DTC Advanced Diagnostics: VSA related DTCs

VSA Related DTCs

NOTE

- Initial Diagnosis:

  The initial on-board diagnosis occurs right after the vehicle condition is turned to the ON mode, and the ABS/VSA indicator comes on, and continues until the indicator goes off.
- Regular Diagnosis:

  The regular on-board diagnosis begins right after the ABS/VSA indicator goes off, and it continues until the vehicle condition is turned to the OFF (LOCK) mode.
- Review "How to troubleshoot the VSA system" before doing the DTC troubleshooting procedure.
- Test-drive the vehicle according to local traffic conditions and regulations. Do not test-drive on a lift unless specified.
- The possible causes shown may not be a complete list of all potential problems, and it is possible that there may be other causes.

DTC B0050-F0: Driver's Seat Belt Buckle Switch Malfunction

Confirmation Procedure	Basic Condition: ● 12 volt battery voltage 10 - 16 V Operating Condition: 1. Turn the vehicle to the ON mode.
Execution	Regular Diagnosis
Duration	–
DTC Type	● 1 drive cycle
Fail Safe Action	● Stop automatic brake hold function ● Stop drive away assist function ● Stop ignition OFF apply function*1
Possible Cause	● Open or Poor connection between the SRS unit and the driver's seat belt buckle switch (FLBC line) ● Open or Poor connection between the driver's seat belt buckle switch and the body ground (GND line) ● Driver's seat belt buckle assembly internal failure (Driver's seat belt buckle switch) ● VSA modulator-control unit internal failure

*1: M/T

DTC C0010-49: Inlet Solenoid (Left Front) Circuit Failure

Confirmation Procedure	Basic Condition: ● 12 volt battery voltage 10 V or more Operating Condition: 1. Start the engine, then wait for 2 seconds or more.
Execution	Initial Diagnosis/Regular Diagnosis
Duration	About 2 seconds
DTC Type	● 1 drive cycle ● Brake system indicator (red) on ● Brake system indicator (amber) on ● ABS indicator on ● VSA indicator on

Fail Safe Action	• Stop ABS function • Stop EBD function • Stop brake assist function • Stop TCS function • Stop VSA function • Stop engine drag torque control function • Stop hill start assist function • Stop agile handling assist function • Stop automatic brake hold function • Stop driving support system's brake function • Stop emergency brake function
Possible Cause	• VSA modulator-control unit internal failure

DTC C0011-49: Outlet Solenoid (Left Front) Circuit Failure

Confirmation Procedure	Basic Condition: • 12 volt battery voltage 10 V or more Operating Condition: 1. Start the engine, then wait for 2 seconds or more.
Execution	Initial Diagnosis/Regular Diagnosis
Duration	About 2 seconds
DTC Type	• 1 drive cycle • Brake system indicator (red) on • Brake system indicator (amber) on • ABS indicator on • VSA indicator on
Fail Safe Action	• Stop ABS function • Stop EBD function • Stop brake assist function • Stop TCS function • Stop VSA function • Stop engine drag torque control function • Stop hill start assist function • Stop agile handling assist function • Stop automatic brake hold function • Stop driving support system's brake function • Stop emergency brake function
Possible Cause	• VSA modulator-control unit internal failure

DTC C0014-49: Inlet Solenoid (Right Front) Circuit Failure

Confirmation Procedure	Basic Condition: • 12 volt battery voltage 10 V or more Operating Condition: 1. Start the engine, then wait for 2 seconds or more.
Execution	Initial Diagnosis/Regular Diagnosis
Duration	About 2 seconds

DTC Type	• 1 drive cycle • Brake system indicator (red) on • Brake system indicator (amber) on • ABS indicator on • VSA indicator on
Fail Safe Action	• Stop ABS function • Stop EBD function • Stop brake assist function • Stop TCS function • Stop VSA function • Stop engine drag torque control function • Stop hill start assist function • Stop agile handling assist function • Stop automatic brake hold function • Stop driving support system's brake function • Stop emergency brake function
Possible Cause	• VSA modulator-control unit internal failure

DTC C0015-49: Outlet Solenoid (Right Front) Circuit Failure

Confirmation Procedure	Basic Condition: • 12 volt battery voltage 10 V or more Operating Condition: 1. Start the engine, then wait for 2 seconds or more.
Execution	Initial Diagnosis/Regular Diagnosis
Duration	About 2 seconds
DTC Type	• 1 drive cycle • Brake system indicator (red) on • Brake system indicator (amber) on • ABS indicator on • VSA indicator on
Fail Safe Action	• Stop ABS function • Stop EBD function • Stop brake assist function • Stop TCS function • Stop VSA function • Stop engine drag torque control function • Stop hill start assist function • Stop agile handling assist function • Stop automatic brake hold function • Stop driving support system's brake function • Stop emergency brake function
Possible Cause	• VSA modulator-control unit internal failure

DTC C0018-49: Inlet Solenoid (Left Rear) Circuit Failure

Confirmation Procedure	Basic Condition: ● 12 volt battery voltage 10 V or more Operating Condition: 1. Start the engine, then wait for 2 seconds or more.
Execution	Initial Diagnosis/Regular Diagnosis
Duration	About 2 seconds
DTC Type	● 1 drive cycle ● Brake system indicator (red) on ● Brake system indicator (amber) on ● ABS indicator on ● VSA indicator on
Fail Safe Action	● Stop ABS function ● Stop EBD function ● Stop brake assist function ● Stop TCS function ● Stop VSA function ● Stop engine drag torque control function ● Stop hill start assist function ● Stop agile handling assist function ● Stop automatic brake hold function ● Stop driving support system's brake function ● Stop emergency brake function
Possible Cause	● VSA modulator-control unit internal failure

DTC C0019-49: Outlet Solenoid (Left Rear) Circuit Failure

Confirmation Procedure	Basic Condition: ● 12 volt battery voltage 10 V or more Operating Condition: 1. Start the engine, then wait for 2 seconds or more.
Execution	Initial Diagnosis/Regular Diagnosis
Duration	About 2 seconds
DTC Type	● 1 drive cycle ● Brake system indicator (red) on ● Brake system indicator (amber) on ● ABS indicator on ● VSA indicator on

Fail Safe Action	• Stop ABS function • Stop EBD function • Stop brake assist function • Stop TCS function • Stop VSA function • Stop engine drag torque control function • Stop hill start assist function • Stop agile handling assist function • Stop automatic brake hold function • Stop driving support system's brake function • Stop emergency brake function
Possible Cause	• VSA modulator-control unit internal failure

DTC C001C-49: Inlet Solenoid (Right Rear) Circuit Failure

Confirmation Procedure	Basic Condition: • 12 volt battery voltage 10 V or more Operating Condition: 1. Start the engine, then wait for 2 seconds or more.
Execution	Initial Diagnosis/Regular Diagnosis
Duration	About 2 seconds
DTC Type	• 1 drive cycle • Brake system indicator (red) on • Brake system indicator (amber) on • ABS indicator on • VSA indicator on
Fail Safe Action	• Stop ABS function • Stop EBD function • Stop brake assist function • Stop TCS function • Stop VSA function • Stop engine drag torque control function • Stop hill start assist function • Stop agile handling assist function • Stop automatic brake hold function • Stop driving support system's brake function • Stop emergency brake function
Possible Cause	• VSA modulator-control unit internal failure

DTC C001D-49: Outlet Solenoid (Right Rear) Circuit Failure

Confirmation Procedure	Basic Condition: • 12 volt battery voltage 10 V or more Operating Condition: 1. Start the engine, then wait for 2 seconds or more.
Execution	Initial Diagnosis/Regular Diagnosis
Duration	About 2 seconds

DTC Type	• 1 drive cycle • Brake system indicator (red) on • Brake system indicator (amber) on • ABS indicator on • VSA indicator on
Fail Safe Action	• Stop ABS function • Stop EBD function • Stop brake assist function • Stop TCS function • Stop VSA function • Stop engine drag torque control function • Stop hill start assist function • Stop agile handling assist function • Stop automatic brake hold function • Stop driving support system's brake function • Stop emergency brake function
Possible Cause	• VSA modulator-control unit internal failure

DTC C0023-12: Brake Diag Circuit ON Failure

Confirmation Procedure	Basic Condition: • 12 volt battery voltage 10 V or more Operating Condition: 1. Turn the vehicle to the ON mode and press the brake pedal for at least 2 seconds.
Execution	Regular Diagnosis
Duration	About 2 seconds
DTC Type	• 1 drive cycle • Brake system indicator (amber) on
Fail Safe Action	• Stop automatic brake hold function • Stop driving support system's brake function • Stop emergency brake function
Possible Cause	• Short to ground between the VSA modulator-control unit and the relay circuit board (built-in brake light relay) (BRK LAMP line) • Open or Poor connection between the PCM and the brake pedal position switch (STOP SW line) • Relay circuit board (built-in brake light relay) failure • PCM internal failure • VSA modulator-control unit internal failure

DTC C0023-14: Brake Diag Circuit OFF Failure

Confirmation Procedure	Basic Condition: • 12 volt battery voltage 10 V or more Operating Condition: 1. Turn the vehicle to the ON mode and press the brake pedal for at least 2 seconds.
Execution	Regular Diagnosis
Duration	About 2 seconds

*1: 2/4-door (except Japan production)
*2: 4-door (Japan production)
*3: 5-door

DTC Type	● 1 drive cycle ● Brake system indicator (amber) on
Fail Safe Action	● Stop automatic brake hold function ● Stop driving support system's brake function ● Stop emergency brake function
Possible Cause*1	● Open or Poor connection between the VSA modulator-control unit and the relay circuit board (built-in brake light relay) (BRK DIAG, BRK LAMP lines) ● Open or Poor connection between the under-hood fuse/relay box and the relay circuit board (built-in brake light relay) (+B STOP line) ● Open or Poor connection between the relay circuit board (built-in brake light relay) and the under-dash fuse/relay box (IG1 VSA/ABS line) ● Blown fuse (No. A9) ● Brake light relay failure ● VSA modulator-control unit internal failure
Possible Cause*2*3	● Open or Poor connection between the VSA modulator-control unit and the relay circuit board (built-in brake light relay) (BRK DIAG, BRK LAMP lines) ● Open or Poor connection between the under-hood fuse/relay box and the relay circuit board (built-in brake light relay) (+B STOP line) ● Open or Poor connection between the relay circuit board (built-in brake light relay) and the under-dash fuse/relay box (IG1 OPTION line) ● Blown fuse (No. A8) ● Brake light relay failure ● VSA modulator-control unit internal failure

