

DTC**P0505****Idle Control System Malfunction****DESCRIPTION**

The idling speed is controlled by the ETCS (Electronic Throttle Control System). The ETCS is comprised of: 1) the one valve type throttle body; 2) the throttle actuator, which operates the throttle valve; 3) the Throttle Position (TP) sensor, which detects the opening angle of the throttle valve; 4) the Accelerator Pedal Position (APP) sensor, which detects the accelerator pedal position; and 5) the ECM, which controls the ETCS. Based on the target idling speed, the ECM controls the throttle actuator to provide the proper throttle valve opening angle.

DTC No.	DTC Detection Conditions	Trouble Areas
P0505	Idling speed continues to vary greatly from target idling speed (2 trip detection logic)	<ul style="list-style-type: none"> • Electronic Throttle Control System (ETCS) • Air induction system • PCV hose connection • ECM

ES**MONITOR DESCRIPTION**

The ECM monitors the idling speed and idling air flow volume to conduct Idle Speed Control (ISC). The ECM determines that the ISC system is malfunctioning if the following conditions apply:

HINT:

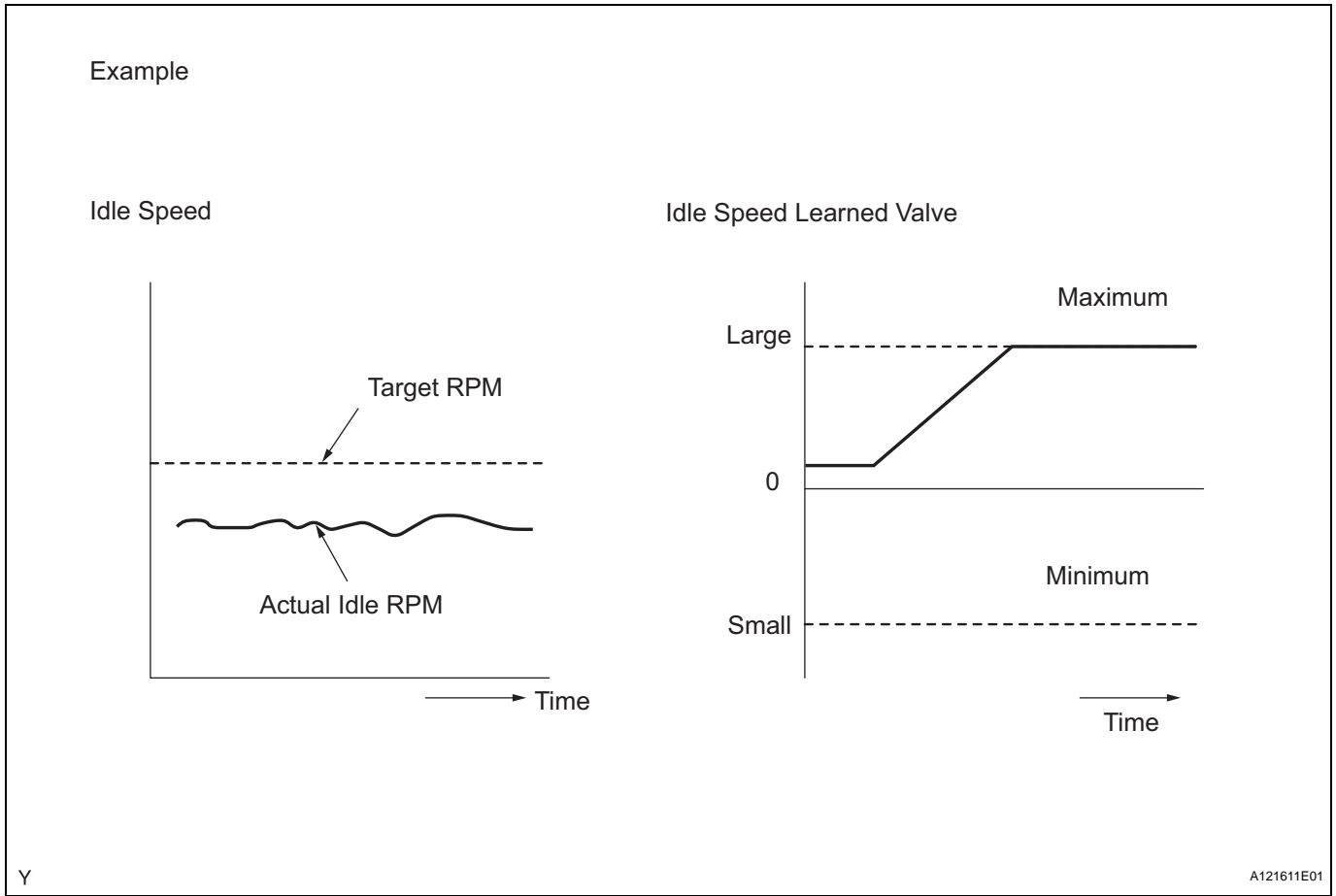
- The learned idling air flow volume remains at the maximum or minimum volume 5 times or more during a drive cycle.
- While driving at 6 mph (10 km/h) or more, the actual engine idling speed varies from the target idling speed by between 100 rpm and 150 rpm, 5 times or more during a drive cycle.

