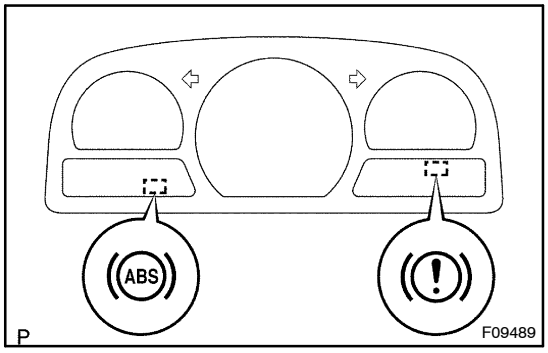
DI6IA–01

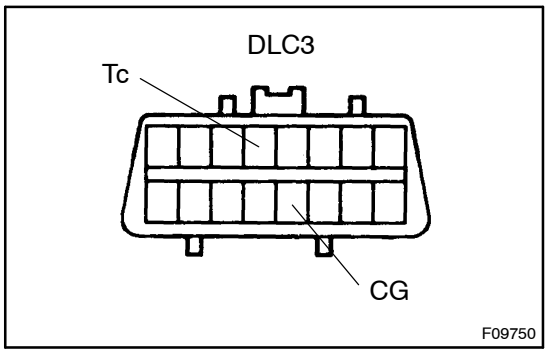
PRE–CHECK



1. DIAGNOSIS SYSTEM

(a) Check the indicator.
When the ignition switch is turned ON, check that the ABS warning light and brake warning light go on for approx. 3 seconds.

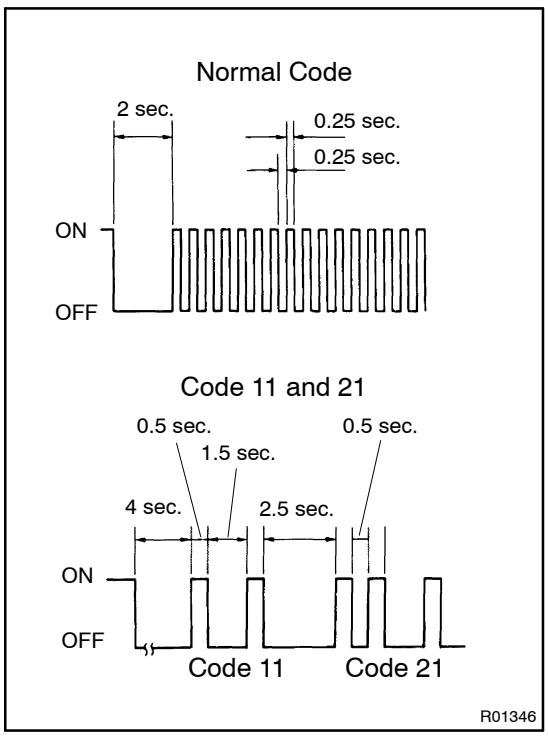
HINT:
If the indicator check result is not normal, proceed to trouble-shooting for the ABS warning light circuit and brake warning light circuit (See page DI–51, DI–54).

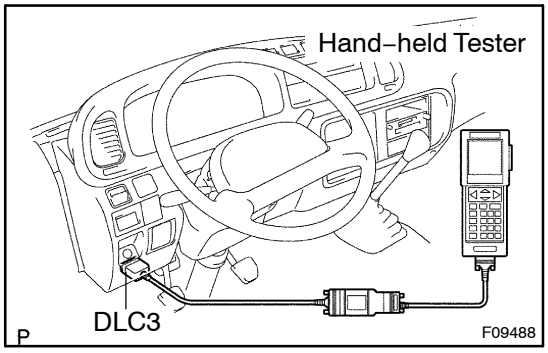


(b) In case of not using hand–held tester:
Check the DTC.
(1) Using SST, connect terminals Tc and CG of DLC3.
SST 09843–18040
(2) Turn the ignition switch ON.
(3) Read the DTC from the ABS warning light on the combination meter.