*1: 2/4-door (except Japan production)
*2: 4-door (Japan production)
*3: 5-door

DTC C0030-38: Magnetic Encoder (Left Front) Failure (Pulse Missing)

Confirmation Procedure	Basic Condition: ● 12 volt battery voltage 8.5 V or more Operating Condition: 1. Start the engine. 2. Test-drive the vehicle at 19 mph (30 km/h) or more for at least 30 seconds. (Drive the vehicle on the road, not on a lift. Be careful of the surrounding traffic conditions.)
Execution	Regular Diagnosis
Duration	About 20 seconds (Depending on vehicle speed)
DTC Type	● 1 drive cycle ● Brake system indicator (red) on (If multiple wheel failures are detected) ● Brake system indicator (amber) on ● ABS indicator on ● VSA indicator on

Fail Safe Action	• Stop ABS function • Stop EBD function (If multiple failure wheel failures are detected) • Stop brake assist function • Stop TCS function • Stop VSA function • Stop engine drag torque control function • Stop hill start assist function • Stop agile handling assist function • Stop automatic brake hold function • Stop driving support system's brake function • Stop emergency brake function
Possible Cause	• Debris on the left-front wheel bearing (magnetic encoder) surface • VSA modulator-control unit internal failure

DTC C0031-14: Left Front Wheel Speed Sensor Circuit Failure (Circuit Short To Ground or Open)

Confirmation Procedure	Basic Condition: • 12 volt battery voltage 8.5 V or more Operating Condition: 1. Start the engine. 2. Test-drive the vehicle at 19 mph (30 km/h) or more for at least 2 seconds. (Drive the vehicle on the road, not on a lift. Be careful of the surrounding traffic conditions.)
Execution	Initial Diagnosis/Regular Diagnosis
Duration	About 2 seconds
DTC Type	• 1 drive cycle • Brake system indicator (red) on (If multiple wheel failures are detected) • Brake system indicator (amber) on • ABS indicator on • VSA indicator on
Fail Safe Action	• Stop ABS function • Stop EBD function (If multiple failure wheel failures are detected) • Stop brake assist function • Stop TCS function • Stop VSA function • Stop engine drag torque control function • Stop hill start assist function • Stop agile handling assist function • Stop automatic brake hold function • Stop driving support system's brake function • Stop emergency brake function
Possible Cause	• Open, Short to ground, Short to power, or Poor connection between the VSA modulator-control unit and the left-front wheel speed sensor (FR L ABS SNSR+, FR L ABS SNSR- lines) • Short to another line between the VSA modulator-control unit and the left-front wheel speed sensor (FR L ABS SNSR+, FR L ABS SNSR- lines) • Left-front wheel speed sensor failure • VSA modulator-control unit internal failure

DTC C0031-62: Left Front Wheel Speed Sensor Signal Compare Failure

Confirmation Procedure	Basic Condition: ● 12 volt battery voltage 8.5 V or more Operating Condition: 1. Start the engine. 2. Test-drive the vehicle at 19 mph (30 km/h) or more for at least 60 seconds. (Drive the vehicle on the road, not on a lift. Be careful of the surrounding traffic conditions.)
Execution	Regular Diagnosis
Duration	About 60 seconds
DTC Type	● 1 drive cycle ● Brake system indicator (red) on (If multiple wheel failures are detected) ● Brake system indicator (amber) on ● ABS indicator on ● VSA indicator on
Fail Safe Action	● Stop ABS function ● Stop EBD function (If multiple failure wheel failures are detected) ● Stop brake assist function ● Stop TCS function ● Stop VSA function ● Stop engine drag torque control function ● Stop hill start assist function ● Stop agile handling assist function ● Stop automatic brake hold function ● Stop driving support system's brake function ● Stop emergency brake function
Possible Cause	● Left-front wheel speed sensor incorrect installation ● Left-front wheel speed sensor failure ● VSA modulator-control unit internal failure

DTC C0033-38: Magnetic Encoder (Right Front) Failure (Pulse Missing)

Confirmation Procedure	Basic Condition: ● 12 volt battery voltage 8.5 V or more Operating Condition: 1. Start the engine. 2. Test-drive the vehicle at 19 mph (30 km/h) or more for at least 30 seconds. (Drive the vehicle on the road, not on a lift. Be careful of the surrounding traffic conditions.)
Execution	Regular Diagnosis
Duration	About 20 seconds (Depending on vehicle speed)
DTC Type	● 1 drive cycle ● Brake system indicator (red) on (If multiple wheel failures are detected) ● Brake system indicator (amber) on ● ABS indicator on ● VSA indicator on

Fail Safe Action	• Stop ABS function • Stop EBD function (If multiple failure wheel failures are detected) • Stop brake assist function • Stop TCS function • Stop VSA function • Stop engine drag torque control function • Stop hill start assist function • Stop agile handling assist function • Stop automatic brake hold function • Stop driving support system's brake function • Stop emergency brake function
Possible Cause	• Debris on the right-front wheel bearing (magnetic encoder) surface • VSA modulator-control unit internal failure

DTC C0034-14: Right Front Wheel Speed Sensor Circuit Failure (Circuit Short To Ground or Open)

Confirmation Procedure	Basic Condition: • 12 volt battery voltage 8.5 V or more Operating Condition: 1. Start the engine. 2. Test-drive the vehicle at 19 mph (30 km/h) or more for at least 2 seconds. (Drive the vehicle on the road, not on a lift. Be careful of the surrounding traffic conditions.)
Execution	Initial Diagnosis/Regular Diagnosis
Duration	About 2 seconds
DTC Type	• 1 drive cycle • Brake system indicator (red) on (If multiple wheel failures are detected) • Brake system indicator (amber) on • ABS indicator on • VSA indicator on
Fail Safe Action	• Stop ABS function • Stop EBD function (If multiple failure wheel failures are detected) • Stop brake assist function • Stop TCS function • Stop VSA function • Stop engine drag torque control function • Stop hill start assist function • Stop agile handling assist function • Stop automatic brake hold function • Stop driving support system's brake function • Stop emergency brake function
Possible Cause	• Open, Short to ground, Short to power, or Poor connection between the VSA modulator-control unit and the right-front wheel speed sensor (FR R ABS SNSR+, FR R ABS SNSR- lines) • Short to another line between the VSA modulator-control unit and the right-front wheel speed sensor (FR R ABS SNSR+, FR R ABS SNSR- lines) • Right-front wheel speed sensor failure • VSA modulator-control unit internal failure

DTC C0034-62: Right Front Wheel Speed Sensor Signal Compare Failure

Confirmation Procedure	Basic Condition: ● 12 volt battery voltage 8.5 V or more Operating Condition: 1. Start the engine. 2. Test-drive the vehicle at 19 mph (30 km/h) or more for at least 60 seconds. (Drive the vehicle on the road, not on a lift. Be careful of the surrounding traffic conditions.)
Execution	Regular Diagnosis
Duration	About 60 seconds
DTC Type	● 1 drive cycle ● Brake system indicator (red) on (If multiple wheel failures are detected) ● Brake system indicator (amber) on ● ABS indicator on ● VSA indicator on
Fail Safe Action	● Stop ABS function ● Stop EBD function (If multiple failure wheel failures are detected) ● Stop brake assist function ● Stop TCS function ● Stop VSA function ● Stop engine drag torque control function ● Stop hill start assist function ● Stop agile handling assist function ● Stop automatic brake hold function ● Stop driving support system's brake function ● Stop emergency brake function
Possible Cause	● Right-front wheel speed sensor incorrect installation ● Right-front wheel speed sensor failure ● VSA modulator-control unit internal failure

DTC C0036-38: Magnetic Encoder (Left Rear) Failure (Pulse Missing)

Confirmation Procedure	Basic Condition: ● 12 volt battery voltage 8.5 V or more Operating Condition: 1. Start the engine. 2. Test-drive the vehicle at 19 mph (30 km/h) or more for at least 30 seconds. (Drive the vehicle on the road, not on a lift. Be careful of the surrounding traffic conditions.)
Execution	Regular Diagnosis
Duration	About 20 seconds (Depending on vehicle speed)
DTC Type	● 1 drive cycle ● Brake system indicator (red) on (If multiple wheel failures are detected) ● Brake system indicator (amber) on ● ABS indicator on ● VSA indicator on

Fail Safe Action	• Stop ABS function • Stop EBD function (If multiple failure wheel failures are detected) • Stop brake assist function • Stop TCS function • Stop VSA function • Stop engine drag torque control function • Stop hill start assist function • Stop agile handling assist function • Stop automatic brake hold function • Stop driving support system's brake function • Stop emergency brake function
Possible Cause	• Debris on the left-rear wheel hub bearing unit (magnetic encoder) surface • VSA modulator-control unit internal failure

DTC C0037-14: Left Rear Wheel Speed Sensor Circuit Failure (Circuit Short To Ground or Open)

Confirmation Procedure	Basic Condition: • 12 volt battery voltage 8.5 V or more Operating Condition: 1. Start the engine. 2. Test-drive the vehicle at 19 mph (30 km/h) or more for at least 2 seconds. (Drive the vehicle on the road, not on a lift. Be careful of the surrounding traffic conditions.)
Execution	Initial Diagnosis/Regular Diagnosis
Duration	About 2 seconds
DTC Type	• 1 drive cycle • Brake system indicator (red) on (If multiple wheel failures are detected) • Brake system indicator (amber) on • ABS indicator on • VSA indicator on
Fail Safe Action	• Stop ABS function • Stop EBD function (If multiple failure wheel failures are detected) • Stop brake assist function • Stop TCS function • Stop VSA function • Stop engine drag torque control function • Stop hill start assist function • Stop agile handling assist function • Stop automatic brake hold function • Stop driving support system's brake function • Stop emergency brake function
Possible Cause	• Open, Short to ground, Short to power, or Poor connection between the VSA modulator-control unit and the left-rear wheel speed sensor (RR L ABS SNSR+, RR L ABS SNSR- lines) • Short to another line between the VSA modulator-control unit and the left-rear wheel speed sensor (RR L ABS SNSR+, RR L ABS SNSR- lines) • Left-rear wheel speed sensor failure • VSA modulator-control unit internal failure

