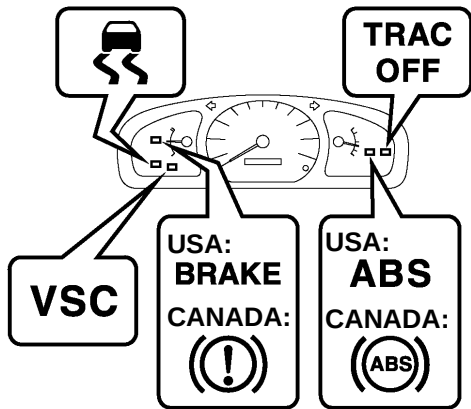
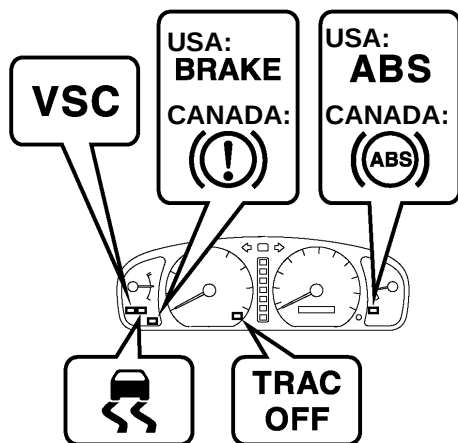


w/o Tachometer:



w/ Tachometer:



N

F12350

PRE-CHECK

1. DIAGNOSIS SYSTEM

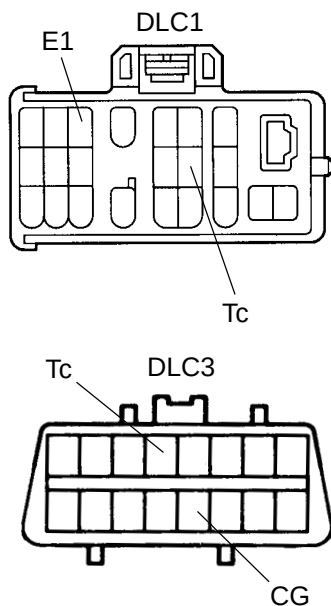
(a) Check the warning lights.

- (1) Release the parking brake pedal.
- (2) When the ignition switch is turned ON, check that the ABS warning light, VSC warning light, TRAC OFF indicator light, BRAKE warning light and SLIP indicator light go on for approx. 3 seconds.

HINT:

- When the parking brake is applied or the level of the brake fluid is low, the BRAKE warning light is lit.
- If the indicator check result is not normal, proceed to troubleshooting for the ABS warning light circuit, VSC warning light circuit, TRAC OFF indicator light circuit, BRAKE warning light circuit or SLIP indicator light circuit.

Trouble Area	See page
ABS warning light circuit	DI-334
VSC warning light circuit	DI-336
TRAC OFF indicator light circuit	DI-345
BRAKE warning light circuit	DI-339
SLIP indicator light circuit	DI-342

F02201
N09214

F05476

(b) In case of not using TOYOTA hand-held tester: Check the DTC of skid control ECU.

- (1) Using SST, connect terminals Tc and E₁ of DLC1 or Tc and CG of DLC3.

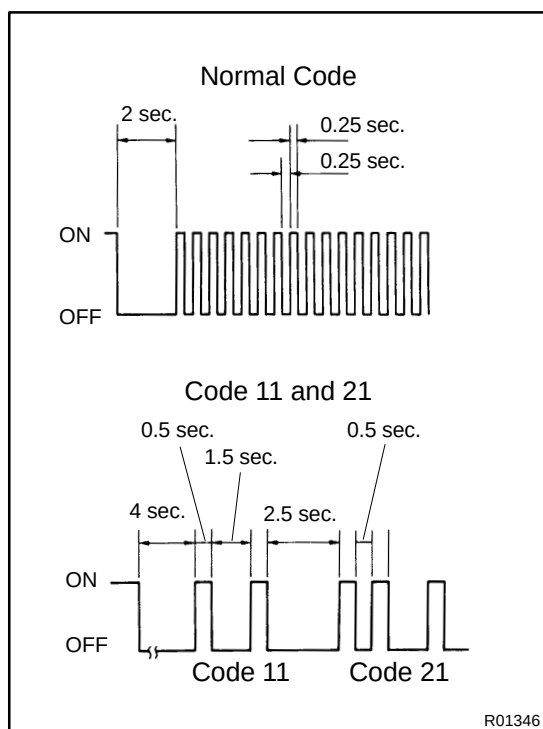
SST 09843-18020 or 09843-18040

- (2) Turn the ignition switch ON.
- (3) Read the DTC from the ABS warning light and VSC warning light on the combination meter.