HINT:

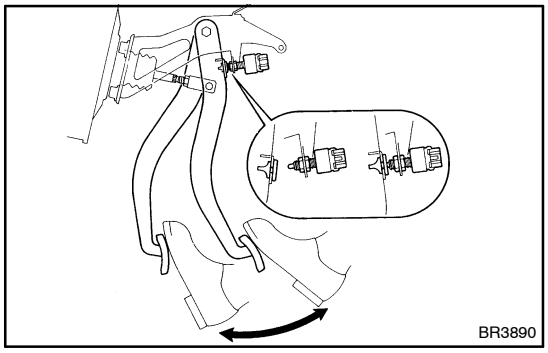
- If no code appears, inspect the diagnostic circuit, ABS warning light circuit (See page DI–51, DI–56).
- As an example, the blinking patterns for normal code and codes 11 and 21 are shown on the left.
  (4) Codes are explained in the code table on page DI–9.
  (5) After completing the check, disconnect terminals Tc and CG of DLC3 and turn off the display.
  If 2 or more malfunctions are indicated at the same time the lowest numbered DTC will be displayed 1st.



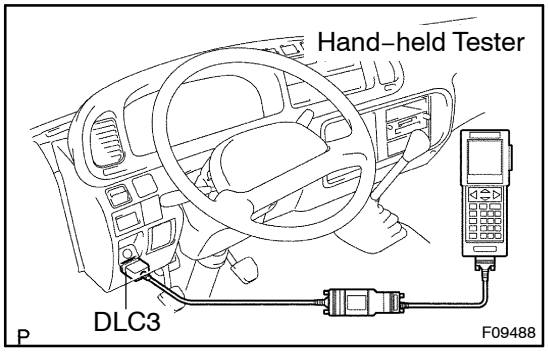


(c) In case of using hand–held tester:
Check the DTC.
(1) Hook up the hand–held tester to the DLC3.
(2) Turn the ignition switch ON.
(3) Read the DTC by following the prompts on the tester screen.

HINT:
Please refer to the hand–held tester operator's manual for further details.

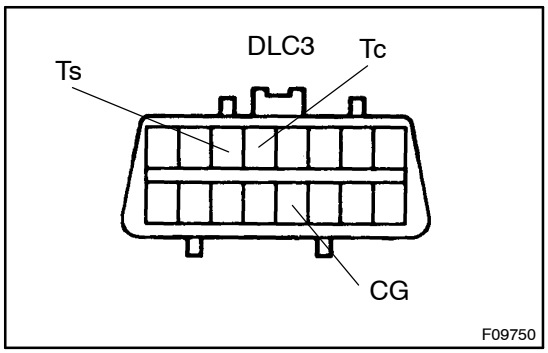


(d) In case of not using hand–held tester:
Clear the DTC.
(1) Using SST, connect terminals Tc and CG of DLC3.
SST 09843–18040
(2) Turn the ignition switch ON.
(3) Clear the DTC stored in ECU by depressing the brake pedal 8 or more times within 5 seconds.
(4) Check that the warning light shows the normal code.
(5) Remove the SST from the terminals of DLC3.
SST 09843–18040



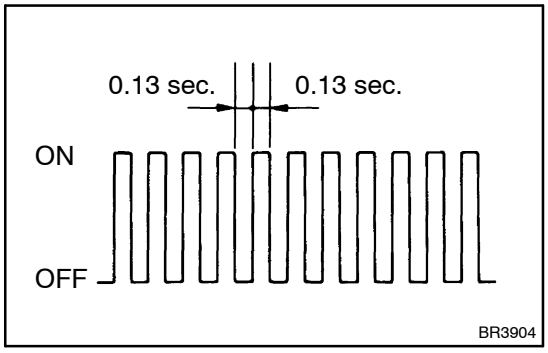
(e) In case of using hand–held tester:
Clear the DTC.
(1) Hook up the hand–held tester to the DLC3.
(2) Turn the ignition switch ON.
(3) Operate the hand–held tester to erase the codes.

HINT:
Please refer to the hand–held tester operator's manual for further details.



2. In case of not using hand–held tester:
SENSOR SIGNAL CHECK (TEST MODE)

(a) Procedures for test mode:
(1) Turn the ignition switch OFF.
(2) Using SST, connect terminals Ts and CG of DLC3.
SST 09843–18040
(3) Turn the ignition switch ON.