DTC C0037-62: Left Rear Wheel Speed Sensor Signal Compare Failure

Confirmation Procedure	Basic Condition • 12 volt battery voltage 8.5 V or more Operating Condition: 1. Start the engine. 2. Test-drive the vehicle at 19 mph (30 km/h) or more for at least 60 seconds. (Drive the vehicle on the road, not on a lift. Be careful of the surrounding traffic conditions.)
Execution	Regular Diagnosis
Duration	About 60 seconds
DTC Type	• 1 drive cycle • Brake system indicator (red) on (If multiple wheel failures are detected) • Brake system indicator (amber) on • ABS indicator on • VSA indicator on
Fail Safe Action	• Stop ABS function • Stop EBD function (If multiple failure wheel failures are detected) • Stop brake assist function • Stop TCS function • Stop VSA function • Stop engine drag torque control function • Stop hill start assist function • Stop agile handling assist function • Stop automatic brake hold function • Stop driving support system's brake function • Stop emergency brake function
Possible Cause	• Left-rear wheel speed sensor incorrect installation • Left-rear wheel speed sensor failure • VSA modulator-control unit internal failure

DTC C0039-38: Magnetic Encoder (Right Rear) Failure (Pulse Missing)

Confirmation Procedure	Basic Condition: • 12 volt battery voltage 8.5 V or more Operating Condition: 1. Start the engine. 2. Test-drive the vehicle at 19 mph (30 km/h) or more for at least 30 seconds. (Drive the vehicle on the road, not on a lift. Be careful of the surrounding traffic conditions.)
Execution	Regular Diagnosis
Duration	About 20 seconds (Depending on vehicle speed)
DTC Type	• 1 drive cycle • Brake system indicator (red) on (If multiple wheel failures are detected) • Brake system indicator (amber) on • ABS indicator on • VSA indicator on

Fail Safe Action	• Stop ABS function • Stop EBD function (If multiple failure wheel failures are detected) • Stop brake assist function • Stop TCS function • Stop VSA function • Stop engine drag torque control function • Stop hill start assist function • Stop agile handling assist function • Stop automatic brake hold function • Stop driving support system's brake function • Stop emergency brake function
Possible Cause	• Debris on the right-rear wheel hub bearing unit (magnetic encoder) surface • VSA modulator-control unit internal failure

DTC C003A-14: Right Rear Wheel Speed Sensor Circuit Failure (Circuit Short To Ground or Open)

Confirmation Procedure	Basic Condition: • 12 volt battery voltage 8.5 V or more Operating Condition: 1. Start the engine. 2. Test-drive the vehicle at 19 mph (30 km/h) or more for at least 2 seconds. (Drive the vehicle on the road, not on a lift. Be careful of the surrounding traffic conditions.)
Execution	Initial Diagnosis/Regular Diagnosis
Duration	About 2 seconds
DTC Type	• 1 drive cycle • Brake system indicator (red) on (If multiple wheel failures are detected) • Brake system indicator (amber) on • ABS indicator on • VSA indicator on
Fail Safe Action	• Stop ABS function • Stop EBD function (If multiple failure wheel failures are detected) • Stop brake assist function • Stop TCS function • Stop VSA function • Stop engine drag torque control function • Stop hill start assist function • Stop agile handling assist function • Stop automatic brake hold function • Stop driving support system's brake function • Stop emergency brake function
Possible Cause	• Open, Short to ground, Short to power, or Poor connection between the VSA modulator-control unit and the right-rear wheel speed sensor (RR R ABS SNSR+, RR R ABS SNSR- lines) • Short to another line between the VSA modulator-control unit and the right-rear wheel speed sensor (RR R ABS SNSR+, RR R ABS SNSR- lines) • Right-rear wheel speed sensor failure • VSA modulator-control unit internal failure

DTC C003A-62: Right Rear Wheel Speed Sensor Signal Compare Failure

Confirmation Procedure	Basic Condition: ● 12 volt battery voltage 8.5 V or more Operating Condition: 1. Start the engine. 2. Test-drive the vehicle at 19 mph (30 km/h) or more for at least 60 seconds. (Drive the vehicle on the road, not on a lift. Be careful of the surrounding traffic conditions.)
Execution	Regular Diagnosis
Duration	About 60 seconds
DTC Type	● 1 drive cycle ● Brake system indicator (red) on (If multiple wheel failures are detected) ● Brake system indicator (amber) on ● ABS indicator on ● VSA indicator on
Fail Safe Action	● Stop ABS function ● Stop EBD function (If multiple failure wheel failures are detected) ● Stop brake assist function ● Stop TCS function ● Stop VSA function ● Stop engine drag torque control function ● Stop hill start assist function ● Stop agile handling assist function ● Stop automatic brake hold function ● Stop driving support system's brake function ● Stop emergency brake function
Possible Cause	● Right-rear wheel speed sensor incorrect installation ● Right-rear wheel speed sensor failure ● VSA modulator-control unit internal failure

DTC C0040-62: Brake Lamp Switch Failure (Stuck)

Confirmation Procedure	Basic Condition: ● No other DTCs detected Operating Condition: 1. Start the engine. 2. Test-drive the vehicle at 13 mph (20 km/h) or more for at least 6 minutes. 3. Drive immediately at speed of 25 mph (40 km/h) or more, then press the brake pedal and stop the vehicle. 4. Repeat steps 2 - 3 for three times. (Drive the vehicle on the road, not on a lift. Be careful of the surrounding traffic conditions.)
Execution	Regular Diagnosis
Duration	About 1 second
DTC Type	● 1 drive cycle ● VSA indicator on

Fail Safe Action	• Stop brake assist function • Stop TCS function • Stop VSA function • Stop engine drag torque control function • Stop hill start assist function • Stop agile handling assist function • Stop automatic brake hold function • Stop driving support system's brake function • Stop emergency brake function
Possible Cause	• Short to power between the PCM and the brake pedal position switch (STOP SW line) • Brake pedal height incorrect position • Brake pedal position switch failure • PCM internal circuit failure • VSA modulator-control unit internal failure

DTC C0044-49: Master Cylinder Pressure Sensor Failure (Internal Circuit Failure)

Confirmation Procedure	Operating Condition: 1. Turn the vehicle to the ON mode, then wait for 3 seconds or more.
Execution	Initial Diagnosis/Regular Diagnosis
Duration	About 3 seconds
DTC Type	• 1 drive cycle • Brake system indicator (amber) on • VSA indicator on
Fail Safe Action	• Stop brake assist function • Stop TCS function • Stop VSA function • Stop engine drag torque control function • Stop hill start assist function • Stop agile handling assist function • Stop automatic brake hold function • Stop driving support system's brake function • Stop emergency brake function
Possible Cause	• VSA modulator-control unit internal failure

DTC C0049-7B: Brake Fluid Level Too Low

Confirmation Procedure	Operating Condition: 1. Turn the vehicle to the ON mode, then wait for 10 seconds or more.
Execution	Regular Diagnosis
Duration	About 10 seconds
DTC Type	• 1 drive cycle • VSA indicator on

Fail Safe Action	● Stop TCS function ● Stop VSA function ● Stop engine drag torque control function ● Stop hill start assist function ● Stop agile handling assist function ● Stop automatic brake hold function ● Stop driving support system's brake function
Possible Cause	● Short to ground between the gauge control module and the brake fluid level switch (BRAKE LEVEL SW line) ● Low brake fluid level ● Brake fluid level switch failure ● Gauge control module failure ● VSA modulator-control unit internal failure

DTC C0051-54: Steering Angle Neutral Position Learning Incomplete

Confirmation Procedure	Operating Condition: 1. Start the engine. 2. Test-drive the vehicle at 32 mph (50 km/h) or more. (Drive the vehicle on the road, not on a lift. Be careful of the surrounding traffic conditions.)
Execution	Regular Diagnosis
Duration	–
DTC Type	● 1 drive cycle ● VSA indicator on
Fail Safe Action	● Stop TCS function ● Stop VSA function ● Stop engine drag torque control function ● Stop hill start assist function ● Stop agile handling assist function ● Stop automatic brake hold function ● Stop driving support system's brake function
Possible Cause	● VSA sensor neutral position memorization incomplete ● VSA modulator-control unit internal failure

DTC C0051-62: Steering Angle Sensor Failure (Signal Compare Failure)

Confirmation Procedure	Operating Condition: 1. Start the engine. 2. Test-drive the vehicle at 32 mph (50 km/h) or more for 10 seconds. 3. Turn the steering wheel stable to left. 4. Turn the steering wheel stable to right. (Drive the vehicle on the road, not on a lift. Be careful of the surrounding traffic conditions.)
Execution	Initial Diagnosis/Regular Diagnosis
Duration	About 5 seconds
DTC Type	● 1 drive cycle ● VSA indicator on

Fail Safe Action	• Stop TCS function • Stop VSA function • Stop engine drag torque control function • Stop hill start assist function • Stop agile handling assist function • Stop automatic brake hold function • Stop driving support system's brake function
Possible Cause	• EPS motor/control unit internal failure • VSA modulator-control unit internal failure

DTC C0051-96: Steering Angle Sensor Failure (Sensor Detects Internal Failure)

Confirmation Procedure	Operating Condition: 1. Start the engine. 2. Test-drive the vehicle at 32 mph (50 km/h) or more for 10 seconds. 3. Turn the steering wheel stable to left. 4. Turn the steering wheel stable to right. (Drive the vehicle on the road, not on a lift. Be careful of the surrounding traffic conditions.)
Execution	Regular Diagnosis
Duration	About 1 second
DTC Type	• 1 drive cycle • VSA indicator on
Fail Safe Action	• Stop TCS function • Stop VSA function • Stop engine drag torque control function • Stop hill start assist function • Stop agile handling assist function • Stop automatic brake hold function • Stop driving support system's brake function
Possible Cause	• EPS motor/control unit internal failure • VSA modulator-control unit internal failure

DTC C0061-62: Lateral Acceleration Sensor Failure (Signal Compare Failure)

