the inspection result normal?

YES >> GO TO 8.
NO >> GO TO 6.

6. CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 15A fuse (#62).
5. Disconnect IPDM E/R harness connector.
6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

Electrically-driven intelligent brake unit		IPDM E/R		Continuity
Connector	Terminal	Connector	Terminal	
E34	26	E15	62	Existed

7. Check the continuity between electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit		—	Continuity
Connector	Terminal		
E34	26	Ground	Not existed

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to PG-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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
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 “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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Connect 12V battery cable to negative terminal.
6. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

Electrically-driven intelligent brake unit		Voltage (Approx.)
Connector	Terminal	
E34	1 – 32	10 – 16 V
	2 – 32	
	28 – 32	

7. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
8. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

Electrically-driven intelligent brake unit		Voltage (Approx.)
Connector	Terminal	
E34	1 – 32	10 – 16 V
	2 – 32	
	28 – 32	

Is the inspection result normal?

YES >> GO TO 11.
NO >> GO TO 9.

9.CHECK 12V BATTERY POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 60A fusible link (#F).
5. Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).
6. Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).
7. Check the 15A fuse (#75).
8. Check the continuity and for short circuit between harness connector terminal 28 of electrically-driven intelligent brake unit and 15A fuse (#75).

Is the inspection result normal?

YES >> Perform trouble diagnosis for 12V battery power supply. Refer to PG-15, "Wiring Diagram - BATTERY POWER SUPPLY -".
NO >> Repair or replace error-detected parts and GO TO 10.

10. PERFORM SELF-DIAGNOSIS (4)

With CONSULT
1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Check the continuity between electrically-driven intelligent brake unit and ground.

Electrically-driven intelligent brake unit		—	Continuity
Connector	Terminal		
E34	32	Ground	Existed

Is the inspection result normal?

YES >> GO TO 13.
NO >> Repair or replace error-detected parts and GO TO 12.

12. PERFORM SELF-DIAGNOSIS (5)

With CONSULT
1. Connect the electrically-driven intelligent brake unit harness connector.

2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
11. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
12. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
13. Release brake pedal.
14. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC “U1510” detected?

YES >> GO TO 13.
NO >> INSPECTION END

13. CHECK DATA MONITOR

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Start CONSULT and select “BRAKE” and “DATA MONITOR” according this order.
6. Check the “MOTOR POWER SUPPLY” and “CONTROL MODULE POWER”. Refer to BR-39, "Reference Value".

Is the inspection result normal?

YES >> GO TO 14.
NO >> Replace the electrically-driven intelligent brake unit. Refer to BR-533, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:

Never operate the vehicle and CONSULT while waiting.

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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-47, "CONSULT Function".

Is DTC “U110D” detected?

YES >> Perform diagnosis. Refer to BRC-149, "Diagnosis Procedure".
NO >> Replace the electrically-driven intelligent brake unit. Refer to BR-533, "Removal and installation".

U1511 BRAKE POWER SUPPLY BACKUP UNIT COMMUNICATION

DTC Logic

INFOID:0000000009256233

DTC DETECTION LOGIC

DTC	Display item	Malfunction detection condition	Possible causes
U1511	POWER SUPPLY BACKUP UNIT COMM	Signals from power backup communications line* are not sent or received continuously for 4 seconds or more.	• Harness or connector • Electrically-driven intelligent brake unit • Brake power supply backup unit

*: CAN communications line between electrically-driven intelligent brake unit and brake power supply backup unit.

DTC REPRODUCTION PROCEDURE

1.PRECONDITIONING

If “DTC CONFIRMATION PROCEDURE” has been previously conducted, always turn power switch OFF and wait at least 10 seconds before conducting the next test.

>> GO TO 2.

2.CHECK DTC DETECTION

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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-483, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000009256234

1.CHECK 12V BATTERY

1. Turn the power switch OFF to exit CONSULT.

2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Check the 12V battery terminal connections. Refer to BR-7, "Precaution for Removing 12V Battery" and PG-59, "Work Flow".
4. Check the 12V battery. Refer to PG-59, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.
5. Disconnect the brake power supply backup unit harness connector, then check for failures of pin terminals and connections.

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair or replace error-detected parts and GO TO 4.

4. PERFORM SELF-DIAGNOSIS (2)

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
4. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
5. Disconnect the electrically-driven intelligent brake unit harness connector.
6. Connect 12V battery cable to negative terminal.
7. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit		—	Voltage (Approx.)
Connector	Terminal		
E34	26	Ground	0 V

8. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
9. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit		—	Voltage (Approx.)
Connector	Terminal		
E34	26	Ground	10 – 16 V

Is the inspection result normal?

YES >> GO TO 8.
NO >> GO TO 6.

6. CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 15A fuse (#62).
5. Disconnect IPDM E/R harness connector.
6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

Electrically-driven intelligent brake unit		IPDM E/R		Continuity
Connector	Terminal	Connector	Terminal	
E34	26	E15	62	Existed

7. Check the continuity between electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit		—	Continuity
Connector	Terminal		
E34	26	Ground	Not existed

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to PG-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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Connect 12V battery cable to negative terminal.
6. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

Electrically-driven intelligent brake unit		Voltage (Approx.)
Connector	Terminal	
E34	1 – 32	10 – 16 V
	2 – 32	
	28 – 32	

7. Turn the power switch ON without depressing the brake pedal.

CAUTION:
Never set the vehicle to READY.

8. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

Electrically-driven intelligent brake unit		Voltage (Approx.)
Connector	Terminal	
E34	1 – 32	10 – 16 V
	2 – 32	
	28 – 32	

Is the inspection result normal?

YES >> GO TO 11.
NO >> GO TO 9.

9. CHECK 12V BATTERY POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.

CAUTION:
Never operate the vehicle and CONSULT while waiting.

3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 60A fusible link (#F).
5. Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).
6. Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).

7. Check the 15A fuse (#75).
8. Check the continuity and for short circuit between harness connector terminal 28 of electrically-driven intelligent brake unit and 15A fuse (#75).

Is the inspection result normal?

YES >> Perform trouble diagnosis for 12V battery power supply. Refer to PG-15, "Wiring Diagram - BATTERY POWER SUPPLY -".
NO >> Repair or replace error-detected parts and GO TO 10.

10. PERFORM SELF-DIAGNOSIS (4)

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Check the continuity between electrically-driven intelligent brake unit and ground.

Electrically-driven intelligent brake unit		—	Continuity
Connector	Terminal		
E34	32	Ground	Existed

Is the inspection result normal?

YES >> GO TO 13.

NO >> Repair or replace error-detected parts and GO TO 12.

12. PERFORM SELF-DIAGNOSIS (5)

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
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-39, "Reference Value".

Is the inspection result normal?

YES >> GO TO 14.
NO >> Replace the electrically-driven intelligent brake unit. Refer to BR-533, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Disconnect the brake power supply backup unit harness connector.
6. Check the continuity between electrically-driven intelligent brake unit and brake power supply backup unit.

Electrically-driven intelligent brake unit		Brake power supply backup unit		Continuity
Connector	Terminal	Connector	Terminal	
E34	31	B15	1	Existed
	31		4	Not existed
	31		5	Not existed
	22		1	Not existed
	22		4	Existed
	22		5	Not existed
	37		1	Not existed
	37		4	Not existed
	37		5	Existed

7. Check the continuity between electrically-driven intelligent brake unit and ground.

Electrically-driven intelligent brake unit		—	Continuity
Connector	Terminal		
E34	31	Ground	Not existed
	22		Not existed
	37		Not existed
	32		Existed

Is the inspection result normal?

YES >> GO TO 16.
NO >> Repair or replace error-detected parts.

16. CHECK BRAKE POWER SUPPLY BACKUP UNIT POWER SUPPLY

1. Connect 12V battery cable to negative terminal.
2. Check the voltage between the brake power supply backup unit harness connector and ground.

Brake power supply backup unit		—	Voltage (Approx.)
Connector	Terminal		
B15	6	Ground	10 – 16 V

3. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Check the voltage between the brake power supply backup unit harness connector and ground.

Brake power supply backup unit		—	Voltage (Approx.)
Connector	Terminal		
B15	6	Ground	10 – 16 V

Is the inspection result normal?

YES >> GO TO 18.
NO >> GO TO 17.

17. CHECK BRAKE POWER SUPPLY BACKUP UNIT POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
3. Check the 15A fuse (#82).
4. Check the continuity and for short circuit between harness connector terminal 6 of brake power supply backup unit and 15A fuse (#82).

Is the inspection result normal?

YES >> GO TO 18.
NO >> Perform trouble diagnosis for 12V battery power supply. Refer to PG-15, "Wiring Diagram - BATTERY POWER SUPPLY -".

18. PERFORM SELF-DIAGNOSIS (7)

With CONSULT
1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect the brake power supply backup unit harness connector.
3. Connect 12V battery cable to negative terminal.
4. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
5. Repeat step 4 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
6. Turn the power switch OFF to exit CONSULT.

7. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
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-536, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
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-533, "Removal and installation".
NO >> INSPECTION END

POWER SUPPLY AND GROUND CIRCUIT

Diagnosis Procedure

INFOID:0000000009256235

1. CHECK POWER OF ELECTRICALLY-DRIVEN BRAKE UNIT WHEN POWER SWITCH IS ON

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Connect 12V battery cable to negative terminal.
6. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit		—	Voltage (Approx.)
Connector	Terminal		
E34	26	Ground	0 V

7. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
8. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit		—	Voltage (Approx.)
Connector	Terminal		
E34	26	Ground	10 – 16 V

Is the inspection result normal?

YES >> GO TO 3.
NO >> GO TO 2.

2. CHECK POWER CIRCUIT OF ELECTRICALLY-DRIVEN BRAKE UNIT WHEN POWER SWITCH IS ON

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 15A fuse (#62).
5. Disconnect IPDM E/R harness connector.
6. Check the continuity between electrically-driven intelligent brake unit harness connector and IPDM E/R harness connector.

Electrically-driven intelligent brake unit		IPDM E/R		Continuity
Connector	Terminal	Connector	Terminal	
E34	26	E15	62	Existed

7. Check the continuity between electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit		—	Continuity
Connector	Terminal		
E34	26	Ground	Not existed

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		
	28		

4. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
5. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit		—	Voltage (Approx.)
Connector	Terminal		
E34	1	Ground	10 – 16 V
	2		
	28		

Is the inspection result normal?

YES >> GO TO 5.

NO >> GO TO 4.

4. CHECK 12V BATTERY POWER SUPPLY CIRCUIT OF ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 60A fusible link (#F).
5. Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).
6. Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).
7. Check the 15A fuse (#75).
8. Check the continuity and for short circuit between harness connector terminal 28 of electrically-driven intelligent brake unit and 15A fuse (#75).

Is the inspection result normal?

YES >> Perform trouble diagnosis for 12V battery power supply. Refer to PG-15, "Wiring Diagram - BATTERY POWER SUPPLY -".

NO >> Repair or replace error-detected parts.

5. CHECK 12V BATTERY POWER SUPPLY OF BRAKE POWER SUPPLY BACKUP UNIT

1. Turn the power switch OFF to exit CONSULT.

2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
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	6	Ground	10 – 16 V

7. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
8. Check the voltage between brake power supply backup unit harness connector and ground.

Brake power supply backup unit		—	Voltage (Approx.)
Connector	Terminal		
B15	6	Ground	10 – 16 V

Is the inspection result normal?

YES >> GO TO 7.
NO >> GO TO 6.

6. CHECK 12V BATTERY POWER CIRCUIT OF BRAKE POWER SUPPLY BACKUP UNIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 15A fuse (#82).
5. Check the continuity and for short circuit between harness connector terminal 6 of brake power supply backup unit and 15A fuse (#82).

Is the inspection result normal?

YES >> Perform trouble diagnosis for 12V battery power supply. Refer to PG-15, "Wiring Diagram - BATTERY POWER SUPPLY -".
NO >> Repair or replace error-detected parts.

7. CHECK ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT GROUND

Check the continuity between electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit		—	Continuity
Connector	Terminal		
E34	32	Ground	Existed

Is the inspection result normal?

YES >> GO TO 8.
NO >> Repair or replace error-detected parts.

8. CHECK BRAKE POWER SUPPLY BACKUP UNIT GROUND

Check the continuity between brake power supply backup unit harness connector and ground.

Brake power supply backup unit		—	Continuity
Connector	Terminal		
B15	2	Ground	Existed

Is the inspection result normal?

YES >> GO TO 9.
NO >> Repair or replace error-detected parts.

9.CHECK TERMINAL

- Check for failures in the pin terminals and connections of the electrically-driven intelligent brake unit harness connector.
- Check that there is no malfunction in pin terminal and connection of IPDM E/R harness connector.
- Check for failures of pin terminals and connections in brake power supply backup unit harness connector.

Is the inspection result normal?

YES >> INSPECTION END
NO >> Repair or replace error-detected parts.

WARNING BUZZER

Diagnosis Procedure

INFOID:0000000009256236

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-493, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Disconnect buzzer harness connector.
6. Check the continuity between electrically-driven intelligent brake unit and warning buzzer.

Electrically-driven intelligent brake unit		Warning buzzer		Continuity
Connector	Terminal	Connector	Terminal	
E34	36	M13	1	Existed
	20		1	Not existed
	36		2	Not existed
	20		2	Existed

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace error-detected parts.

3.CHECK WARNING BUZZER

Check the warning buzzer. Refer to BR-497, "Component Inspection".

Is the inspection result normal?

YES >> Replace the electrically-driven intelligent brake unit. Refer to BR-533, "Removal and installation".
NO >> Replace the warning buzzer. Refer to BR-538, "Removal and Installation".

Component Inspection

INFOID:0000000009256237

1.CHECK WARNING BUZZER

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect buzzer harness connector.
5. Apply voltage of 12V between warning buzzer connector terminals 1 and 2.

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-538, "Removal and Installation".

DOOR SWITCH CIRCUIT

Diagnosis Procedure

INFOID:0000000009273035

1.CHECK VEHICLE TYPE

Check the vehicle type. Refer to BR-5, "How to Check Vehicle Type".

Type 1 >> GO TO 2.
Type 2 >> GO TO 5.

2.CHECK POWER AND GROUND CIRCUITS OF ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT

Perform diagnosis of electrically-driven intelligent brake unit power and ground circuits. BR-493, "Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace error-detected parts.

3.CHECK FRONT DOOR SWITCH (DRIVER SIDE) CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Disconnect front door switch (driver side) harness connector.
6. Check the continuity between electrically-driven intelligent brake unit and front door switch (driver side).

Electrically-driven intelligent brake unit		Front door switch (driver side)		Continuity
Connector	Terminal	Connector	Terminal	
E34	21	B48	3	Existed

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace error-detected parts.

4.CHECK FRONT DOOR SWITCH (DRIVER SIDE)

Check the front door switch (driver side). Refer to BR-500, "Component Inspection".

Is the inspection result normal?

YES >> Replace the electrically-driven intelligent brake unit. Refer to BR-533, "Removal and installation".
NO >> Replace the front door switch (driver side). Refer to DLK-217, "Removal and Installation".

5.CHECK POWER AND GROUND CIRCUITS OF ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT

Perform diagnosis of electrically-driven intelligent brake unit power and ground circuits. BR-493, "Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 6.
NO >> Repair or replace error-detected parts.

6.CHECK DOOR ROOM LAMP CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.

3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Disconnect BCM harness connector.
6. Check the continuity between electrically-driven intelligent brake unit and BCM.

Electrically-driven intelligent brake unit		BCM		Continuity
Connector	Terminal	Connector	Terminal	
E34	21	M25	63	Existed

Is the inspection result normal?

YES >> GO TO 7.
NO >> Repair or replace error-detected parts.

7. CHECK DATA MONITOR (ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT)

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect the BCM 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”, “DATE MONITOR” according this order.
7. Check the “DOOR SWITCH”. Refer to BR-39, "Reference Value".

Is the inspection result normal?

YES >> INSPECTION END
NO >> GO TO 8.

8. CHECK DATA MONITOR (BCM)

With CONSULT

1. Start CONSULT and select “BCM”, “DATE MONITOR” according this order.
2. Check following monitor item. Refer to BCS-28, "Reference Value".

- “DOOR SW-DR”
- “DOOR SW-AS”
- “DOOR SW-RR”
- “DOOR SW-RL”
- “DOOR SW-BK”

Is the inspection result normal?

YES >> Replace the electrically-driven intelligent brake unit. Refer toBR-533, "Removal and installation".
NO >> Check interior room lamp control circuit. Refer to INL-67, "Diagnosis Procedure".

Component Inspection

INFOID:0000000009273036

1. CHECK FRONT DOOR SWITCH (DRIVER SIDE)

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the front door switch (driver side). Refer to DLK-118, "Component Inspection".

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace the front door switch (driver side). Refer to DLK-217, "Removal and Installation".

BRAKE WARNING LAMP

Component Function Check

INFOID:0000000009256238

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-501, "Diagnosis Procedure".

2.CHECK BRAKE SYSTEM WARNING LAMP FUNCTION (2)

Check that brake warning lamp in combination meter turns ON/OFF when parking brake is operated.

