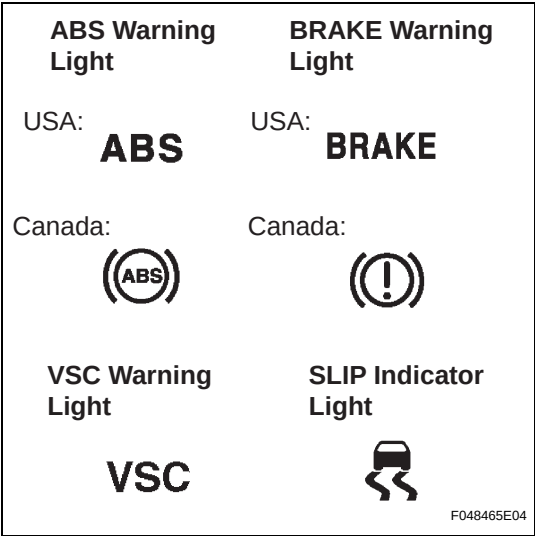




TEST MODE PROCEDURE

1. WARNING LIGHT AND INDICATOR LIGHT CHECK

(a) Release the parking brake lever.

NOTICE:

When releasing the parking brake, set the chocks to hold the vehicle for safety.

HINT:

When the parking brake is applied or the level of the brake fluid is low, the BRAKE warning light comes on.

(b) When the ignition switch is turned to the ON position, check that the ABS warning light, VSC warning light, BRAKE warning light and SLIP indicator light come on for approximately 3 seconds.

HINT:

If the warning light and indicator light check result is not normal, proceed to troubleshooting for the ABS warning light circuit, VSC warning light circuit, BRAKE warning light circuit or SLIP indicator light circuit.

If the indicator remains on, proceed to troubleshooting for the light circuit below.

Trouble Area	See procedure
ABS warning light circuit	BC-161
BRAKE warning light circuit	BC-175
VSC warning light circuit	BC-168
SLIP indicator light circuit	BC-181

2. SENSOR SIGNAL CHECK (TEST MODE) (USING SST CHECK WIRE)

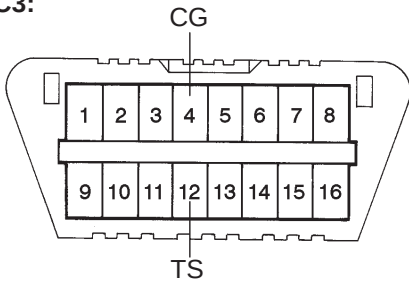
NOTICE:

When having replaced the yaw rate and acceleration sensor and / or ABS and TRACTION actuator assembly (skid control ECU), perform zero point calibration of the yaw rate and acceleration sensor.

HINT:

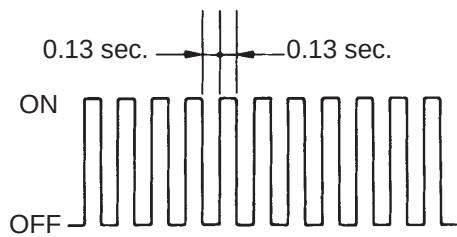
- If the ignition switch is turned from the ON to the ACC or LOCK position during test mode, DTCs of sensor check function will be erased.
- During test mode, ECU records all DTCs of sensor check functions. By performing the sensor signal check, the codes are erased if normality is confirmed. The codes left over are the codes where an abnormality was found.

DLC3:



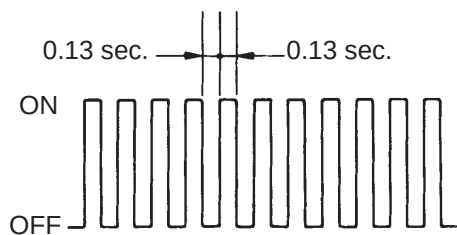
G022987E14

Blinking Pattern in TEST MODE:



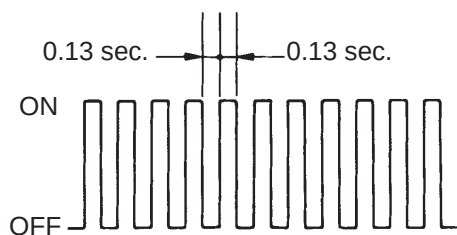
BR03904E48

Blinking Pattern in TEST MODE:



BR03904E48

Blinking Pattern in TEST MODE:



BR03904E48

- (a) Procedures for test mode
 - (1) Turn the ignition switch off.
 - (2) Check that the steering wheel is in the straight-ahead position and move the shift lever to the P position.
 - (3) Using SST, connect terminals TS and CG of the DLC3.
SST 09843-18040
 - (4) Turn the ignition switch to the ON position.

