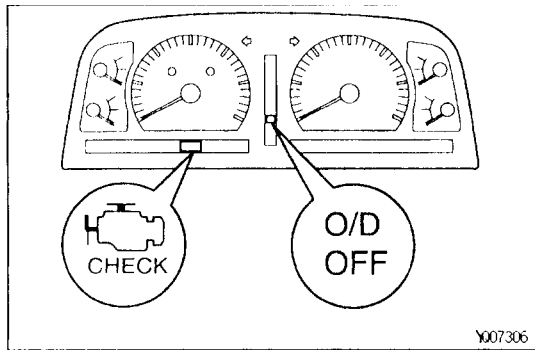




DIAGNOSIS SYSTEM

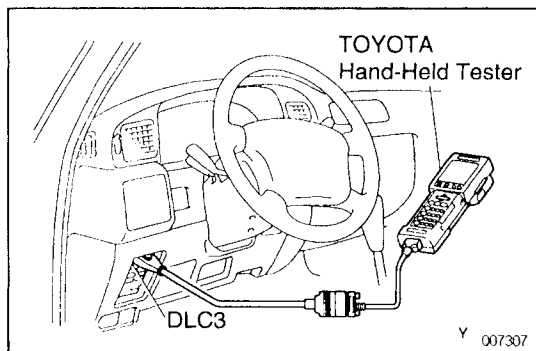
DESCRIPTION

When troubleshooting OBD II vehicles, the only difference from the usual troubleshooting procedure is that you connect to the vehicle the OBD II scan tool complying with SAE J1978 or TOYOTA hand-held tester, and read off various data output from the vehicle's ECM.

OBD II regulations require that the vehicle's onboard computer lights up the Malfunction Indicator Lamp (MIL) on the instrument panel when the computer detects a malfunction in the computer itself or in drive system components which affect vehicle emissions. As in previous models, when the ECM detects a malfunction in the transmission control section, the MIL lights up and the O/D OFF indicator light blinks. In addition to the MIL lighting up when a malfunction is detected, the applicable DTCs prescribed by SAE J 2012 are recorded in the ECM memory.

(See page EG-220)

If the malfunction only occurs in 3 trips, the MIL goes off but the DTCs remain recorded in the ECM memory. The O/D OFF indicator light goes off as soon as the trouble is no longer detected.



To check the DTCs, connect the OBD II scan tool or TOYOTA hand-held tester to DLC 3 on the vehicle. The OBD II scan tool or TOYOTA hand-held tester also enables you to erase the DTCs and check freeze frame data and various forms of engine data. (For operating instructions, see the OBD II scan tool's instruction book.)

DTCs include SAE controlled codes and Manufacturer controlled codes.

SAE controlled codes must be set as prescribed by the SAE, while Manufacturer controlled codes can be set freely by the manufacturer within the prescribed limits.

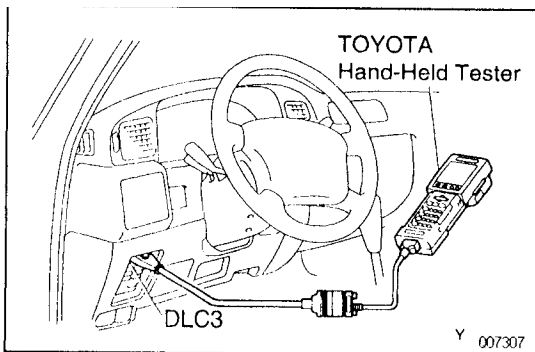
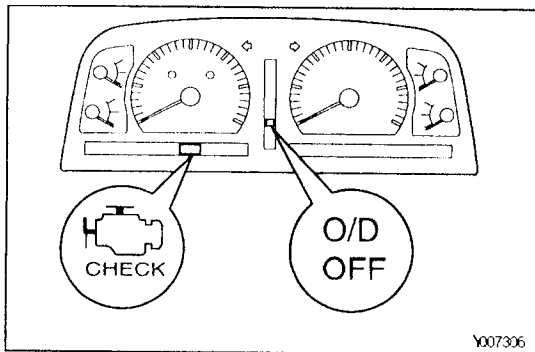
(See diagnostic trouble code chart on page [AT-42](#))

The diagnosis system operates in normal mode during normal vehicle use, and also has a check mode for technicians to simulate malfunction symptoms and perform troubleshooting. Most DTCs use 2 trip detection logic(*) to prevent erroneous detection. By switching the ECM to check mode when troubleshooting, the technician can cause the MIL to light up and O/D OFF indicator lights to blink for a malfunction that is only detected once or momentarily. (TOYOTA hand-held tester)

(See page [AT-36](#))

* 2 trip detection logic:

When a logic malfunction is first detected, the malfunction is temporarily stored in the ECM memory. If the same malfunction is detected again during the second test drive, this second detection causes the MIL to light up and O/D OFF indicator lights to blink.



DIAGNOSIS INSPECTION (NORMAL MODE)

MALFUNCTION INDICATOR LAMP CHECK

1. The MIL comes on when the ignition switch is turned ON and the engine is not running.
HINT: If the MIL does not light up, troubleshoot the combination meter (See page [BE-34](#))
2. When the engine is started, the MIL should go off. If the lamp remains on, the diagnosis system has detected a malfunction or abnormality in the system

DIAGNOSTIC TROUBLE CODE CHECK

NOTICE (TOYOTA hand-held tester only): When the diagnostic system is switched from normal mode to check mode, it erases all DTCs and freeze frame data recorded in normal mode. So before switching modes, always check the DTCs and freeze frame data, and note them down.

1. Prepare the OBD II scan tool (complying with SAE J 1978) or TOYOTA hand-held tester.
2. Connect the OBD II scan tool or TOYOTA hand-held tester to DLC 3 in the fuse box at the lower left of the instrument panel.
3. Turn the ignition switch ON and turn the OBD II scan tool or TOYOTA hand-held tester switch ON.
4. Use the OBD II scan tool or TOYOTA hand-held tester to check the DTCs and freeze frame data. Note them down. (For operating instructions, see the OBD II scan tool's instruction book.)