HINT:

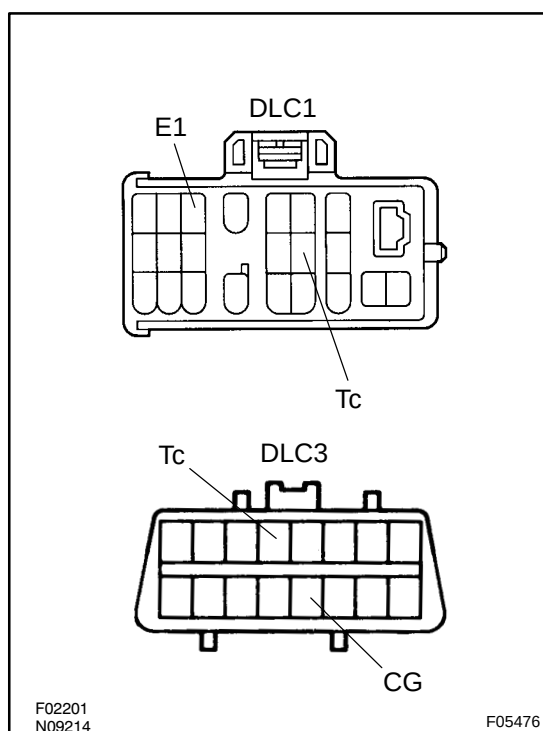
- If no code appears, inspect the diagnostic circuit, ABS warning light circuit or VSC warning light circuit.

Trouble Area	See page
Tc terminal circuit	DI-351
ABS warning light circuit	DI-334
VSC warning light circuit	DI-336



- 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-265](#).
- (5) After completing the check, disconnect terminals Tc and E₁ of DLC1 or Tc and CG of DLC3, and turn off the display.

If 2 or more malfunction codes are identified at the same time, the lowest numbered DTC will be displayed 1st.



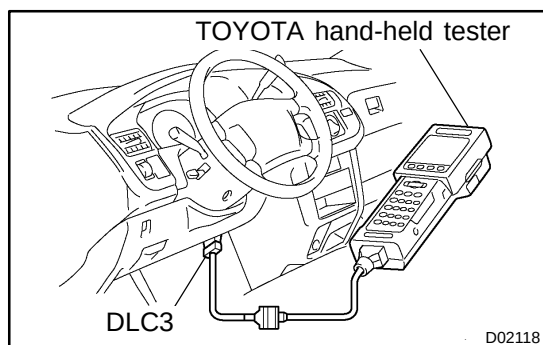
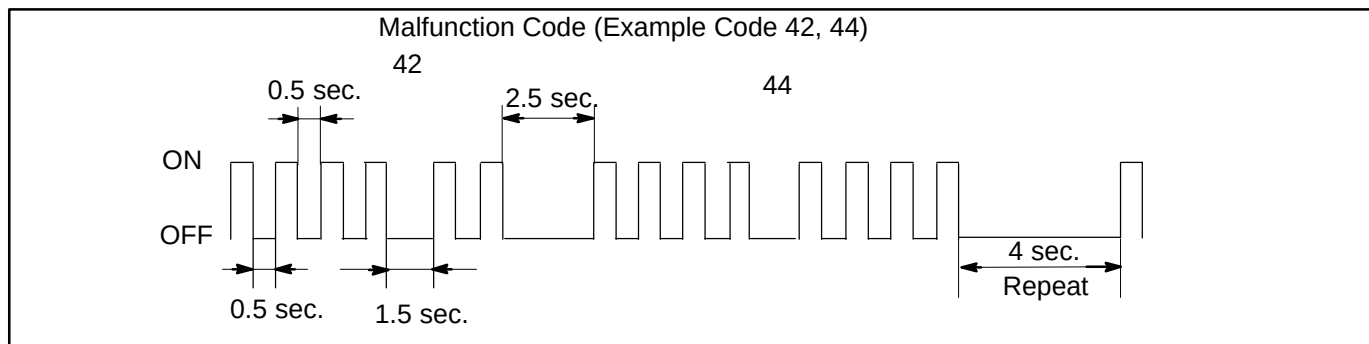
- (c) In case of not using TOYOTA hand-held tester:
Check the DTC of translate ECU.
- (1) Release the parking brake pedal.
 - (2) Check the brake fluid level.
 - (3) Using SST, connect terminals Tc and E₁ of DLC1 or Tc and CG of DLC3.
- SST 09843-18020 or 09843-18040
- (4) Turn the ignition switch ON.
 - (5) Read the DTC from the BRAKE warning light.

