05MBK−01

TEST MODE PROCEDURE

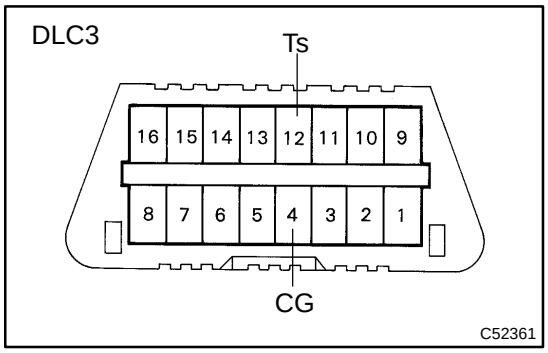
1. SENSOR SIGNAL CHECK (TEST MODE) (USING SST CHECK WIRE)

NOTICE:

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

HINT:

- If the ignition switch is turned from 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 function. By performing 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 steering wheel is in the straight−ahead position and shift the shift lever to the P position.

(3) Using SST, connect terminals Ts and CG of the DLC3.

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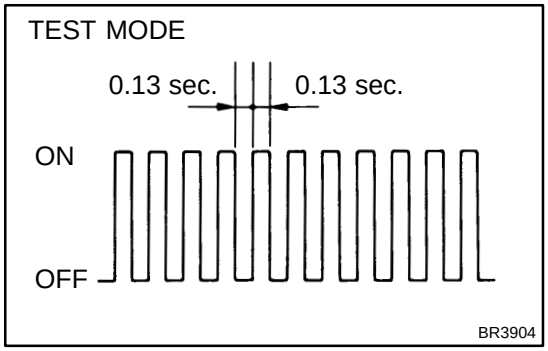
(4) Turn the ignition switch to the ON position.



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

HINT:

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

Trouble area	See Page
Ts and CG terminal circuit	05−1101
ABS warning light circuit	05−1066
VSC warning light circuit	05−1073

(b) Check the deceleration sensor:

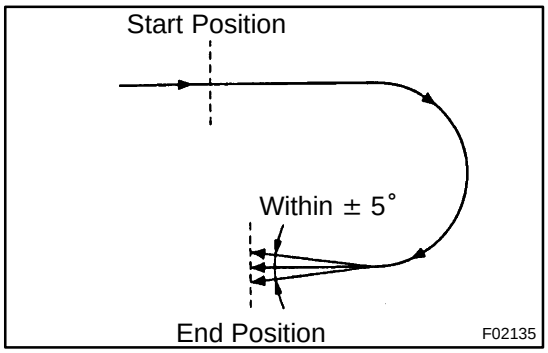
(1) Keep the vehicle in a stationary condition on a level surface for 1 second or more.

(c) Check the master cylinder pressure sensor:

(1) 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 remains on for 3 seconds.
- While the ABS warning light remains 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 the 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 negative pressure is insufficient, the 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 while the engine is stopped, negative pressure may become insufficient and the brake warning light may come on. (It runs the motor and performs incorrect control.)



(d) Check the yaw rate sensor:

(1) Shift the shift lever to the D position and drive the vehicle at a speed of approx. 3 mph (5 km/h), turn the steering wheel either to the left or right 90° or more, and maintain a 180° circular drive for the vehicle.

(2) Stop the vehicle and shift the shift lever to the P position, and check that the skid control buzzer sounds for 3 seconds.

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 05−1092), then perform the sensor check again. If the skid control buzzer still does not sound, there is a malfunction in the VSC sensor, so check for a DTC.
- Drive the vehicle in a 180° circle. At the end of the turn, ensure that the vehicle is exactly 180° within a tolerance of ± 5°, and facing the other direction from its original start position.
- Do not spin the wheels.

(e) Check the speed sensor signal:

(1) Drive the vehicle straight forward 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 its steering wheel turned during this check.

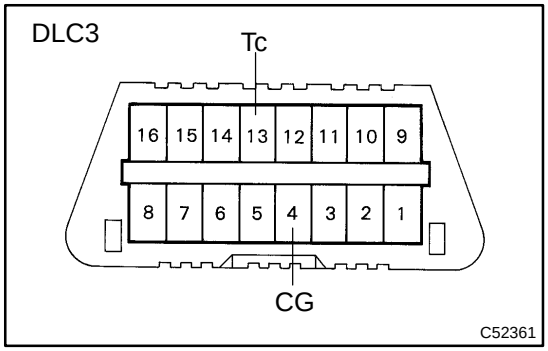
(2) Stop the vehicle.

NOTICE:

- **Before performing the speed sensor check, complete the master cylinder pressure sensor and deceleration sensor checks.**
- **Speed sensor check may not be completed if the check 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), a sensor check code is stored again. Decelerate or stop the vehicle 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.