Confirmation Procedure	Operating Condition: 1. Start the engine. 2. Test-drive the vehicle at 32 mph (50 km/h) or more for 10 seconds. 3. Turn the steering wheel stable to left. 4. Turn the steering wheel stable to right. (Drive the vehicle on the road, not on a lift. Be careful of the surrounding traffic conditions.)
Execution	Initial Diagnosis/Regular Diagnosis
Duration	About 3 seconds
DTC Type	• 1 drive cycle • VSA indicator on

Fail Safe Action	● Stop TCS function ● Stop VSA function ● Stop engine drag torque control function ● Stop hill start assist function ● Stop agile handling assist function ● Stop automatic brake hold function ● Stop driving support system's brake function
Possible Cause	● SRS unit internal failure

DTC C0061-F0: Lateral Acceleration Sensor Malfunction

Confirmation Procedure	Operating Condition: 1. Start the engine. 2. Test-drive the vehicle at 32 mph (50 km/h) or more for 10 seconds. 3. Turn the steering wheel stable to left. 4. Turn the steering wheel stable to right. (Drive the vehicle on the road, not on a lift. Be careful of the surrounding traffic conditions.)
Execution	Initial Diagnosis/Regular Diagnosis
Duration	About 1 second
DTC Type	● 1 drive cycle ● VSA indicator on
Fail Safe Action	● Stop TCS function ● Stop VSA function ● Stop engine drag torque control function ● Stop hill start assist function ● Stop agile handling assist function ● Stop automatic brake hold function ● Stop driving support system's brake function
Possible Cause	● SRS unit internal failure

DTC C0062-62: Longitudinal Acceleration Sensor Failure (Signal Compare Failure)

Confirmation Procedure	Operating Condition: 1. Start the engine. 2. Test-drive the vehicle at 32 mph (50 km/h) or more for 6 minutes and press the brake pedal and stop the vehicle. 3. Repeat step 2 for four times. (Drive the vehicle on the road, not on a lift. Be careful of the surrounding traffic conditions.)
Execution	Initial Diagnosis/Regular Diagnosis
Duration	About 3 seconds
DTC Type	● 1 drive cycle ● Brake system indicator (amber) on ● VSA indicator on
Fail Safe Action	● Stop hill start assist function ● Stop automatic brake hold function ● Stop drive away assist function ● Stop ignition OFF apply function*1
Possible Cause	● SRS unit internal failure

*1: M/T

DTC C0062-F0: Longitudinal Acceleration Sensor Malfunction

Confirmation Procedure	Operating Condition: 1. Start the engine. 2. Test-drive the vehicle at 32 mph (50 km/h) or more for 6 minutes and press the brake pedal and stop the vehicle. 3. Repeat step 2 for four times. (Drive the vehicle on the road, not on a lift. Be careful of the surrounding traffic conditions.)
Execution	Initial Diagnosis/Regular Diagnosis
Duration	About 1 second
DTC Type	● 1 drive cycle ● Brake system indicator (amber) on ● VSA indicator on
Fail Safe Action	● Stop hill start assist function ● Stop automatic brake hold function ● Stop drive away assist function ● Stop ignition OFF apply function*1
Possible Cause	● SRS unit internal failure

*1: M/T

DTC C0063-62: Yaw Rate Sensor Failure (Signal Compare Failure)

Confirmation Procedure	Operating Condition: 1. Start the engine. 2. Test-drive the vehicle at 32 mph (50 km/h) or more for 6 minutes and press the brake pedal and stop the vehicle. 3. Repeat step 2 for four times. (Drive the vehicle on the road, not on a lift. Be careful of the surrounding traffic conditions.)
Execution	Regular Diagnosis
Duration	About 3 seconds
DTC Type	● 1 drive cycle ● VSA indicator on
Fail Safe Action	● Stop TCS function ● Stop VSA function ● Stop engine drag torque control function ● Stop hill start assist function ● Stop agile handling assist function ● Stop automatic brake hold function ● Stop driving support system's brake function
Possible Cause	● SRS unit internal failure

DTC C0063-97: SRS Sensor Unit Supply Voltage Abnormally

Confirmation Procedure	Basic Condition: ● 12 volt battery voltage 10 V or more Operating Condition: 1. Start the engine. 2. Test-drive the vehicle at 32 mph (50 km/h) or more for at least 10 seconds. (Drive the vehicle on the road, not on a lift. Be careful of the surrounding traffic conditions.)
Execution	Regular Diagnosis

*1: M/T

Duration	About 1 second
DTC Type	● 1 drive cycle ● VSA indicator on ● Brake system indicator (amber) on
Fail Safe Action	● Stop TCS function ● Stop VSA function ● Stop engine drag torque control function ● Stop hill start assist function ● Stop agile handling assist function ● Stop automatic brake hold function ● Stop driving support system's brake function ● Stop drive away assist function ● Stop ignition OFF apply function*1
Possible Cause	● Open or Poor connection between the SRS unit and the under-dash fuse/relay box (VB line) ● Blown fuse (No. B35) ● SRS unit internal failure ● VSA modulator-control unit internal failure

*1: M/T

DTC C0063-F0: Yaw Rate Sensor Malfunction

Confirmation Procedure	Operating Condition: 1. Start the engine. 2. Test-drive the vehicle at 32 mph (50 km/h) or more for 10 seconds. 3. Turn the steering wheel stable to left. 4. Turn the steering wheel stable to right. (Drive the vehicle on the road, not on a lift. Be careful of the surrounding traffic conditions.)
Execution	Initial Diagnosis/Regular Diagnosis
Duration	About 1 second
DTC Type	● 1 drive cycle ● VSA indicator on
Fail Safe Action	● Stop TCS function ● Stop VSA function ● Stop engine drag torque control function ● Stop hill start assist function ● Stop agile handling assist function ● Stop automatic brake hold function ● Stop driving support system's brake function
Possible Cause	● SRS unit internal failure

DTC C0072-00: Brake Pad Temperature too High

Confirmation Procedure	Operating Condition: 1. Turn the vehicle to the ON mode.
Execution	Initial Diagnosis/Regular Diagnosis
Duration	After setting temperature detection (immediate)
DTC Type	● 1 drive cycle ● Brake system indicator (amber) on*
Fail Safe Action	● Stop driving support system's brake function

*: Without ACC

Possible Cause	• Temporary brake pad high temperature condition

*: Without ACC

DTC C1000-94: ABS/VSA Activation Time Too Long

Confirmation Procedure	Basic Condition: • 12 volt battery voltage 10 V or more Operating Condition: 1. Start the engine. 2. Test-drive the vehicle at 32 mph (50 km/h) or more for at least 30 seconds. (Drive the vehicle on the road, not on a lift. Be careful of the surrounding traffic conditions.)
Execution	VSA in operation
Duration	About 30 seconds
DTC Type	• 1 drive cycle • VSA indicator on
Fail Safe Action	• Stop TCS function • Stop VSA function • Stop engine drag torque control function • Stop hill start assist function • Stop agile handling assist function • Stop automatic brake hold function • Stop driving support system's brake function
Possible Cause	• VSA modulator-control unit internal failure

DTC C1014-1C: Left Front Brake Caliper Pressure Sensor Failure (Internal Circuit Failure)

Confirmation Procedure	Operating Condition: 1. Start the engine. 2. Press the brake pedal several times.
Execution	Initial Diagnosis/Regular Diagnosis
Duration	About 3 seconds
DTC Type	• 1 drive cycle
Fail Safe Action	• Stop driving support system's brake function
Possible Cause	• VSA modulator-control unit internal failure

DTC C1015-1C: Right Front Brake Caliper Pressure Sensor Failure (Internal Circuit Failure)

Confirmation Procedure	Operating Condition: 1. Start the engine. 2. Press the brake pedal several times.
Execution	Initial Diagnosis/Regular Diagnosis
Duration	About 3 seconds
DTC Type	• 1 drive cycle
Fail Safe Action	• Stop driving support system's brake function
Possible Cause	• VSA modulator-control unit internal failure

DTC C1020-49: VSA Master Cut Valve Failure (Unexpected Operation)

Confirmation Procedure	Basic Condition: ● 12 volt battery voltage 10 V or more Operating Condition: 1. Start the engine, then wait for 2 seconds or more.
Execution	Initial Diagnosis/Regular Diagnosis
Duration	About 2 seconds
DTC Type	● 1 drive cycle ● Brake system indicator (red) on ● Brake system indicator (amber) on ● ABS indicator on ● VSA indicator on
Fail Safe Action	● Stop ABS function ● Stop EBD function ● Stop brake assist function ● Stop TCS function ● Stop VSA function ● Stop engine drag torque control function ● Stop hill start assist function ● Stop agile handling assist function ● Stop automatic brake hold function ● Stop driving support system's brake function ● Stop emergency brake function
Possible Cause	● VSA modulator-control unit internal failure

DTC C1021-49: VSA Suction Valve Failure (Unexpected Operation)

Confirmation Procedure	Basic Condition: ● 12 volt battery voltage 10 V or more Operating Condition: 1. Start the engine, then wait for 2 seconds or more.
Execution	Initial Diagnosis/Regular Diagnosis
Duration	About 2 seconds
DTC Type	● 1 drive cycle ● Brake system indicator (red) on ● Brake system indicator (amber) on ● ABS indicator on ● VSA indicator on

Fail Safe Action	● Stop ABS function ● Stop EBD function ● Stop brake assist function ● Stop TCS function ● Stop VSA function ● Stop engine drag torque control function ● Stop hill start assist function ● Stop agile handling assist function ● Stop automatic brake hold function ● Stop driving support system's brake function ● Stop emergency brake function
Possible Cause	● VSA modulator-control unit internal failure

DTC C1022-14: Power Source Failure for Pump Motor

Confirmation Procedure	Basic Condition: ● 12 volt battery voltage 9 V or more Operating Condition: 1. Start the engine. 2. Test-drive the vehicle at 10 mph (15km/h) or more for at least 20 seconds. (Drive the vehicle on the road, not on a lift. Be careful of the surrounding traffic conditions.)
Execution	Regular Diagnosis
Duration	About 2 seconds
DTC Type	● 1 drive cycle ● Brake system indicator (amber) on ● ABS indicator on ● VSA indicator on
Fail Safe Action	● Stop ABS function ● Stop brake assist function ● Stop TCS function ● Stop VSA function ● Stop engine drag torque control function ● Stop hill start assist function ● Stop agile handling assist function ● Stop automatic brake hold function ● Stop driving support system's brake function ● Stop emergency brake function
Possible Cause	● Open, Short to ground, or Poor connection between the VSA modulator-control unit and the under-hood fuse/relay box (+B ABS/VSA MTR line) ● Blown fuse (No. A3-3) ● VSA modulator-control unit internal failure