HINT:

- If no code appears, inspect the diagnostic circuit, and BRAKE warning light circuit.

Trouble Area	See page
Tc terminal circuit	DI-351
BRAKE warning light circuit	DI-339

- When the parking brake is applied or the level of the brake fluid is low, the BRAKE warning light is lit.
- 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 malfunction codes are identified at the same time, the lowest numbered code will be displayed 1st.

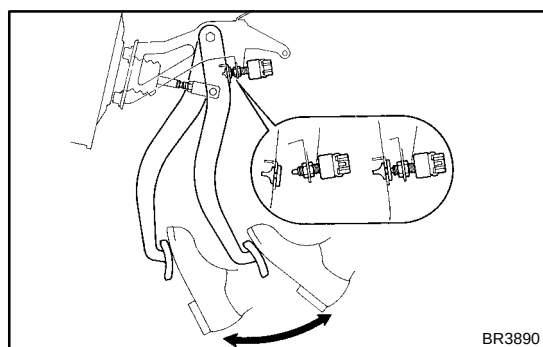


(d) In case of using TOYOTA hand-held tester:
Check the DTC.

- (1) Hook up the TOYOTA 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 TOYOTA hand-held tester operator's manual for further details.



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

- (1) Using SST, connect terminals Tc and E₁ of DLC1 or Tc and CG of DLC3.

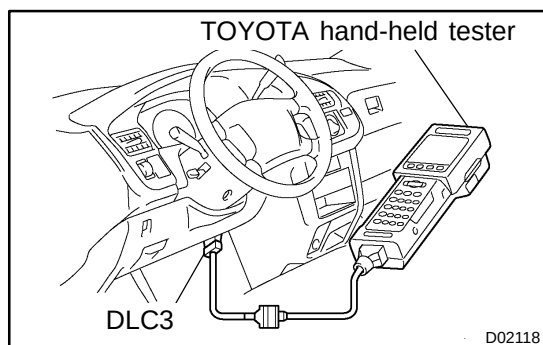
SST 09843-18020 or 09843-18040

- (2) Turn the ignition switch ON.
- (3) Clear the DTC stored in ECU by depressing the brake pedal 8 times or more within 5 seconds.
- (4) Check that the warning light shows the normal code.
- (5) Remove the SST from the terminals of DLC1 or DLC3.

SST 09843-18020 or 09843-18040

HINT:

Cancellation cannot be done by removing the battery cable or ECU-IG fuse.

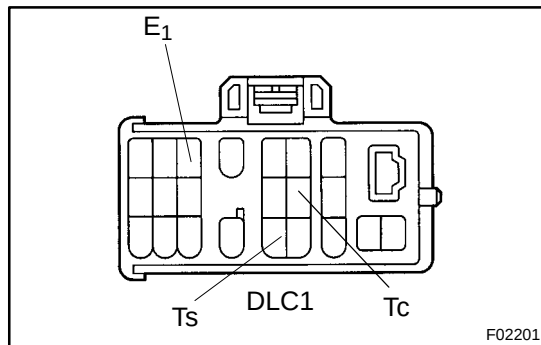


(f) In case of using TOYOTA hand-held tester:
Clear the DTC.

- (1) Hook up the TOYOTA hand-held tester to the DLC3.
- (2) Turn the ignition switch ON.
- (3) Operate the TOYOTA hand-held tester to erase the codes.

