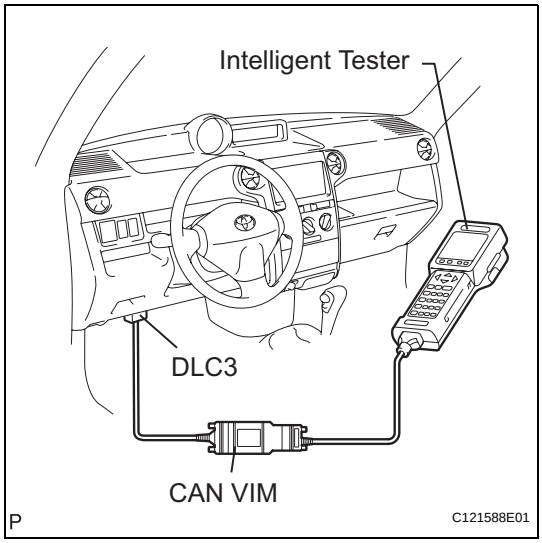
CHECK MODE PROCEDURE

1. DESCRIPTION

(a) Check mode has a higher sensitivity to malfunctions and can detect malfunctions that normal mode cannot detect. Check mode can also detect all the malfunctions that normal mode can detect. In check mode, DTCs are detected with 1 trip detection logic.

2. CHECK MODE PROCEDURE



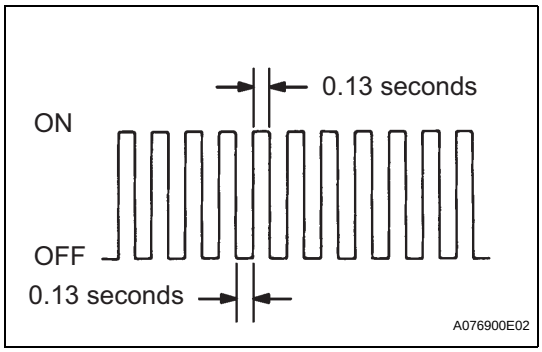
(a) Make sure that the following conditions are met:
  (1) Battery positive voltage 11 V or more
  (2) Throttle valve fully closed
  (3) Transaxle in the P or N position
  (4) A/C OFF

(b) Turn the ignition switch OFF.

(c) Connect the intelligent tester to the CAN VIM. Then connect the CAN VIM to the DLC3.

(d) Turn the ignition switch ON.

(e) Enter the following menus: DIAGNOSIS / ENHANCED OBD II / CHECK MODE.



(f) Change the ECM to check mode. Make sure the MIL flashes as shown in the illustration.

NOTICE:

All DTCs and freeze frame data recorded will be erased if: 1) the intelligent tester is used to change the ECM from normal mode to check mode or vice versa; or 2) during check mode, the ignition switch is turned from ON to ACC or OFF.

Before changing to check mode, make notes of the DTCs and freeze frame data.

(g) Start the engine. The MIL should turn off after the engine starts.

(h) Perform "MONITOR DRIVE PATTERN" for the ECT test (see page AX-21).
(Or, simulate the conditions of the malfunction described by the customer.)

(i) After simulating the malfunction conditions, use the intelligent tester to check the DTC and freeze frame data.

AX

FAIL-SAFE CHART

1. FAIL-SAFE CHART

This function minimizes the loss of the ECT functions when any malfunction occurs in a sensor or solenoid.

(a) Vehicle speed signal (SPD):
When there are problems with vehicle speed signals, O/D up-shift is prohibited.

(b) Speed sensor (NT):
When the input turbine speed sensor has a malfunction, O/D up-shift is prohibited.

(c) Automatic Transmission Fluid (ATF) temperature sensor:
When the ATF temperature sensor has a malfunction, O/D up-shift is prohibited.

(d) Shift solenoid valve SL:
If the ECM detects a malfunction in the solenoid valve SL, it turns the valve OFF.

(e) Shift solenoid valve SLT:
When the solenoid valve SLT has a malfunction, O/D up-shift is prohibited.

(f) Engine Coolant Temperature (ECT) sensor:
When the ECT sensor has a malfunction, O/D up-shift is prohibited.

(g) Knock sensor:
When the knock sensor has a malfunction, O/D up-shift is prohibited.

(h) Throttle position sensor:
When the throttle position sensor has a malfunction, O/D up-shift is prohibited.

(i) Shift solenoid valve S1 and S2:
Fail-safe function:
If either of the shift solenoid valve circuits develops an open or short, the ECM turns the other shift solenoid "ON" and "OFF" in order to shift into the gear positions shown in the table below.
The ECM also turns the shift solenoid valve ST OFF at the same time. If both solenoids malfunction, hydraulic control cannot be performed electronically and must be done manually.
Manual shifting as shown in the following table must be done. In case of a short circuit, the ECM stops sending the current to the short circuited solenoid. Even if starting the engine in the fail-safe mode, the gear position remains in the same position.

AX

Position	Normal			Shift Solenoid Valve S1 Malfunctioning			Shift Solenoid Valve S2 Malfunctioning			Both Solenoid Valves Malfunctioning
	Solenoid Valve		Gear	Solenoid Valve		Gear	Solenoid Valve		Gear	Gear when shift selector is manually operated
	S1	S2		S1	S2		S1	S2		
D	ON	ON	1st	X	ON ↓ OFF	3rd	ON	X	2nd	3rd
	ON	OFF	2nd	X	OFF	3rd	ON	X	2nd	3rd
	OFF	OFF	3rd	X	OFF	3rd	OFF	X	3rd	3rd
	OFF	ON	O/D	X	ON	O/D	OFF	X	3rd	3rd

Position	Normal			Shift Solenoid Valve S1 Malfunctioning			Shift Solenoid Valve S2 Malfunctioning			Both Solenoid Valves Malfunctioning
	Solenoid Valve		Gear	Solenoid Valve		Gear	Solenoid Valve		Gear	Gear when shift selector is manually operated
	S1	S2		S1	S2		S1	S2		
2	ON	ON	1st	X	ON ↓ OFF	3rd	ON	X	2nd	3rd
	ON	OFF	2nd	X	OFF	3rd	ON	X	2nd	3rd
	OFF	OFF	3rd	X	OFF	3rd	OFF	X	3rd	3rd
L	ON	ON	1st	X	ON ↓ OFF	3rd	ON	X	2nd	3rd
	ON	OFF	2nd	X	OFF	3rd	ON	X	2nd	3rd

HINT:

- X: OFF (the ECM stops sending current to a malfunctioning solenoid valve)
- ↓: Condition in the electrical operation is shown above the "↓".
- ↓: Condition in the fail-safe mode is shown below the "↓".