NOTE:

Brake warning lamp turns ON when parking brake is operated (when parking brake switch is ON).

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check parking brake system. Refer to BRC-156, "Diagnosis Procedure".

3.CHECK BRAKE WARNING LAMP FUNCTION (2)

Check that brake warning lamp in combination meter turns ON or OFF when brake fluid level switch is operated while brake fluid level in reservoir tank is at the specified level.

NOTE:

Brake warning lamp turns ON when brake fluid is less than the specified level (when brake fluid level switch is ON).

Is the inspection result normal?

YES >> INSPECTION END

NO >> Check the brake fluid level switch system. Refer to BRC-130, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000009256239

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-493, "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-35, "CONSULT Function".
- “ABS”: Refer to BRC-47, "CONSULT Function".

NO >> GO TO 3.

3.CHECK THAT BRAKE WARNING LAMP TURNS ON

Check the combination meter. Refer to MWI-49, "CONSULT Function".

Is the inspection result normal?

YES >> Replace the electrically-driven intelligent brake unit. Refer to BR-533, "Removal and installation".

NO >> Replace combination meter. Refer to MWI-107, "Removal and Installation".

BRAKE SYSTEM WARNING LAMP

Component Function Check

INFOID:0000000009256240

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-502, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000009256241

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-493, "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-44, "DTC Index".
- “ABS”: Refer to BRC-47, "CONSULT Function".

NO >> GO TO 3.

3.CHECK BRAKE SYSTEM WARNING LAMP ILLUMINATION

Check the combination meter. Refer to MWI-49, "CONSULT Function".

Is the inspection result normal?

YES >> Replace the electrically-driven intelligent brake unit. Refer to BR-533, "Removal and installation".
NO >> Replace combination meter. Refer to MWI-107, "Removal and Installation".

SYMPTOM DIAGNOSIS

UNEXPECTED BRAKE PEDAL REACTION

Description

INFOID:0000000009256242

A malfunction of brake pedal feel (height or others) is detected when the brake pedal is depressed.

Diagnosis Procedure

INFOID:0000000009256243

1.CHECK AXLE

Check that there is no significant looseness of axle.
- Front axle: Refer to FAX-7, "Inspection".
- Rear axle: Refer to RAX-6, "Inspection".

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace error-detected parts.

2.CHECK DISC ROTOR

Check the disc rotor runout.
- Front: Refer to BR-519, "DISC ROTOR : Inspection and Adjustment".
- Rear: Refer to BR-521, "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-529, "FRONT : Inspection".
- Rear: Refer to BR-532, "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-514, "Inspection and Adjustment".

Is the inspection result normal?

YES >> GO TO 5.
NO >> Adjust the brake pedal items. Refer to BR-514, "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

Description

INFOID:0000000009256244

Brake stopping distance is long when ABS function is operated.

Diagnosis Procedure

INFOID:0000000009256245

CAUTION:
Brake stopping distance on slippery road like rough road, gravel road, or snowy road may become longer when ABS is not operated than when ABS is not operated.

1.CHECK 12V BATTERY

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Check the 12V battery terminal connections. Refer to BR-7, "Precaution for Removing 12V Battery" and PG-59, "Work Flow".
4. Check the 12V battery. Refer to PG-59, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
10. Turn the power switch ON without depressing the brake pedal.
    CAUTION:
    Never set the vehicle to READY.
11. Depress brake pedal by 100 mm (3.94 in) or more, and hold the position for 5 seconds or more.
12. Release brake pedal.
13. Start CONSULT and perform “BRAKE” self-diagnosis.

Is DTC detected?

YES >> Check the DTC. Refer to BR-44, "DTC Index". GO TO 3.
NO >> INSPECTION END

3.CHECK CONNECTOR TERMINALS

1. Turn the power switch OFF to exit CONSULT.

2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
CAUTION:
Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector, then check for failures of pin terminals and connections.

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair or replace error-detected parts and GO TO 4.

4. PERFORM SELF-DIAGNOSIS (2)

With CONSULT
1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY.
4. Repeat step 3 two or more times.
CAUTION:
Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
CAUTION:
Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
CAUTION:
Never operate the vehicle and CONSULT while waiting.
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-44, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
CAUTION:
Never operate the vehicle and CONSULT while waiting.
4. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
5. Disconnect the electrically-driven intelligent brake unit harness connector.
6. Connect 12V battery cable to negative terminal.
7. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit		—	Voltage (Approx.)
Connector	Terminal		
E34	26	Ground	0 V

8. Turn the power switch ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
9. Check the voltage between the electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit		—	Voltage (Approx.)
Connector	Terminal		
E34	26	Ground	10 – 16 V

Is the inspection result normal?

YES >> GO TO 8.
NO >> GO TO 6.

6. CHECK POWER SWITCH ON POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 15A fuse (#62).
5. Disconnect IPDM E/R harness connector.
6. Check the continuity between electrically-driven intelligent brake unit and IPDM E/R.

Electrically-driven intelligent brake unit		IPDM E/R		Continuity
Connector	Terminal	Connector	Terminal	
E34	26	E15	62	Existed

7. Check the continuity between electrically-driven intelligent brake unit harness connector and ground.

Electrically-driven intelligent brake unit		—	Continuity
Connector	Terminal		
E34	26	Ground	Not existed

Is the inspection result normal?

YES >> Perform trouble diagnosis for power ON power supply. Refer to PG-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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
CAUTION:
Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
CAUTION:
Never operate the vehicle and CONSULT while waiting.
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-44, "DTC Index". GO TO 8.
NO >> INSPECTION END

8.CHECK 12V BATTERY POWER SUPPLY

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
CAUTION:
Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Connect 12V battery cable to negative terminal.
6. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

Electrically-driven intelligent brake unit		Voltage (Approx.)
Connector	Terminal	
E34	1 – 32	10 – 16 V
	2 – 32	
	28 – 32	

7. Turn the power switch ON without depressing the brake pedal.
CAUTION:
Never set the vehicle to READY.
8. Check the voltage between the electrically-driven intelligent brake unit harness connector terminals.

Electrically-driven intelligent brake unit		Voltage (Approx.)
Connector	Terminal	
E34	1 – 32	10 – 16 V
	2 – 32	
	28 – 32	

Is the inspection result normal?

YES >> GO TO 11.
NO >> GO TO 9.

9.CHECK 12V BATTERY POWER SUPPLY CIRCUIT

1. Turn the power switch OFF to exit CONSULT.

2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Check the 60A fusible link (#F).
5. Check the continuity and for short circuit between harness connector terminal 1 of electrically-driven intelligent brake unit and 60A fusible link (#F).
6. Check the continuity and for short circuit between harness connector terminal 2 of electrically-driven intelligent brake unit and 60A fusible link (#F).
7. Check the 15A fuse (#75).
8. Check the continuity and for short circuit between harness connector terminal 28 of electrically-driven intelligent brake unit and 15A fuse (#75).

Is the inspection result normal?

YES >> Perform trouble diagnosis for 12V battery power supply. Refer to PG-15, "Wiring Diagram - BATTERY POWER SUPPLY -".
NO >> Repair or replace error-detected parts and GO TO 10.

10. PERFORM SELF-DIAGNOSIS (4)

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
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-44, "DTC Index". GO TO 11.
NO >> INSPECTION END

11. CHECK GROUND CIRCUIT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.

3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".
4. Disconnect the electrically-driven intelligent brake unit harness connector.
5. Check the continuity between electrically-driven intelligent brake unit and ground.

Electrically-driven intelligent brake unit		—	Continuity
Connector	Terminal		
E34	32	Ground	Existed

Is the inspection result normal?

YES >> GO TO 13.
NO >> Repair or replace error-detected parts and GO TO 12.

12. PERFORM SELF-DIAGNOSIS (5)

With CONSULT

1. Connect the electrically-driven intelligent brake unit harness connector.
2. Connect 12V battery cable to negative terminal.
3. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
4. Repeat step 3 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
5. Turn the power switch OFF to exit CONSULT.
6. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
    CAUTION:
    Never operate the vehicle and CONSULT while waiting.
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-44, "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-39, "Reference Value".

Is the inspection result normal?

YES >> GO TO 14.
NO >> Replace the electrically-driven intelligent brake unit. Refer to BR-533, "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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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-44, "DTC Index".
NO >> GO TO 15.

15. CHECK BRAKING FORCE

Check the braking force.

Is the inspection result normal?

YES >> GO TO 16.
NO >> Check each component of brake system.

16. CHECK BRAKE PERFORMANCE

1. Turn the power switch OFF to exit CONSULT.
2. Disconnect ABS actuator control unit harness connector so that ABS does not operate. Check the brake stopping distance in this condition.
3. Connect harness connectors after checking.

Is the inspection result normal?

YES >> Normal
NO >> Check each component of brake system.

VEHICLE JERKS DURING

Description

INFOID:0000000009256246

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:0000000009256247

1.CHECK SYMPTOM

Check the whether or not the vehicle jerks when VDC function, TCS function, ABS function, EBD function, brake limited slip differential (BLSD) function or brake assist function operates.

Is the inspection result normal?

YES >> Normal
NO >> GO TO 2.

2.PERFORM SELF-DIAGNOSIS

With CONSULT

1. Turn the power switch OFF to ON without depressing the brake pedal.
   CAUTION:
   Never set the vehicle to READY.
2. Repeat step 1 two or more times.
   CAUTION:
   Be sure to wait for 5 seconds or more after turning the power switch OFF.
3. Turn the power switch OFF to exit CONSULT.
4. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle 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. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
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-44, "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-169, "Diagnosis Procedure". GO TO 3.

3.CHECK CONNECTOR

With CONSULT

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Disconnect 12V battery cable from negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".

4. Disconnect electrically-driven intelligent brake unit harness connector.
5. Disconnect ABS actuator and electric unit (control unit) harness connector.
6. Check the connector terminal for deformation, disconnection, or looseness.
7. Connect electrically-driven intelligent brake unit harness connector.
8. Connect ABS actuator and electric unit (control unit) harness connector.
9. Connect harness connector, start CONSULT and perform self-diagnosis for “BRAKE” again.

Is the inspection result normal?

YES >> GO TO 4.
NO >> Poor connection of connector terminal. Repair or replace connector terminal.

4. CHECK VCM SELF DIAGNOSIS RESULT ITEMS

With CONSULT
Start CONSULT and perform self-diagnosis for “EV/HEV”. Refer to EVC-73, "CONSULT Function".

Is any DTC detected?

YES >> Check the DTC. Refer to EVC-102, "DTC Index".
NO >> Replace ABS actuator and electric unit (control unit). Refer to BRC-178, "Removal and Installation".

NORMAL OPERATING CONDITION

Description

INFOID:0000000009256248

Symptom	Result
The brake pedal may move during braking.	This occurs when the electrically-driven intelligent brake unit is operating normally and is not a malfunction.
When the brake pedal is depressed while the power switch is OFF, an operating sound may occur or the pedal stroke may feel short.	
There may be an operating noise or the brake pedal may move after the brake pedal is operated.	
An operating noise may occur when the power switch is turned OFF (system stop sound).	
The brake pedal may move when ABS is activated immediately after the READY state of the vehicle.	
After turning the power switch OFF and waiting for a few minutes in the car (with all doors closed and brake pedal not depressed), the electrically-driven intelligent brake unit goes into sleep mode. If the brake pedal is depressed after the unit goes into sleep mode, the brake pedal operation may be felt awkward or the depth of pedal depression insufficient for a little while.	This is not a malfunction. Depress the brake pedal fully.

PERIODIC MAINTENANCE

BRAKE PEDAL

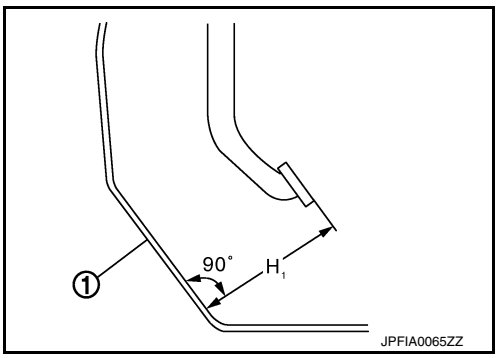
Inspection and Adjustment

INFOID:0000000008746795

INSPECTION

Brake Pedal Height

Check the height from the dash lower panel ① to the top face of the brake pedal (H_1).

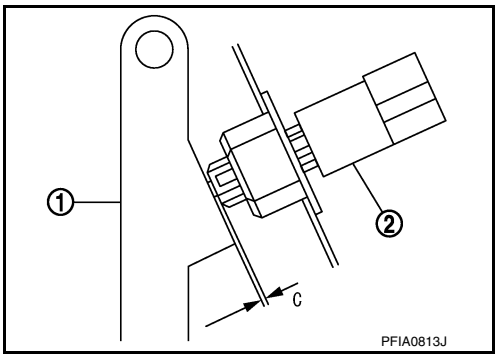


H_1 : Refer to BR-555, "Brake Pedal".

CAUTION:
Perform with the floor trim pulled up.

Stop Lamp Switch and Brake Pedal Position Switch

Check the clearance (C) between brake pedal lever ① and the threaded end of stop lamp switch and brake pedal position switch ②.

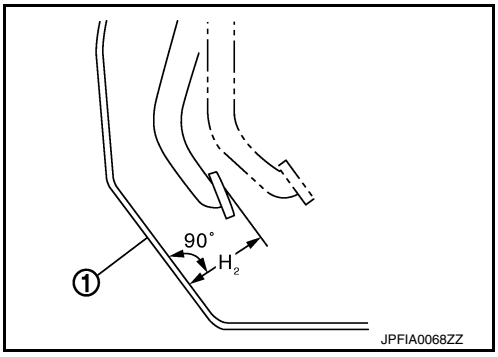


C : Refer to BR-555, "Brake Pedal".

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 (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-555, "Brake Pedal".

CAUTION:
Perform with the floor trim pulled up.

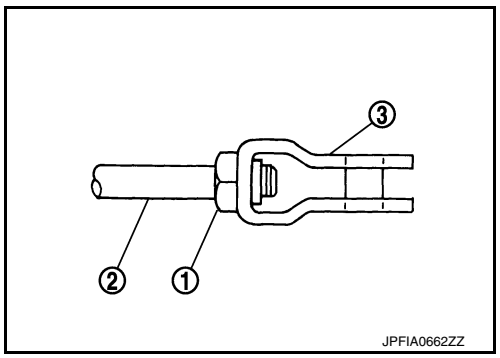
ADJUSTMENT

Brake Pedal Height

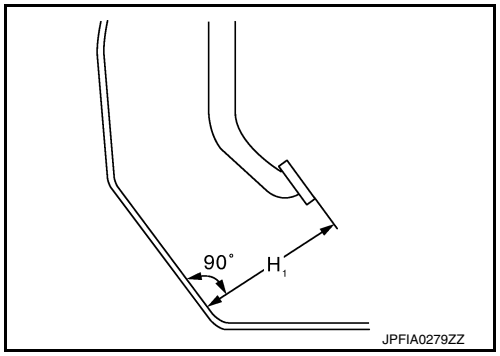
1. Remove the instrument lower panel. Refer to IP-17, "Removal and Installation".
2. Disconnect the stop lamp switch and brake pedal position switch harness connectors.
3. Rotate the stop lamp switch and brake pedal position switch counterclockwise by 45° to loosen them.

4. Loosen the input rod lock nut ①.
5. 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-555, "Brake Pedal".



6. Tighten the lock nut to the specified torque. BR-533, "Exploded View".
7. After adjusting the brake pedal height, adjust the clearance between the stopper rubber and threaded end of stop lamp switch and brake pedal position switch.
8. Perform stroke sensor 0 point learning when the brake pedal assembly is removed and installed, or replaced. Refer to BR-76, "Work Procedure".

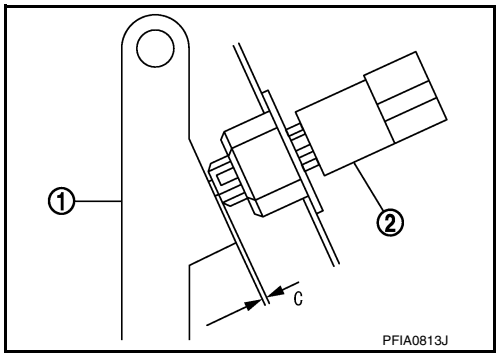
Stop Lamp Switch and Brake Pedal Position Switch

1. Remove the instrument lower panel. Refer to IP-17, "Removal and Installation".
2. Disconnect the stop lamp switch and brake pedal position switch harness connectors.
3. Rotate the stop lamp switch and brake pedal position switch counterclockwise by 45° to loosen them.
4. With the brake pedal (pad) pulled gently toward you, press in until the threaded end of stop lamp switch and brake pedal position switch ② contacts the brake pedal lever ①. Under those conditions, rotate 45° to the right to fasten it in place.

CAUTION:
- **Clearance (C) between the brake pedal lever and threaded end of stop lamp switch and brake pedal position switch must be the specified value.**

C : Refer to BR-555, "Brake Pedal".