(3) Using SST, connect terminals Tc and CG of the DLC3.

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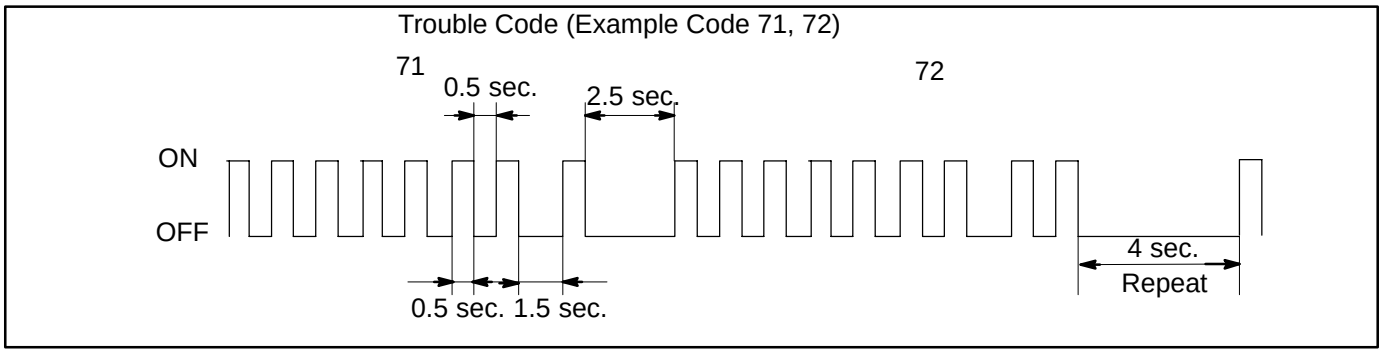
(4) Read the number of blinks of the ABS warning light and VSC warning light.

HINT:

- See the list of DTC (see page 05−1010).
- If the check result is normal, the ABS warning light goes off when the brake pedal is once depressed.
- If every sensor is normal, the normal blinking patterns are output. (A cycle of 0.25 seconds ON and 0.25 seconds OFF is repeated.)
- If 2 or more malfunctions are detected at the same time, the lowest numbered code will be displayed first.



(5) After the check, disconnect the SST from terminals Ts and CG, Tc and CG of the DLC3 and turn the ignition switch off.

2. SENSOR SIGNAL CHECK (TEST MODE) (USING HAND−HELD TESTER)

NOTICE:

When having replaced the yaw rate sensor (deceleration sensor) and/or brake actuator assembly (skid control ECU), perform zero point calibration of the yaw rate sensor and deceleration sensor (see page 05−987).

HINT:

- If the ignition switch is turned from 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 function. 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.

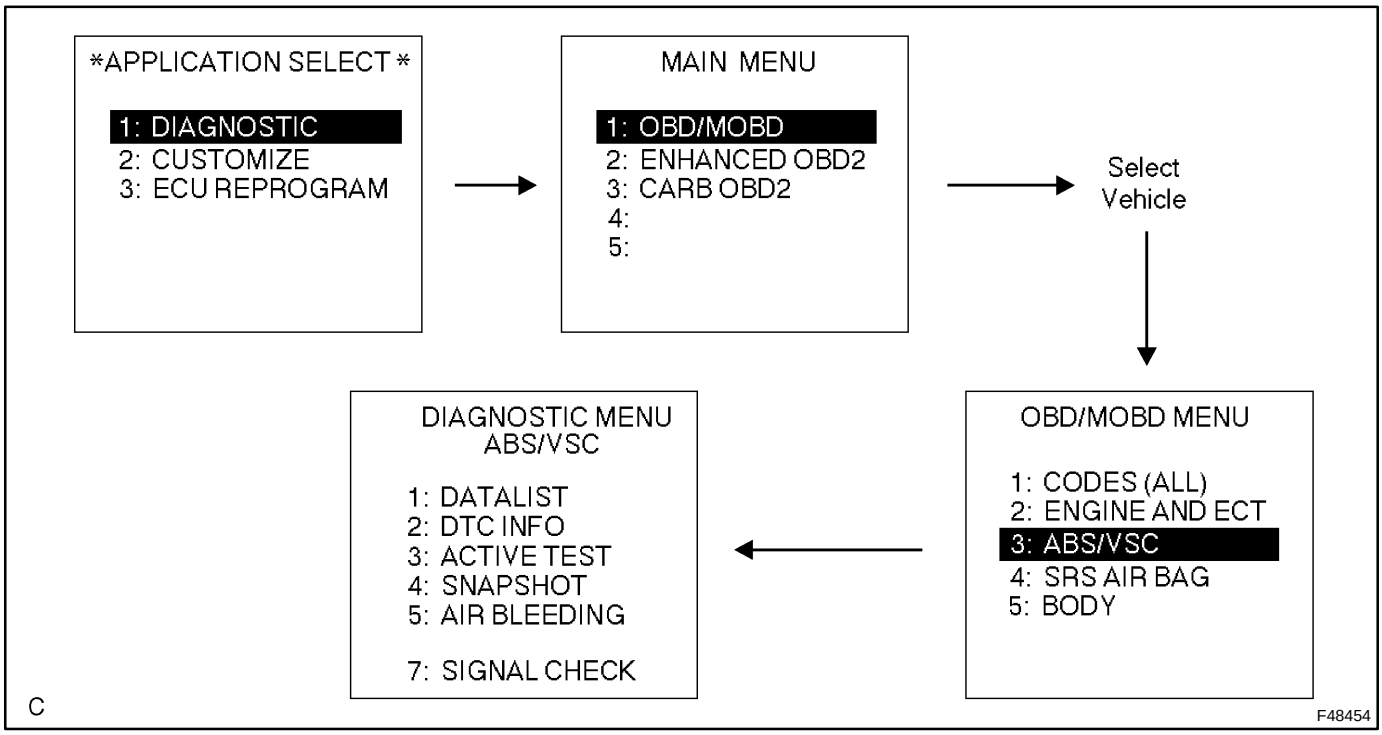
(a) Procedures for test mode:

