

SECTION **BRC**

BRAKE CONTROL SYSTEM

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BRC

HOW TO USE THIS MANUAL

HOW TO USE THIS SECTION

Information

INFOID:000000009162137

Both “VDC” and “ESC” are used in this manual. These indicate the same system.

PRECAUTION

PRECAUTIONS

Precaution for Working Range at a Regular Dealership

INFOID:000000009167685

CAUTION:

The service items unmentioned on this manual are recommended to be performed by a GT-R certified NISSAN dealer. Because those service items require special equipment and a GT-R certified technical staff who completed special training.

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

INFOID:000000009162298

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 "SRS AIR BAG" and "SEAT BELT" of this Service Manual.

WARNING:

Always observe the following items for preventing accidental activation.

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

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

WARNING:

Always observe the following items for preventing accidental activation.

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

Precautions Necessary for Steering Wheel Rotation After Battery Disconnection

INFOID:000000009162299

CAUTION:

Comply with the following cautions to prevent any error and malfunction.

- Before removing and installing any control units, first turn the ignition switch to the LOCK position, then disconnect both battery cables.
- After finishing work, confirm that all control unit connectors are connected properly, then re-connect both battery cables.
- Always use CONSULT to perform self-diagnosis as a part of each function inspection after finishing work. If a DTC is detected, perform trouble diagnosis according to self-diagnosis results.

For vehicle with steering lock unit, if the battery is disconnected or discharged, the steering wheel will lock and cannot be turned.

If turning the steering wheel is required with the battery disconnected or discharged, follow the operation procedure below before starting the repair operation.

OPERATION PROCEDURE

1. Connect both battery cables.

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< PRECAUTION >

NOTE:

Supply power using jumper cables if battery is discharged.

2. Turn the ignition switch to ACC position.
(At this time, the steering lock will be released.)
3. Disconnect both battery cables. The steering lock will remain released with both battery cables disconnected and the steering wheel can be turned.
4. Perform the necessary repair operation.
5. When the repair work is completed, re-connect both battery cables. With the brake pedal released, turn the ignition switch from ACC position to ON position, then to LOCK position. (The steering wheel will lock when the ignition switch is turned to LOCK position.)
6. Perform self-diagnosis check of all control units using CONSULT.

Precaution for Battery Service

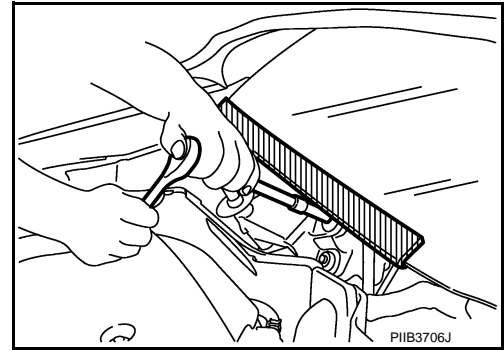
INFOID:000000009162300

Before disconnecting the battery, lower both the driver and passenger windows. This will prevent any interference between the window edge and the vehicle when the door is opened/closed. During normal operation, the window slightly raises and lowers automatically to prevent any window to vehicle interference. The automatic window function will not work with the battery disconnected.

Precaution for Procedure without Cowl Top Cover

INFOID:000000009162301

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



General Precautions

INFOID:000000009162302

CAUTION:

After finishing servicing, check that all the tools and waste are stored in a customary place.

Precaution for Brake System

INFOID:000000009162303

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.