- **The stop lamp must turn OFF when the brake pedal is released.**



5. Perform stroke sensor 0 point learning when the brake pedal assembly is removed and installed, or replaced. Refer to BR-76, "Work Procedure".

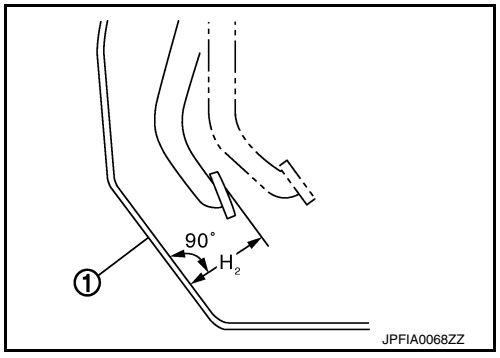
Pedal Height When Depressed

1. Perform air bleeding. BR-517, "Bleeding Brake System".
2. 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-555, "Brake Pedal".

CAUTION:
Perform with the floor trim pulled up.

3. Adjust the brake pedal height, and the clearance with the stop lamp switch and brake pedal position switch.
4. Perform stroke sensor 0 point learning when the brake pedal assembly is removed and installed, or replaced. Refer to BR-76, "Work Procedure".



BRAKE FLUID

Inspection

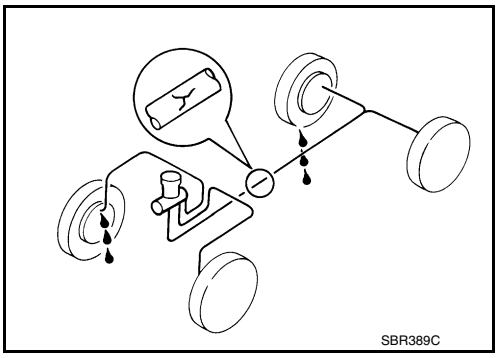
INFOID:0000000008746796

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.



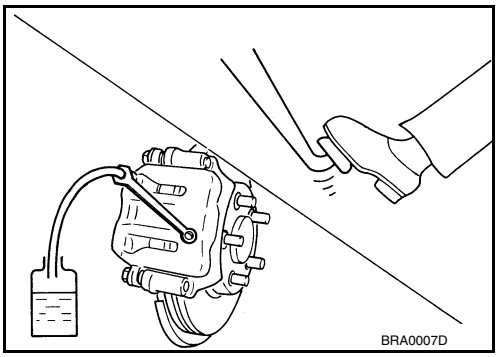
Draining

INFOID:0000000008746797

CAUTION:

- **Never allow brake fluid to contact the body or other painted surfaces. Brake fluid may damage paint. If it contacts a painted surface, wipe it off immediately and wash with water. However avoid washing brake components with water.**
- **Before performing work, turn the power switch OFF to exit CONSULT. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed. Disconnect the electrically-driven intelligent brake unit, the ABS actuator control unit harness connector or disconnect the 12V battery cable from the negative terminal. Refer to BR-7, "Precaution for Removing 12V Battery".**
- **Never operate the vehicle and CONSULT while waiting.**
- **If brake fluid contacts the disc rotor or brake caliper assembly, wipe it off immediately.**

1. Connect a vinyl tube to air bleeder.
2. Depress the brake pedal and loosen the air bleeder to gradually discharge brake fluid.



Refilling

INFOID:0000000008746798

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.**

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-517, "Bleeding Brake System".

Bleeding Brake System

INFOID:0000000008746799

CAUTION:
- **Turn the power switch without depressing the brake pedal when performing the procedure.**
- **Monitor the brake fluid level in the reservoir tank while performing the air bleeding.**
- **Never allow brake fluid to contact the body or other painted surfaces. Brake fluid may damage paint. If it contacts a painted surface, wipe it off immediately and wash with water. However avoid washing brake components with water.**
- **If brake fluid contacts the disc rotor or brake caliper assembly, wipe it off immediately.**

1. Make sure that there is no foreign material in the reservoir tank, and refill with new brake fluid.
   CAUTION:
   - **Never reuse drained brake fluid.**
   - **Never allow any oils other than the designated brake fluid to enter the system.**
2. Connect a vinyl tube to the rear right wheel air bleeder.
3. Fully depress the brake pedal 4 to 5 times.
4. Loosen the air bleeder and bleed air with the brake pedal depressed, then quickly tighten the bleeder valve.
5. Repeat steps 2 to 3 until all of the air is out of the brake line.
6. Tighten the air bleeder to the specified torque.
   - Front disc brake: Refer to BR-542, "BRAKE CALIPER ASSEMBLY : Exploded View".
   - Rear disc brake: Refer to BR-550, "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-514, "Inspection and Adjustment".

ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT

Inspection

INFOID:0000000008746800

Brake fluid leakage

Check for brake fluid leakage from the brake tube connections and the electrically-driven intelligent brake unit.

FRONT DISC BRAKE

BRAKE PAD

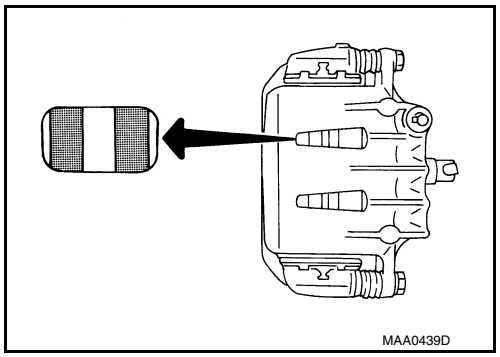
BRAKE PAD : Inspection and Adjustment

INFOID:0000000008746801

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-556, "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:0000000008746802

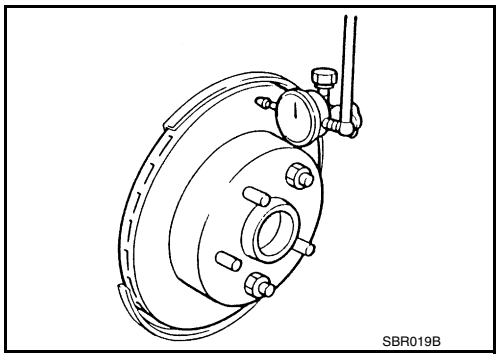
Visual inspection

Check surface of the disc rotor for uneven wear, cracks, and serious damage. Replace if necessary. Refer to FAX-9, "Removal and Installation".

RUNOUT INSPECTION

1. Use the wheel nuts and fasten the disc rotor to the wheel hub assembly (minimum 2 positions).
2. Check axial end play of wheel hub assembly. FAX-7, "Inspection".
3. Check runout using a dial indicator [at 10 mm (0.39 in) from outer edge of disc rotor].

Maximum runout (vehicle stopped) : **Refer to BR-556, "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.**

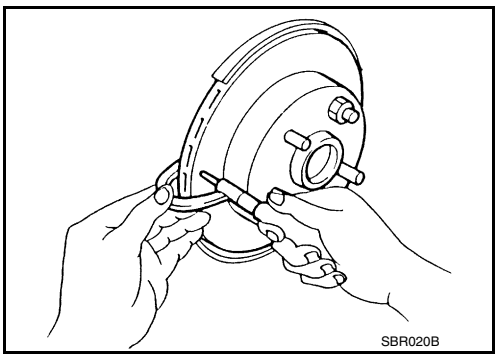
- **Replace disc rotor if disc rotor thickness is less than 0.3 (0.012 in) above the wear limit thickness. Refer to FAX-9, "Removal and Installation".**

Wear limit thickness : **Refer to BR-556, "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-9, "Removal and Installation".

Wear limit thickness : **Refer to BR-556, "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

BRAKE PAD

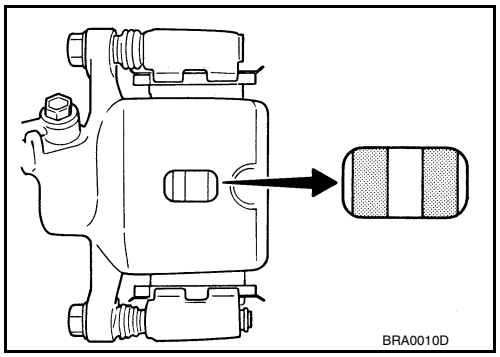
BRAKE PAD : Inspection and Adjustment

INFOID:0000000008746803

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-556, "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:0000000008746804

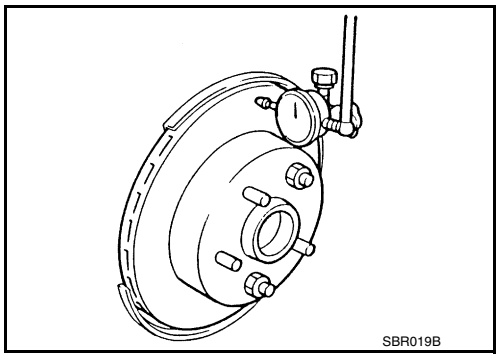
Visual inspection

Check surface of the disc rotor for uneven wear, cracks, and serious damage. Replace if necessary. Refer to RAX-7, "Removal and Installation".

RUNOUT INSPECTION

1. Use the wheel nuts and fasten the disc rotor to the wheel hub assembly (minimum 2 positions).
2. Check axial end play of wheel hub assembly. RAX-6, "Inspection".
3. Check runout using a dial indicator [at 10 mm (0.39 in) from outer edge of disc rotor].

Maximum runout (vehicle stopped) : **Refer to BR-556, "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:

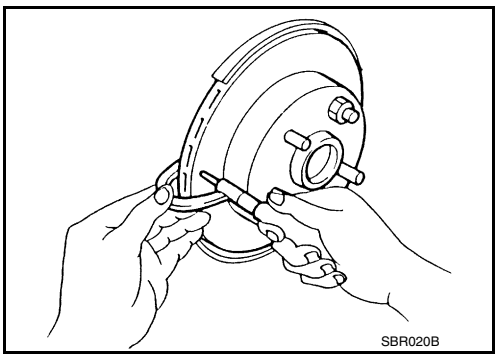
- **Perform grinding of disc rotor if disc rotor thickness is 0.3 mm (0.012 in) or more above the wear limit thickness.**

- **Replace disc rotor if disc rotor thickness is less than 0.3 mm (0.012 in) above the wear limit thickness. Refer to RAX-7, "Removal and Installation".**

Wear limit thickness : **Refer to BR-556, "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-7, "Removal and Installation".



Wear limit thickness : **Refer to BR-556, "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.**

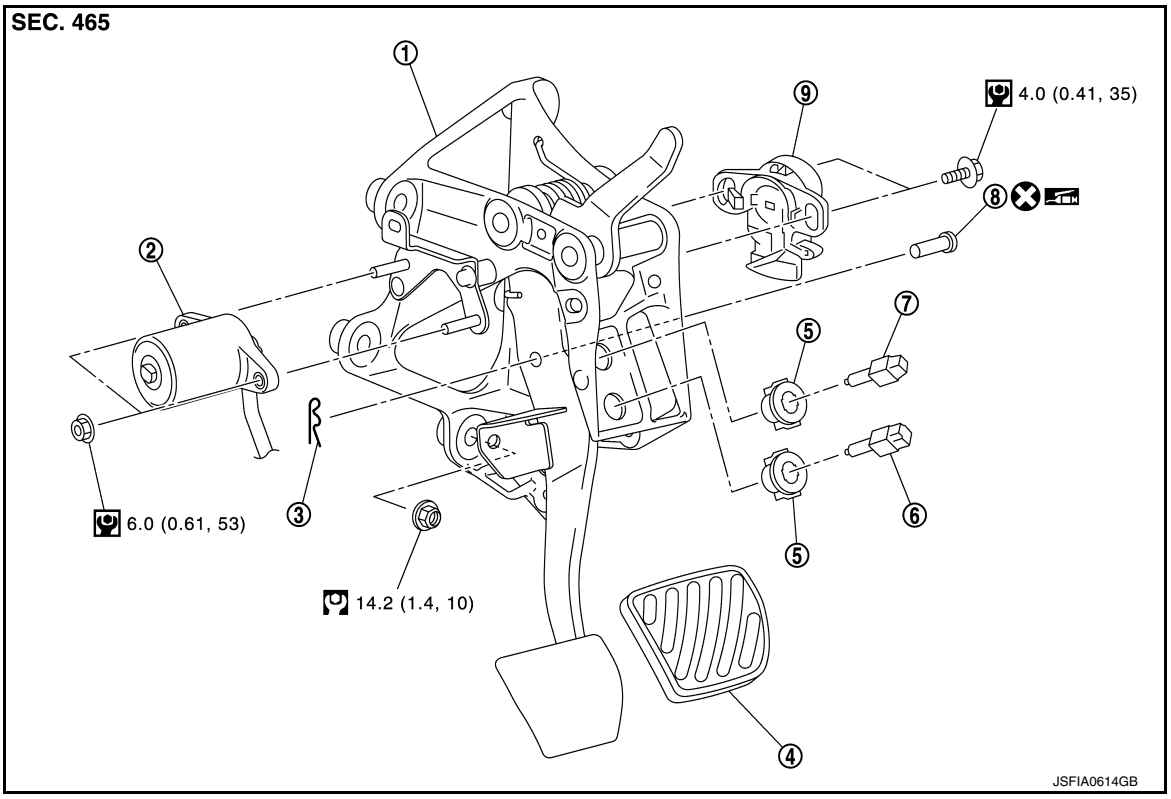
1. Drive on straight and flat roads.
2. Stop the vehicle by depressing the brake pedal to generate braking force that stops the vehicle in 3 to 5 seconds.
3. Cool the brakes.
4. Repeat steps 1 to 3 until the abnormal feel in braking force disappears.

REMOVAL AND INSTALLATION

BRAKE PEDAL

Exploded View

INFOID:0000000008746805



① Brake pedal assembly	② Hysteresis unit assembly	③ Snap pin
④ Brake pedal pad	⑤ Clip	⑥ Brake pedal position 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:0000000008746806

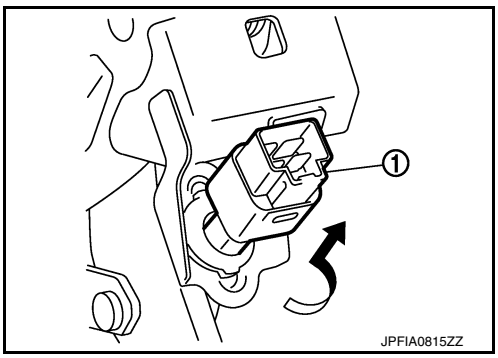
REMOVAL

CAUTION:

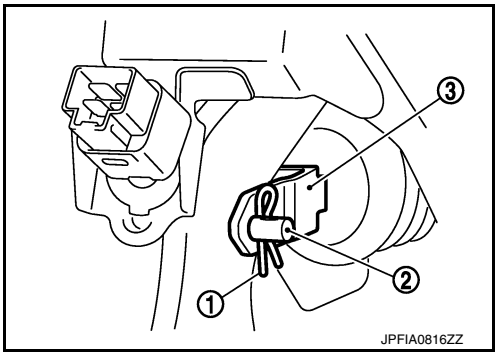
Prevent impact on brake pedal assembly. To prevent damage to the parts, never drop brake pedal assembly.

1. Remove instrument lower panel. Refer to IP-17, "Removal and Installation".
2. Disconnect stop lamp switch and brake pedal position switch harness connector.
3. Disconnect stroke sensor harness connector.

4. Rotate the stop lamp switch and the brake pedal position switch ① counter clockwise to remove.



5. Remove snap pin ① and clevis pin ② from clevis ③ of electrically-driven intelligent brake.
6. Disconnect the accelerator pedal harness connector.
7. Slide the steering column assembly downward. Refer to ST-36, "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-524, "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-76, "Work Procedure".
- Perform stroke sensor 0 point learning when stroke sensor removed and installed, or replaced. Refer to BR-76, "Work Procedure".
- Perform adjustment after installation. Refer to BR-524, "Inspection and Adjustment".

