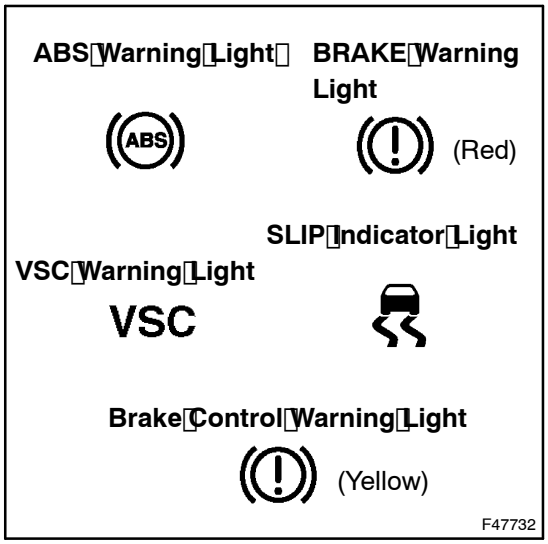
05IJN–01

TEST MODE PROCEDURE



1. WARNING LIGHT AND INDICATOR LIGHT CHECK

(a) Release the parking brake pedal.

NOTICE:

When releasing the parking brake, move the "P" position switch into the P position 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 power switch ON (READY) check that the ABS warning light, VSC warning light, BRAKE warning light, Brake Control warning light and SLIP indicator light come on for approximately 3 seconds.

HINT:

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

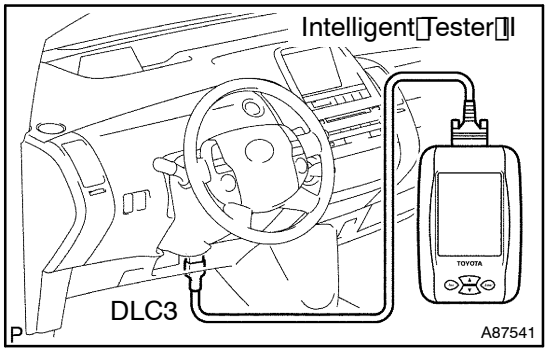
If the indicator remains on, proceed to troubleshooting for the light circuit below.

Trouble area	See Page
ABS warning light circuit	05–874
VSC warning light circuit	05–880
BRAKE warning light circuit	05–886
Brake Control warning light circuit	05–868
SLIP indicator light circuit	05–893

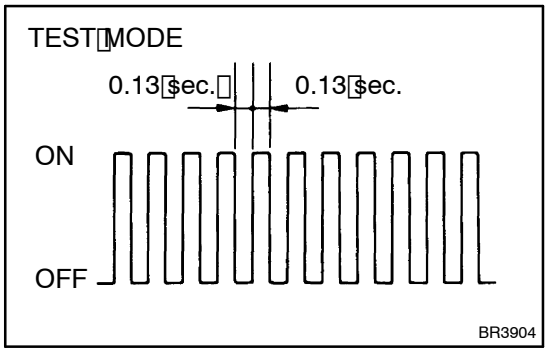
2. SENSOR SIGNAL CHECK BY TEST MODE

HINT:

- Set the vehicle in the TEST MODE and perform the following procedures to check operation of the deceleration sensor, master cylinder pressure sensor, speed sensor and yaw rate sensor.
- Check results are indicated by DTCs output only in the TEST MODE.
- Perform the following procedures (a) to (e) as a set.
- When entering the test mode, the skid control ECU once records all the test mode codes and clears the codes judged to be normal.
- The VSC+ function does not operate independent of whether the sensor check is normal or abnormal during test mode.
- When the mode returns to the normal mode, all the test mode codes are cleared.
- The ABS warning lamp and VSC warning light comes on if the sensor has a malfunction.



(a) PROCEDURES FOR TEST MODE
(1) Turn the power switch OFF.
(2) Connect the Intelligent tester II to the DLC3.
(3) Check that the steering wheel is in the straight–ahead position and move the shift lever to the P position.
(4) Turn the power switch ON (READY).



(5) Check that the ABS warning light and VSC warning light indicates TEST MODE.