- (5) Check that the ABS warning light and VSC warning light blink as shown in the illustration.

HINT:

If the ABS warning light and VSC warning light do not blink, inspect the TS and CG terminal circuit, ABS warning light circuit and VSC warning light circuit.

Trouble Area	See procedure
ABS warning light circuit	BC-165
VSC warning light circuit	BC-172
TS and CG terminal circuit	BC-191

- (6) Start the engine.

- (b) Perform test mode using check wire.

3. ACCELERATION SENSOR CHECK

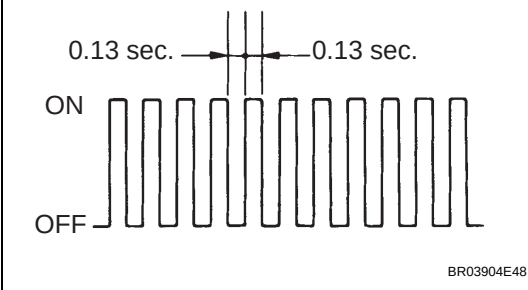
- (a) Check that the ABS warning light is blinking in TEST MODE.
- (b) Keep the vehicle in the stationary condition on a level surface for 1 second or more.

4. MASTER CYLINDER PRESSURE SENSOR CHECK

- (a) Check that the ABS warning light is blinking in TEST MODE.
- (b) Leave the vehicle in a stationary condition and the brake pedal in free condition for 1 second or more, and quickly depress the brake pedal with a force of 98 N (10 kgf, 22 lbf) or more for 1 second or more.
HINT:
 - At this time, the ABS warning light stays on for 3 seconds.
 - While the ABS warning light stays on, continue to depress the brake pedal with a force of 98 N (10 kgf) or more.
 - The ABS warning light comes on for 3 seconds every time the brake pedal operation above is performed.

- If master cylinder pressure sensor check can not be completed, do not depress the brake pedal frequently. It may further reduce negative pressure and make the sensor check difficult to complete.
- If the negative pressure is insufficient, master cylinder pressure sensor check may not be completed. In this case, idle the engine to get enough negative pressure.
- If the brake pedal is depressed during engine stop, negative pressure may become insufficient and the BRAKE warning light may come on. (It runs the motor and performs incorrect control.)

Blinking Pattern in TEST MODE:



5. SPEED SENSOR CHECK

- Check the ABS warning light is blinking in TEST MODE.
- Drive vehicle straight forward.
Drive the vehicle at a speed of 28 mph (45 km/h) or higher for several seconds and check that the ABS warning light goes off.

HINT:

The sensor check may not be completed if the vehicle has its wheels spun or the steering wheel is turned during this check.

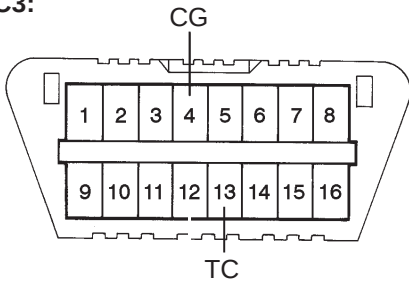
- Stop the vehicle.

NOTICE:

- Before performing the speed sensor check, complete the master cylinder pressure sensor and acceleration sensor checks.
- The speed sensor check may not be completed if it is started while turning the steering wheel or spinning the wheels.
- After the ABS warning light goes off, if the vehicle speed exceeds 50 mph (80 km/h), sensor check code is store again. Decelerate or stop before the speed reaches 50 mph (80 km/h).
- If the sensor check has not been completed, the ABS warning light blinks while driving and the ABS system does not operate.

