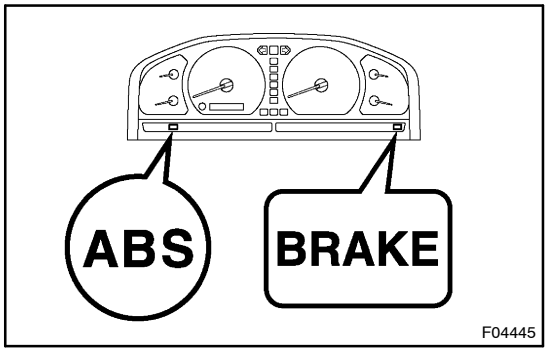
DIC3U–01

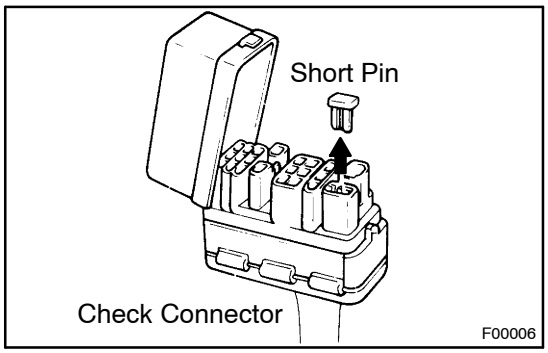


PRE–CHECK

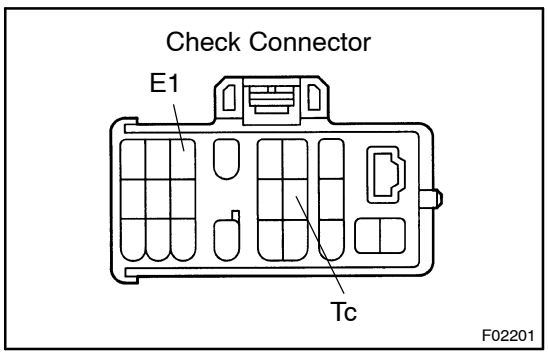
1. DIAGNOSIS SYSTEM

(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).

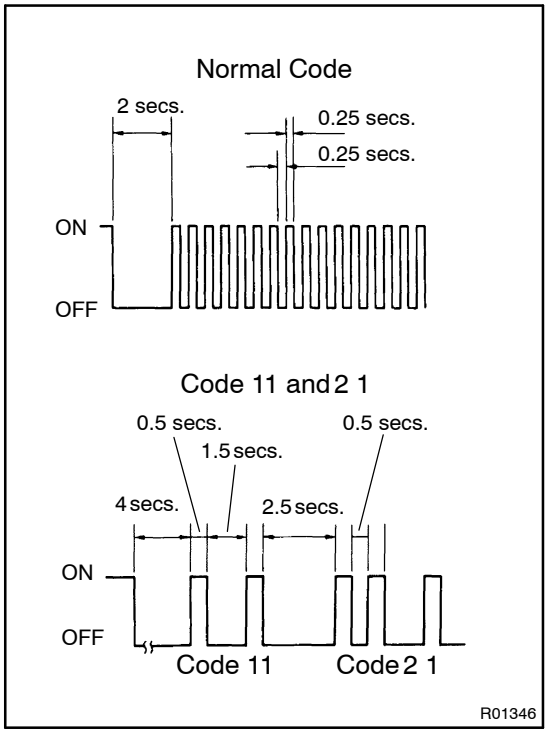


(b) In case of not using hand –held tester:
Check the DTC.
(1) Disconnect the short pin from the check connector.



(2) Using SST, connect terminals Tc and E 1 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. RM6 16E, page DI –395).

