# DTC P0505 IDLE AIR CONTROL SYSTEM

## CIRCUIT DESCRIPTION

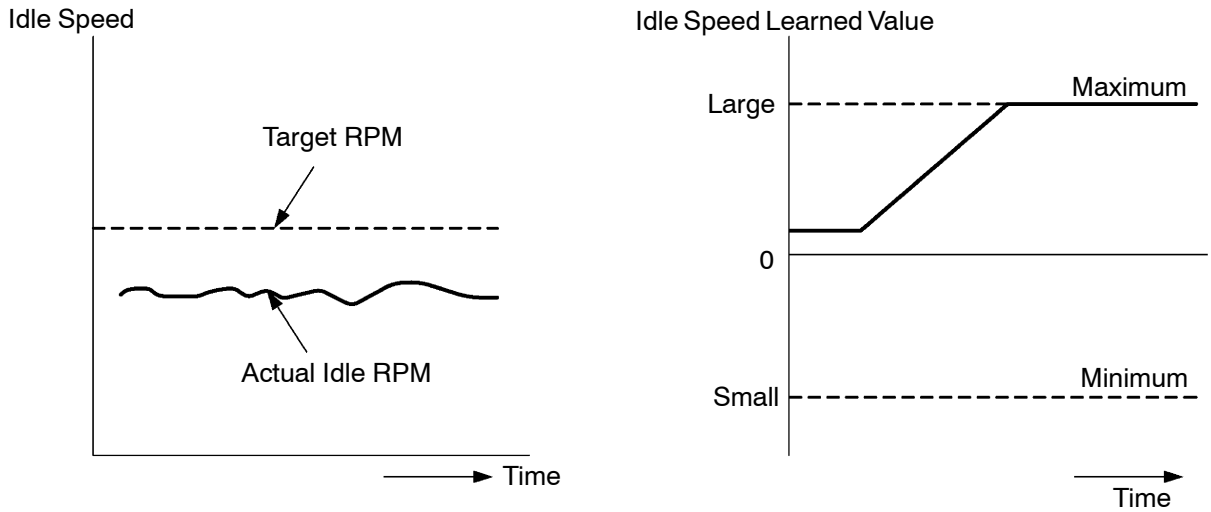
The idle speed is controlled by the Electronic Throttle Control System (ETCS). The ETCS is comprised of: 1) a one valve type throttle body; 2) the throttle actuator, which operates the throttle valve; 3) the Throttle Position (TP) sensor, which detects the opening angle of the throttle valve; 4) the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

| DTC No. | DTC Detection Condition | Trouble Area |
|---|---|---|
| P0505 | Idle speed continues to vary greatly from target speed (2 trip detection logic) | • ETCS<br>• Air induction system<br>• PCV hose connection<br>• ECM |

## MONITOR DESCRIPTION

The ECM detects idle speed and idle air flow amount for Idle Speed Control (ISC). The ECM concludes that the ISC is malfunctioning if: 1) the learned value of the ISC remains at the maximum or minimum 5 times or more during drive cycle, and 2) while driving at 10 km/h (6 mph) or more, the actual idle RPM varies from the target RPM by −200 to −100 RPM or 100 to 200 RPM 5 times or more during a drive cycle.
Example:
If the actual idle RPM varies from the target idle RPM by more than 200 rpm* five times during a drive cycle, the ECM will turn on the MIL and a DTC is set.
*: RPM threshold varies with engine load.

**Example**

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## INSPECTION PROCEDURE

HINT:

- The detection of DTC P0505 may also be caused by: 1) the floor carpet overlapping onto the accelerator pedal, causing the accelerator pedal to be slightly depressed (TP to be slightly open); or 2) the accelerator pedal not being fully released.
- Read freeze frame data using the Intelligent Tester II. Freeze frame data records the engine conditions when a malfunction is detected. When troubleshooting, freeze frame data can help determine if the vehicle was running or stopped, 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 OTHER DTC OUTPUT**

| Display (DTC output) | Proceed to |
|---|---|
| P0505 | A |
| P0505 and other DTCs | B |

B → GO TO RELEVANT DTC CHART (See page 05–36)

A

**2 CHECK CONNECTION OF PCV HOSE**

NG → REPAIR OR REPLACE PCV HOSE

OK

**3 CHECK AIR INDUCTION SYSTEM (See page 13–4)**

NG → REPAIR OR REPLACE AIR INDUCTION SYSTEM

OK

**4 CHECK THROTTLE VALVE**

Check the throttle valve condition.

NG → REPLACE THROTTLE BODY ASSY (See page 10–9)

OK

REPLACE ECM (See page 10–21)