Inspection and Adjustment

INFOID:0000000008746807

INSPECTION AFTER REMOVAL

- Check the brake pedal assembly for bend, damage, and cracks on the welded parts. If any is found, replace brake pedal assembly.
- 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

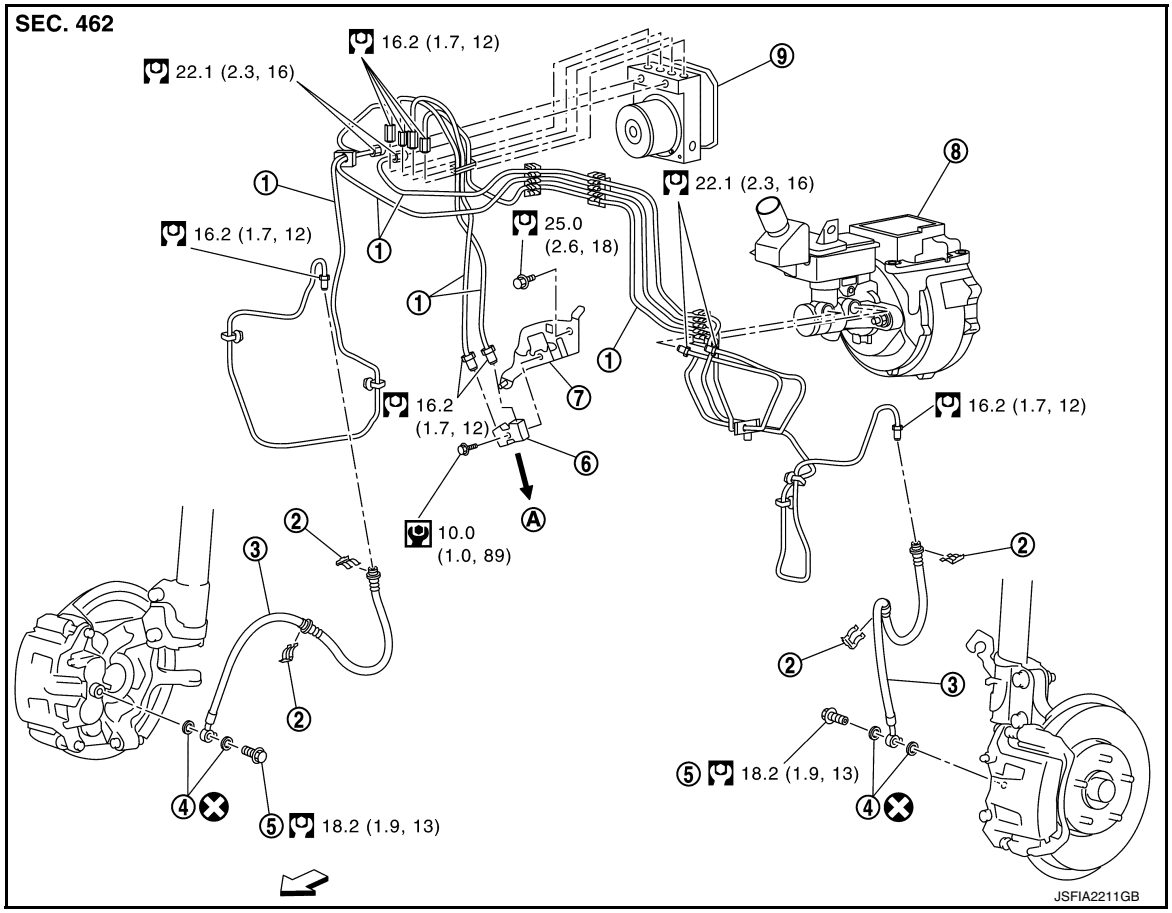
- Adjust each item of brake pedal after installing the brake pedal assembly to the vehicle. Refer to BR-514, "Inspection and Adjustment".
- Perform the release position learning of the accelerator pedal. Refer to EVC-146, "Work Procedure".

BRAKE PIPING

FRONT

FRONT : Exploded View

INFOID:0000000008746808



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)

Ⓐ To rear brake tube

: N·m (kg-m, ft-lb)

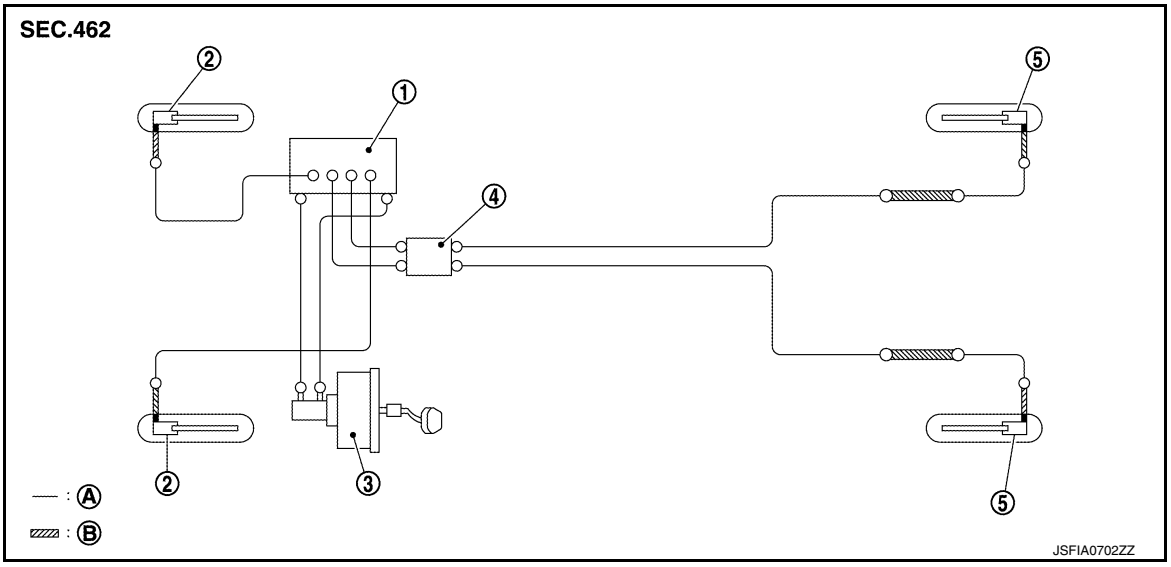
: N·m (kg-m, in-lb)

: Always replace after every disassembly.

: Vehicle front

FRONT : Hydraulic Piping

INFOID:0000000008746809



① ABS actuator and electric unit (control unit)	② Front disc brake	③ Electrically-driven intelligent brake unit
④ Connector	⑤ Rear disc brake	
Ⓐ Brake tube	Ⓑ Brake hose	

◯: Flare nut

■: Union bolt

FRONT : Removal and Installation

INFOID:0000000008746810

REMOVAL

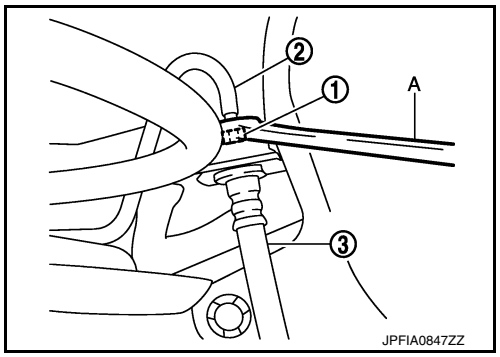
CAUTION:

- **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.**

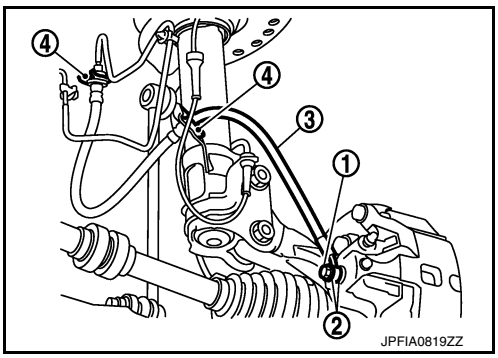
1. Remove tires with power tool.
2. Drain brake fluid. Refer to BR-516, "Draining".
3. Loosen the flare nut ① with a flare nut wrench (A) and separate the brake tube ② from the brake hose ③.

   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.**



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.

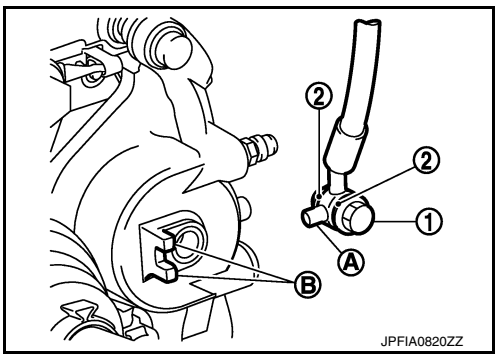


INSTALLATION

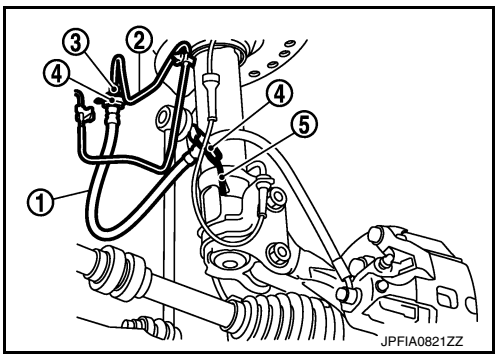
CAUTION:

- **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.**

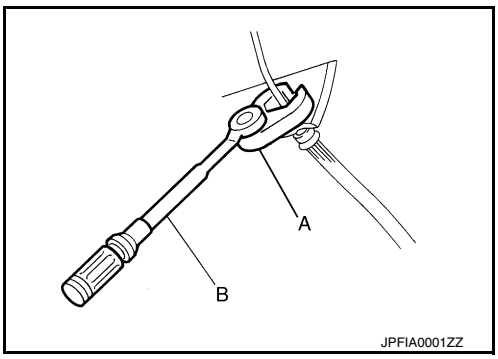
1. Assemble the union bolt ① and the copper washer ② to the brake hose.
   CAUTION:
   To prevent leakage of brake fluid, never reuse the copper washer.
2. Align the brake hose pin Ⓐ with the brake caliper assembly projection Ⓑ, and tighten the union bolt to the specified torque.



3. Install the brake tube ② to the brake hose ①, temporarily tighten the flare nut ③ by hand until it does not rotate further, and fix the brake hose to the bracket ⑤ with the lock plate ④.
   CAUTION:
   To prevent leakage of brake fluid, check that all brake hoses and brake tubes are not twisted and bent.



4. Tighten the flare nut to the specified torque with a crowfoot (A) and torque wrench (B).
   CAUTION:
   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-517, "Bleeding Brake System".
   CAUTION:
   Never reuse drained brake fluid.
6. Install tires with power tool. Refer to WT-49, "Removal and Installation".
7. Perform inspection after installation. Refer to BR-529, "FRONT : Inspection".



FRONT : Inspection

INFOID:0000000008746811

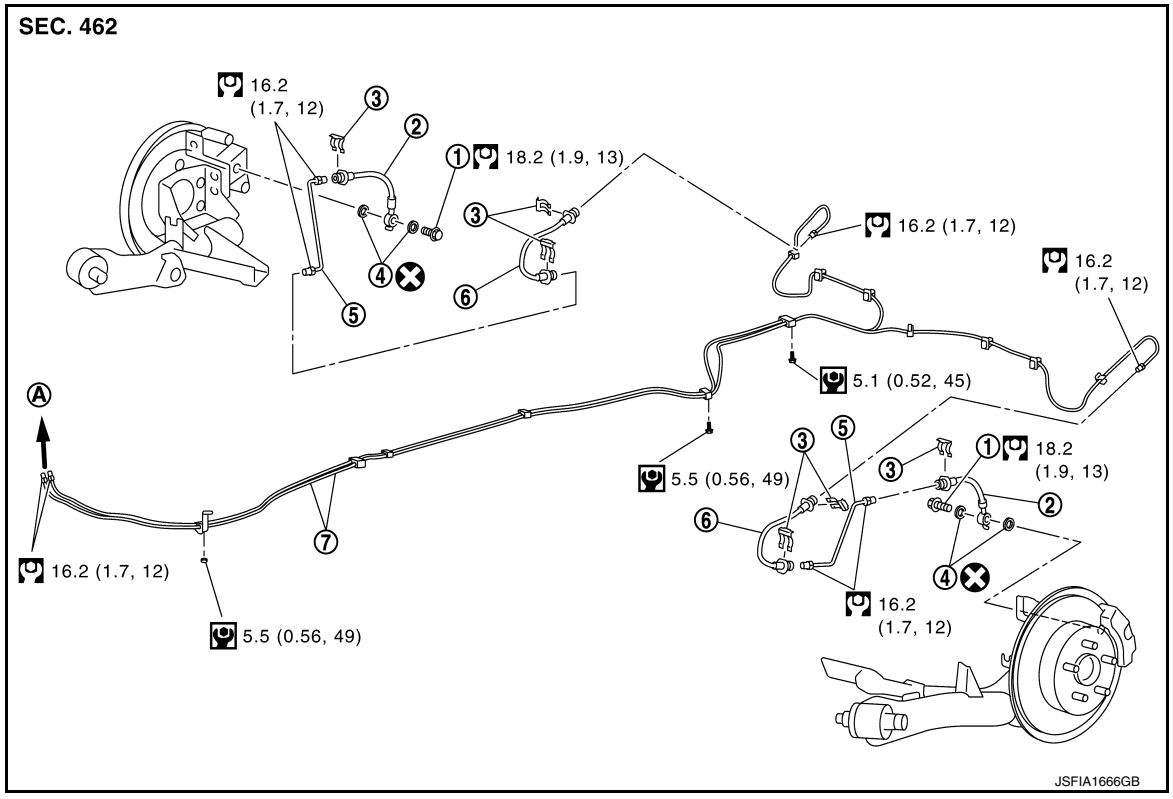
INSPECTION AFTER INSTALLATION

1. Check the brake hoses and tubes for the following: no scratches; no twist and deformation; no interference with other components when steering the steering wheel; no looseness at connections.
2. Depress the brake pedal with a force of 785 N (80 kg, 176 lb) and hold down the pedal for approximately 5 seconds with set the vehicle to READY. Check for any fluid leakage.
   CAUTION:
   Retighten the applicable connection to the specified torque and repair any abnormal (damaged, worn or deformed) part if any brake fluid leakage is present.

REAR

REAR : Exploded View

INFOID:0000000008746812

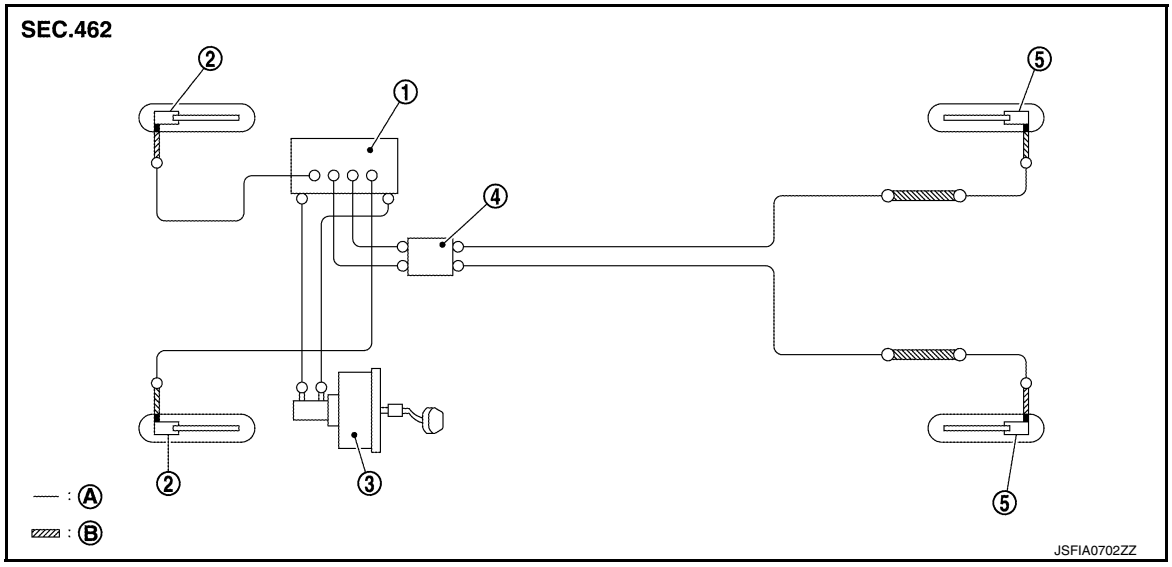


① Union bolt
② Brake hose A
③ Lock plate
④ Copper washer
⑤ Brake tube A
⑥ Brake hose B
⑦ Brake tube B
Ⓐ To connector

: N·m (kg-m, ft-lb)
: N·m (kg-m, in-lb)
: Always replace after every disassembly.

REAR : Hydraulic Piping

INFOID:0000000008746813



① ABS actuator and electric unit (control unit)	② Front disc brake	③ Electrically-driven intelligent brake unit
④ Connector	⑤ Rear disc brake	
Ⓐ Brake tube	Ⓑ Brake hose	

◯: Flare nut

■: Union bolt

REAR : Removal and Installation

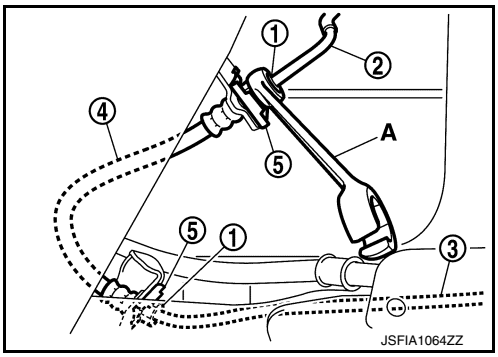
INFOID:0000000008746814

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-516, "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.