HINT:

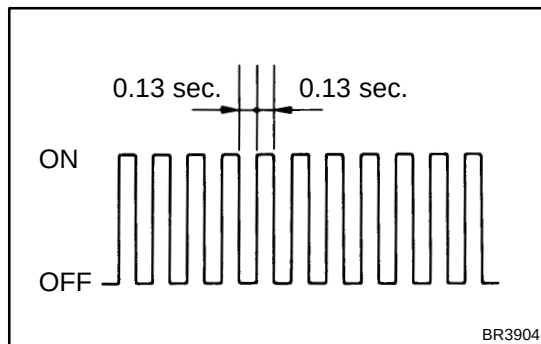
Please refer to the TOYOTA hand-held tester operator's manual for further details.



2. SPEED SENSOR SIGNAL CHECK (TEST MODE)

(a) In case of not using TOYOTA hand-held tester:
Check the sensor signal.

- (1) Turn the ignition switch OFF.
- (2) Using SST, connect terminals Ts and E₁ of DLC1.
SST 09843-18020
- (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 (See page [DI-334](#)).

- (5) Drive vehicle straight forward.
Drive vehicle at a speed faster than 45 km/h (28 mph) for several seconds check that the ABS warning light comes off.

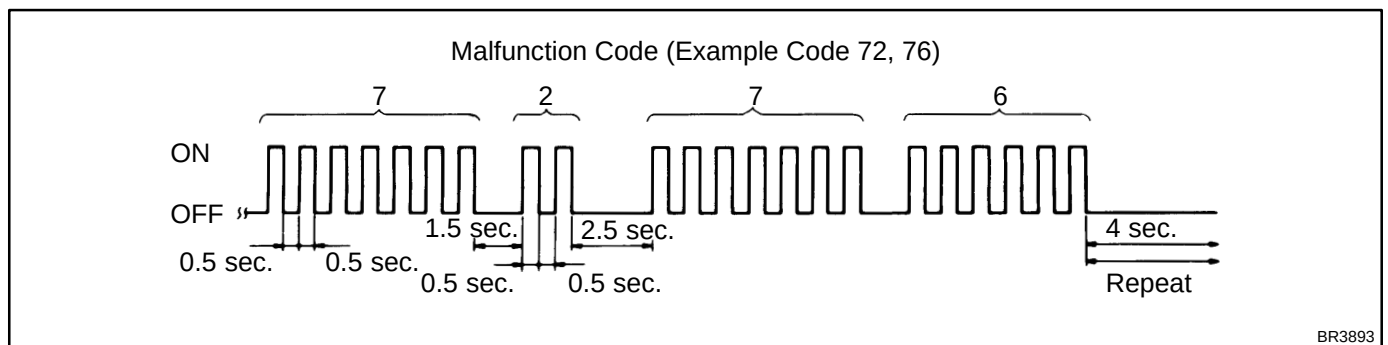
HINT:

The sensor check may not be completed if the front wheels are spun or the steering wheel is steered during this check.

- (6) Stop the vehicle.
- (7) Turn the ignition switch OFF, and then disconnect the SST from terminals Ts and E₁ of DLC1.
SST 09843-18020
- (8) Using SST, connect terminals Tc and E₁ of DLC1 or Tc and CG of DLC3.
SST 09843-18020 or 09843-18040
- (9) Turn the ignition switch ON.
- (10) Read the number of blinks of the ABS warning light.

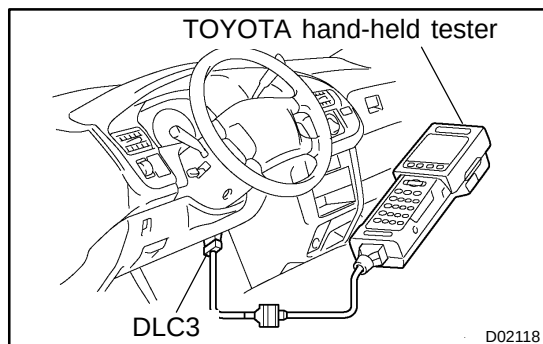
HINT:

- 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 malfunction codes are identified at the same time, the lowest numbered code will be displayed 1st.



- (11) After doing the check, disconnect the SST from terminals of DLC1 or DLC3, and turn the ignition switch OFF.