HINT:

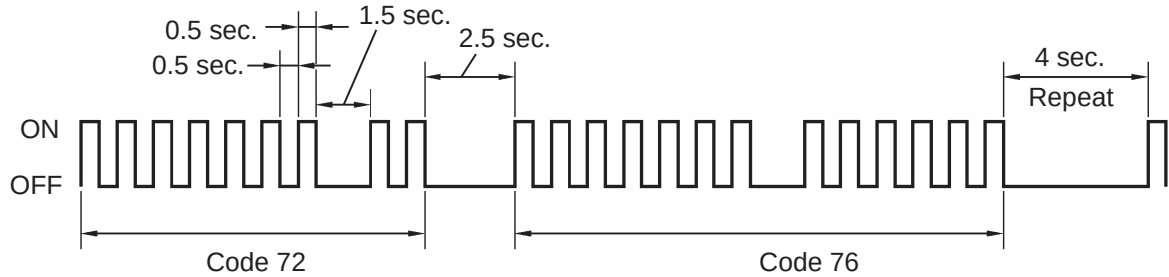
When the sensor check has been completed, the ABS warning light goes off while driving and blinks in the test mode pattern while standing.

DLC3:

G022987E15

6. READ THE DTCS

- Using SST, connect terminals TC and CG of the DLC3.
SST 09843-18040
- Read the number of blinks of the ABS warning light.

Trouble Code (Example Codes 72 and 76):

N

I042842E04

HINT:

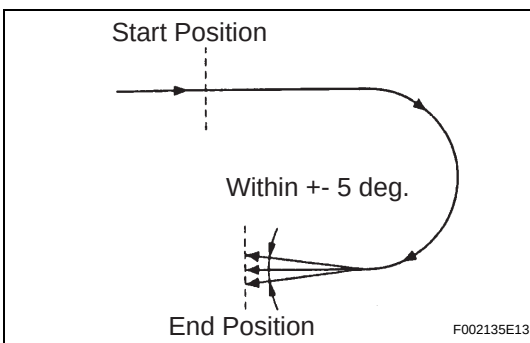
- See the list of DTC (See procedure "A").
 - If every sensor is normal, the normal code is output (A cycle of 0.25 second ON and 0.25 second OFF is repeated).
 - If more than 1 malfunction is detected at the same time, the lowest numbered code will be displayed 1st.
- After the check, disconnect the SST from terminals TC and CG of the DLC3.

7. YAW RATE SENSOR CHECK

- Check the VSC warning light is blinking in TEST MODE.
- Shift the shift lever to the D position and drive the vehicle at a vehicle speed of approx. 3 mph (5 km/h), turn the steering wheel either to left or right 90° or more, and maintain 180° circular drive for the vehicle.
- Stop the vehicle and shift the shift lever to the P position. Check that the skid control buzzer sounds for 3 sec.

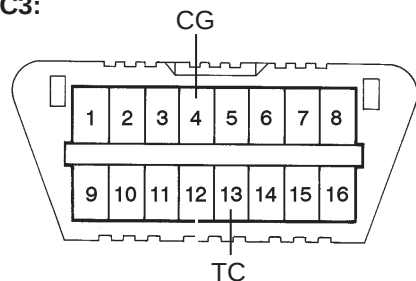
HINT:

- If the skid control buzzer sounds, the sensor check is completed normally.
- If the skid control buzzer does not sound, check the skid control buzzer circuit (See page [BC-185](#)), then perform the sensor check again.
- If the skid control buzzer still does not sound, there is a malfunction in the yaw rate sensor, so check the DTC.
- Drive the vehicle in a 180° circle. At the end of the turn, the direction of the vehicle should be within 180° +/- 5° of its start position.



F002135E13

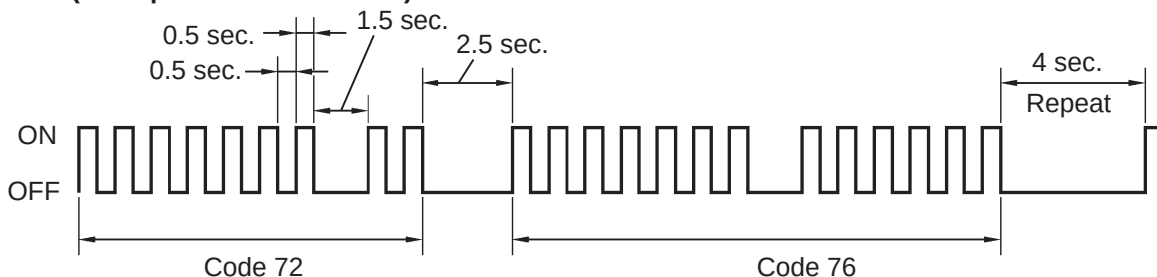
DLC3:



G022987E15

- Do not spin the wheels.
- (d) Using SST, connect terminals TC and CG of the DLC3.
SST 09843-18040
- (e) Read the number of blinks of the VSC warning light.

