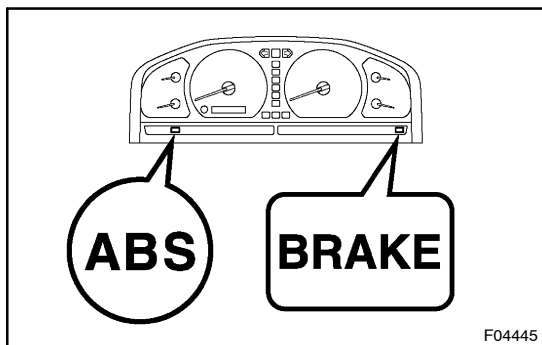




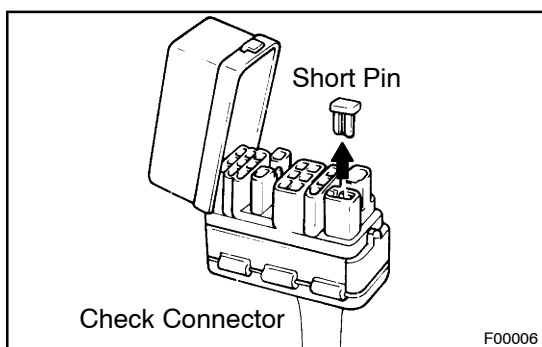
PRE-CHECK

1. DIAGNOSIS SYSTEM

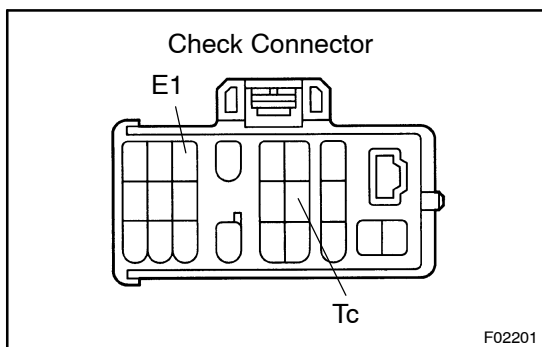
- (a) Check the warning lights and buzzer.
 - (1) Release the parking brake lever.
 - (2) When the ignition switch is turned ON, check that the ABS warning lights come on for 3 seconds.
 - (3) Check the BRAKE warning light lights up when the ignition switch is turned ON and the light goes off when the engine starts.
 - (4) When 120 seconds have elapsed after the ignition switch was turned ON, depressing and releasing the brake pedal continuously with full stroke 15 – 20 times within 10 secs., warning light lights up and buzzer sounds.

HINT:

If the indicator check result is not normal, proceed to trouble-shooting for the ABS warning light circuit (see Pub. No. RM616E, page DI-395).



- (b) In case of not using hand-held tester:
Check the DTC.
 - (1) Disconnect the short pin from the check connector.



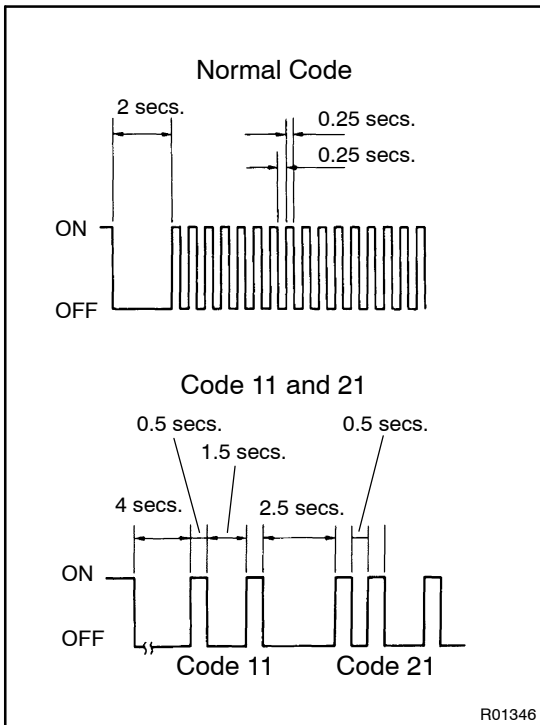
- (2) Using SST, connect terminals Tc and E₁ of the check connector.