SST 09843-18020 or 09843-18040



- (b) In case of using TOYOTA hand-held tester:
Check the sensor signal.
- (1) Hook up the TOYOTA hand-held tester to the DLC3.
 - (2) Do step (3) - (6) on the previous page.
 - (3) Read the DTC by following the prompts on the tester screen.

HINT:

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

DTC of speed 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
C1272 / 72	Low output voltage of left front speed sensor	• Left front speed sensor • Sensor installation • Left front speed sensor rotor
C1273 / 73	Low output voltage of right rear speed sensor	• Right rear speed sensor • Sensor installation • Right rear speed sensor rotor
C1274 / 74	Low output voltage of left rear speed sensor	• Left rear speed sensor • Sensor installation • Left rear speed sensor rotor
C1275 / 75	Abnormal change in output signal of right front speed sensor	Right front speed sensor rotor
C1276 / 76	Abnormal change in output signal of left front speed sensor	Left front speed sensor rotor
C1277 / 77	Abnormal change in output signal of right rear speed sensor	Right rear speed sensor rotor
C1278 / 78	Abnormal change in output signal of left rear speed sensor	Left rear speed sensor rotor

3. STEERING ANGLE SENSOR ZERO POINT CALIBRATION**NOTICE:**

When replacing the steering angle sensor or ECU, or when adjusting the front wheel alignment or steering wheel center point in accordance with the removing and installing or replacing the suspension, axle or steering parts, make sure to perform steering angle sensor zero point calibration.

- (a) Make sure the steering off center angle is $< \pm 3^\circ$ when assembling of steering wheels (Smaller value is desirable).
- (b) Turn the ignition switch ON.
- (c) Using SST, connect terminals Ts and E₁ of DLC1.
SST 09843-18020
- (d) Shift the shift lever to P range.
- (e) Press the TRAC OFF switch and hold it.

HINT:

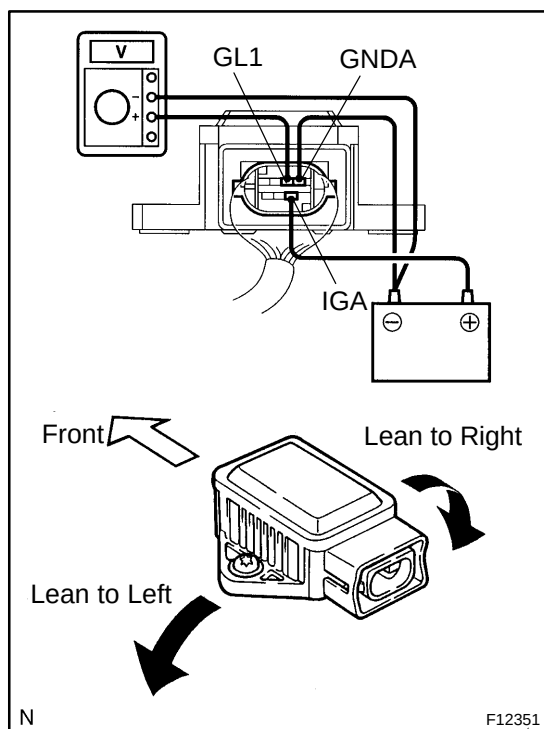
Press and hold the TRAC OFF switch until VSC buzzer sounds. When it starts sounding, turn off the switch.

- (f) Depress the brake pedal 3 times or more within 2 seconds.

- (g) Check that the VSC buzzer sounds for 3 seconds.

HINT:

- If the VSC buzzer sounds, the sensor calibration is in normal completion.
- If the VSC buzzer does not sound, do the sensor calibration again.
- If the VSC buzzer still will not sound, there is malfunction in the steering angle sensor, TRAC OFF switch circuit, VSC buzzer circuit or skid control ECU, so check the DTC and repair or replace them.



4. DECELERATION SENSOR CHECK

- (a) Connect IGA terminal to the battery positive (+) terminal, and GND terminal to the battery negative (-) terminal, and apply about 12 V between IGA and GND terminals.
- (b) Check the output voltage of GL1 terminal.

Symbols	Condition	Standard Value
GL1	Horizontal	About 2.5 V
GL1	Lean to right	About 2.5 V - 4 V
GL1	Lean to left	1 V - About 2.5 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.