(4) Check that the ABS warning light blinks.

HINT:

- If the ABS warning light does not blink, inspect the ABS warning light circuit (See page DI–51).
- If the ABS warning light remains ON, start and stop the engine and turn ON the ignition switch.

(b) Master cylinder pressure sensor check:

(1) After releasing the brake pedal for 1 sec. or more depress it by a force of 186 N (19 kgf, 42 lbf) or more.

(2) Check that the ABS warning light is lit.

(3) Depress the brake pedal for 1 sec. with the ABS warning light lit and release it.

(4) Check that the blinking pattern of the ABS warning light is back to that in the test mode.

HINT:

- Do not depress a brake pedal several times.
- If the ABS warning light is not lit although depressing force is sufficient enough, the master cylinder pressure sensor may 6 defective.

(c) Vacuum sensor check:

(1) Depress the brake pedal several times.

(2) Check that the ABS warning light is lit.

HINT:

- If the ABS warning light is not lit after depressing a brake pedal continuously, the vacuum sensor may be defective.
- When a parking brake is released, vacuum warning buzzer may sound.

(d) Speed sensor check:

(1) Start the engine.

(2) Check that the ABS warning light blinks.

(3) Drive vehicle straight forward.
When driving the vehicle with the speed faster than 90 km/h (56 mph) for several seconds, check that the ABS warning light comes off.

HINT:

There is a case that the sensor check is not completed if the vehicle has its rear wheels spun or its steering wheel steered during this check.

(4) Stop the vehicle.

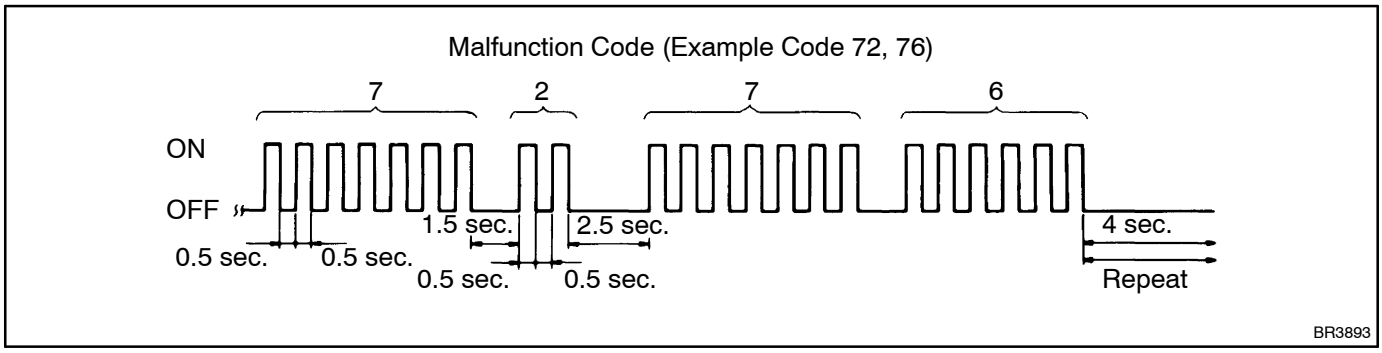
(e) Read the DTC:

(1) Using SST, connect terminals Tc and CG of DLC3.
SST 09483–18040

(2) Read the number of blinks of the ABS warning light.

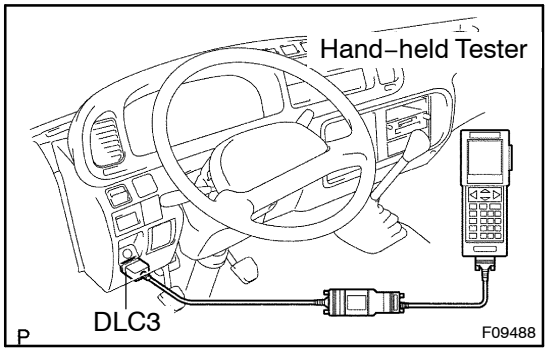
HINT:

- See the list of DTC shown on the next page.
- If every sensor is normal, a normal code is 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.



