

PRE-CHECK

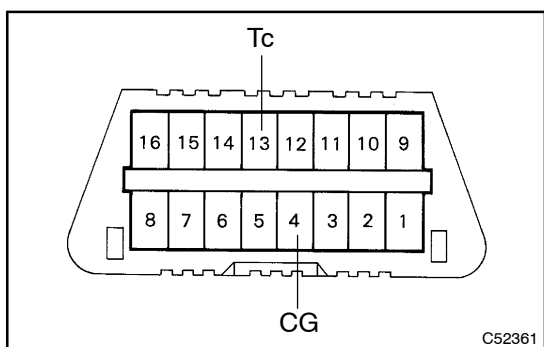
1. DIAGNOSIS SYSTEM

(a) Check the warning light.

When the ignition switch is turned ON, check that the ABS warning light and brake warning light goes on for 3 sec.

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 (See page 05-331 or 05-333) or brake warning light circuit (See page 05-334).



(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 to ON.

(3) Read the DTC from the ABS warning light on the combination meter.

HINT:

- If not code appears, inspect the diagnostic circuit or ABS warning light circuit (See page 05-328 and 05-336).
 - 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 05-300.

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

(5) After completing the check, remove the SST from the DLC3.

SST 09843-18040

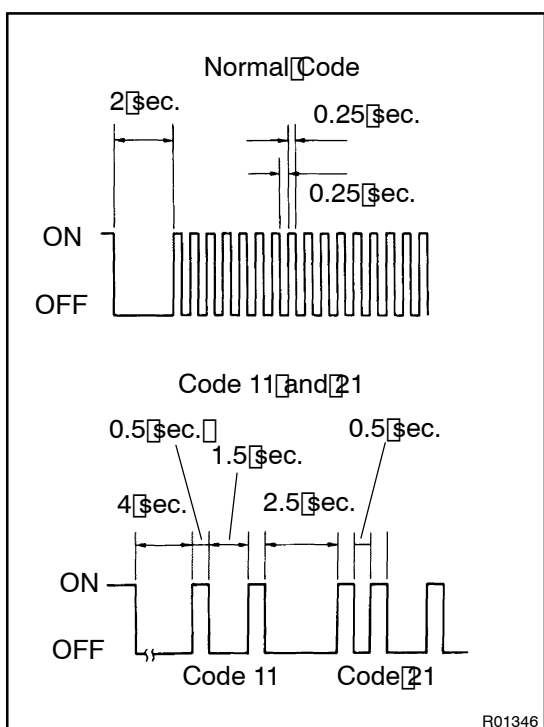
(c) In case of using hand-held tester:

Check the DTC.

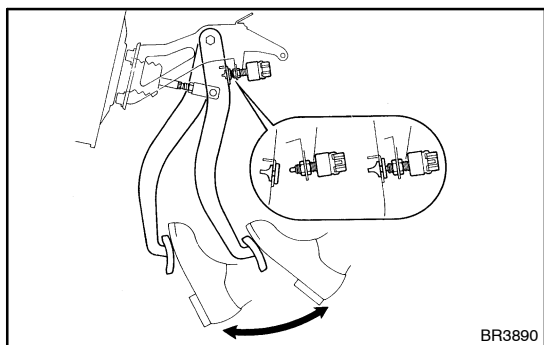
(1) Read the DTC by following the prompts on the tester screen.

HINT:

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



- (d) In case of not using hand-held tester:
Clear DTC.
- (1) Using SST, connect the terminals Tc and CG of the DLC3.
- SST 09843-18040
- (2) Turn the ignition switch to ON.



- (3) Clear DTC stored in ECU by depressing the brake pedal 8 or more times within 5 sec.
- (4) Check that the ABS warning light shows the normal code.
- (5) Remove the SST from the DLC3.

HINT:

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

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

HINT:

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

2. FREEZE FRAME DATA

- (a) The vehicle (sensor) status stored in ECU at the occurrence of abnormality of the diagnosis code or at the ABS operation can be displayed with the hand-held tester.
- (b) Although only one record of freeze frame data is stored, freeze frame data is up-dated whenever abnormal diagnosis code occurs. After the storage of freeze frame data, up to 31 ignition "ON" operations are stored and displayed.

HINT:

If the ignition switch "ON" operation exceeds 31 times, "31" appears on the display.

- (c) If the abnormal diagnostic code occurs, the freeze frame data at the occurrence of the abnormality is stored but the ABS actuation data is deleted.

Hand-held tester display	Measurement Item	Reference Value*
VEHICLE SPD	Vehicle speed	Speed indication of a meter
STOP LIGHT SW	Stop light switch signal	Stop light switch ON: ON, OFF: OFF
# IG ON	Numbers of operations of ignition switch ON after memorizing freeze frame data	0 - 31
MAS CYL PRESS	Master cylinder pressure sensor output voltage	Release brake pedal: 0.3 - 0.9 V Depress brake pedal: 3.2 - 4.5 V
MASS PRESS GRADE	Master cylinder pressure sensor changing gradient	-30 - 200 MPa/s
SYSTEM	Operate system	ABS operate: ABS BA operate: BA

*: If no specific conditions are stated for "Idling", it means that the shift lever is at N or P position, the A/C switch is OFF and all accessory switches are OFF.

3. SPEED SENSOR SIGNAL CHECK

HINT:

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

(a) In case of not using hand-held tester:

Check the speed sensor signal.

(1) Turn the ignition switch to OFF.

(2) Using SST, connect the terminals Ts and CG of DLC3.

SST 09843-18040

(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 and Ts circuit (See page 05-328 and 05-338).

(5) While the vehicle is stationary, release the brake pedal for 1 sec. Then depress the brake pedal with a force of at least 98 N (10 kgf) for more than 1 sec.