DTC C1100-48: Electric Parking Brake Abnormal Operation Monitoring

Confirmation Procedure	Basic Condition: • Wheel speed is less than 2 mph (3 km/h) Operating Condition: 1. Turn the vehicle to the ON mode. 2. Apply and release the parking brake several times. 3. Wait for 30 seconds or more.
Execution	Regular Diagnosis
Duration	About 30 seconds
DTC Type	• 1 drive cycle • Brake system indicator (amber) on
Fail Safe Action	• Stop electric parking brake function
Possible Cause	• VSA modulator-control unit internal failure

DTC C1100-53: Electric Parking Brake System in Maintenance Mode

Confirmation Procedure	Basic Condition: • 12 volt battery voltage 9 V or more Operating Condition: 1. Turn the vehicle to the ON mode.
Execution	Initial Diagnosis
Duration	–
DTC Type	• 1 drive cycle • Brake system indicator (red) flash (for 15 seconds) • Brake system indicator (amber) on
Fail Safe Action	• Electric parking brake actuator shall not be activated
Possible Cause	• In Brake Pad Maintenance Mode • VSA modulator-control unit internal failure

DTC C1100-54: Piston Position Not Learned

Confirmation Procedure	Basic Condition: • 12 volt battery voltage 9 - 16 V Operating Condition: 1. Turn the vehicle to the ON mode.
Execution	Initial Diagnosis
Duration	–
DTC Type	• 1 drive cycle • Brake system indicator (red) flash • Brake system indicator (amber) on
Fail Safe Action	• None
Possible Cause	• Piston position not learned • VSA modulator-control unit internal failure

DTC C1100-92: Decelerating Abnormally Detection

Confirmation Procedure	Basic Condition: • 12 volt battery voltage 9 - 16 V

Execution	Regular Diagnosis
Duration	About 5 seconds
DTC Type	• 1 drive cycle • Brake system indicator (amber) on
Fail Safe Action	• Stop emergency brake function
Possible Cause	• Rear brake system failure • VSA modulator-control unit internal failure

DTC C1100-94: Brake Fluid Leakage

Confirmation Procedure	Basic Condition: • 12 volt battery voltage 9 - 16 V
Execution	Initial Diagnosis/Regular Diagnosis
Duration	About 5 seconds
DTC Type	• 1 drive cycle
Fail Safe Action	• Stop driving support system's brake function
Possible Cause	• Brake fluid leakage • VSA modulator-control unit internal failure

DTC C1100-98: Electric Parking Brake Continuous Operations Detected

Confirmation Procedure	Basic Condition: • 12 volt battery voltage 9 - 16 V Operating Condition: 1. Start the engine. 2. Apply and release the parking brake several times. (This DTC is set when repeated use of the electric parking brake function causes electric parking brake actuator overheating.)
Execution	Electric parking brake in operation
Duration	About 1 minute
DTC Type	• 1 drive cycle • Brake system indicator (amber) on
Fail Safe Action	• None
Possible Cause	• Electric parking actuator overheating • VSA modulator-control unit internal failure

DTC C1110-11: Left Rear Electric Parking Brake Actuator Circuit Short to Ground

Confirmation Procedure	Basic Condition: • 12 volt battery voltage 9 - 16 V Operating Condition: 1. Turn the vehicle to the ON mode.
Execution	Initial Diagnosis/Regular Diagnosis
Duration	About 1 second
DTC Type	• 1 drive cycle • Brake system indicator (amber) on

*1: M/T

Fail Safe Action	● Stop automatic brake hold function ● Stop manual operating function (If both sides of electric parking brake actuator failures are detected) ● Stop drive away assist function (If both sides of electric parking brake actuator failures are detected) ● Stop external applying function (If both sides of electric parking brake actuator failures are detected) ● Stop automatic adjusting function ● Stop emergency brake function ● Stop ignition OFF apply function (If both sides of electric parking brake actuator failures are detected)*1
Possible Cause	● Short to ground between the VSA modulator-control unit and the left-rear electric parking brake actuator (EPB L ACT+, EPB L ACT- lines) ● Left-rear electric parking brake actuator failure ● VSA modulator-control unit internal failure

*1: M/T

DTC C1110-13: Left Rear Electric Parking Brake Actuator Circuit Open

Confirmation Procedure	Basic Condition: ● 12 volt battery voltage 9 - 16 V Operating Condition: 1. Turn the vehicle to the ON mode.
Execution	Initial Diagnosis/Regular Diagnosis
Duration	About 1 second
DTC Type	● 1 drive cycle ● Brake system indicator (amber) on
Fail Safe Action	● Stop automatic brake hold function ● Stop manual operating function (If both sides of electric parking brake actuator failures are detected) ● Stop drive away assist function (If both sides of electric parking brake actuator failures are detected) ● Stop external applying function (If both sides of electric parking brake actuator failures are detected) ● Stop automatic adjusting function ● Stop emergency brake function ● Stop ignition OFF apply function (If both sides of electric parking brake actuator failures are detected)*1
Possible Cause	● Open or Poor connection between the VSA modulator-control unit and the left-rear electric parking brake actuator (EPB L ACT+, EPB L ACT- lines) ● Open, Short to ground, or Poor connection between the VSA modulator-control unit and the under-hood fuse/relay box (+B ABS/VSA FSR line) ● Blown fuse (No. A3-2) ● Left-rear electric parking brake actuator failure ● VSA modulator-control unit internal failure

*1: M/T

DTC C1110-79: Left Side Electric Parking Brake Doesn't Work Correctly

Confirmation Procedure	Basic Condition: ● 12 volt battery voltage 9 - 16 V Operating Condition: 1. Turn the vehicle to the ON mode, then wait for 5 seconds or more.

Execution	Regular Diagnosis
Duration	About 5 seconds
DTC Type	● 1 drive cycle ● Brake system indicator (red) flash ● Brake system indicator (amber) on
Fail Safe Action	● Clamping or releasing process shall be interrupted
Possible Cause	● Rear brake component parts installation incorrect ● VSA modulator-control unit internal failure

DTC C1110-96: Left Side Electric Parking Brake Actuator Malfunction

Confirmation Procedure	Basic Condition: ● 12 volt battery voltage 9 - 16 V Operating Condition: 1. Turn the vehicle to the ON mode.
Execution	Initial Diagnosis/Regular Diagnosis
Duration	About 1 second
DTC Type	● 1 drive cycle ● Brake system indicator (amber) on
Fail Safe Action	● Stop automatic brake hold function ● Stop manual operating function (If both sides of electric parking brake actuator failures are detected) ● Stop drive away assist function (If both sides of electric parking brake actuator failures are detected) ● Stop external applying function (If both sides of electric parking brake actuator failures are detected) ● Stop automatic adjusting function ● Stop emergency brake function ● Stop ignition OFF apply function (If both sides of electric parking brake actuator failures are detected)*1
Possible Cause	● Rear brake component parts installation incorrect ● Left-rear electric parking brake actuator failure ● VSA modulator-control unit internal failure

*1: M/T

DTC C1111-11: Right Rear Electric Parking Brake Actuator Circuit Short to Ground

Confirmation Procedure	Basic Condition: ● 12 volt battery voltage 9 - 16 V Operating Condition: 1. Turn the vehicle to the ON mode.
Execution	Initial Diagnosis/Regular Diagnosis
Duration	About 1 second
DTC Type	● 1 drive cycle ● Brake system indicator (amber) on

*1: M/T

Fail Safe Action	• Stop automatic brake hold function • Stop manual operating function (If both sides of electric parking brake actuator failures are detected) • Stop drive away assist function (If both sides of electric parking brake actuator failures are detected) • Stop external applying function (If both sides of electric parking brake actuator failures are detected) • Stop automatic adjusting function • Stop emergency brake function • Stop ignition OFF apply function (If both sides of electric parking brake actuator failures are detected)*1
Possible Cause	• Short to ground between the VSA modulator-control unit and the right-rear electric parking brake actuator (EPB R ACT+, EPB L ACT- lines) • Right-rear electric parking brake actuator failure • VSA modulator-control unit internal failure

*1: M/T

DTC C1111-13: Right Rear Electric Parking Brake Actuator Circuit Open

Confirmation Procedure	Basic Condition: • 12 volt battery voltage 9 - 16 V Operating Condition: 1. Turn the vehicle to the ON mode.
Execution	Initial Diagnosis/Regular Diagnosis
Duration	About 1 second
DTC Type	• 1 drive cycle • Brake system indicator (amber) on • VSA indicator on
Fail Safe Action	• Stop automatic brake hold function • Stop manual operating function (If both sides of electric parking brake actuator failures are detected) • Stop drive away assist function (If both sides of electric parking brake actuator failures are detected) • Stop external applying function (If both sides of electric parking brake actuator failures are detected) • Stop automatic adjusting function • Stop emergency brake function • Stop ignition OFF apply function (If both sides of electric parking brake actuator failures are detected)*1
Possible Cause	• Open or Poor connection between the VSA modulator-control unit and the right-rear electric parking brake actuator (EPB R ACT+, EPB R ACT- lines) • Open, Short to ground, or Poor connection between the VSA modulator-control unit and the under-hood fuse/relay box (+B ABS/VSA FSR line) • Blown fuse (No. A3-2) • Right-rear electric parking brake actuator failure • VSA modulator-control unit internal failure

*1: MT model

DTC C1111-79: Right Side Electric Parking Brake Doesn't Work Correctly

Confirmation Procedure	Basic Condition: ● 12 volt battery voltage 9 - 16 V Operating Condition: 1. Turn the vehicle to the ON mode, then wait for 5 seconds or more.
Execution	Regular Diagnosis
Duration	About 5 seconds
DTC Type	● 1 drive cycle ● Brake system indicator (red) flash ● Brake system indicator (amber) on
Fail Safe Action	● Clamping or releasing process shall be interrupted
Possible Cause	● Rear brake component parts installation incorrect ● VSA modulator-control unit internal failure