Trouble Code (Example Codes 72 and 76):



I042842E04

HINT:

- See the list of DTC (See procedure "A").
 - If every sensor is normal, there is a normal code output. (A cycle of 0.25 sec. ON and 0.25 sec. OFF is repeated.)
 - If 2 or more malfunctions are indicated at the same time, the lowest numbered code will be displayed 1st.
- (f) After performing the check, disconnect the SST from terminals TS and CG, TC and CG of the DLC3 and turn the ignition switch off.

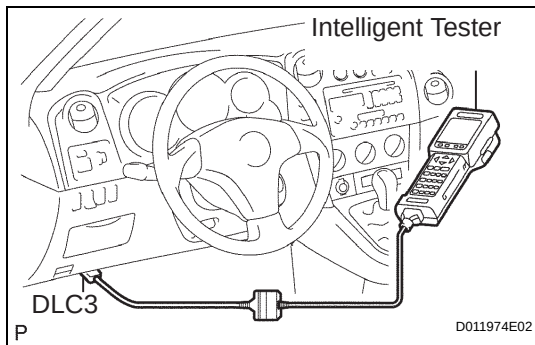
8. SENSOR SIGNAL CHECK (TEST MODE) (USING INTELLIGENT TESTER)

NOTICE:

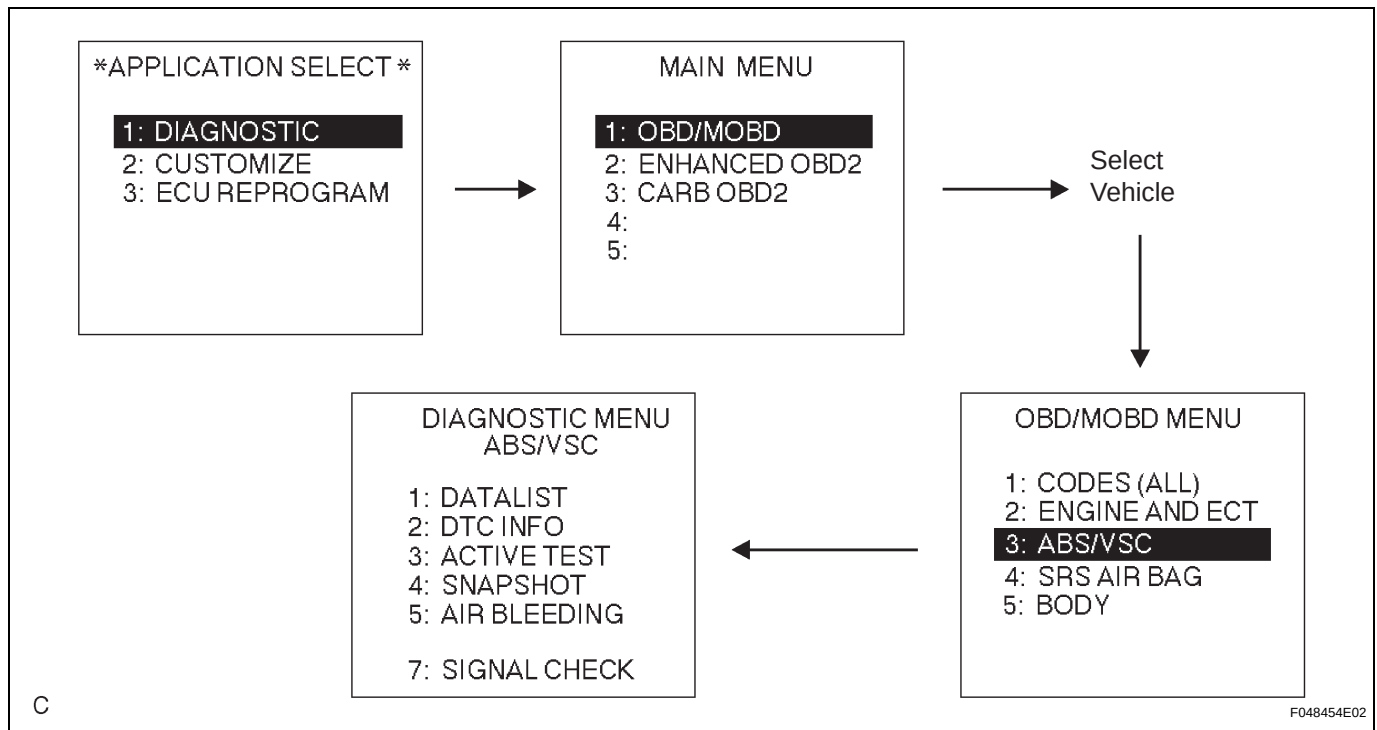
When having replaced the yaw rate and acceleration sensor and / or ABS and TRACTION actuator assembly (skid control ECU), perform zero point calibration of the yaw rate and acceleration sensor.

