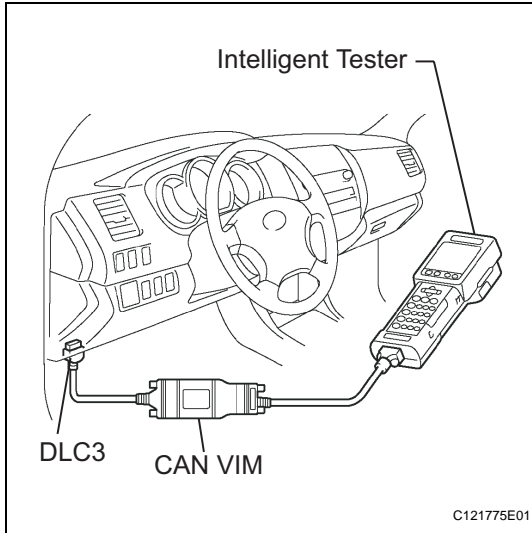


CHECK MODE PROCEDURE

1. DESCRIPTION

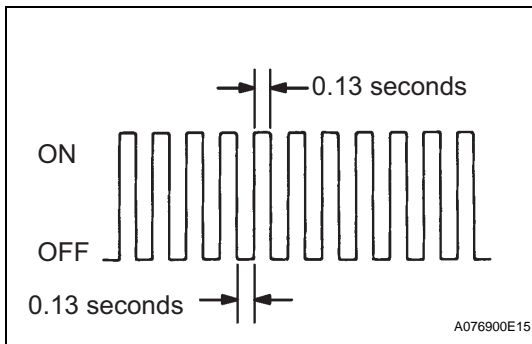
Check mode has a higher sensitivity to malfunctions and can detect malfunctions that normal mode cannot detect. Check mode can also detect all the malfunctions that normal mode can detect. In check mode, DTCs are detected with 1-trip detection logic.



2. CHECK MODE PROCEDURE

- (a) Ensure the following conditions:
 - (1) Battery positive voltage 11 V or more
 - (2) Throttle valve fully closed
 - (3) Transmission in the P or N position
 - (4) A/C switched OFF
- (b) Turn the ignition switch off.
- (c) Connect the intelligent tester together with the Controller Area Network Vehicle Interface Module (CAN VIM) to the DLC3.
- (d) Turn the ignition switch to the ON position.
- (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 recorded DTCs and freeze frame data 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 LOCK.
Before entering 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 [AT-15](#)).
 (Or, simulate the conditions of the malfunction described by the customer).
- (i) After simulating the malfunction conditions, use the intelligent tester diagnosis selector to check the DTC and freeze frame data.



FAIL-SAFE CHART

1. FAIL-SAFE

This function minimizes the loss of the ECT (Electronic Controlled Automatic Transmission) functions when any malfunction occurs in each sensor or solenoid.

Malfunction Part	Function
Input Speed Sensor (NCO)	During an input speed sensor malfunction, shift control is effected through the output speed sensor signal (SP2). During an input speed sensor malfunction, AI-SHIFT*1 and flex lock-up clutch control are prohibited.
Output Speed Sensor (SP2)	During an output speed sensor malfunction, shift control is effected through the input speed sensor signal (NCO). During an output speed sensor malfunction, AI-SHIFT*1 and flex lock-up clutch control are prohibited.
No. 1 ATF Temperature Sensor	During an No. 1 ATF temperature sensor malfunction, flex lock-up clutch control is prohibited.
Shift Solenoid Valve S1 and S2	The current to the failed solenoid valve is cut off and control is effected by operating the other solenoid valves with normal operation. Shift control is effected depending on the failed solenoid as described in the table on the next page.
Shift Solenoid Valve SLU	During a solenoid valve SLU malfunction, the current to the solenoid valve is stopped. This stops lock-up control and flex lock-up control, and fuel economy decreases.
Shift Solenoid Valve SLT	During a solenoid valve SLT malfunction, the current to the solenoid valve is stopped. This stops line pressure optimal control, and the shift shock increases. However, shifting is effected through normal clutch pressure control.

*1: AI (Artificial Intelligence) -SHIFT control

In addition to switching of the shift pattern through the pattern select switch, the AI-SHIFT control enables the ECM to estimate the road conditions and the driver's intention in order to automatically select the optimal shift pattern. As a result, a comfortable ride has been realized.

2. FAIL-SAFE FUNCTION:

If either of the shift solenoid valve circuits has an open or short failure, the ECM turns the other shift solenoid "ON" and "OFF" in order to shift into the gear positions shown in the table below.

When a short circuit occurs, the ECM cuts the supply of current to the short circuited solenoid.

Even if starting the engine again in fail-safe mode, the gear position remains in the same position.

Position	NORMAL			SHIFT SOLENOID S1 MALFUNCTIONING			SHIFT SOLENOID S2 MALFUNCTIONING			BOTH SOLENOIDS 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	OFF	1st	X	ON	3rd	ON	X	1st	4th
	ON	ON	2nd	X	ON	3rd	OFF	X	4th	4th
	OFF	ON	3rd	X	ON	3rd	OFF	X	4th	4th
	OFF	OFF	4th	X	OFF	4th	OFF	X	4th	4th
3	ON	OFF	1st	X	ON	3rd	ON	X	1st	4th
	ON	ON	2nd	X	ON	3rd	OFF	X	4th	4th
	OFF	ON	3rd	X	ON	3rd	OFF	X	4th	4th

2	ON	OFF	1st	X	ON	3rd	ON	X	1st	3rd
	ON	ON	2nd	X	ON	3rd	OFF	X	3rd	3rd
L	ON	OFF	1st	X	OFF	1st	ON	X	1st	1st

X: Malfunctions