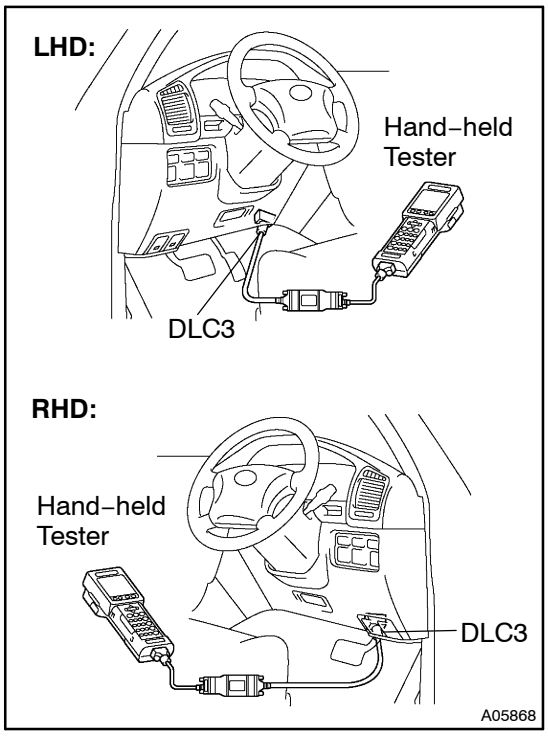


- As an example, the blinking patterns for a normal code and codes 11 and 2 1 are shown on the left.

(5) Codes are explained in the code table on page DI–60.

(6) After completing the check, disconnect terminals Tc and E_1, 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.

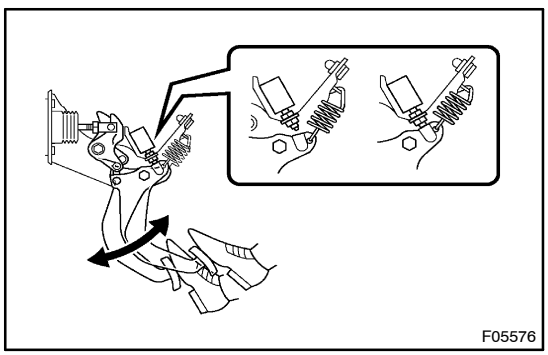
(d) In case of not using hand –held tester:

Clear the DTC.

(1) Using SST, connect terminals Tc and E_1 of the check connector and remove the short pin from the check connector.

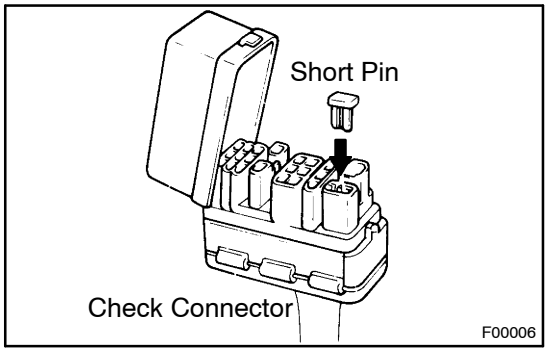
SST 09843 –18020

(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.



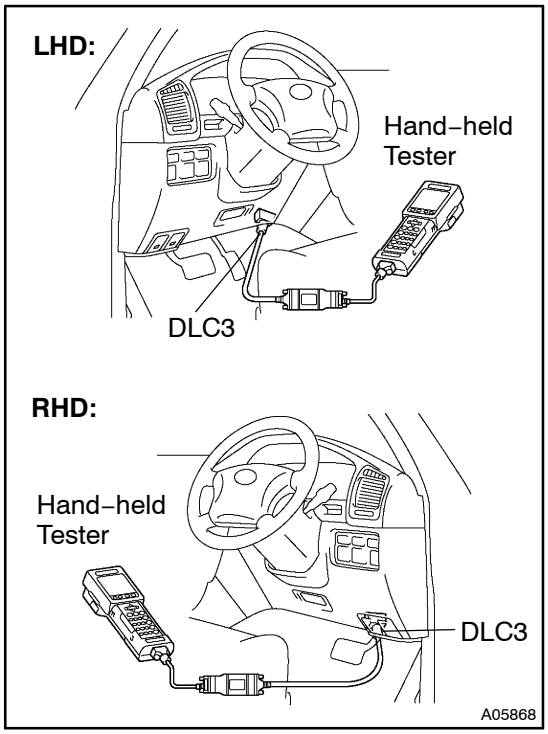
(5) Remove the SST from the terminals of the check connector.

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.