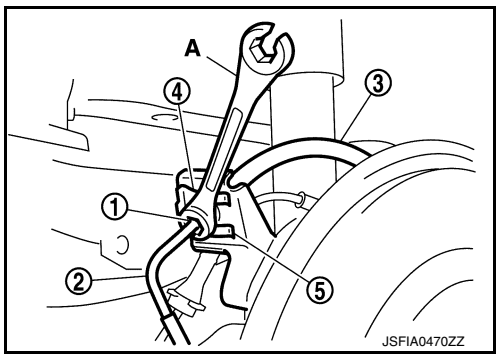


5. Loosen the flare nut ① with a flare nut wrench (A) and separate the brake tube A ② from the hose A ③.

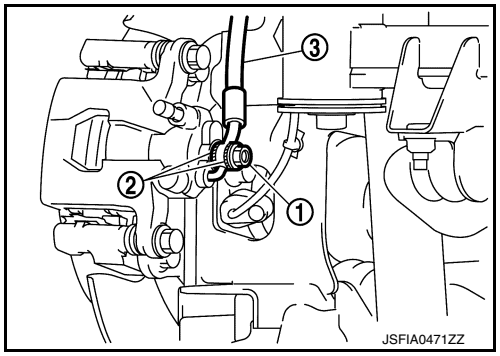
CAUTION:

- **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:

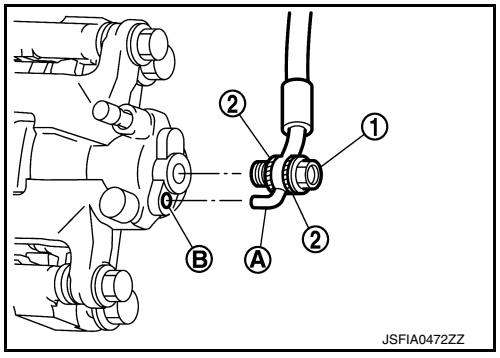
- **Never spill or splash brake fluid on painted surfaces. Brake fluid may seriously damage paint. Wipe it off immediately and wash with water if it gets on a painted surface. For brake component parts, never wash them with water.**
- **Never depress brake pedal. While removing the brake hose or brake 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.

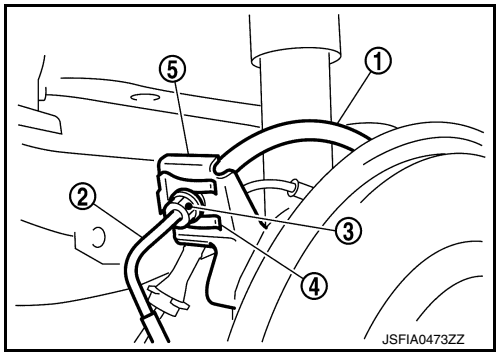
2. Align the brake hose B L-pin Ⓐ with the brake caliper assembly hole Ⓑ, and tighten the union bolt to the specified torque.



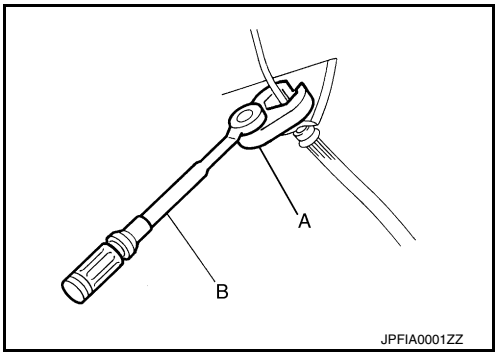
3. Install the brake tube A ② to the brake hose A ①, temporarily tighten the flare nut ③ by hand until it does not rotate further, and fix the brake hose A to the brake hose bracket ⑤ with the lock plate ④.

CAUTION:

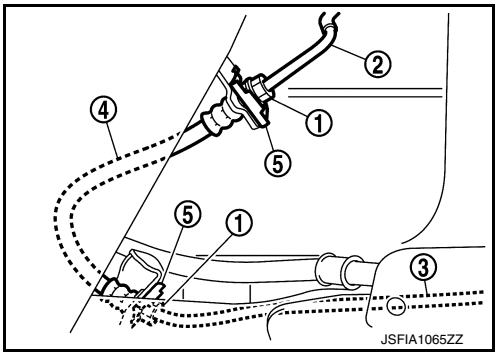
To prevent leakage of brake fluid, check that all brake hoses and brake tubes are not twisted and bent.



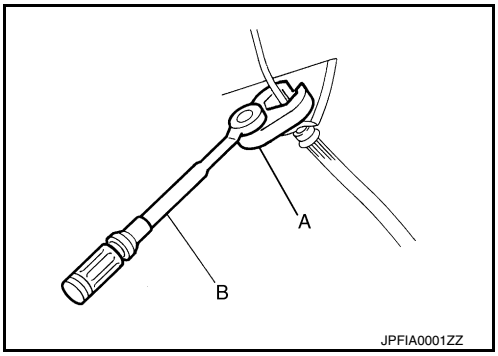
4. Tighten the flare nut to the specified torque with a crowfoot (A) and torque wrench (B).
   CAUTION:
   To prevent damage to the parts, never scratch the flare nut and the brake tube.



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-517, "Bleeding Brake System".
   CAUTION:
   Never reuse drained brake fluid.
8. Install tires with power tool. Refer to WT-49, "Removal and Installation".
9. Perform inspection after installation. Refer to BR-532, "REAR : Inspection".



REAR : Inspection

INFOID:0000000008746815

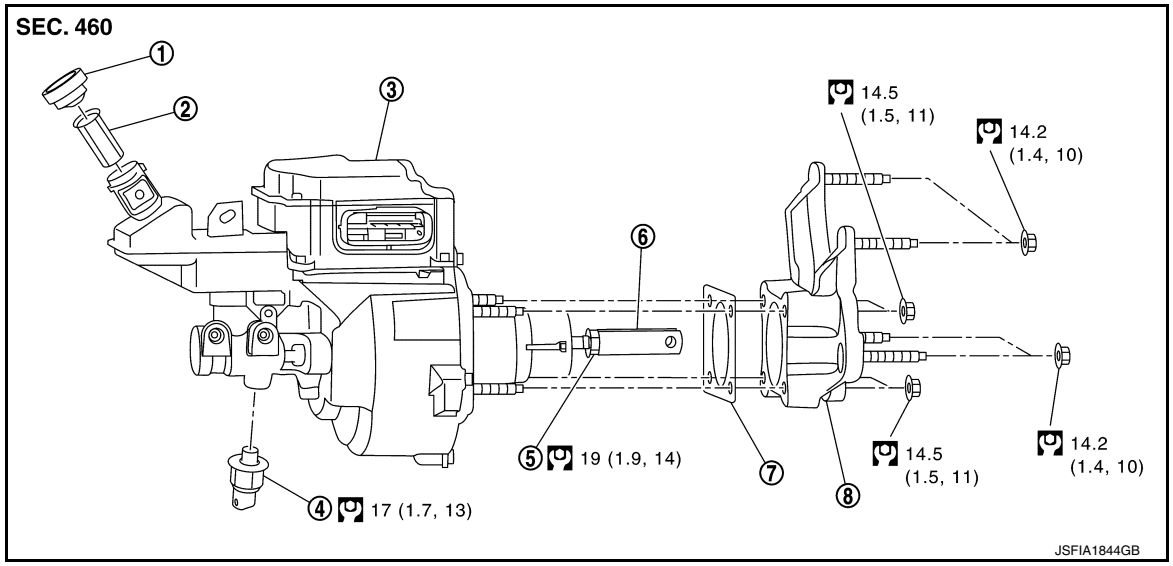
INSPECTION AFTER INSTALLATION

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

Exploded View

INFOID:0000000008746816



① Reservoir cap	② Oil strainer	③ Electrically-driven intelligent brake unit
④ Master cylinder pressure sensor	⑤ Lock nut	⑥ Clevis
⑦ Gasket	⑧ Spacer	

: N·m (kg-m, ft-lb)

Removal and installation

INFOID:0000000008746817

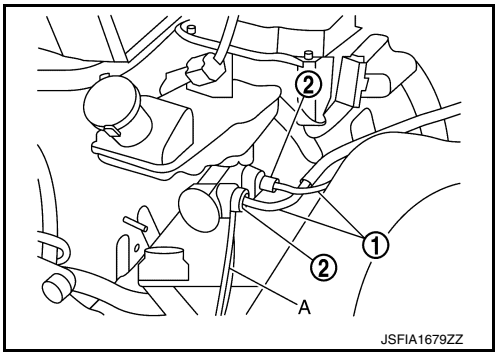
CAUTION:
Never disassemble the electrically-driven intelligent brake unit.

REMOVAL

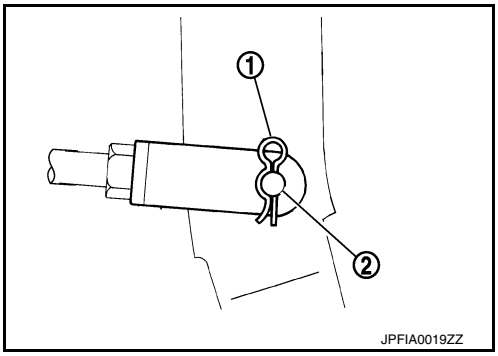
CAUTION:
- **Never spill or splash brake fluid on painted surfaces. Brake fluid may seriously damage paint. Wipe it off immediately and wash with water if it gets on a painted surface. For brake component parts, never wash them with water.**
- **Never depress brake pedal. While removing the brake tube. If this is not complied with, brake fluid may splash.**

1. Perform inspection before removal. Refer to BR-535, "Inspection and Adjustment".
2. Turn the power switch OFF to exit CONSULT.
3. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
4. Remove 12V battery. Refer to PG-65, "Removal and Installation".
5. Move the fuse box.
6. Drain brake fluid. Refer to BR-516, "Draining".
7. Remove cowl top cover. Refer to EXT-19, "Removal and Installation".
8. Remove wiper drive assembly. Refer to WW-59, "Removal and Installation".
9. Remove cowl top extension. Refer to EXT-19, "Removal and Installation".
10. Disconnect the brake fluid level switch harness connector.
11. Disconnect the master cylinder pressure sensor harness connector.

12. Separate the brake tube ① from electrically-driven intelligent brake unit with a flare nut wrench (A).
CAUTION:
To prevent damage to the parts, never scratch the flare nut ② and the brake tube.

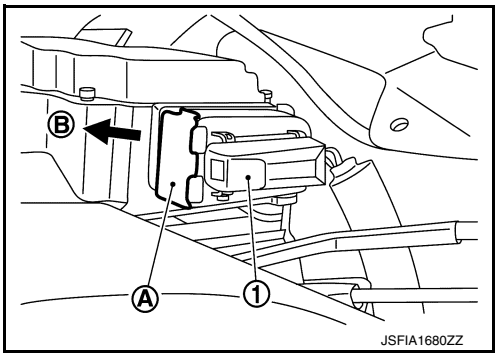


13. Remove snap pin ① and clevis pin ②. Refer to BR-523, "Removal and Installation".



14. Disconnect electrically-driven intelligent brake unit harness connector, follow the procedure described below.

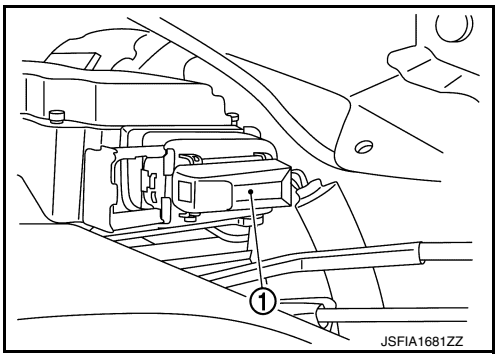
a. Pull the lever Ⓐ of electrically-driven intelligent brake unit harness connector ① in the direction Ⓑ.



b. Disconnect electrically-driven intelligent brake unit harness connector ①.

15. Remove nuts on electrically-driven intelligent brake unit and brake pedal assembly.
CAUTION:
To prevent damage to the parts, hold the electrically-driven intelligent brake unit so as to avoid dropping out.

16. Remove electrically-driven intelligent brake unit.
CAUTION:
To prevent damage to the parts, never deform or bend the brake tubes.



17. Remove master cylinder pressure sensor.
18. Remove spacer and gasket from electrically-driven intelligent brake unit.
19. Perform inspection after removal. Refer to BR-535, "Inspection and Adjustment".

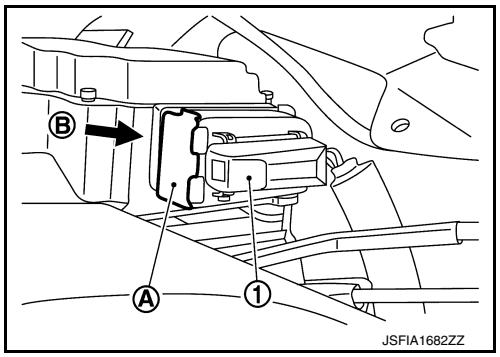
INSTALLATION

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 flare nut of brake tube to the electrically-driven intelligent brake unit by hand. Then tighten it to the specified torque with a crowfoot and torque wrench.
- Never reuse the clevis pin.
- After installing the electrically-driven intelligent brake unit harness connector ①, move the lever Ⓐ in the direction Ⓑ to secure the locking.
- Perform the air bleeding. Refer to BR-517, "Bleeding Brake System".
- Check each item of brake pedal. Adjust it if the measurement value is not the standard. Refer to BR-514, "Inspection and Adjustment".
- Perform stroke sensor 0 point learning when electrically-driven intelligent brake unit is removed and installed, or replaced. Refer to BR-76, "Work Procedure".



Inspection and Adjustment

INFOID:0000000008746818

INSPECTION BEFORE REMOVAL

Check the brake fluid level switch. Refer to BRC-132, "Component Inspection".

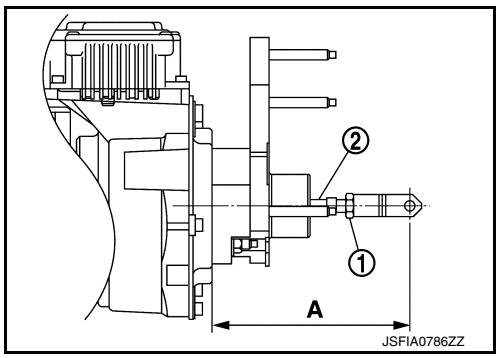
INSPECTION AFTER REMOVAL

Input Rod Length Inspection

1. Loosen the lock nut ① and adjust the input rod ② to the specified length (A).

   A : Refer to BR-556, "Electrically-driven Intelligent Brake".

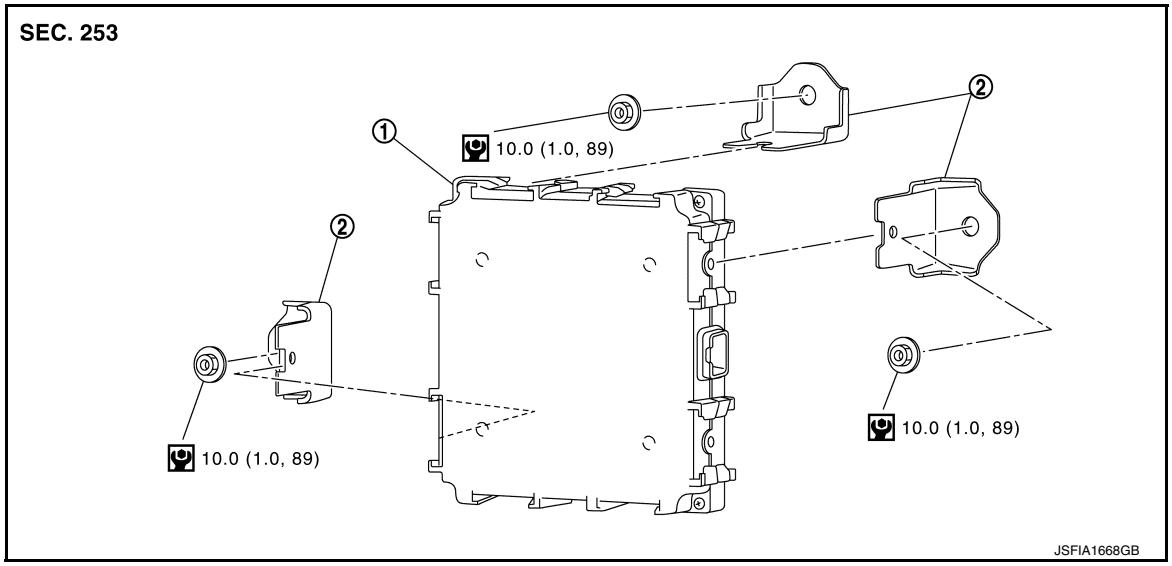
2. Tighten the lock nut to the specified torque.



