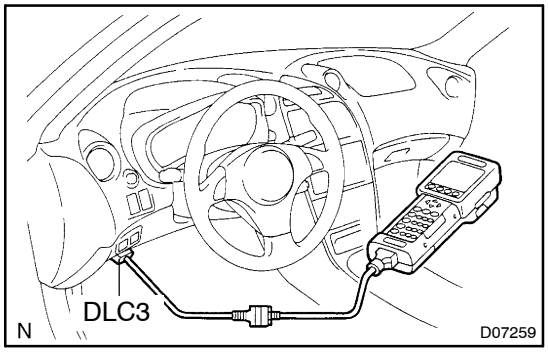
DI1AL–19



PRE–CHECK

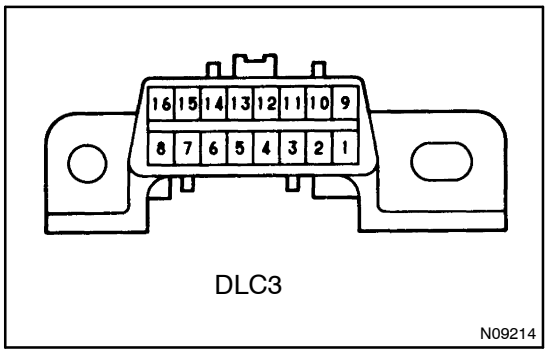
1. DIAGNOSIS SYSTEM

(a) Description

Engine and ECT ECU controls the function of immobiliser on this vehicle.

Data of the immobiliser or DTC can be read form DLC3 of the vehicle. When a trouble occurs on immobiliser, check engine warning light does not light up but DTC inspection is performed.

Therefore when there seems to be a trouble on immobiliser, use hand–held tester or SST to check and troubleshoot it.



(b) Check the DLC3.

The vehicle's engine and ECT ECU uses ISO 14230 for communication. The terminal arrangement of DLC3 complies with SAE J1962 and matches the ISO 14230 format.

Terminal No.	Connection / Voltage or Resistance	Condition
7	Bus ⊕ Line / Pulse generation	During transmission
4	Chassis Ground ↔ Body Ground / 1 Ω or less	Always
16	Battery Positive ↔ Body Ground / 9 ~ 14 V	Always

HINT:

If your display shows "UNABLE TO CONNECT TO VEHICLE" when you have connected the cable of the hand–held tester to DLC3, turned the ignition switch ON and operated the hand–held tester, there is a problem on the vehicle side or tool side.

- If communication is normal when the tool is connected to another vehicle, inspect DLC3 on the original vehicle.
- If communication is still not possible when the tool is connected to another vehicle, the problem is probably in the tool itself, so consult the Service Department listed in the tool's instruction manual.

2. INSPECT DIAGNOSIS (Normal Mode)

(a) Check the DTC using hand–held tester.

NOTICE:

Hand–held tester only: When the diagnosis system is switched from normal mode to check mode, it erases all DTCs and freezed frame data recorded in normal mode. So before switching modes, always check the DTCs and freezed frame data, and note them down.

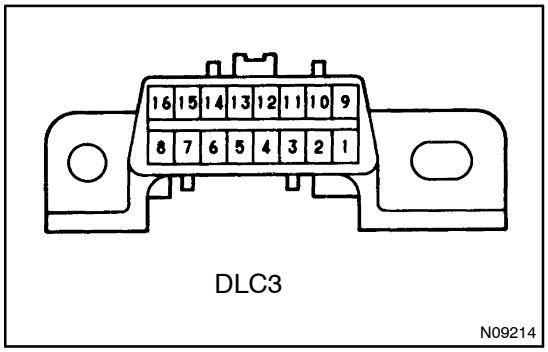
(1) Prepare the hand–held tester.

(2) Connect the hand–held tester to DLC3.

(3) Turn the ignition switch ON and push the hand–held tester main switch ON.

(4) Use the hand–held tester to check the DTCs and freezed frame data, note them down. (For operating instructions, see the hand–held tester instruction book.)

(5) See page DI–332 to confirm the details of the DTCs.



DLC3

(b) Check the DTC (Using diagnosis check wire)

(1) Turn ignition switch ON.

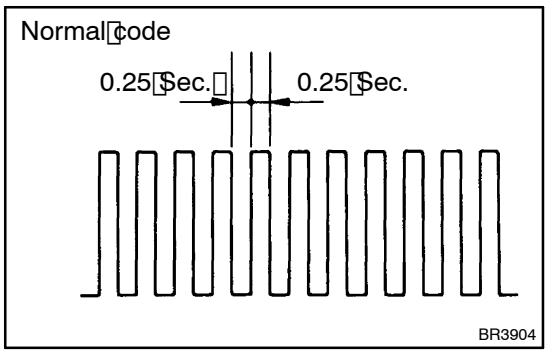
(2) Using SST, connect between terminals 4 (CG) and 13 (TC) of DLC3.

SST 09843–18040

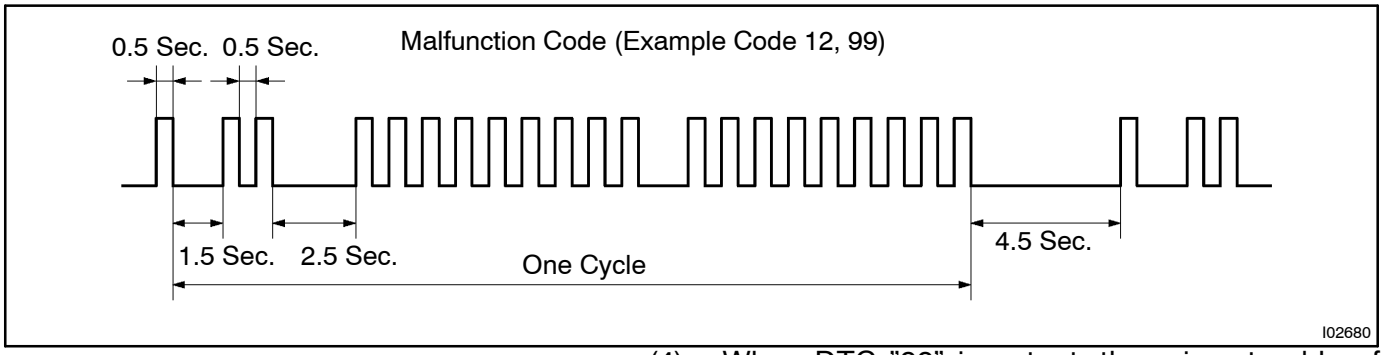
(3) Read the diagnostic trouble code from malfunction indicator lamp.

HINT:

- If a diagnostic trouble code is not output, check the TC terminal circuit.
- Engine and ECT ECU controls the immobiliser function on this vehicle, DTC is out put with engine data.



- As an example, the blinking patterns for codes; normal, 12 and 99 are shown in the charts.



(4) When DTC ”99” is output, there is a trouble of immobiliser. Start troubleshooting referring to PROBLEM SYMPTOMS TABLE.

(5) After completing the check, disconnect terminals 13 (TC) and 4 (CG) and turn off the display.

HINT:

In the event of 2 or more malfunction codes, indication will begin from the smaller numbered code and continue in order to the larger.

(c) Clear the DTC.

The following operations will erase the DTCs and freeze frame data.

(1) Operating the OBD ll scam tool (complying with SAEJ1978) or hand–held tester to erase the codes. (See the OBD ll scan tool’s instruction book for operating instructions.)

(2) Disconnecting the battery terminals or EFI fuse.