HINT:

- If the ignition switch is turned from the ON to the ACC or LOCK position during test mode, DTCs of the sensor check function will be erased.
 - During test mode, ECU records all DTCs of sensor check functions. By performing the sensor signal check, the codes are erased if normality is confirmed. The codes left over are the codes where an abnormality was found.
- (a) Procedures for test mode.
- (1) Turn the ignition switch off.
 - (2) Check that the shift lever is in the P position.



- (3) Connect the intelligent tester to the DLC3.
- (4) Turn the ignition switch to the ON position.



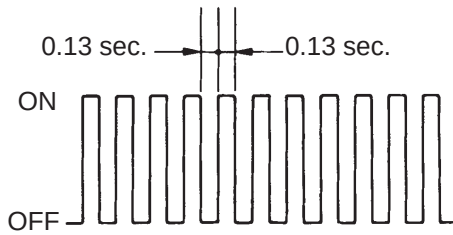
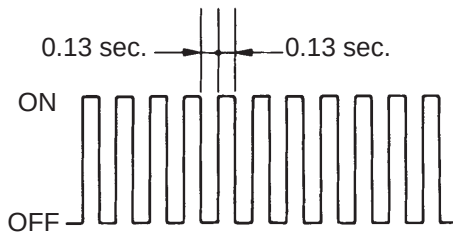
- (5) Operate the intelligent tester in test mode (SIGNAL CHECK).
- (6) Check that the ABS warning light and VSC warning light blink.

HINT:

If the ABS warning light and VSC warning light do not blink, inspect the TS and CG terminal circuit, ABS warning light circuit and VSC warning light circuit.

Trouble Area	See procedure
ABS warning light circuit	BC-165
VSC warning light circuit	BC-172
TS and CG terminal circuit	BC-191

- (7) Start the engine.
- (b) Perform test mode using intelligent tester.

Blinking Pattern in TEST MODE:**Blinking Pattern in TEST MODE:****9. ACCELERATION SENSOR CHECK**

- Check that the ABS warning light is blinking in TEST MODE.
- Keep the vehicle in the stationary condition on a level surface for 1 second or more.

10. MASTER CYLINDER PRESSURE SENSOR CHECK

- Check that the ABS warning light is blinking in TEST MODE.
- Leave the vehicle in a stationary condition and the brake pedal in a free condition for 1 second or more, and quickly depress the brake pedal with a force of 98 N (10 kgf, 22 lbf) or more for 1 second or more.

HINT:

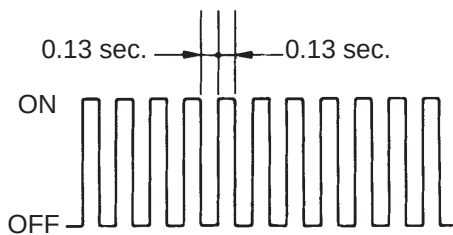
- At this time, the ABS warning light stays on for 3 seconds.
- While the ABS warning light stays on, continue to depress the brake pedal with a force of 98 N (10 kgf) or more.
- The ABS warning light comes on for 3 seconds every time the brake pedal operation above is performed.
- If master cylinder pressure sensor check can not be completed, do not depress the brake pedal frequently. It may further reduce negative pressure and make the sensor check difficult to complete.
- If the negative pressure is insufficient, master cylinder pressure sensor check may not be completed. In this case, idle the engine to get enough negative pressure.
- If the brake pedal is depressed during engine stop, negative pressure may become insufficient and the BRAKE warning light may come on. (It runs the motor and performs incorrect control.)

11. SPEED SENSOR CHECK

- Check that the ABS warning light is blinking in TEST MODE.
- Drive vehicle straight forward. Drive the vehicle at a speed of 28 mph (45 km/h) or higher for several seconds and check that the ABS warning light goes off.

HINT:

The sensor check may not be completed if the vehicle has its wheels spun or the steering wheel is turned during this check.

Blinking Pattern in TEST MODE:

- (c) Stop the vehicle.