BRAKE POWER SUPPLY BACKUP UNIT

Exploded View

INFOID:0000000008746819



① Brake power supply backup unit ② Bracket

: N·m (kg-m, in-lb)

Removal and Installation

INFOID:0000000008746820

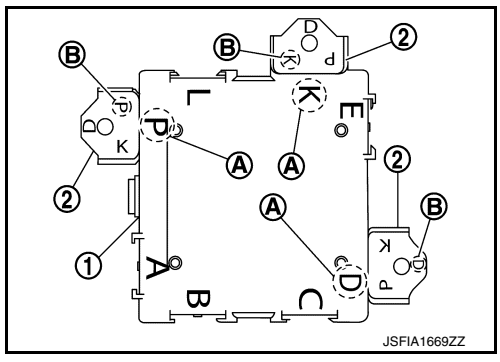
REMOVAL

1. Turn the power switch OFF to exit CONSULT.
2. Close all doors (including back door), check that the room lamp is OFF, get out of the vehicle, and wait for 3 minutes or more with all doors closed.
   CAUTION:
   Never operate the vehicle and CONSULT while waiting.
3. Remove luggage side lower finisher LH. Refer to INT-43, "LUGGAGE SIDE LOWER FINISHER : Removal and Installation".
4. Disconnect brake power supply backup unit harness connector.
5. Remove brake power supply backup unit and bracket.
   CAUTION:
   To prevent damage to the parts, never drop removed parts.
6. Remove bracket from brake power supply backup unit.

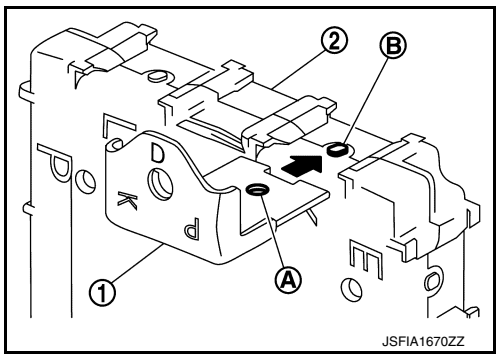
INSTALLATION

Note the following, and install in the reverse order of removal.

- Align the direction of mark Ⓐ located on the back of brake power supply backup unit ① with that of mark Ⓑ on bracket ②.



- To install bracket ① to brake power supply backup unit ②, securely insert the bracket until protrusion Ⓑ of the brake power supply unit protrudes from lock hole Ⓐ of the bracket.



WARNING BUZZER

Removal and Installation

INFOID:0000000008746821

REMOVAL

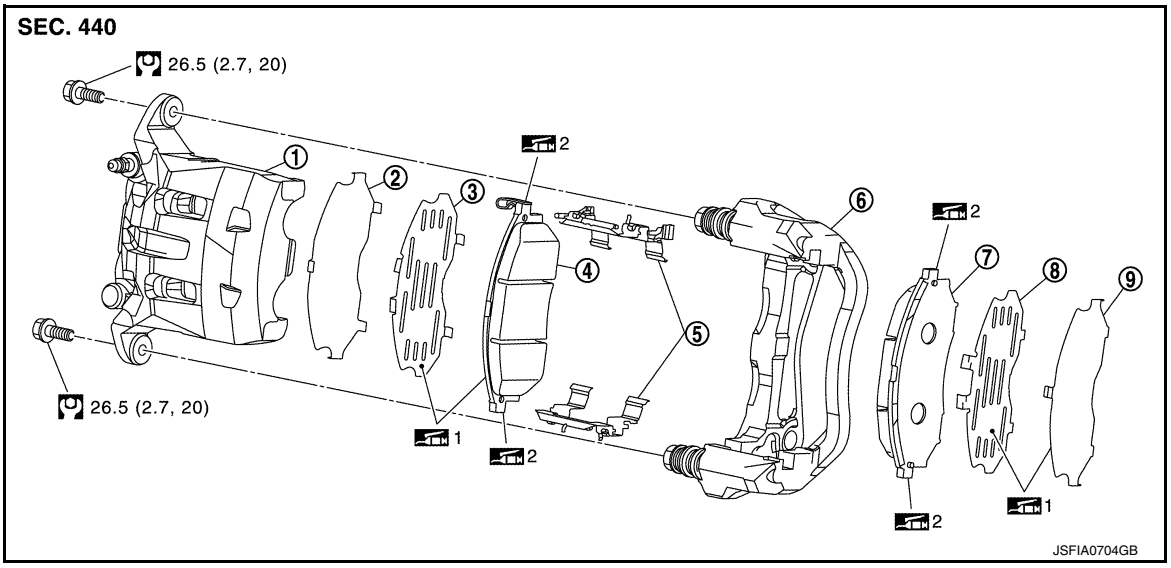
1. Remove glove box cover assembly. Refer to IP-17, "Removal and Installation".
2. Disconnect warning buzzer harness connector.
3. Remove warning buzzer.

INSTALLATION

Install in the reverse order of removal.

FRONT DISC BRAKE
BRAKE PAD
BRAKE PAD : Exploded View

INFOID:0000000008746822



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)

Molykote is a registered trademark of Dow Corning Corporation.

BRAKE PAD : Removal and Installation

INFOID:0000000008746823

REMOVAL

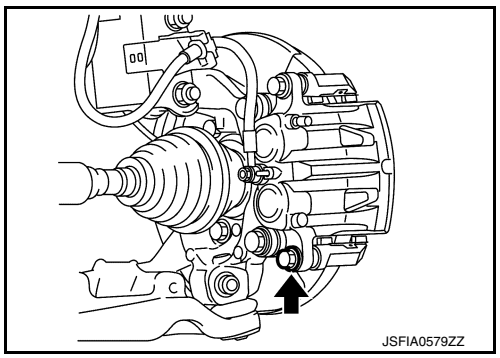
WARNING:

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.

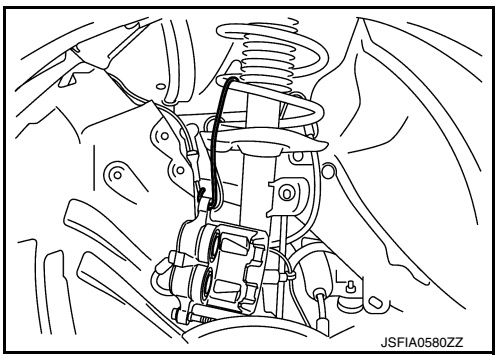
CAUTION:

- **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.**

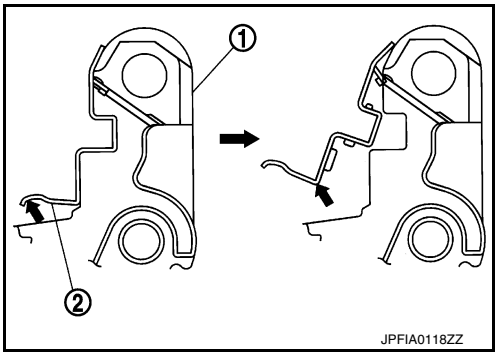
1. Remove tires with power tool.
2. Remove lower sliding pin bolt.



3. Remove cylinder body from torque member, and suspend the cylinder body with suitable wire so that the brake hose will not stretch.



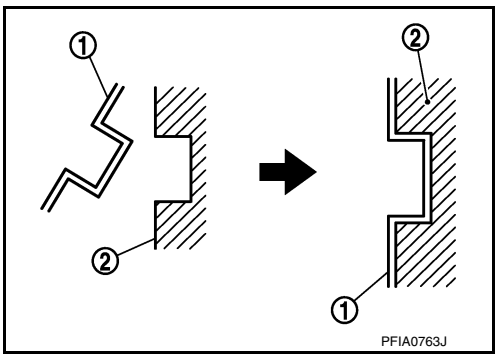
4. Remove the brake pads, shims, shim covers and pad retainers from the torque member.
   CAUTION:
   - **To prevent damage to the parts, never deform the pad retainer ② when removing the pad retainer from the torque member ①.**
   - **Never damage the piston boot.**
   - **To prevent damage to the parts, 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-541, "BRAKE PAD : Inspection".



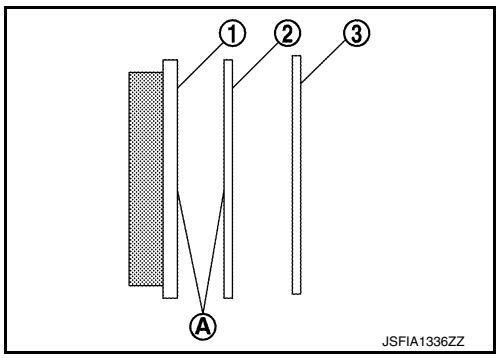
INSTALLATION

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.**

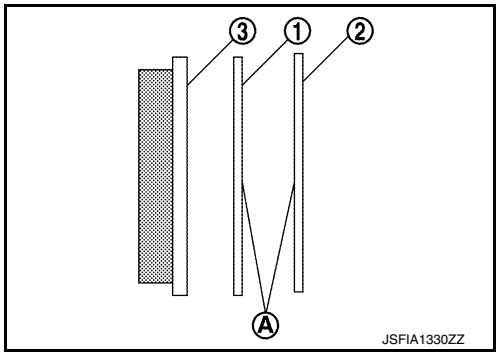
1. Install the pad retainers ① to the torque member ② if the pad retainers has been removed.
   CAUTION:
   - **Securely assemble the pad retainers so that it will not be lifted up from the torque member.**
   - **To prevent damage to the parts, never deform the pad retainers.**



2. Apply MOLYKOTE® AS880N or silicone-based grease to the mating faces Ⓐ between the inner pad ① and the inner shim ②, and install the inner shim and inner shim cover ③ to the inner pad.
CAUTION:
Always replace the shim together with the shim cover when replacing the brake pad.
Molykote is a registered trademark of Dow Corning Corporation.

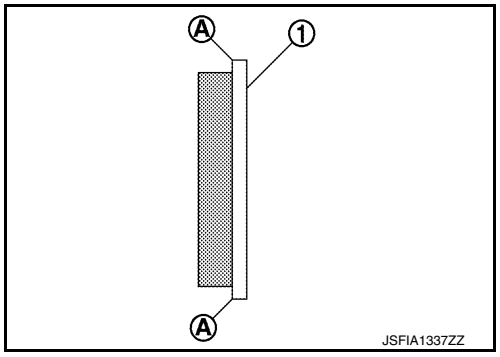


3. Apply MOLYKOTE® AS880N or silicone-based grease to the mating faces Ⓐ between the outer shim cover ② and the outer shim ①, and install the outer shim and outer shim cover to the outer pad ③.
CAUTION:
Always replace the shim together with the shim cover when replacing the brake pad.
Molykote is a registered trademark of Dow Corning Corporation.

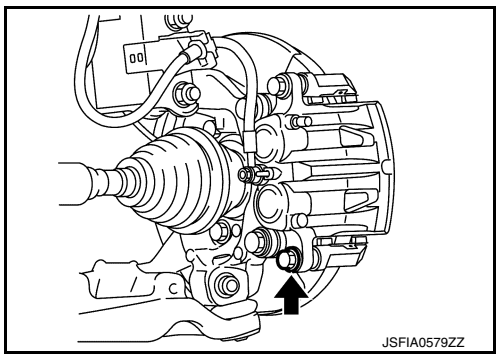


4. Apply MOLYKOTE® 7439 or equivalent to the mating faces Ⓐ between the outer pad ① and the pad retainers.
Molykote is a registered trademark of Dow Corning Corporation.
5. Install the brake pads to the torque member.
CAUTION:
To prevent damage to the parts, never deform the pad retainers.
6. Install 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.



7. Install the lower sliding pin bolt and tighten it to the specified torque.
8. Depress the brake pedal several times to check that no drag feel is present for the front disc brake. Refer to BR-541, "BRAKE PAD : Inspection".
9. Install tires with power tool. Refer to WT-49, "Removal and Installation".



BRAKE PAD : Inspection

INFOID:0000000008746824

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-539, "BRAKE PAD : Removal and Installation".
2. Press the pistons. Refer to BR-539, "BRAKE PAD : Removal and Installation".
3. Install brake pads. Refer to BR-539, "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-544, "BRAKE CALIPER ASSEMBLY : Disassembly and Assembly"

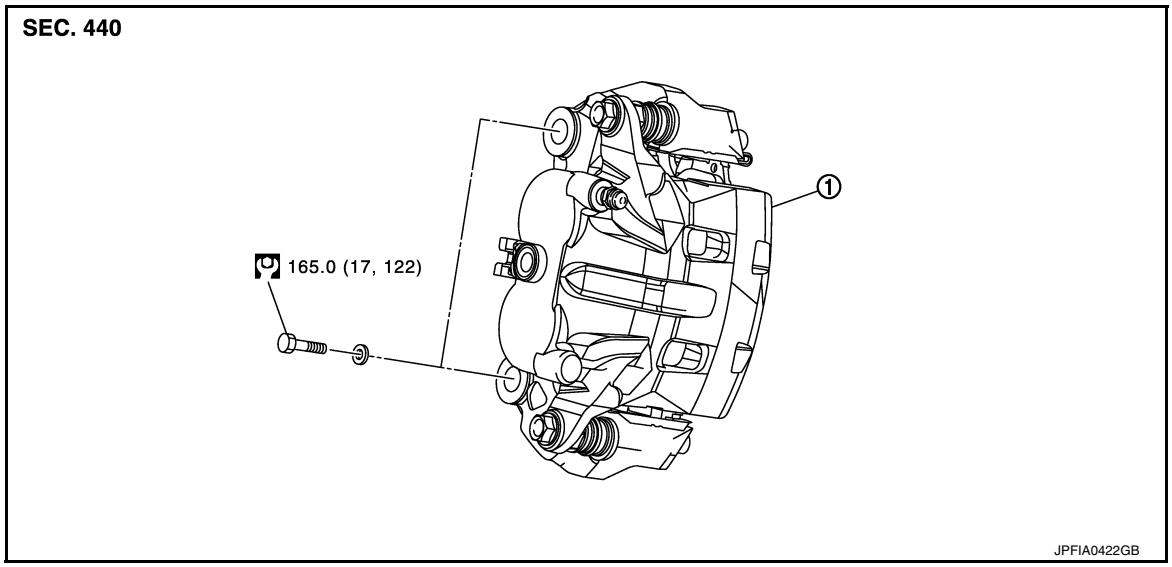
- Burnish contact surfaces brake pads and disc rotor after refinishing or replacing brake pads, or if a soft pedal occurs at very low mileage. Refer to BR-519, "BRAKE PAD : Inspection and Adjustment".

BRAKE CALIPER ASSEMBLY

BRAKE CALIPER ASSEMBLY : Exploded View

INFOID:0000000008746825

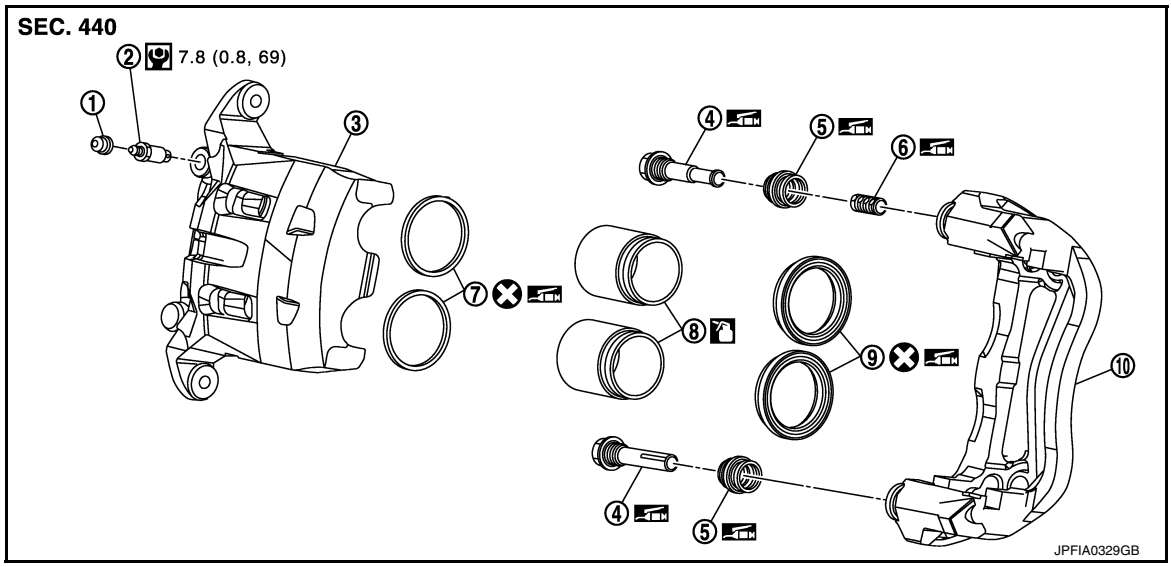
REMOVAL



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.

