ELECTRONICALLY CONTOROLLED BRAKE SYSTEM

05IJ1–01

PRECAUTION

1. TROUBLESHOOTING PRECAUTIONS

(a) When there is a malfunction with terminal contact points or part installation problems, removal and installation of the suspected problem parts may return the system to the normal condition either completely or temporarily.

(b) In order to determine the malfunctioning area, be sure to check the conditions at the time the malfunction occurred, such as DTC output and the freeze frame data, and record it before disconnecting each connector or removing and installing parts.

(c) Since the system may be influenced by malfunctions in systems other than the brake control system, be sure to check for DTCs in other systems.

2. HANDLING PRECAUTIONS

(a) Do not remove or install the VSC+ or ECB (Electronically Controlled Brake) parts such as the steering sensor, yaw rate sensor or brake pedal stroke sensor except when required, as they cannot be adjusted correctly after removal or installation.

(b) Be sure to perform preparation before work and confirmation after work is completed by following the direction in the repair manual when working on the VSC+ or ECB system.

(c) Be sure to remove and install the ECU, actuator, each sensor, etc. with the power switch off unless it is not specified in the inspection procedure.

(d) Be sure to remove the 2 main relays before removal and installation, or replacement of the VSC+ or ECB parts.

(e) The removal or installation of the actuator, master cylinder or stroke simulator as well as some other procedures can cause the fluid level to drop below the fluid reservoir port. If this happens when performing such work, be sure to remove the 2 motor relays until the bleeding of the air in the pipeline is completed.

HINT:

- When the pump motor is operated with the air in the brake actuator hose, bleeding the air becomes difficult due to air in the actuator.
- The skid control ECU may operate the stroke simulator and drive the pump motor even when the power switch is off.
- The ECB system has its own auxiliary power source. This system can be operated after disconnecting the negative terminal from the auxiliary battery (12V) until the discharge is completed.
- With the power switch off, the skid control ECU can be operated for 2 minutes after the brake operation is finished.

(f) Removal of the main relay and motor relay

(1) Wait for 2 minutes after turning the power switch off, stopping the brake pedal operation and closing the driver door before removing the 2 relays.

HINT:

When the pump motor operates to prepare for the next operation just before the brake control system turns off.

(g) When removing and installing the ECU, actuator and each sensor, be sure to check that the normal display is output in test mode inspection and in DTC output inspection after installing all the parts.

3. DTC PRECAUTION

(a) Warnings for some DTCs cannot be cleared only by repairing the malfunctioning parts. If the warning is displayed after repair work, the DTC should be cleared after turning the power switch off.

NOTICE:

The DTC for a malfunctioning part that repeats after clearing the code is stored again.

4. FAIL SAFE FUNCTION

(a) When a trouble occurs in the brake control systems, the skid control ECU lights up the warning lights (ECB, ABS, VSC+ and BRAKE) corresponding to the malfunctioning systems and prohibits ABS, VSC+ and brake assist operation.

(b) The control of the ECB can be continued by the normal parts except the malfunctioning parts according to the malfunction.

HINT:

- If control of the ECB for any of the 4 wheels is prohibited, that wheel loses brake booster function or braking ability.
- If one of the 4 wheels loses brake booster function, the feel when depressing brake pedal changes as the stroke simulator (pedal reactive force generating solenoid) operation is prohibited.
- If control of the ECB for all wheels is prohibited, the 2 front wheels lose brake booster function.

5. DRUM TESTER PRECAUTION

(a) When using the drum tester, be sure to follow the procedures below to prohibit the VSC+ operation.

NOTICE:

- **Make sure that the VSC warning light is blinking (move to TEST MODE)**
- **Secure the vehicle with the lock chain for safety**

6. CAN COMMUNICATION SYSTEM PRECAUTION

(a) The CAN communication system is used for the data communication between the skid control ECU, the steering sensor, the yaw rate sensor (deceleration sensor included) and other ECUs. If there is trouble with the CAN communication line, corresponding DTCs in the communication line are output.

(b) If the DTC in the CAN communication line is output, repair the malfunction in the communication line and troubleshoot the VSC+ system while data communication is normal.

(c) Since the CAN communication line has its own length and route, it cannot be repaired temporarily with the bypass wire, etc.

NOTICE:

When disconnecting the negative (–) battery terminal, initialize the following system after the terminal is reconnected.

System Name	See Page
Power Window Control System	01–29

NOTICES FOR HYBRID SYSTEM ACTIVATION:

- **When the warning lamp is illuminated or the battery has been disconnected and reconnected, pressing the power switch may not start the system on the first try. If so, press the power switch again.**
- **With the power switch's power mode changed to ON (IG), disconnect the battery. If the key is not in the key slot during reconnection, DTC B2799 may be output.**