(1) Turn the ignition switch off.

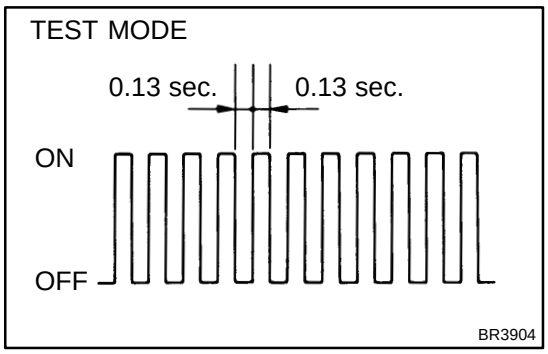
(2) Check that the shift lever is in the P position.

(3) Connect the hand−held tester to the DLC3.

(4) Turn the ignition switch to the ON position.



(5) Operate the hand−held 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 ABS warning light circuit and VSC warning light circuit.

Trouble area	See Page
ABS warning light circuit	05−1066 or 05−1070
VSC warning light circuit	05−1073 or 05−1076

(b) Check the deceleration sensor:

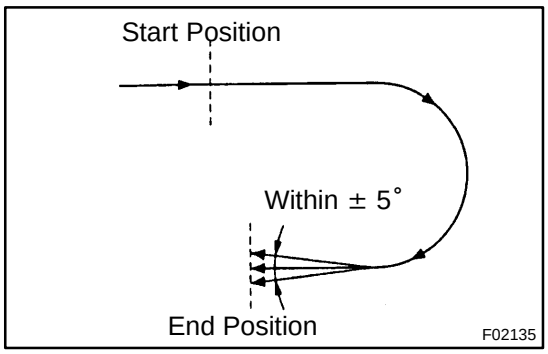
(1) Keep the vehicle in a stationary condition on a level surface for 1 second or more.

(c) Check the master cylinder pressure sensor:

(1) 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 remains on for 3 seconds.
- While the ABS warning light remains 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 the 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 negative pressure is insufficient, the 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 while the engine is stopped, negative pressure may become insufficient and the brake warning light may come on. (It runs the motor and performs incorrect control.)



(d) Check the yaw rate:
(1) Shift the shift lever to the D position and drive the vehicle at a speed of approx. 3 mph (5 km/h), and maintain a 180° circular drive for the vehicle.
(2) Stop the vehicle and shift the shift lever to the P position, and check that the skid control buzzer sounds for 3 seconds.

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 05−1092), then perform the sensor check again. If the skid control buzzer still does not sound, there is a malfunction in the VSC sensor, so check for a DTC.
- Drive the vehicle in a 180° circle. At the end of the turn, ensure that the vehicle is exactly 180° within a tolerance of ± 5°, and facing the other direction from its original start position.
- Do not spin the wheels.

(e) Check the speed sensor:
(1) Drive the vehicle straight forward 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 its steering wheel turned during this check.
(2) Stop the vehicle.

NOTICE:
- **Before performing speed sensor check, complete master cylinder pressure sensor and deceleration sensor checks.**
- **Speed sensor check may not be completed if the check 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), a sensor check code is stored again. Decelerate or stop the vehicle 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.**

(f) Read the DTC following the tester screen.

HINT:
- Refer to the hand−held tester operator's manual for further details.
- If the check result is normal, the ABS warning light goes off when the brake pedal is once depressed.