DTC C1111-96: Right Side Electric Parking Brake Actuator Malfunction

Confirmation Procedure	Basic Condition: ● 12 volt battery voltage 9 - 16 V Operating Condition: 1. Turn the vehicle to the ON mode.
Execution	Initial Diagnosis/Regular Diagnosis
Duration	–
DTC Type	● 1 drive cycle ● Brake system indicator (amber) on
Fail Safe Action	● Stop automatic brake hold function ● Stop manual operating function (If both sides of electric parking brake actuator failures are detected) ● Stop drive away assist function (If both sides of electric parking brake actuator failures are detected) ● Stop external applying function (If both sides of electric parking brake actuator failures are detected) ● Stop automatic adjusting function ● Stop emergency brake function ● Stop ignition OFF apply function (If both sides of electric parking brake actuator failures are detected)*1
Possible Cause	● Rear brake component parts installation incorrect ● Right-rear electric parking brake actuator failure ● VSA modulator-control unit internal failure

*1: M/T

DTC C1120-14: Electric Parking Brake Switch Circuit Malfunction

Confirmation Procedure	Basic Condition: ● 12 volt battery voltage 9 - 16 V Operating Condition: 1. Turn the vehicle to the ON mode.
Execution	Regular Diagnosis
Duration	–
DTC Type	● 1 drive cycle ● Brake system indicator (amber) on

Fail Safe Action	• Stop automatic brake hold function (If electric parking brake switch and drive away assist function are failed) • Stop manual operating function • Stop external applying function (If electric parking brake switch and drive away assist function are failed) • Stop automatic adjusting function • Stop emergency brake function
Possible Cause	• Open, Short to ground, or Poor connection between the VSA modulator-control unit and the electric parking brake switch (SW1, SW3, SW4, SW6 lines) • Electric parking brake switch failure • VSA modulator-control unit internal failure

DTC C1120-96: Electric Parking Brake Switch Malfunction

Confirmation Procedure	Basic Condition: • 12 volt battery voltage 9 - 16 V Operating Condition: 1. Turn the vehicle to the ON mode, then wait for 20 seconds.
Execution	Regular Diagnosis
Duration	–
DTC Type	• 1 drive cycle • Brake system indicator (amber) on
Fail Safe Action	• Stop automatic brake hold function (If electric parking brake switch and drive away assist function are failed) • Stop manual operating function • Stop external applying function (If electric parking brake switch and drive away assist function are failed) • Stop automatic adjusting function • Stop emergency brake function
Possible Cause	• Electric parking brake switch failure • VSA modulator-control unit internal failure

DTC C1130-54: Clutch Stroke Sensor Not Calibrated

Confirmation Procedure	Basic Condition: • 12 volt battery voltage 9 - 16 V Operating Condition: 1. Turn the vehicle to the ON mode.
Execution	Initial Diagnosis/Regular Diagnosis
Duration	About 1 second
DTC Type	• 1 drive cycle • Brake system indicator (amber) on • VSA indicator on
Fail Safe Action	• Stop hill start assist function • Stop automatic brake hold function • Stop drive away assist function • Stop ignition OFF apply function

Possible Cause	● Clutch pedal stroke sensor installation incorrect ● Clutch pedal assembly failure ● VSA modulator-control unit internal failure

DTC C1130-62: Clutch Pedal Stroke Sensor CPS1/CPS2 Incorrect Voltage Correlation

Confirmation Procedure	Basic Condition: ● 12 volt battery voltage 9 - 16 V Operating Condition: 1. Turn the vehicle to the ON mode.
Execution	Initial Diagnosis/Regular Diagnosis
Duration	–
DTC Type	● 1 drive cycle ● Brake system indicator (amber) on ● VSA indicator on
Fail Safe Action	● Stop hill start assist function ● Stop automatic brake hold function ● Stop drive away assist function ● Stop ignition OFF apply function
Possible Cause	● Clutch pedal stroke sensor installation incorrect ● Clutch pedal assembly failure ● VSA modulator-control unit internal failure

DTC C1130-76: Clutch Pedal Stroke Sensor Mount Position Error

Confirmation Procedure	Basic Condition: ● 12 volt battery voltage 9 - 16 V Operating Condition: 1. Turn the vehicle to the ON mode.
Execution	Initial Diagnosis/Regular Diagnosis
Duration	–
DTC Type	● 1 drive cycle ● Brake system indicator (amber) on ● VSA indicator on
Fail Safe Action	● Stop hill start assist function ● Stop automatic brake hold function ● Stop drive away assist function ● Stop ignition OFF apply function
Possible Cause	● Clutch pedal stroke sensor installation incorrect ● Clutch pedal assembly failure ● VSA modulator-control unit internal failure

DTC C1131-14: Clutch Pedal Stroke Sensor CPS1/CPS2 Open or Short

Confirmation Procedure	Basic Condition: ● 12 volt battery voltage 9 - 16 V Operating Condition: 1. Turn the vehicle to the ON mode.
Execution	Initial Diagnosis/Regular Diagnosis

Duration	–
DTC Type	• 1 drive cycle • Brake system indicator (amber) on • VSA indicator on
Fail Safe Action	• Stop hill start assist function • Stop automatic brake hold function • Stop drive away assist function • Stop ignition OFF apply function
Possible Cause	• Open, Short to ground, Short to power, or Poor connection between the VSA modulator-control unit and the clutch pedal stroke sensor (CSS SIG1, CSS SIG2 lines) • Clutch pedal assembly failure • VSA modulator-control unit internal failure

DTC C1270-11: Automatic Brake Hold Switch Signal Circuit Short

Confirmation Procedure	Basic Condition: • 12 volt battery voltage 7 - 16.7 V Operating Condition: 1. Turn the vehicle to the ON mode.
Execution	Regular Diagnosis
Duration	About 1 second
DTC Type	• 1 drive cycle
Fail Safe Action	• Stop automatic brake hold function
Possible Cause	• Short to ground between the automatic brake hold switch and the gauge control module (BRAKE HOLD line) • Automatic brake hold switch failure • Gauge control module internal failure • VSA modulator-control unit internal failure

DTC C1270-15: Automatic Brake Hold Switch Signal Circuit Open

Confirmation Procedure	Basic Condition: • 12 volt battery voltage 7 - 16.7 V Operating Condition: 1. Turn the vehicle to the ON mode.
Execution	Regular Diagnosis
Duration	About 1 second
DTC Type	• 1 drive cycle
Fail Safe Action	• Stop automatic brake hold function
Possible Cause	• Open, Short to power, or Poor connection between the automatic brake hold switch and the gauge control module (BRAKE HOLD line) • Open or Poor connection between the automatic brake hold switch and the body ground (GND line) • Automatic brake hold switch failure • Gauge control module internal failure • VSA modulator-control unit internal failure

DTC C1C20-62: Neutral Sensor Failure

Confirmation Procedure	Basic Condition: ● 12 volt battery voltage 9 - 16 V Operating Condition: 1. Start the engine. 2. Test-drive the vehicle so it shifts from 1st through 6th from neutral position. (Drive the vehicle on the road, not on a lift. Be careful of the surrounding traffic conditions.)
Execution	Regular Diagnosis
Duration	About 2 seconds
DTC Type	● 1 drive cycle ● Brake system indicator (amber) on ● VSA indicator on
Fail Safe Action	● Stop hill start assist function ● Stop automatic brake hold function ● Stop ignition OFF apply function
Possible Cause	● Neutral position sensor failure ● VSA modulator-control unit internal failure

DTC C1C21-62: Reverse Information Failure (Stuck)

Confirmation Procedure	Operating Condition: 1. Start the engine. 2. Test-drive the vehicle at 38 mph (60 km/h) or more for at least 3 seconds. 3. Drive in reverse. 4. Repeat steps 2 and 3, twice. (Drive the vehicle on the road, not on a lift. Be careful of the surrounding traffic conditions.)
Execution	Regular Diagnosis
Duration	About 3 seconds
DTC Type	● 1 drive cycle ● Brake system indicator (amber) on ● VSA indicator on
Fail Safe Action	● Stop hill start assist function ● Stop automatic brake hold function ● Stop ignition OFF apply function*1
Possible Cause	● Transmission range switch failure*2 ● Open, Short to ground, Short to power, or Poor connection between the VSA modulator-control unit and the back-up light switch (REVERSE SW/RVS SW, REVERSE SW GND/PG or RVS SW GND lines)*1 ● Back-up light switch failure*1 ● VSA modulator-control unit internal failure

*1: M/T
*2: CVT

DTC C1C22-62: Neutral Sensor Failure

Confirmation Procedure	Operating Condition: 1. Start the engine. 2. Test-drive the vehicle at 19 mph (30 km/h) or more for at least 60 seconds. (Drive the vehicle on the road, not on a lift. Be careful of the surrounding traffic conditions.)
Execution	Regular Diagnosis
Duration	About 60 seconds

DTC Type	● 1 drive cycle ● Brake system indicator (amber) on ● VSA indicator on
Fail Safe Action	● Stop hill start assist function ● Stop automatic brake hold function
Possible Cause	● Transmission range switch failure ● VSA modulator-control unit internal failure

DTC U0029-00: CAN Communication Failure (Bus OFF)

Confirmation Procedure	Operating Condition: 1. Turn the vehicle to the ON mode, then wait for 2 seconds or more.
Execution	Regular Diagnosis
Duration	About 2 seconds
DTC Type	● 1 drive cycle ● Brake system indicator (amber) on ● VSA indicator on
Fail Safe Action	● Stop TCS function ● Stop VSA function ● Stop engine drag torque control function ● Stop hill start assist function ● Stop agile handling assist function ● Stop automatic brake hold function ● Stop driving support system's brake function ● Stop drive away assist function ● Stop ignition OFF apply function*1
Possible Cause	● Open, Short to another line, or Poor connection between the VSA modulator-control unit and the other control units (F-CAN_L, F-CAN_H lines)*2 ● Open, Short to another line, or Poor connection between the VSA modulator-control unit and the other control units (F-CAN A_L, F-CAN A_H, F-CAN B_L, F-CAN B_H lines)*3 ● Internal failure of another unit on F-CAN ● VSA modulator-control unit internal failure