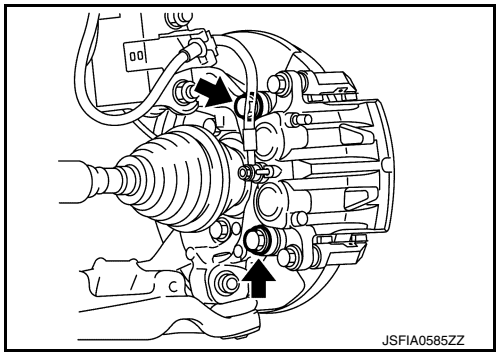
BRAKE CALIPER ASSEMBLY : Removal and Installation

INFOID:0000000008746826

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.**

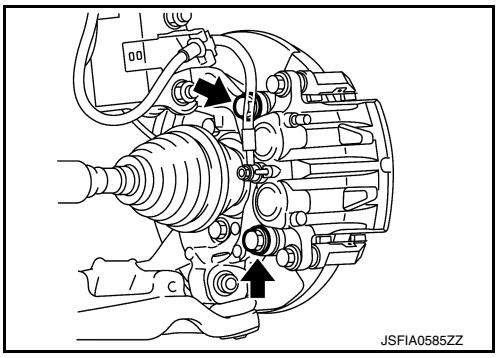
1. Remove tires with power tool.
2. Fix the disc rotor using wheel nuts.
3. Drain brake fluid. Refer to BR-516, "Draining".
4. Separate brake hose from caliper assembly. Refer to BR-527, "FRONT : Removal and Installation".
5. Remove torque member mounting bolts, and remove brake caliper assembly.
   CAUTION:
   To prevent damage to the parts, never drop brake pad and caliper assembly.
6. When removing disc rotor. Refer to FAX-9, "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-9, "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-527, "FRONT : Removal and Installation".
4. Perform the air bleeding. Refer to BR-517, "Bleeding Brake System".
5. Check a drag of front disc brake. If any drag is found, refer to BR-546, "BRAKE CALIPER ASSEMBLY : Inspection".
6. Install tires with power tool. Refer to WT-49, "Removal and Installation".
7. Perform inspection after installation. Refer to BR-546, "BRAKE CALIPER ASSEMBLY : Inspection".

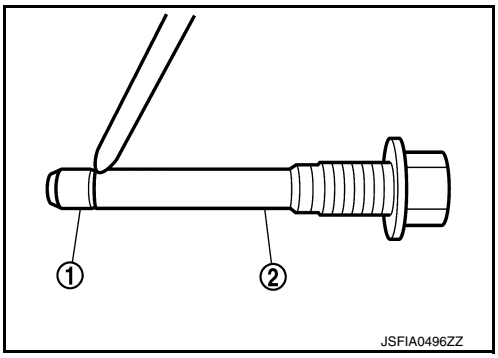
BRAKE CALIPER ASSEMBLY : Disassembly and Assembly

INFOID:0000000008746827

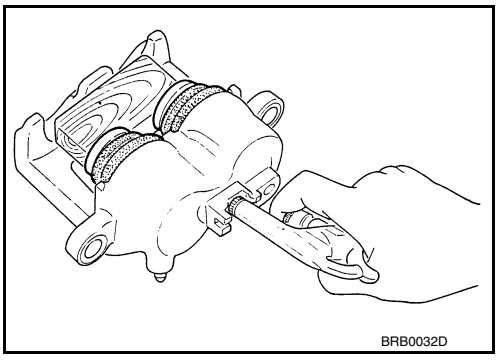
DISASSEMBLY

NOTE:
Never remove the torque member, brake pad and pad retainers when disassembling and assembling the cylinder body.

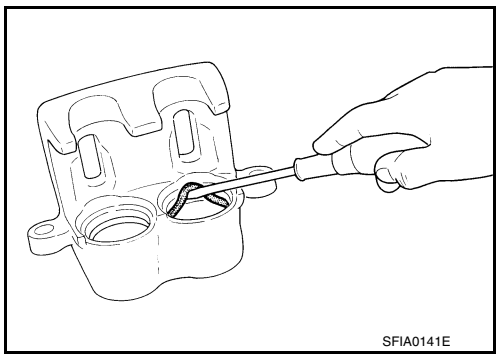
1. Remove the sliding pin bolt, and remove the cylinder body from the torque member. Refer to BR-539, "BRAKE PAD : Removal and Installation".
   CAUTION:
   To prevent damage to the parts, fix the brake pad at suitable tape so that the brake pad will not drop.
2. Remove sliding pins and sliding pin boots 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.

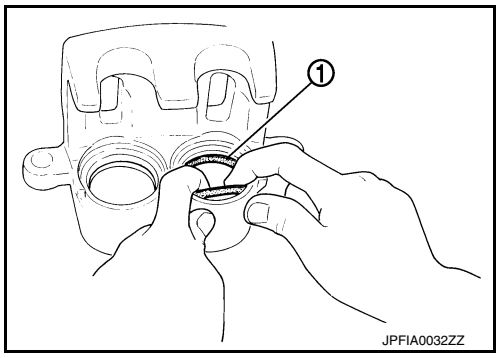


5. Remove piston seal from cylinder body using seal pick tool.
CAUTION:
To prevent damage to the parts, be careful not to damage a cylinder inner wall.
6. Remove bleeder valve and cap.
7. Perform inspection after disassembly. Refer to BR-546, "BRAKE CALIPER ASSEMBLY : Inspection".


SFIA0141E

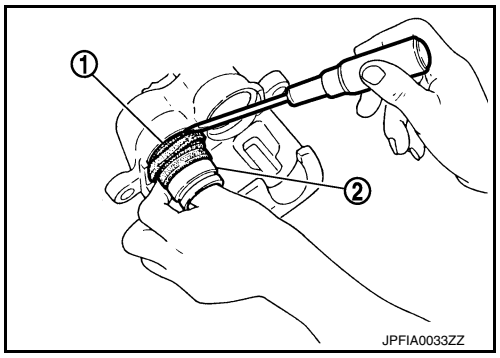
ASSEMBLY

1. Install bleeder valve and cap.
2. Apply rubber grease to piston seals ①, and install them to cylinder body.
CAUTION:
Never reuse piston seals.



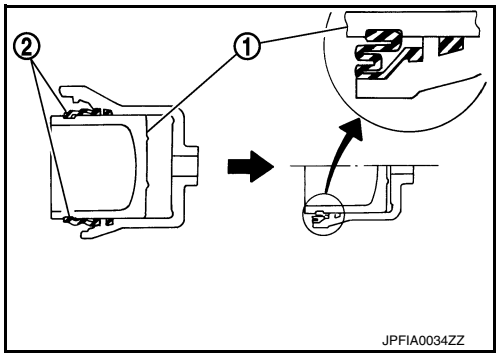
JPFIA0032ZZ

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.



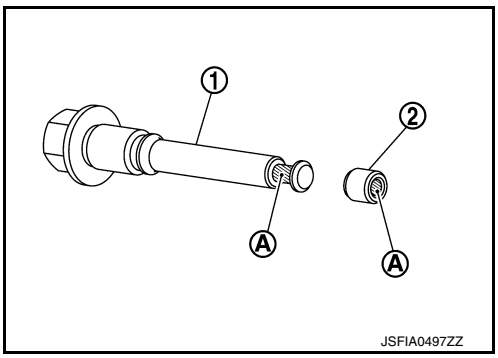
JPFIA0033ZZ

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.

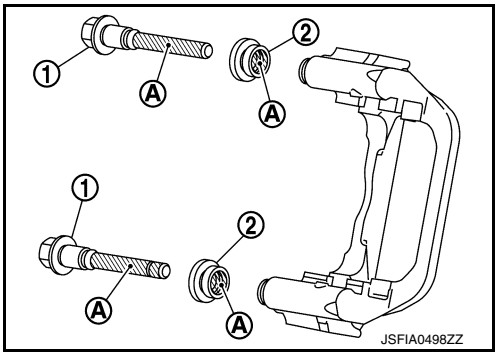


JPFIA0034ZZ

5. Apply rubber grease to mating faces Ⓐ between sliding pin ① and bushing ②, and install bushing to sliding pin.



6. Apply rubber grease to mating faces Ⓐ 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-539, "BRAKE PAD : Exploded View".



BRAKE CALIPER ASSEMBLY : Inspection

INFOID:0000000008746828

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-539, "BRAKE PAD : Removal and Installation".
2. Press the pistons. Refer to BR-539, "BRAKE PAD : Removal and Installation".
3. Install brake pads. Refer to BR-539, "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-544, "BRAKE CALIPER ASSEMBLY : Disassembly and Assembly".

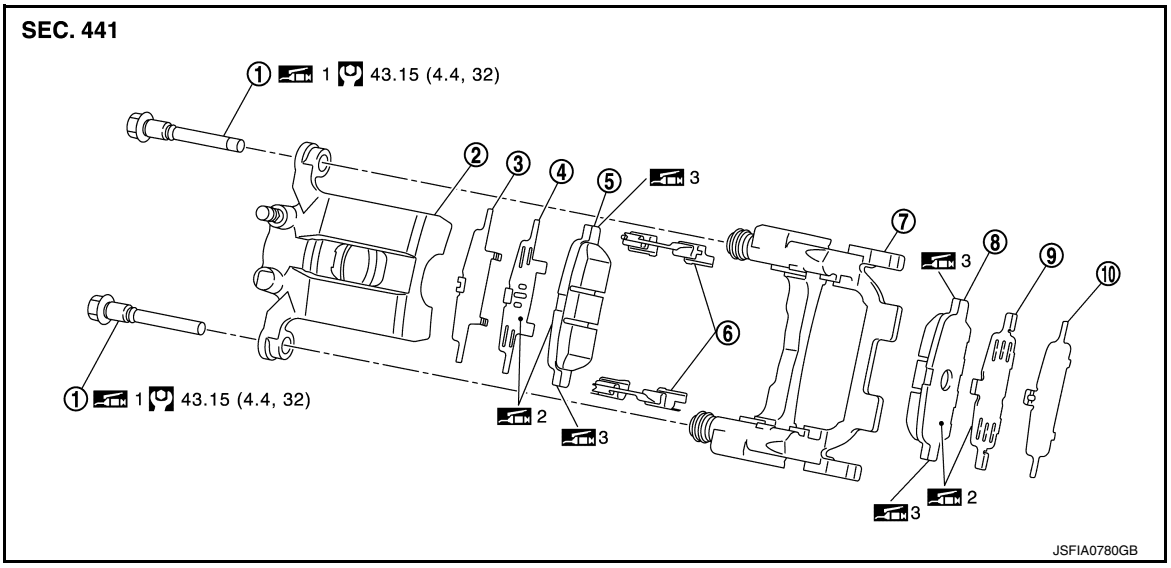
- Burnish contact surface between disc rotor and brake pads after refinishing or replacing disc rotor, or if a soft pedal occurs at very low mileage. Refer to BR-519, "DISC ROTOR : Inspection and Adjustment".

REAR DISC BRAKE

BRAKE PAD

BRAKE PAD : Exploded View

INFOID:0000000008746829



① Sliding pin bolt
② Cylinder body
③ Inner shim cover
④ Inner shim
⑤ Inner pad (with pad wear sensor)
⑥ Pad retainer
⑦ Torque member
⑧ Outer pad
⑨ Outer shim
⑩ Outer shim cover

1 Apply rubber grease.

2: Apply MOLYKOTE® AS880N or silicone-based grease.

3: Apply MOLYKOTE® 7439 or equivalent

: N·m (kg-m, ft-lb)

Molykote is a registered trademark of Dow Corning Corporation.

BRAKE PAD : Removal and Installation

INFOID:0000000008746830

REMOVAL

WARNING:

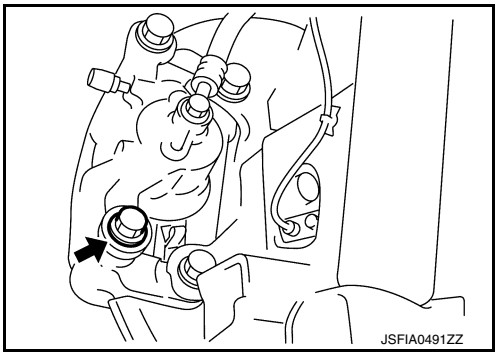
Since dust covering the front and rear brakes has an affect on human body, the dust must be removed with a dust collector. Never splatter the dust with an air blow gun.

CAUTION:

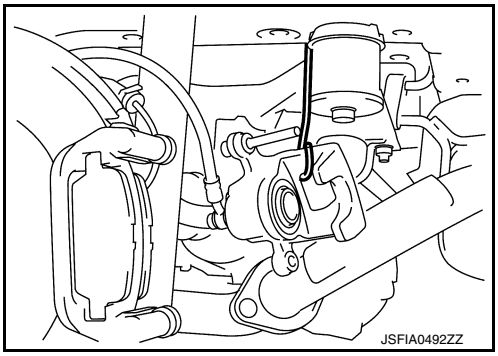
- **Never depress brake pedal. While removing the brake pads because the piston may pop out.**
- **To prevent damage to the parts, never spill or splash brake fluid on the disc rotor.**
- **To prevent damage to the parts, if the brake fluid or grease adheres to the disc rotor, quickly wipe it off.**

1. Remove tires with power tool.

2. Remove lower sliding pin bolt.



3. Remove cylinder body from torque member, and suspend the cylinder body with suitable wire so that the brake hose will not stretch.

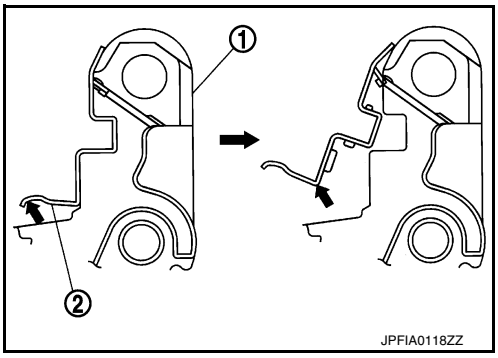


4. Remove the brake pads, shims, shim covers and pad retainers from the torque member.

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-549, "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.

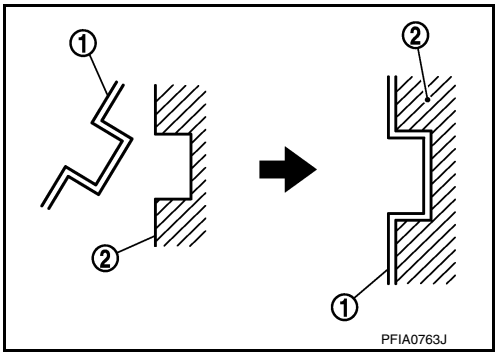
CAUTION:

- **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.**

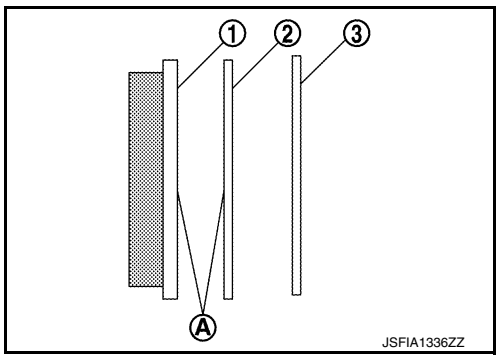
1. Install the pad retainers ① to the torque member ② if the pad retainers has been removed.

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.**

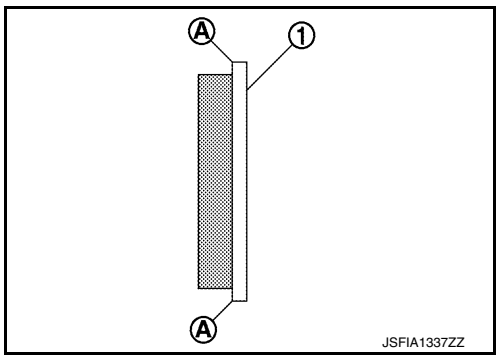


2. Apply MOLYKOTE® AS880N or silicone-based grease to the mating faces Ⓐ between the brake pads ① and the shims ②, and install the shims and shim covers ③ to the brake pad.
CAUTION:
Always replace the shim together with the shim cover when replacing the brake pad.
Molykote is a registered trademark of Dow Corning Corporation.

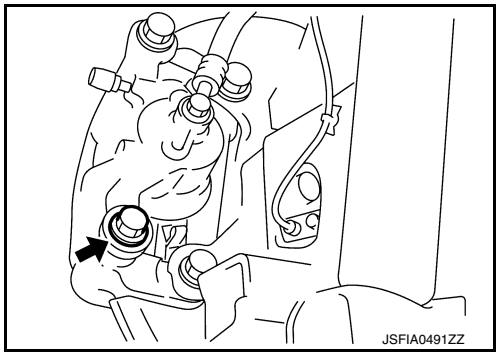


3. Apply MOLYKOTE® 7439 or equivalent to the mating faces Ⓐ between the brake pads ① and the pad retainers.
Molykote is a registered trademark of Dow Corning Corporation.
4. Install the brake pads to the torque member.
CAUTION:
To prevent damage to the parts, never deform the pad retainers.
5. Install 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-549, "BRAKE PAD : Inspection".
8. Install tires with power tool. Refer to WT-49, "Removal and Installation".