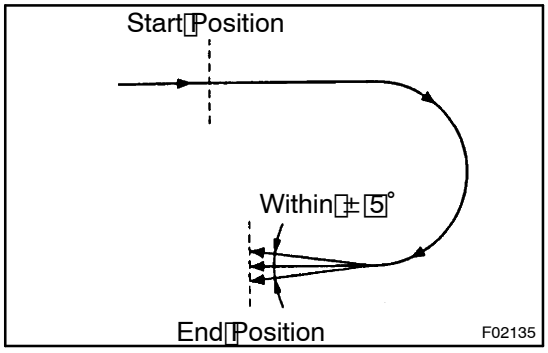
HINT:
If the ABS warning light and VSC warning light do not blink, inspect the ABS warning light circuit and VSC warning light circuit.

Trouble area	See Page
ABS warning light circuit	05–874
VSC warning light circuit	05–880

(6) Start the engine.

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

HINT:
The blinking pattern of the ABS warning light and VSC warning light do not change. When the sensor is normal and in the test mode, if the above conditions are met, the check is completed.



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

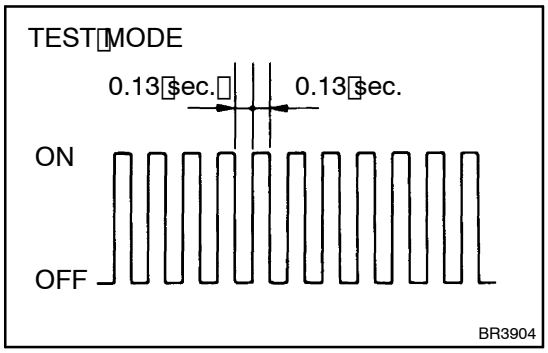
NOTICE:
- **The vehicle direction at the beginning and the end should be 180 ± 5 degrees or less.**
- **While turning do not move the shift lever to the P position. Do not turn the power switch off.**

HINT:
- The turning direction is not important.
- Turning should be completed within 2.0 seconds. However, it is possible to change the vehicle speed, stop or more backward.

(2) Stop the vehicle and move the "P" position switch into 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 05–898), then perform the sensor check again.
- If the skid control buzzer still won't sound, there is a malfunction in the VSC+ 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.
- Do not spin the wheels.



(d) MASTER CYLINDER PRESSURE SENSOR CHECK

(1) Check that the ABS warning light is blinking in TEST MODE.

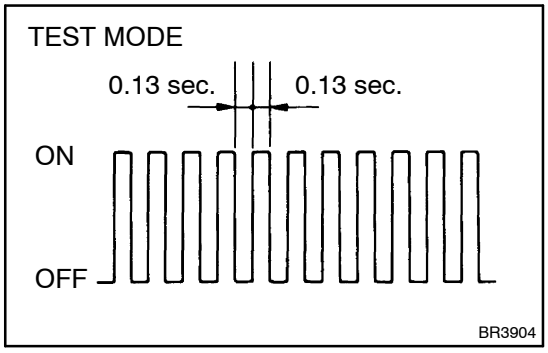
(2) Leave the vehicle in a stationary condition and the brake pedal in free condition for 1 second or more, and quickly depress the brake pedal with a force of 98 N (10 kgf, 22 lbf) or more for 1 second or more.

(3) While the vehicle is stopped, release the brake pedal.

(4) While the vehicle is stopped, quickly depress the brake pedal once or more and check the ABS warning light is lit for 3 seconds.

HINT:

- While the ABS warning light is lit, maintain the condition a brake pedal load of approximately 98 N or more is applied.
- During the test mode, the ABS warning light comes on for 3 seconds every time the above pedal operation.
- If the master cylinder pressure sensor check is not completed, randomly depressing the brake pedal will cause the negative pressure to decrease further and the sensor check will be difficult to be completed.
- If the negative pressure is insufficient, the master cylinder pressure sensor check may not be completed. In this case, turn the engine idle to make the negative pressure sufficient.
- Strongly depress the brake pedal when the negative pressure is insufficient the brake warning lamp may come on with the fail–safe function.



(e) SPEED SENSOR CHECK

(1) Check the ABS warning light is blinking of TEST MODE.

(2) Start the sensor signal check.