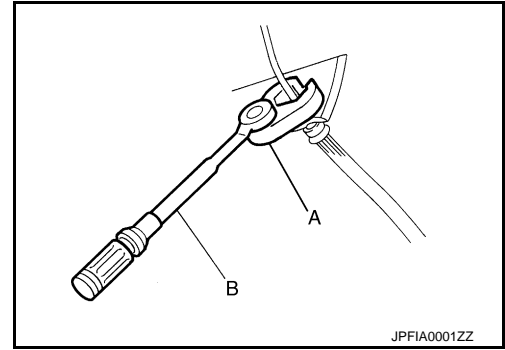
- Brake fluid use refer to [MA-22, "Fluids and Lubricants"](#).
- Never reuse drained brake fluid.
- The brake fluid used for this vehicle has a higher boiling point and readily absorbs moisture in the air. Accordingly, when brake temperature rises, water in brake fluid vaporizes with the higher potential of vapor lock and uncomfortable brake pedal feeling (increase in pedal stroke). Therefore, the following items must be carefully observed.
 - Never change, bleed, or fill with brake fluid under humid conditions such as rainy or foggy days, in principle, because the brake fluid absorbs moisture in the air. (Vapor lock occurs more easily during performance driving because brake temperature becomes higher, compared with normal driving.)
 - If it is necessary to change, bleed, or fill with brake fluid under humid conditions such as rainy or foggy days, perform this in a place with low humidity in minimal time.
 - When it is necessary to change, bleed, or fill with brake fluid, explain the customer the precautions on brake fluid before deciding the place and schedule of the work.
 - Always discard residual brake fluid remaining in the container because the fluid is deteriorated by moisture.
- 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.
- Never use mineral oils such as gasoline or light oil. They may damage rubber parts and cause improper operation.

PRECAUTIONS

[VDC/TCS/ABS]

< PRECAUTION >

- 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).
- Always conform the specified tightening torque when installing the brake pipes.
- Brake system is an important safety part. If brake fluid leakage is detected, always disassemble the affected part. If a malfunction is detected, replace part with a new one.
- Turn the ignition switch OFF and disconnect the ABS actuator and electric unit (control unit) harness connector or the battery negative terminal before performing the work.



Precaution for Brake Control

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- When starting engine or when starting vehicle just after starting engine, brake pedal may vibrate or motor operating noise may be heard from engine compartment. This is normal.
- When an error is indicated by ABS or another warning lamp, collect all necessary information from customer (what symptoms are present under what conditions) and check for estimate causes before starting diagnostic servicing. Besides electrical system inspection, check brake booster operation, brake fluid level, and for oil leakage.
- If tire size and type are used in an improper combination, or brake pads are not Genuine NISSAN parts, stopping distance or steering stability may deteriorate.
- ABS might be out of order or malfunctioning by putting a radio (wiring inclusive), an antenna, or a lead-in wire near the control unit.
- VDC system may not operate normally or a VDC warning lamp may illuminate.
- When replacing the following parts with parts other than genuine parts or making modifications: Suspension related parts (shock absorber, spring, bushing, etc.), tires, wheels (other than specified sizes), brake-related parts (pad, rotor, caliper, etc.), engine-related parts (muffler, ECM, etc.), and body reinforcement-related parts (roll bar, tower bar, etc.).
- When driving with worn or deteriorated suspension, tires, or brake-related parts.
- Both "VDC" and "VDC-R" are used in this manual. These indicate the same system.

Precautions for Harness Repair

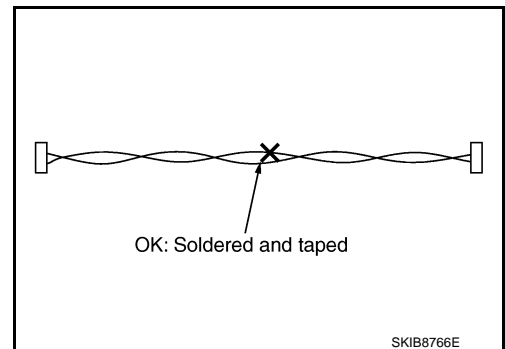
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COMMUNICATION LINE

- Solder the repaired area and wrap tape around the soldered area.

NOTE:

A fray of twisted lines must be within 110 mm (4.33 in).



- Bypass connection is never allowed at the repaired area.

NOTE:

Bypass connection may cause communication error as spliced wires that are separate from the main line or twisted lines lose noise immunity.

- Replace the applicable harness as an assembly if error is detected on the shield lines of communication line.