BRAKE PAD : Inspection

INFOID:0000000008746831

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-547, "BRAKE PAD : Removal and Installation".
2. Press the pistons. Refer to BR-547, "BRAKE PAD : Removal and Installation".
3. Install brake pads. Refer to BR-547, "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-552, "BRAKE CALIPER ASSEMBLY : Disassembly and Assembly"

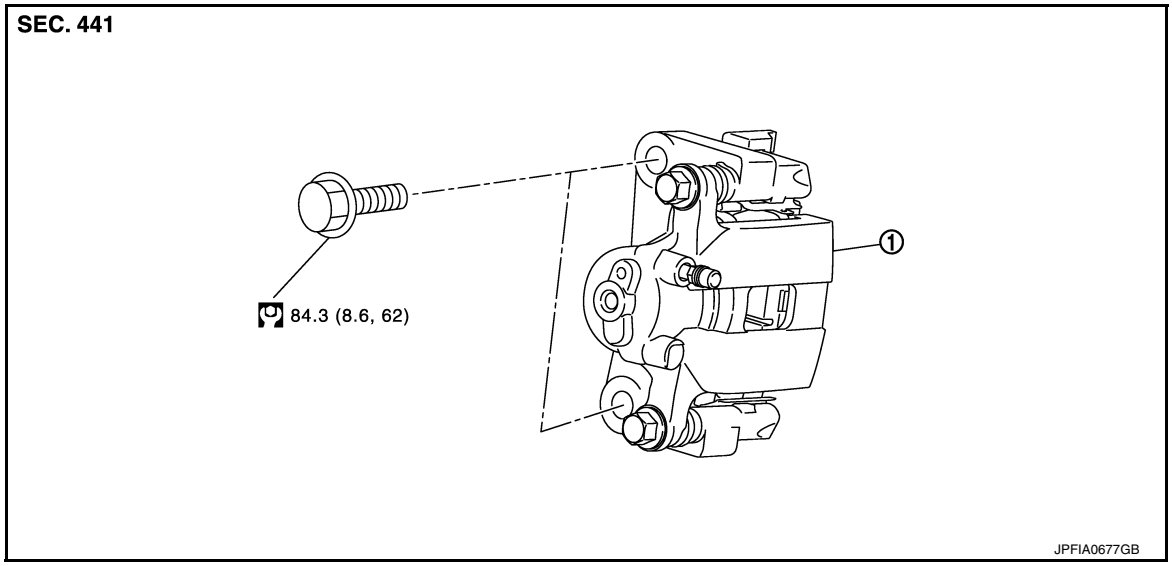
- Burnish contact surfaces brake pads and disc rotor after refinishing or replacing brake pads, or if a soft pedal occurs at very low mileage. Refer to BR-521, "BRAKE PAD : Inspection and Adjustment".

BRAKE CALIPER ASSEMBLY

BRAKE CALIPER ASSEMBLY : Exploded View

INFOID:0000000008746832

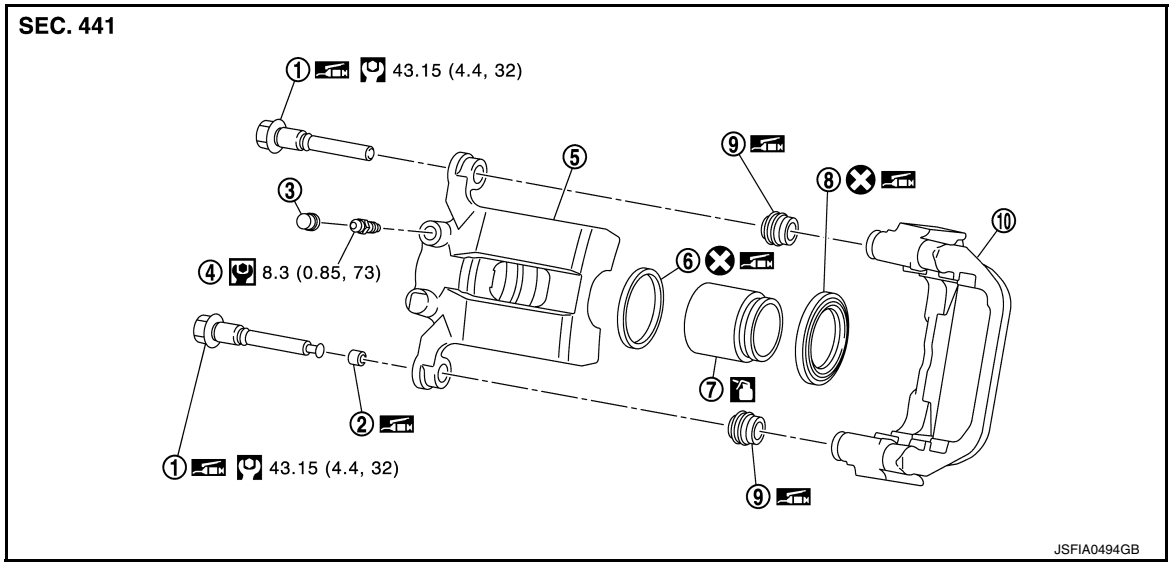
REMOVAL



① Brake caliper assembly

: N·m (kg-m, ft-lb)

DISASSEMBLY



① Sliding pin bolt
② Bushing
③ Cap
④ Bleeder valve
⑤ Cylinder body
⑥ Piston seal
⑦ Piston
⑧ Piston boot
⑨ Sliding pin boot
⑩ Torque member

: Apply rubber grease.

: Apply brake fluid.

: N·m (kg-m, ft-lb)

: N·m (kg-m, in-lb)

: Always replace after every disassembly.

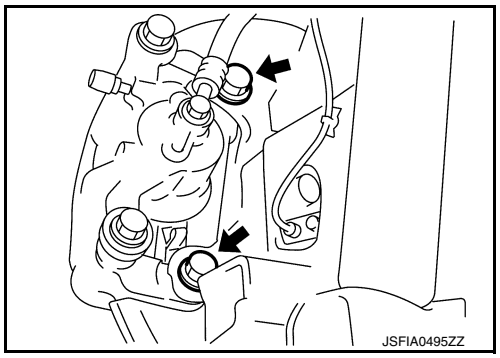
BRAKE CALIPER ASSEMBLY : Removal and Installation

INFOID:0000000008746833

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-516, "Draining".
4. Separate brake hose from caliper assembly. Refer to BR-530, "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-7, "Removal and Installation".

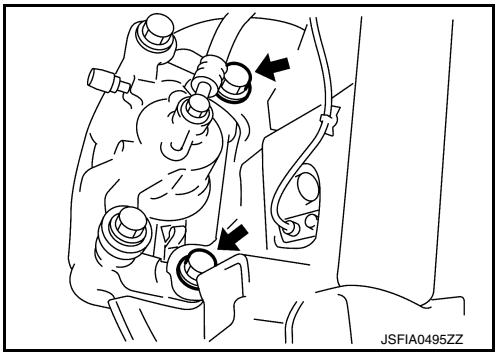


INSTALLATION

WARNING:
Since dust covering the front and rear brakes has an affect on human body, the dust must be removed with a dust collector. 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-7, "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-530, "REAR : Removal and Installation".
4. Perform the air bleeding. Refer to BR-517, "Bleeding Brake System".
5. Check a drag of rear disc brake. If any drag is found, refer to BR-549, "BRAKE PAD : Inspection".
6. Install tires with power tool. Refer to WT-49, "Removal and Installation".
7. Perform inspection after installation. Refer to BR-554, "BRAKE CALIPER ASSEMBLY : Inspection".

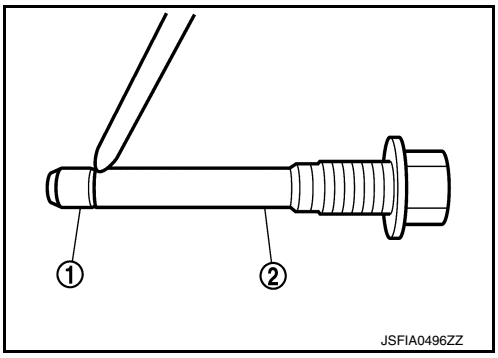
BRAKE CALIPER ASSEMBLY : Disassembly and Assembly

INFOID:0000000008746834

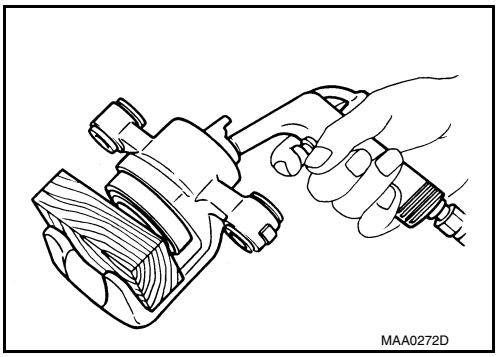
DISASSEMBLY

NOTE:
Never remove the torque member, brake pad and pad retainers when disassembling and assembling the cylinder body.

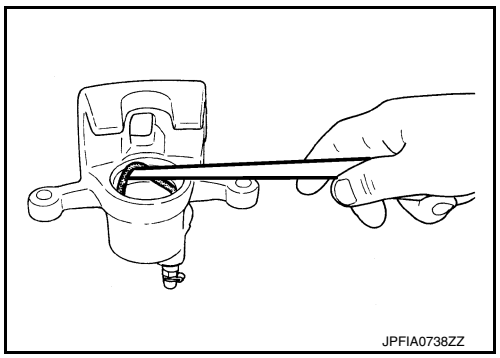
1. Remove the sliding pin bolt, and remove the cylinder body from the torque member. Refer to BR-547, "BRAKE PAD : Removal and Installation".
CAUTION:
To prevent damage to the parts, fix the brake pad at suitable tape so that the brake pad will not drop.
2. Remove sliding pin boots from torque member.
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.

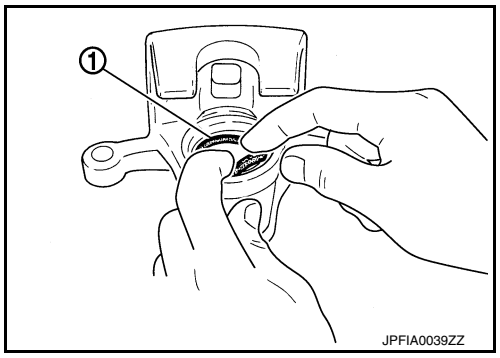


5. Remove piston seal from cylinder body using seal pick tool.
CAUTION:
To prevent damage to the parts, be careful not to damage a cylinder inner wall.
6. Remove bleeder valve and cap.
7. Perform inspection after disassembly. Refer to BR-554, "BRAKE CALIPER ASSEMBLY : Inspection".

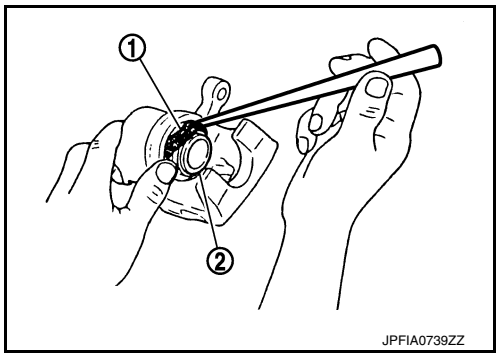


ASSEMBLY

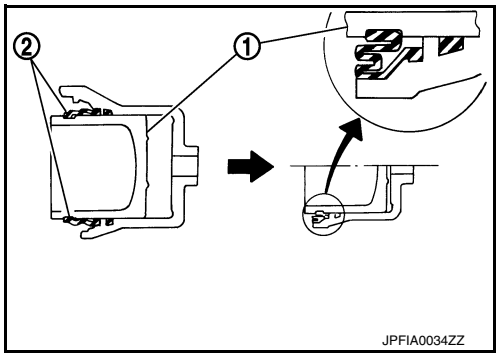
1. Install bleeder valve and cap.
2. Apply rubber grease to piston seals ①, and install them to cylinder body.
CAUTION:
Never reuse piston seals.



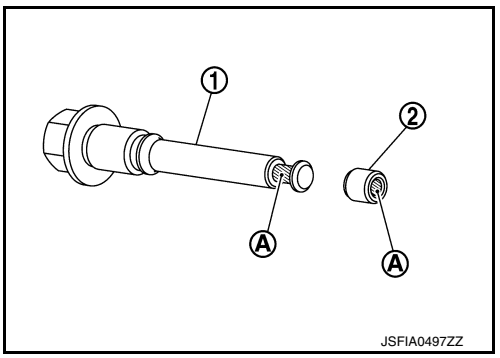
3. Apply rubber grease to piston boots ①. Cover the piston ② end with piston boot, and then install cylinder side lip on piston boot securely into a groove on cylinder body.
CAUTION:
Never reuse piston boots.



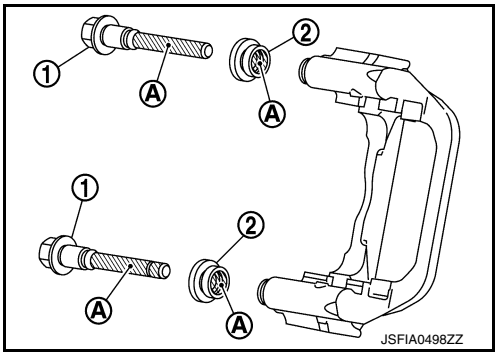
4. Apply new brake fluid to pistons ①. Push piston into cylinder body by hand and push piston boot ② piston-side lip into the piston groove.
CAUTION:
To prevent damage to the parts, press the pistons evenly and vary the pressing point to prevent cylinder inner wall from being rubbed.



5. Apply rubber grease to mating faces Ⓐ between sliding pin bolt ① and bushing ②, and install bushing to sliding pin.



6. Apply rubber grease to mating faces Ⓐ 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-547, "BRAKE PAD : Exploded View".



BRAKE CALIPER ASSEMBLY : Inspection

INFOID:0000000008746835

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-547, "BRAKE PAD : Removal and Installation".
2. Press the pistons. Refer to BR-547, "BRAKE PAD : Removal and Installation".
3. Install brake pads. Refer to BR-547, "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-552, "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-521, "DISC ROTOR : Inspection and Adjustment".

SERVICE DATA AND SPECIFICATIONS (SDS)

SERVICE DATA AND SPECIFICATIONS (SDS)

General Specifications

INFOID:0000000008746836

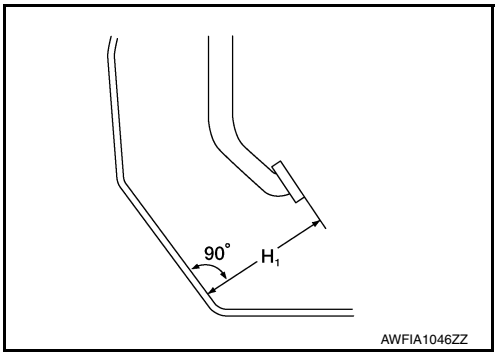
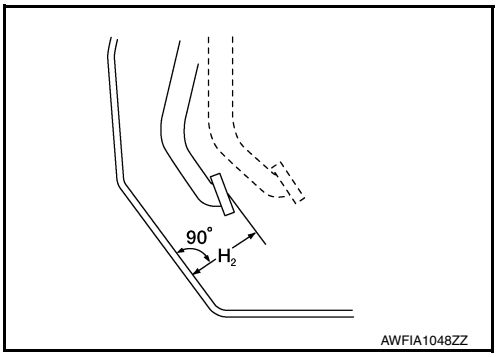
Unit: mm (in)

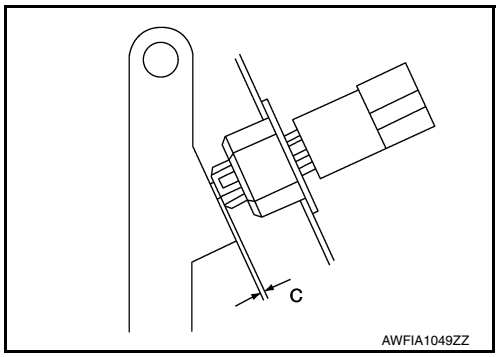
Front brake	Cylinder bore diameter	45.0 (1.772) × 2
	Pad length × width × thickness	140.0 × 48.0 × 9.5 (5.51 × 1.890 × 0.374)
	Rotor outer diameter × thickness	283 × 28.0 (11.14 × 1.102)
Rear brake	Cylinder bore diameter	38.1 (1.500)
	Pad length × width × thickness	83.0 × 31.9 × 8.5 (3.268 × 1.265 × 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-12, "Fluids and Lubricants".

Brake Pedal

INFOID:0000000008746837

Unit: mm (in)

Item	Standard
	
Brake pedal height (H1)	159.9 – 169.9 (6.30 – 6.69)
	
Depressed brake pedal height (H2) Depressing [196 N (20 kg, 44 lb) while set the vehicle to READY]	93.0 (3.661) or more

Item	Standard
	
Clearance (C) between stop lamp switch and brake pedal position 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:0000000008746838

Unit: mm (in)

Item	Standard
Input rod length	164.4 – 166.0 (6.47 – 6.54)

Front Disc Brake

INFOID:0000000008746839

Unit: mm (in)

Item		Limit
Brake pad	Wear thickness	2.0 (0.079)
Disc rotor	Wear thickness	26.0 (1.024)
	Thickness variation (measured at 8 positions)	0.015 (0.0006)
	Runout (with it attached to the vehicle)	0.035 (0.0014)

Rear Disc Brake

INFOID:0000000008746840

Unit: mm (in)

Item		Limit
Brake pad	Wear thickness	2.0 (0.079)
Disc rotor	Wear thickness	14.0 (0.051)
	Thickness variation (measured at 8 positions)	0.015 (0.0006)
	Runout (with it attached to the vehicle)	0.1 (0.04)