

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 Condition	Trouble Area
P0505	Idling speed continues to vary greatly from target idling speed (2 trip detection logic)	<ul style="list-style-type: none"> • ETCS • Air induction system • PCV hose connections • 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:

- The learned idling air flow volume remains at the maximum or minimum volume 5 times or more during a drive cycle.
- After driving at 10 km/h (6.25 mph) or more, the actual engine idling speed varies from the target idling speed by between 100 rpm and 200 rpm, 5 times or more during a drive cycle.

Example:

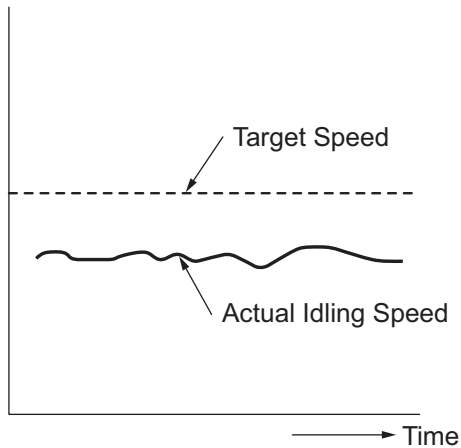
If the actual idling speed varies from the target idling speed by more than 200 rpm* 5 times during a drive cycle, the ECM illuminates the MIL and sets the DTC.

HINT:

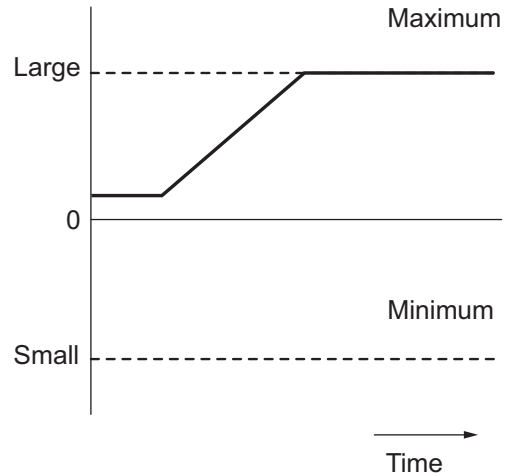
*: Threshold idling speed varies with engine load.

Example:

Idling Speed



Learned Idling Air Volume



Y

A121611E02

ES

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	Once per driving cycle
Duration	10 minutes
MIL Operation	2 driving cycles
Sequence of Operation	None

TYPICAL ENABLING CONDITIONS

Engine	Running
--------	---------

TYPICAL MALFUNCTION THRESHOLDS

Either of following conditions 1 or 2 met	-
1. Frequency that both of following conditions (a) and (b) set	5 times or more
(a) Engine rpm - Target engine rpm	Less than -100 rpm, or more than 150 rpm
(b) Vehicle condition	Stop after vehicle was driven at 10 km/h (6.25 mph) or more
2. Frequency that both of following conditions (c) and (d) set	Once
(c) Engine rpm - Target engine rpm	Less than -100 rpm, or more than 150 rpm
(d) IAC flow rate learning value	1.3 L/sec. or less, or 8.5 L/sec. or more

INSPECTION PROCEDURE

HINT:

- The following conditions may also cause DTC P0505 to be set:
 - (a) 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.
 - (b) The accelerator pedal being not fully released.
- Read freeze frame data using the intelligent tester. Freeze frame data records 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)

ES

- (a) Connect the intelligent tester to the DLC3.
- (b) Turn the ignition switch 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.

B → **GO TO DTC CHART**

A

2 CHECK PCV HOSE CONNECTIONS

OK:

PCV hose is connected correctly and is not damaged.

NG → **REPAIR OR REPLACE PCV HOSE**

OK

3 CHECK AIR INDUCTION SYSTEM

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

OK:

No leakage from air induction system.

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

OK

4 CHECK THROTTLE VALVE

(a) Check the throttle valve condition.

OK:

Throttle valve is not contaminated with foreign objects and moves smoothly.

NG

REPLACE THROTTLE BODY ASSEMBLY

OK

REPLACE ECM