(3) Drive the vehicle straight forward.
Drive the vehicle at a speed of 45 to 80 km/h (28 to 50 mph) or higher for several seconds and check that the ABS warning light goes off.

Vehicle Speed	Test	Check
0 to 45 km/h (0 to 28 mph)	Low speed test	Response of sensors
45 to 80 km/h (28 to 50 mph)	Middle speed test	Deviations of sensor signal

NOTICE:

- **Before the speed sensor check, the yaw rate sensor, deceleration sensor and master cylinder pressure sensor checks should be completed.**
- **If the sensor check begins with the steering wheel turned or the wheel spin, the speed sensor check may not be completed.**
- **After the warning lamp goes off, driving at 80 km/h (50 mph) or more will cause the test mode codes to be recorded again, before the speed reaches at 80 km/h (50 mph), decelerate and stop the vehicle.**
- **If the sensor check is not completed, the ABS warning lamp blinks even while driving and the ABS does not operate.**

HINT:

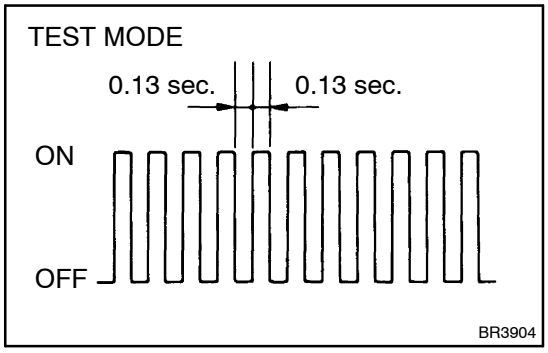
If the speed sensor check is completed, the ABS warning lamp does not come on while driving and blinks at test mode when the vehicle stops.

(f) END OF SENSOR CHECK

(1) If the sensor check is completed, the ABS warning lamp blinks (test mode) when the vehicle stops and the warning lamp is off when the vehicle is driving.

NOTICE:

- **When the yaw rate sensor, deceleration sensor, speed sensor and master cylinder pressure sensor checks are completed, the sensor check is completed.**
- **If the sensor check is not completed, the ABS warning lamp blinks even while the vehicle is driving and the ABS does not operate.**
- **If the DTC is detected during the test mode, the ABS warning lamp and VSC warning lamp comes on.**



(g) READ TEST MODE CODE

(1) Using intelligent tester II, check the DTCs in the test mode. (Refer to the step h)

NOTICE:

- **If only the DTCs are displayed, repair the malfunction area and clear the DTC. Check if the ABS warning lamp and VSC warning lamp are normal.**
- **If only the test mode codes are displayed, perform the test mode again.**
- **If the DTCs or test mode codes are displayed, repair the malfunction area, clear the DTCs and perform the test mode inspection.**

HINT:

- The test mode codes and DTCs are displayed.
- If the ABS is normal, the ABS warning lamp comes on for 0.25 seconds and goes off for 0.25 seconds repeatedly.

(h) DTC of TEST MODE:

Code No.	Diagnosis	Trouble Area
C1271/71	Low output voltage of right front speed sensor	• Right front speed sensor • Sensor installation • Sensor rotor
C1272/72	Low output voltage of left front speed sensor	• Left front speed sensor • Sensor installation • Sensor rotor
C1273/73	Low output voltage of right rear speed sensor	• Right rear speed sensor • Sensor installation • Sensor rotor
C1274/74	Low output voltage of left rear speed sensor	• Left rear speed sensor • Sensor installation • Sensor rotor
C1275/75	Abnormal change in output voltage of right front speed sensor	Right front sensor rotor
C1276/76	Abnormal change in output voltage of left front speed sensor	Left front speed sensor rotor
C1277/77	Abnormal change in output voltage of right rear speed sensor	Right rear sensor rotor
C1278/78	Abnormal change in output voltage of left rear speed sensor	Left rear speed sensor rotor
C1279/79	Deceleration sensor is faulty	• Yaw rate (Deceleration) sensor • Sensor installation
C1281/81	Master cylinder pressure sensor output signal is faulty	Master cylinder pressure sensor
C0371/71	Signal malfunction	Yaw rate sensor (Deceleration sensor)

HINT:

The code in this table are output only in TEST MODE.