*1: M/T
*2: Without ACC
*3: With ACC

DTC U0100-00: CAN Communication Failure with ECM/ISU

Confirmation Procedure	Basic Condition: ● 12 volt battery voltage 10 V or more Operating Condition: 1. Start the engine. 2. Test-drive the vehicle at 7 mph (10 km/h) or more for at least 2 seconds. (Drive the vehicle on the road, not on a lift. Be careful of the surrounding traffic conditions.)
Execution	Regular Diagnosis
Duration	About 2 seconds
DTC Type	● 1 drive cycle ● Brake system indicator (amber) on ● VSA indicator on

*1: M/T
*2: Without ACC
*3: With ACC

Fail Safe Action	● Stop TCS function ● Stop VSA function ● Stop engine drag torque control function ● Stop hill start assist function ● Stop agile handling assist function ● Stop automatic brake hold function ● Stop driving support system's brake function ● Stop drive away assist function ● Stop ignition OFF apply function*1
Possible Cause	● Open or Poor connection between the VSA modulator-control unit and the PCM (F-CAN_L, F-CAN_H lines)*2 ● Open or Poor connection between the VSA modulator-control unit and the CAN gateway (F-CAN A_L, F-CAN A_H, F-CAN B_L, F-CAN B_H lines)*3 ● Open or Poor connection between the CAN gateway and the PCM (F-CAN A_L, F-CAN A_H, F-CAN B_L, F-CAN B_H lines)*3 ● PCM internal failure ● VSA modulator-control unit internal failure

*1: M/T
*2: Without ACC
*3: With ACC

DTC U0101-00: CAN Communication Failure with TCM

Confirmation Procedure	Basic Condition: ● 12 volt battery voltage 10 V or more Operating Condition: 1. Start the engine. 2. Test-drive the vehicle at 7 mph (10 km/h) or more for at least 2 seconds. (Drive the vehicle on the road, not on a lift. Be careful of the surrounding traffic conditions.)
Execution	Regular Diagnosis
Duration	About 2 seconds
DTC Type	● 1 drive cycle ● Brake system indicator (amber) on ● VSA indicator on
Fail Safe Action	● Stop TCS function ● Stop VSA function ● Stop engine drag torque control function ● Stop hill start assist function ● Stop agile handling assist function ● Stop automatic brake hold function ● Stop driving support system's brake function ● Stop drive away assist function
Possible Cause	● Open or Poor connection between the VSA modulator-control unit and the TCM (F-CAN_L, F-CAN_H lines)*1 ● Open or Poor connection between the VSA modulator-control unit and the CAN gateway (F-CAN A_L, F-CAN A_H, F-CAN B_L, F-CAN B_H lines)*2 ● Open or Poor connection between the CAN gateway and the TCM (F-CAN A_L, F-CAN A_H)*2 ● TCM failure ● VSA modulator-control unit internal failure

*1: Without ACC
*2: With ACC

DTC U0104-00: CAN Communication Failure with ACC

Confirmation Procedure	Basic Condition: ● 12 volt battery voltage 10 V or more Operating Condition: 1. Start the engine. 2. Test drive the vehicle at 7 mph (10 km/h) or more for at least 2 seconds. (Drive the vehicle on the road, not on a lift. Be careful of surrounding traffic conditions.)
Execution	Regular Diagnosis
Duration	About 2 seconds
DTC Type	● 1 drive cycle ● VSA indicator on
Fail Safe Action	● Stop driving support system's brake function
Possible Cause	● Open or Poor connection between the VSA modulator-control unit and the CAN gateway (F-CAN A_L, F-CAN A_H, F-CAN B_L, F-CAN B_H lines) ● Open or Poor connection between the CAN gateway and the multipurpose camera unit (F-CAN B_L, F-CAN B_H)*1 ● Open or Poor connection between the CAN gateway and the millimeter wave radar (F-CAN B_L, F-CAN B_H)*2/*3 ● Multipurpose camera unit failure*1 ● Millimeter wave radar failure*2/*3 ● VSA modulator-control unit internal failure

*1: '16-18 2/4-door
*2: 5-door
*3: '19-20 2/4-door

DTC U0123-00: CAN Communication Failure with Yaw-rate/Acceleration Sensor

Confirmation Procedure	Basic Condition: ● 12 volt battery voltage 10 V or more Operating Condition: 1. Start the engine. 2. Test drive the vehicle at 7 mph (10 km/h) or more for at least 2 seconds. (Drive the vehicle on the road, not on a lift. Be careful of surrounding traffic conditions.)
Execution	Regular Diagnosis
Duration	About 2 seconds
DTC Type	● 1 drive cycle ● VSA indicator on
Fail Safe Action	● Stop TCS function ● Stop VSA function ● Stop engine drag torque control function ● Stop hill start assist function ● Stop agile handling assist function ● Stop automatic brake hold function ● Stop driving support system's brake function ● Stop drive away assist function ● Stop ignition OFF apply function*1

*1: M/T
*2: Without ACC
*3: With ACC

Possible Cause	● Open or Poor connection between the VSA modulator-control unit and the SRS unit (F-CAN_L, F-CAN_H lines)*2 ● Open between the VSA modulator-control unit and the CAN gateway (F-CAN A_L, F-CAN A_H, F-CAN B_L, F-CAN B_H lines)*3 ● Open or Poor connection between the CAN gateway and the SRS unit (F-CAN B_L, F-CAN B_H)*3 ● SRS unit failure ● VSA modulator-control unit internal failure

*1: M/T
*2: Without ACC
*3: With ACC

DTC U0126-00: CAN Communication Failure with Absolute Steering Wheel Angle Sensor

Confirmation Procedure	Basic Condition: ● 12 volt battery voltage 10 V or more Operating Condition: 1. Start the engine. 2. Test drive the vehicle at 7 mph (10 km/h) or more for at least 2 seconds. (Drive the vehicle on the road, not on a lift. Be careful of surrounding traffic conditions.)
Execution	Regular Diagnosis
Duration	About 2 seconds
DTC Type	● 1 drive cycle ● Brake system indicator (amber) on ● VSA indicator on
Fail Safe Action	● Stop TCS function ● Stop VSA function ● Stop engine drag torque control function ● Stop hill start assist function ● Stop agile handling assist function ● Stop automatic brake hold function ● Stop driving support system's brake function
Possible Cause	● Open or Poor connection between the VSA modulator-control unit and the EPS motor/control unit (F-CAN_L, F-CAN_H lines)*1 ● Open or Poor connection between the VSA modulator-control unit and the CAN gateway (F-CAN A_L, F-CAN A_H, F-CAN B_L, F-CAN B_H lines)*2 ● Open between the CAN gateway and the EPS motor/control unit (F-CAN B_L, F-CAN B_H)*2 ● EPS motor/control unit internal failure ● VSA modulator-control unit internal failure

*1: Without ACC
*2: With ACC

DTC U0151-00: CAN Communication Failure with SRS

Confirmation Procedure	Basic Condition: ● 12 volt battery voltage 10 V or more Operating Condition: 1. Start the engine. 2. Test drive the vehicle at 7 mph (10 km/h) or more for at least 2 seconds. (Drive the vehicle on the road, not on a lift. Be careful of surrounding traffic conditions.)
Execution	Regular Diagnosis
Duration	About 2 seconds
DTC Type	● 1 drive cycle ● VSA indicator on

*1: M/T
*2: Without ACC
*3: With ACC

Fail Safe Action	• Stop automatic brake hold function • Stop drive away assist function • Stop ignition OFF apply function*1
Possible Cause	• Open or Poor connection between the VSA modulator-control unit and the SRS unit (F-CAN_L, F-CAN_H lines)*2 • Open or Poor connection between the VSA modulator-control unit and the CAN gateway (F-CAN A_L, F-CAN A_H, F-CAN B_L, F-CAN B_H lines)*3 • Open or Poor connection between the CAN gateway and the SRS unit (F-CAN B_L, F-CAN B_H)*3 • SRS unit failure • VSA modulator-control unit internal failure

*1: M/T
*2: Without ACC
*3: With ACC

DTC U0155-00: CAN Communication Failure with Meter

Confirmation Procedure	Basic Condition: • 12 volt battery voltage 10 V or more Operating Condition: 1. Start the engine. 2. Test drive the vehicle at 7 mph (10 km/h) or more for at least 2 seconds. (Drive the vehicle on the road, not on a lift. Be careful of surrounding traffic conditions.)
Execution	Regular Diagnosis
Duration	About 2 seconds
DTC Type	• 1 drive cycle • VSA indicator on
Fail Safe Action	• Stop TCS function • Stop VSA function • Stop engine drag torque control function • Stop hill start assist function • Stop agile handling assist function • Stop automatic brake hold function • Stop driving support system's brake function
Possible Cause	• Open or Poor connection between the VSA modulator-control unit and the gauge control module (F-CAN_L, F-CAN_H lines)*1 • Open or Poor connection between the VSA modulator-control unit and the CAN gateway (F-CAN A_L, F-CAN A_H, F-CAN B_L, F-CAN B_H lines)*2 • Open or Poor connection between the CAN gateway and the gauge control module (F-CAN A_L, F-CAN A_H)*2*3/*2*5 • Open or Poor connection between the CAN gateway and the gauge control module (F-CAN C_L, F-CAN C_H)*2*4/*2*6 • Gauge control module internal failure • VSA modulator-control unit internal failure

*1: Without ACC
*2: With ACC
*3: '16-18 2/4-door
*4: '19-20 2/4-door
*5: '17-19 5-door
*6: '20 5-door

DTC U0401-68: ECM Failure

Confirmation Procedure	Basic Condition: ● 12 volt battery voltage 10 V or more Operating Condition: 1. Start the engine. 2. Test drive the vehicle at 7 mph (10 km/h) or more for at least 2 seconds. (Drive the vehicle on the road, not on a lift. Be careful of surrounding traffic conditions.)
Execution	Regular Diagnosis
Duration	About 1 second
DTC Type	● 1 drive cycle ● Brake system indicator (amber) on ● VSA indicator on
Fail Safe Action	● Stop TCS function ● Stop VSA function ● Stop engine drag torque control function ● Stop hill start assist function ● Stop agile handling assist function ● Stop automatic brake hold function ● Stop driving support system's brake function ● Stop drive away assist function ● Stop ignition OFF apply function*1
Possible Cause	● PCM internal failure ● VSA modulator-control unit internal failure