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

SST 09843–18040



3. In case of using hand–held tester:
SENSOR SIGNAL CHECK (TEST MODE)

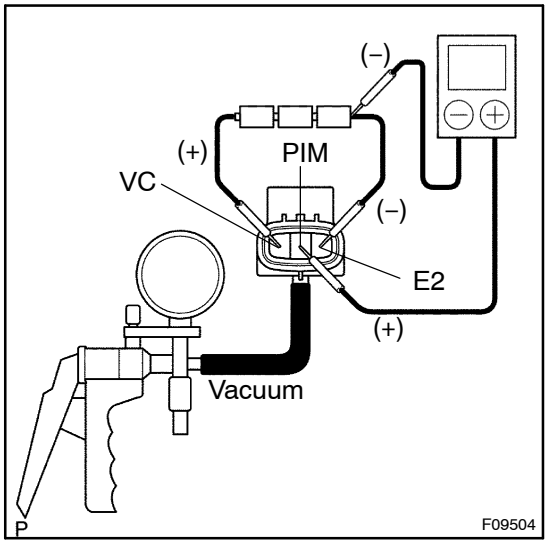
(a) Hook up the hand–held tester to the DLC3.
(b) Turn the ignition switch ON.
(c) Do step (b) to (d) on the previous page.
(d) Read the DTC by following the prompts on the tester screen.

HINT:

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

DTC of sensor check function:

Code No.	Diagnosis	Trouble Area
C1271 / 71	Low output voltage of right front speed sensor	• Right front speed sensor • Sensor installation • Right front speed sensor rotor • Right front speed sensor circuit
C1272 / 72	Low output voltage of left front speed sensor	• Left front speed sensor • Sensor installation • Left front speed sensor rotor • Left front speed sensor circuit
C1273 / 73	Low output voltage of right rear speed sensor	• Right rear speed sensor • Sensor installation • Right rear speed sensor rotor • Right rear speed sensor circuit
C1274 / 74	Low output voltage of left rear speed sensor	• Left rear speed sensor • Sensor installation • Left rear speed sensor rotor • Left rear speed sensor circuit
C1275 / 75	Abnormal change in output voltage of right front speed sensor	• Right front speed sensor rotor • Right front speed sensor
C1276 / 76	Abnormal change in output voltage of left front speed sensor	• Left front speed sensor rotor • Left front speed sensor
C1277 / 77	Abnormal change in output voltage of right rear speed sensor	• Right rear speed sensor rotor • Right rear speed sensor
C1278 / 78	Abnormal change in output voltage of left rear speed sensor	• Left rear speed sensor rotor • Left rear speed sensor
C1281 / 81	Abnormal change in output signal of master cylinder pressure sensor	• Master cylinder pressure sensor • Master cylinder pressure sensor circuit
C1285 / 85	Abnormal change in output signal of vacuum sensor	• Vacuum sensor • Vacuum sensor circuit



4. VACUUM SENSOR CHECK

(a) Connect 3 dry batteries of 1.5 V in series.

(b) Connect VC terminal to the batteries' positive (+) terminal, and E2 terminal to the batteries' negative (–) terminal, apply about 4.5 V between VC and E2 terminals.

NOTICE:

Do not apply voltage of 6 V or more to terminals VC and E_2.

(c) Connect a voltmeter to terminals PIM and E_2 of the ECU, and measure the output voltage under ambient atmospheric pressure.

(d) Apply vacuum to the vacuum sensor in segments from 13.3 kPa (100 mmHg, 3.94 in.Hg) to 66.7 kPa (500 mmHg, 19.69 in.Hg).

(e) Measure the voltage drop from step (c) above for each segment.

Voltage Drop:

Applied Vacuum kPa (mmHg, in.Hg)	13.3 (100, 3.94)	26.7 (200, 7.87)	40.0 (300, 11.81)	53.5 (400, 15.75)	66.7 (500, 19.69)
Voltage drop V	0.26 – 0.46	0.62 – 0.82	0.98 – 1.18	1.34 – 1.54	1.7 – 1.9