NOTICE:

- Before performing the speed sensor check, complete the master cylinder pressure sensor and acceleration sensor checks.
- The speed sensor check may not be completed if it is started while turning the steering wheel or spinning the wheels.
- After the ABS warning light goes off, if the vehicle speed exceeds 50 mph (80 km/h), sensor check code is store again. Decelerate or stop before the speed reaches 50 mph (80 km/h).
- If the sensor check has not been completed, the ABS warning light blinks while driving and the ABS system does not operate.

HINT:

When sensor check has been completed, the ABS warning light goes off while driving and blinks in the test mode pattern while standing.

12. READ THE DTCs

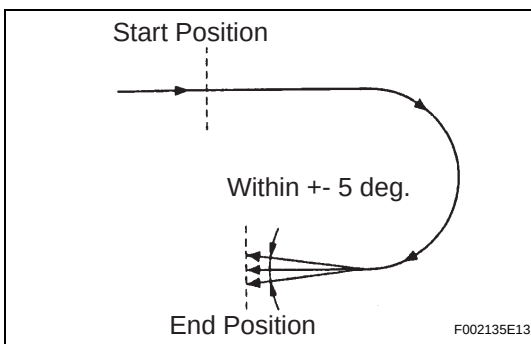
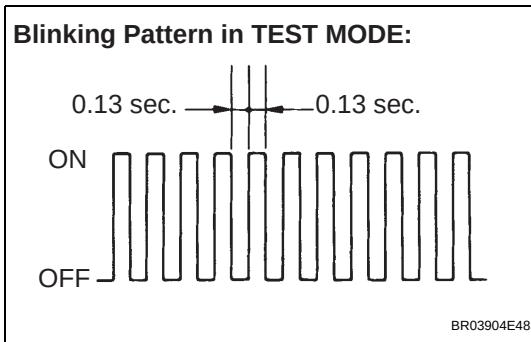
- (a) Read the DTC(s) by following the tester screen.

HINT:

- Refer to the intelligent tester operator's manual for further details.
- See the list of DTC (See procedure "A").

13. YAW RATE SENSOR CHECK

- (a) Check that the VSC warning light is blinking in TEST MODE.



- (b) Move the shift lever to the D position and drive the vehicle at a vehicle speed of approximately 3 mph (5 km/h), turn the steering wheel either to left or right 90° or more, and maintain 180° circular drive for the vehicle.
- (c) Stop the vehicle and shift the shift lever to the P position. Check that the skid control buzzer sounds for 3 sec.

HINT:

- If the skid control buzzer sounds, the sensor check is completed normally.
- If the skid control buzzer does not sound, check the skid control buzzer circuit (See page [BC-185](#)), then perform the sensor check again.
- If the skid control buzzer still does not sound, there is a malfunction in the yaw rate sensor, so check the DTC.

- Make a 180 degree turn. At the end of the turn, the direction of the vehicle should be within 180° +/- 5° of its start position.
 - Do not spin the wheels.
- (d) Read the DTC(s) by following the tester screen.
HINT:
Refer to the intelligent tester operator's manual for further details.

14. DTC OF SENSOR CHECK FUNCTION: (Procedure "A")

Code No.	Diagnosis	Trouble Area
C1271/71	Low output signal of front speed sensor RH	• Front speed sensor RH • Sensor installation • Sensor rotor
C1272/72	Low output signal of front speed sensor LH	• Front speed sensor LH • Sensor installation • Sensor rotor
C1273/73	Low output signal of rear speed sensor RH	• Rear speed sensor RH • Sensor installation • Sensor rotor
C1274/74	Low output signal of rear speed sensor LH	• Rear speed sensor LH • Sensor installation • Sensor rotor
C1275/75	Abnormal change in signal voltage of front speed sensor RH	Front sensor rotor RH
C1276/76	Abnormal change in signal voltage of front speed sensor LH	Front speed sensor rotor LH
C1277/77	Abnormal change in signal voltage of rear speed sensor RH	Rear sensor rotor RH
C1278/78	Abnormal change in signal voltage of rear speed sensor LH	Rear speed sensor rotor LH
C1279/79	Acceleration sensor output voltage malfunction	• Yaw rate and acceleration sensor • Sensor installation
C1281/81	Master cylinder pressure sensor output malfunction	Master cylinder pressure sensor
C0371/71	Yaw rate sensor	Yaw rate sensor

HINT:

The codes in this table are output only in SIGNAL CHECK (TEST MODE).