*1: M/T

DTC U0402-68: TCM Failure

Confirmation Procedure	Basic Condition: ● 12 volt battery voltage 10 V or more Operating Condition: 1. Start the engine. 2. Test drive the vehicle at 7 mph (10 km/h) or more for at least 2 seconds. (Drive the vehicle on the road, not on a lift. Be careful of surrounding traffic conditions.)
Execution	Regular Diagnosis
Duration	About 1 second
DTC Type	● 1 drive cycle ● Brake system indicator (amber) on ● VSA indicator on
Fail Safe Action	● Stop TCS function ● Stop VSA function ● Stop engine drag torque control function ● Stop hill start assist function ● Stop agile handling assist function ● Stop automatic brake hold function ● Stop driving support system's brake function ● Stop drive away assist function
Possible Cause	● TCM failure ● VSA modulator-control unit internal failure

DTC U0416-68: VSA System Malfunction

Confirmation Procedure	Basic Condition: ● 12 volt battery voltage 9 - 16 V Operating Condition: 1. Turn the vehicle to the ON mode.
Execution	Initial Diagnosis
Duration	–
DTC Type	● 1 drive cycle ● System indicators turn on in accordance with failure part of VSA system
Fail Safe Action	● Activation of electric parking brake actuator shall be interrupted
Possible Cause	● VSA modulator-control unit internal failure

DTC U3000-49: ECU Internal Circuit Failure

Confirmation Procedure	Operating Condition: 1. Turn the vehicle to the ON mode, then wait for 2 seconds or more.
Execution	Initial Diagnosis/Regular Diagnosis
Duration	About 2 seconds
DTC Type	● 1 drive cycle ● Brake system indicator (red) on (Dependant upon the conditions) ● Brake system indicator (amber) on ● ABS indicator on (Dependant upon the conditions) ● VSA indicator on (Dependant upon the conditions)
Fail Safe Action	● Stop ABS function (Dependant upon the conditions) ● Stop EBD function (Dependant upon the conditions) ● Stop brake assist function (Dependant upon the conditions) ● Stop TCS function (Dependant upon the conditions) ● Stop VSA function (Dependant upon the conditions) ● Stop engine drag torque control function (Dependant upon the conditions) ● Stop hill start assist function (Dependant upon the conditions) ● Stop agile handling assist function (Dependant upon the conditions) ● Stop automatic brake hold function ● Stop driving support system's brake function (Dependant upon the conditions) ● Stop manual operating function (Dependant upon the conditions) ● Stop drive away assist function (Dependant upon the conditions) ● Stop external applying function (Dependant upon the conditions) ● Stop automatic adjusting function ● Stop emergency brake function (Dependant upon the conditions) ● Stop ignition OFF apply function*1 (Dependant upon the conditions)
Possible Cause	● VSA modulator-control unit internal failure

*1: M/T

DTC U3000-51: ECU Software Update Failure

Confirmation Procedure	Operating Condition: 1. Turn the vehicle to the ON mode.
Execution	During VSA reprogramming
Duration	–

*1: M/T

DTC Type	● 1 drive cycle ● Brake system indicator (red) on ● Brake system indicator (amber) on ● ABS indicator on ● VSA indicator on
Fail Safe Action	● Stop ABS function ● Stop EBD function ● Stop brake assist function ● Stop TCS function ● Stop VSA function ● Stop engine drag torque control function ● Stop hill start assist function ● Stop agile handling assist function ● Stop automatic brake hold function ● Stop driving support system's brake function ● Stop manual operating function ● Stop drive away assist function ● Stop external applying function ● Stop automatic adjusting function ● Stop emergency brake function ● Stop ignition OFF apply function*1
Possible Cause	● VSA modulator-control unit update not completed ● VSA modulator-control unit internal failure

*1: M/T

DTC U3000-54: Sensor Calibration is Not Completed

Confirmation Procedure	Operating Condition: 1. Start the engine. 2. Test-drive the vehicle at 7 mph (10 km/h) or more for at least 2 seconds. (Drive the vehicle on the road, not on a lift. Be careful of the surrounding traffic conditions.)
Execution	Initial Diagnosis
Duration	About 2 seconds
DTC Type	● 1 drive cycle ● Brake system indicator (amber) on ● VSA indicator on
Fail Safe Action	● Stop brake assist function ● Stop TCS function ● Stop VSA function ● Stop engine drag torque control function ● Stop hill start assist function ● Stop agile handling assist function ● Stop automatic brake hold function ● Stop driving support system's brake function ● Stop drive away assist function ● Stop emergency brake function ● Stop ignition OFF apply function*1

*1: M/T

Possible Cause	● VSA sensor neutral position not learned ● VSA modulator-control unit internal failure

*1: M/T

DTC U3003-16: Electric Parking Brake Control Unit Power Source Circuit (+B) Low Voltage

Confirmation Procedure	Basic Condition: ● 12 volt battery voltage 9 - 16 V Operating Condition: 1. Turn the vehicle to the ON mode, then wait for 10 seconds or more.
Execution	Initial Diagnosis
Duration	About 10 seconds
DTC Type	● 1 drive cycle ● Brake system indicator (red) flash ● Brake system indicator (amber) on
Fail Safe Action	● Electric parking brake actuator shall be interrupted or not be activated
Possible Cause	● Low 12 volt battery voltage ● VSA modulator-control unit internal failure

DTC U3003-17: Electric Parking Brake Control Unit Power Source Circuit (+B) High Voltage

Confirmation Procedure	Basic Condition: ● 12 volt battery voltage 9 - 16 V Operating Condition: 1. Turn the vehicle to the ON mode, then wait for 10 seconds or more.
Execution	Initial Diagnosis
Duration	About 10 seconds
DTC Type	● 1 drive cycle ● Brake system indicator (red) flash ● Brake system indicator (amber) on
Fail Safe Action	● Electric parking brake actuator shall be interrupted or not be activated
Possible Cause	● High 12 volt battery voltage ● VSA modulator-control unit internal failure

DTC U3003-68: Electric Parking Brake Control Unit Internal Circuit Malfunction (Power Self-Holding Circuit)

Confirmation Procedure	Basic Condition: ● 12 volt battery voltage 9 - 16 V Operating Condition: 1. Turn the vehicle to the ON mode. 2. Apply and release the parking brake several times.
Execution	Initial Diagnosis
Duration	About 10 seconds
DTC Type	● 1 drive cycle ● Brake system indicator (red) flash ● Brake system indicator (amber) on
Fail Safe Action	● An apply or release request shall lead to an apply or release of the electric parking brake actuator

Possible Cause	● Open, Short to ground, or Poor connection between the VSA modulator-control unit and the under-hood fuse/relay box (+B ABS/VSA FSR line) ● Open or Poor connection between the VSA modulator-control unit and body ground (GND line) ● Blown fuse (No. A3-2) ● VSA modulator-control unit internal failure

DTC U3006-13: IG1 Circuit Open

Confirmation Procedure	Basic Condition: ● 12 volt battery voltage 9 - 16 V Operating Condition: 1. Turn the vehicle to the ON mode, then wait for 60 seconds or more.
Execution	Regular Diagnosis
Duration	About 60 seconds
DTC Type	● 1 drive cycle ● Brake system indicator (red) on (Dependant upon the conditions) ● Brake system indicator (amber) on ● ABS indicator on (Dependant upon the conditions) ● VSA indicator on
Fail Safe Action	● None
Possible Cause	● Open, Short to ground, or Poor connection between the VSA modulator-control unit and the under-dash fuse/relay box (IG1 VSA/ABS line) ● Blown fuse (No. B34) ● VSA modulator-control unit internal failure

DTC U3006-16: Power Source Failure for ECU (Low Voltage)

Confirmation Procedure	Basic Condition: ● 12 volt battery voltage 10 V Operating Condition: 1. Start the engine, then wait for 10 seconds or more.
Execution	Initial Diagnosis/Regular Diagnosis
Duration	About 10 seconds
DTC Type	● 1 drive cycle ● Brake system indicator (red) on (Dependant upon the conditions) ● Brake system indicator (amber) on ● ABS indicator on ● VSA indicator on

*1: M/T

Fail Safe Action	● Stop ABS function ● Stop EBD function (Dependant upon the conditions) ● Stop brake assist function ● Stop TCS function ● Stop VSA function ● Stop engine drag torque control function ● Stop hill start assist function ● Stop agile handling assist function ● Stop automatic brake hold function ● Stop driving support system's brake function ● Stop manual operating function (Dependant upon the conditions) ● Stop drive away assist function (Dependant upon the conditions) ● Stop external applying function (Dependant upon the conditions) ● Stop automatic adjusting function (Dependant upon the conditions) ● Stop emergency brake function (Dependant upon the conditions) ● Stop ignition OFF apply function*1 (Dependant upon the conditions)
Possible Cause	● Loose or Poor connections in VSA modulator-control unit terminal ● Low 12 volt battery voltage ● VSA modulator-control unit internal failure

*1: M/T

DTC U3006-17: Power Source Failure for ECU (High Voltage)

Confirmation Procedure	Basic Condition: ● 12 volt battery voltage 10 V or more Operating Condition: 1. Start the engine, then wait for 10 seconds or more.
Execution	Initial Diagnosis/Regular Diagnosis
Duration	About 10 seconds
DTC Type	● 1 drive cycle ● Brake system indicator (red) on ● Brake system indicator (amber) on ● ABS indicator on ● VSA indicator on

*1: M/T

Fail Safe Action	● Stop ABS function ● Stop EBD function ● Stop brake assist function ● Stop TCS function ● Stop VSA function ● Stop engine drag torque control function ● Stop hill start assist function ● Stop agile handling assist function ● Stop automatic brake hold function ● Stop driving support system's brake function ● Stop manual operating function ● Stop drive away assist function ● Stop external applying function ● Stop automatic adjusting function ● Stop emergency brake function ● Stop ignition OFF apply function*1
Possible Cause	● High 12 volt battery voltage ● VSA modulator-control unit internal failure

*1: M/T