(6) While the vehicle is stationary, quickly depress the brake pedal. At this time, confirm that the ABS warning light remains on for approximately 3 sec.

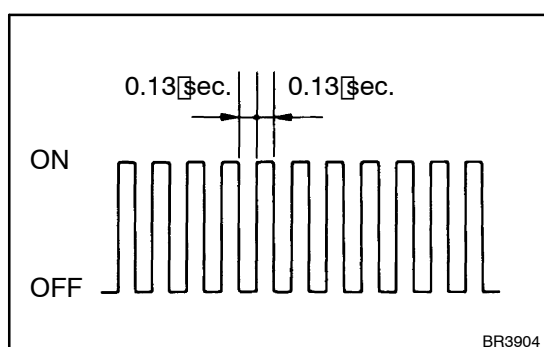
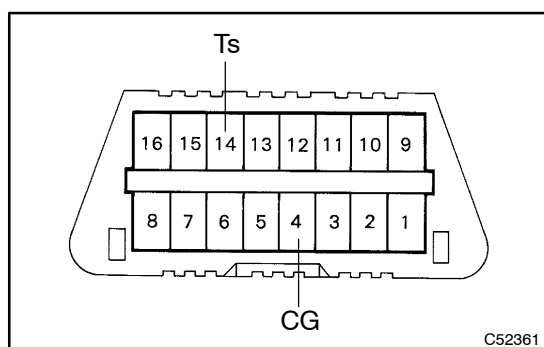
HINT:

Drive the vehicle higher than 45 km/h (28 mph) for several sec.

(7) Stop the vehicle.

(8) Using SST, connect the terminals Tc and CG of the DLC3.

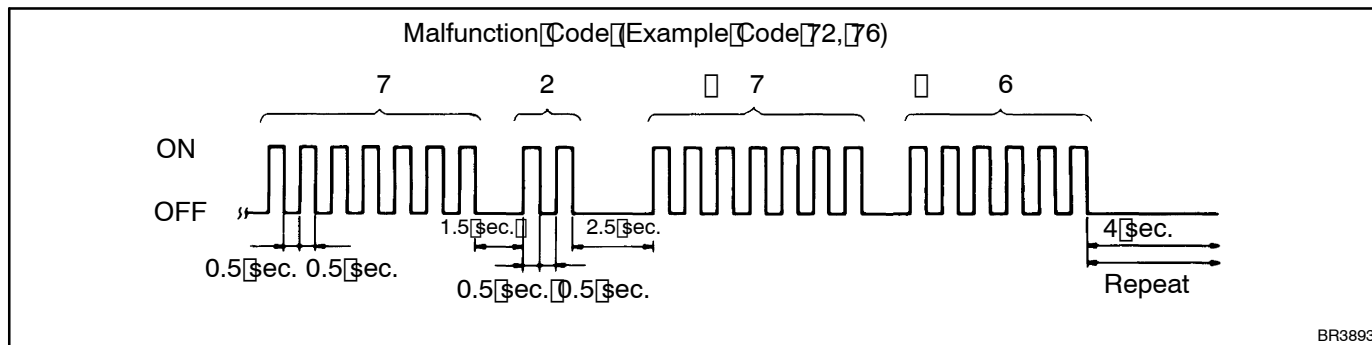
SST 09843-18040



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

HINT:

- See the list of DTC shown on the 05-300.
- If every sensors are 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 code will be displayed in ascending order.



(10) After doing the check, turn the ignition switch to OFF, and remove the SST from the check connector.

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

Check the sensor signal.

(1) Do step (3) to (7) on the previous page.

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

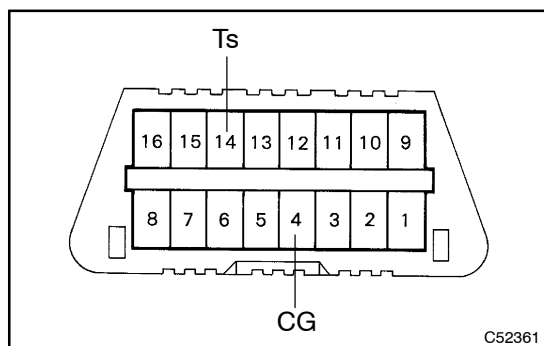
HINT:

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

4. BRAKE ASSIST OPERATE CHECK

HINT:

Turning the ignition switch from ON to ACC or LOCK during test mode will erase DTC.



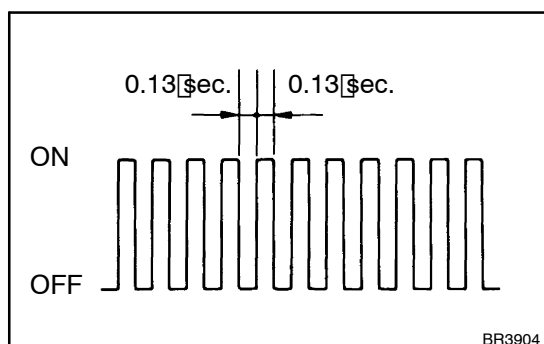
(a) In case of not using hand-held tester:

Check the brake assist operation.

(1) Turn the ignition switch to OFF.

(2) Using SST, connect terminals Ts and CG of DLC3.
SST 09843-18040

(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 and its circuit (See page 05-328 and 05-338).

- (5) While the vehicle is stationary, release the brake pedal for 1 sec. Then depress the brake pedal with a force of at least 98 N (10 kgf) for more than 1 sec.
- (6) While the vehicle is stationary, quickly depress the brake pedal. At this time, confirm that the ABS warning light remains lit for approximately 3 sec.
- (b) In case of using hand-held tester:
Check the brake assist operation.
Do step (a).-(3) to (6) on the previous page.

HINT:

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