SST 09843-18020

- (3) Turn the ignition switch to the ON position.
- (4) Read the DTC from the ABS warning light on the combination meter.

HINT:

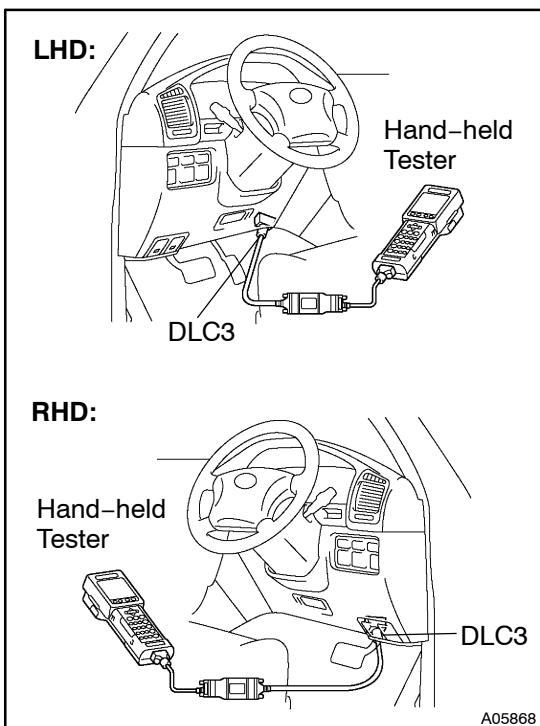
If no code appears, inspect the diagnostic circuit or ABS warning light circuit (see Pub. No. RM616E, page DI-395).



- As an example, the blinking patterns for a normal code and codes 11 and 21 are shown on the left.

- (5) Codes are explained in the code table on [page DI-60](#).
- (6) After completing the check, disconnect terminals Tc and E₁, and turn off the display.

If 2 or more malfunctions are indicated at the same time the lowest numbered DTC will be displayed 1st.



- (c) In case of using hand-held tester:
Check the DTC.

- (1) Connect the hand-held tester to the DLC3.
- (2) Read the DTC by following the prompts on the tester screen.

HINT:

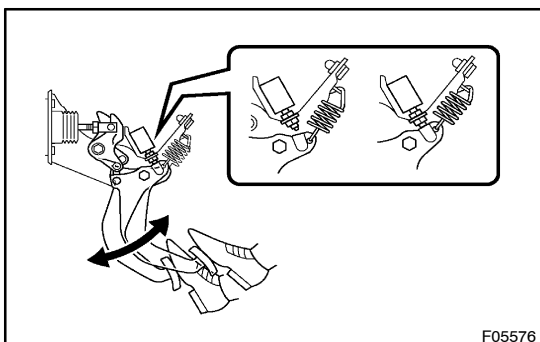
Please refer to the hand-held tester operator's manual for further details.

- (d) In case of not using hand-held tester:
Clear the DTC.

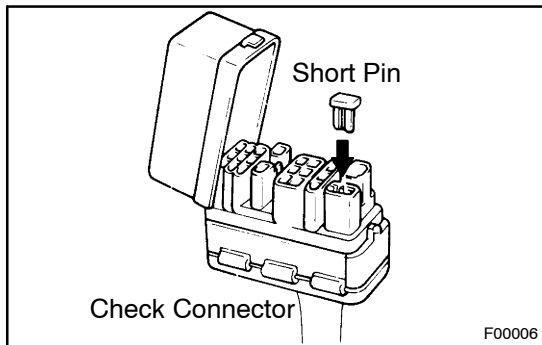
- (1) Using SST, connect terminals Tc and E₁ of the check connector and remove the short pin from the check connector.

SST 09843-18020

- (2) Turn the ignition switch to the ON position.



- (3) Clear the DTC stored in the ECU by depressing the brake pedal 8 or more times within 5 seconds.
- (4) Check that the warning light shows the normal code.