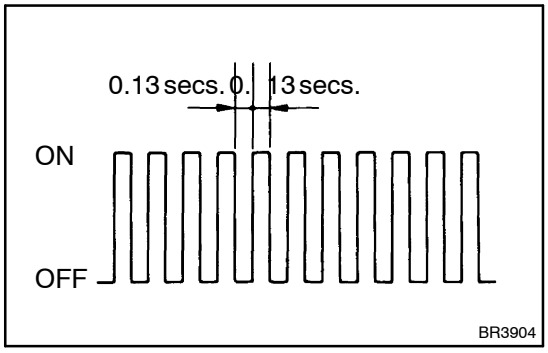
(a) In case of using hand –held tester:

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:

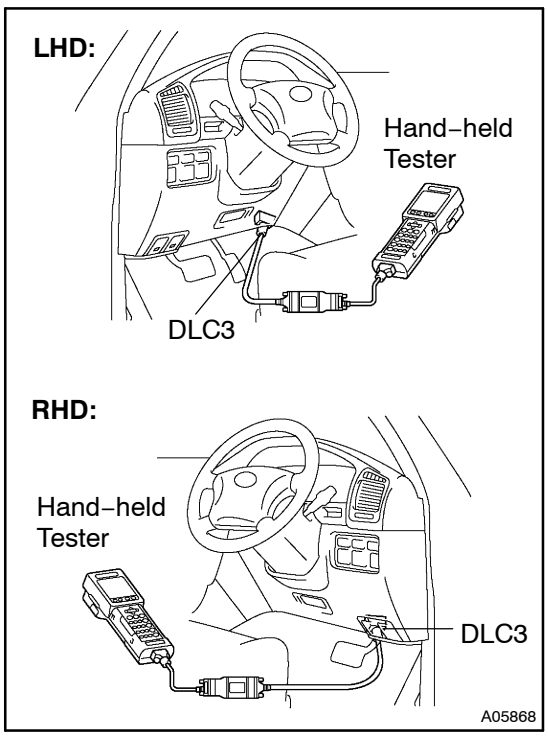
The sensor check is not completed if the vehicle has its rear wheels spun or its turned wheel steered during this check.

(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.

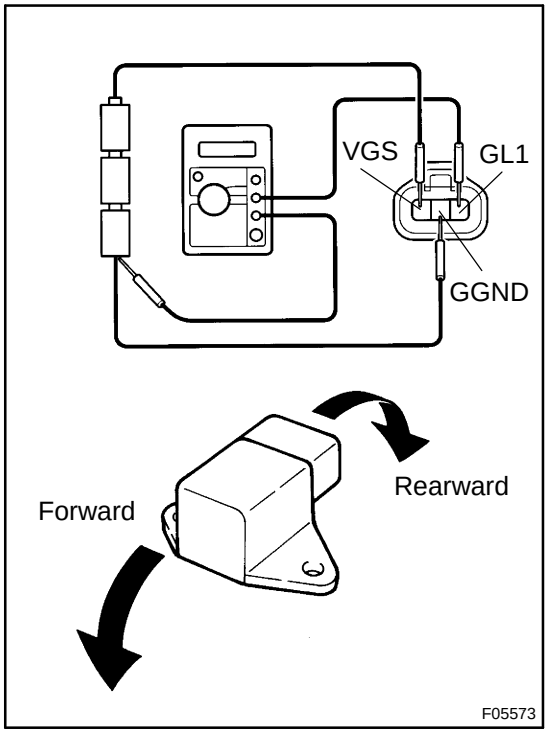
DTC of the sensor check function:

Code No.	Diagnosis	Trouble Area
C1271 / 71	Low output voltage in right front speed sensor	S Right front speed sensor S Sensor installation S Sensor rotor
C1272 / 72	Low output voltage in left front speed sensor	S Left front speed sensor S Sensor installation S Sensor rotor
C1273 / 73	Low output voltage in right rear speed sensor	S Right rear speed sensor S Sensor installation S Sensor rotor
C1274 / 74	Low output voltage in left rear speed sensor	S Left rear speed sensor S Sensor installation S Sensor rotor
C1275 / 75	Abnormal change in output voltage of right front speed sensor	S Right front speed sensor rotor
C1276 / 76	Abnormal change in output voltage of left front speed sensor	S Left front speed sensor rotor
C1277 / 77	Abnormal change in output voltage of right rear speed sensor	S Right rear speed sensor rotor
C1278 / 78	Abnormal change in output voltage of left rear speed sensor	S Left rear speed sensor rotor
C1279 / 79	Deceleration sensor is faulty	S Deceleration sensor S Sensor installation
C1282 / 82	Center differential lock position switch malfunction	S Center differential lock position switch
C1282 / 83	L4 position switch malfunction	S 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.