Example:

If the actual idling speed varies from the target idling speed by more than 200 rpm* 5 times during a drive cycle, the ECM illuminates the MIL and sets the DTC.

HINT:

*: Threshold idling speed varies with engine load.



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MONITOR STRATEGY

Related DTCs	P0505: ISC Function
Required Sensors/Components (Main)	ETCS
Required Sensors/Components (Related)	Crankshaft position sensor, Engine coolant temperature sensor, and Vehicle speed sensor
Frequency of Operation	Continuous
Duration	10 minutes
MIL Operation	2 driving cycles
Sequence of Operation	None

TYPICAL ENABLING CONDITIONS

Monitor runs whenever following DTCs not present	None
Engine	Running

TYPICAL MALFUNCTION THRESHOLDS

Following conditions met:	A and B
A. Frequency that both of following conditions 1 and 2 met:	5 times or more
1. Deviation in engine speed	Less than -100 rpm or more than 150 rpm (when shift position D and A/C OFF)
2. Vehicle condition	Stop after vehicle was driven by 6 mph (10 km/h) or more
B. Frequency that both of following conditions 3 and 4 met:	Once
3. Deviation in engine speed	Less than -100 rpm or more than 150 rpm (when shift position D and A/C OFF)

4. IAC flow rate learning value	0.5 L/sec or less, 6.4 L/sec or more
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HINT:

- The following conditions may also cause DTC P0505 to be set: (1) The floor carpet overlapping slightly onto the accelerator pedal, causing the accelerator pedal to be slightly depressed and therefore the throttle valve position to be slightly open. (2) The accelerator pedal being not fully released.
- Read freeze frame data using an intelligent tester. Freeze frame data record the engine condition when malfunctions are detected. When troubleshooting, freeze frame data can help determine if the vehicle was moving or stationary, if the engine was warmed up or not, if the air-fuel ratio was lean or rich, and other data, from the time the malfunction occurred.

1 CHECK ANY OTHER DTCS OUTPUT (IN ADDITION TO DTC P0505)

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- (a) Connect an intelligent tester to the DLC3.
- (b) Turn the ignition switch to ON.
- (c) Turn the tester ON.
- (d) Select the following menu items: DIAGNOSIS / ENHANCED OBD II / DTC INFO / CURRENT CODES.
- (e) Read DTCs.

Result

Display (DTC Output)	Proceed To
P0505	A
P0505 and other DTCs	B

HINT:

If any DTCs other than P0505 are output, troubleshoot those DTCs first.

A

B → **GO TO DTC CHART**

2 CHECK CONNECTION OF PCV HOSE

OK:

PCV hose is connected correctly and is not damaged.

OK

NG → **REPAIR OR REPLACE PCV HOSE**

3 CHECK AIR INDUCTION SYSTEM

- (a) Check the air induction system for vacuum leakage.

OK:

No leakage from air induction system.

OK

NG → **REPAIR OR REPLACE AIR INDUCTION SYSTEM**

4 CHECK THROTTLE VALVE

(a) Check the throttle valve condition.

NG

REPLACE THROTTLE BODY ASSEMBLY

OK

REPLACE ECM