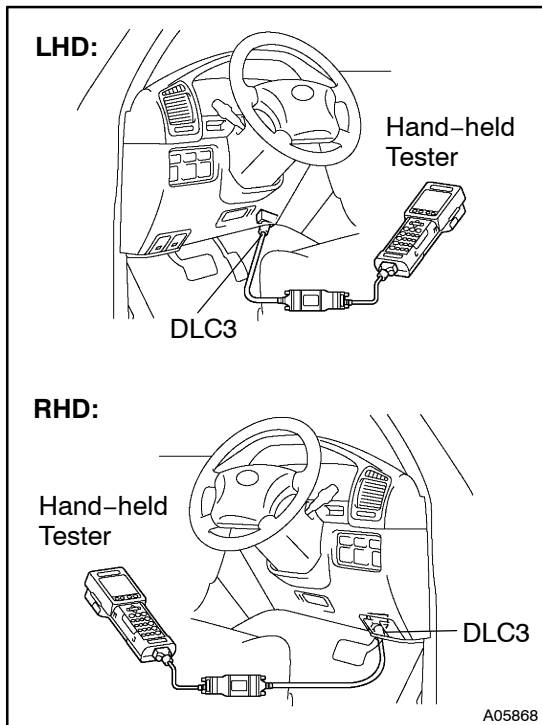
- (5) Remove the SST from the terminals of the check connector.

SST 09843-18020

- (6) Connect the short pin to the check connector.

HINT:

Disconnecting the battery cable during repairs will not erase the DTC in the ECU.



- (e) In case of using hand-held tester:
Clear the DTC.

- (1) Hook up the hand-held tester to the DLC3.
- (2) Turn the ignition switch to the ON position.
- (3) Operate the hand-held tester to erase the codes.
(See the hand-held tester operator's manual.)

2. SENSOR SIGNAL CHECK (TEST MODE)

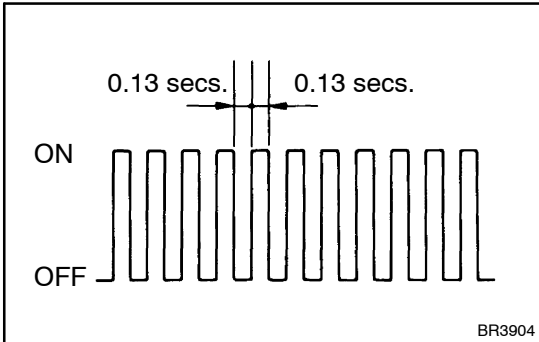
HINT:

If the ignition switch is turned from the ON position to the ACC or LOCK position during test mode, DTC will be erased.

- (a) In case of using hand-held tester:

Check the sensor signal.

- (1) Turn the ignition switch OFF.
- (2) Connect the hand-held tester to the DLC3.
- (3) Start the engine.



- (4) Check that the ABS warning light blinks.

HINT:

If the ABS warning light does not blink, inspect the ABS warning light circuit.

- (5) Keep the vehicle in the stationary condition on the flat place for 6 sec. or more.
- (6) Shift the transfer lever in the L4 position and turn the center differential lock switch ON.
- (7) Drive the vehicle straightforward.
- When driving the vehicle with the speed faster than 45 km/h (28 mph) for several seconds, check that the ABS warning light goes off.

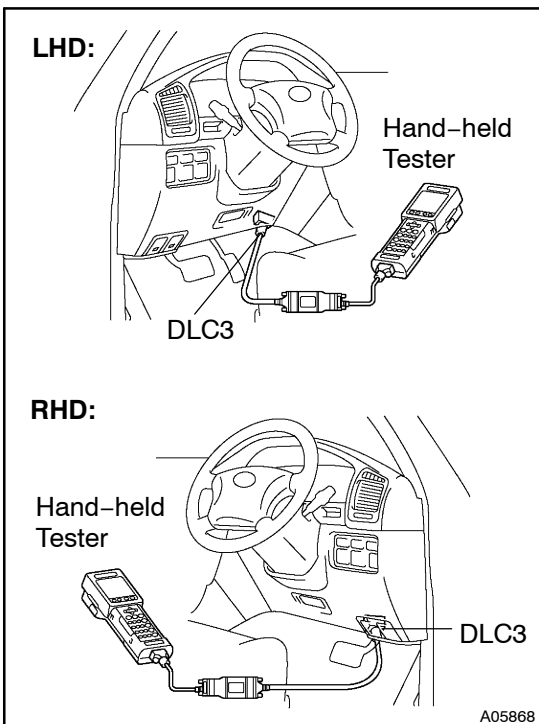
HINT:

The sensor check is not completed if the vehicle has its rear wheels spun or its turned wheel steered during this check.

- (8) Stop the vehicle.
- (9) Check that the ABS warning light goes off when the rear differential lock indicator light lights up or flashes.

HINT:

While the rear differential is being locked, the ECU records DTC C1248/48.



- (10) Read the DTC by following the prompts on the tester screen.

HINT:

Please refer to the hand-held tester operator's manual for further details.

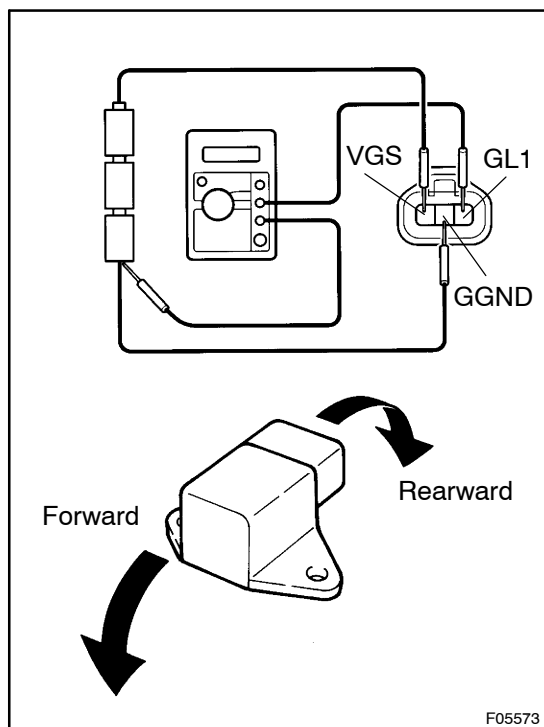
DTC of the sensor check function:

Code No.	Diagnosis	Trouble Area
C1271 / 71	Low output voltage in right front speed sensor	• Right front speed sensor • Sensor installation • Sensor rotor
C1272 / 72	Low output voltage in left front speed sensor	• Left front speed sensor • Sensor installation • Sensor rotor
C1273 / 73	Low output voltage in right rear speed sensor	• Right rear speed sensor • Sensor installation • Sensor rotor
C1274 / 74	Low output voltage in 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 speed 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 speed 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	• Deceleration sensor • Sensor installation
C1282 / 82	Center differential lock position switch malfunction	• Center differential lock position switch
C1282 / 83	L4 position switch malfunction	• L4 position switch

3. DECELERATION SENSOR OPERATION DIAGNOSIS SYSTEM

CAUTION:

While checking the deceleration sensor operating diagnosis system, ABS does not work and the brake system works as a conventional brake system.



4. DECELERATION SENSOR CHECK

- (a) Connect 3 dry batteries of 1.5 V in series.
- (b) Connect VGS terminal to the batteries' positive (+) terminal, and GGND terminal to the batteries' negative (–) terminal. Apply about 4.5 V between VGS and GGND terminals.

NOTICE:

Do not apply voltage of 6 V or more to terminals VGS and GGND.

- (c) Check the output voltage of GL1 terminals.

Symbols	Condition	Standard Value
GL1	Horizontal	About 2.3 V
GL1	Lean forward	0.4 V to about 2.3 V
GL1	Lean rearward	About 2.3 V to 4.1 V

HINT:

- If the sensor is tilted too much, it may show the wrong value.
- If dropped, the sensor should be replaced with a new one.
- The sensor removed from the vehicle should not be placed upside down.