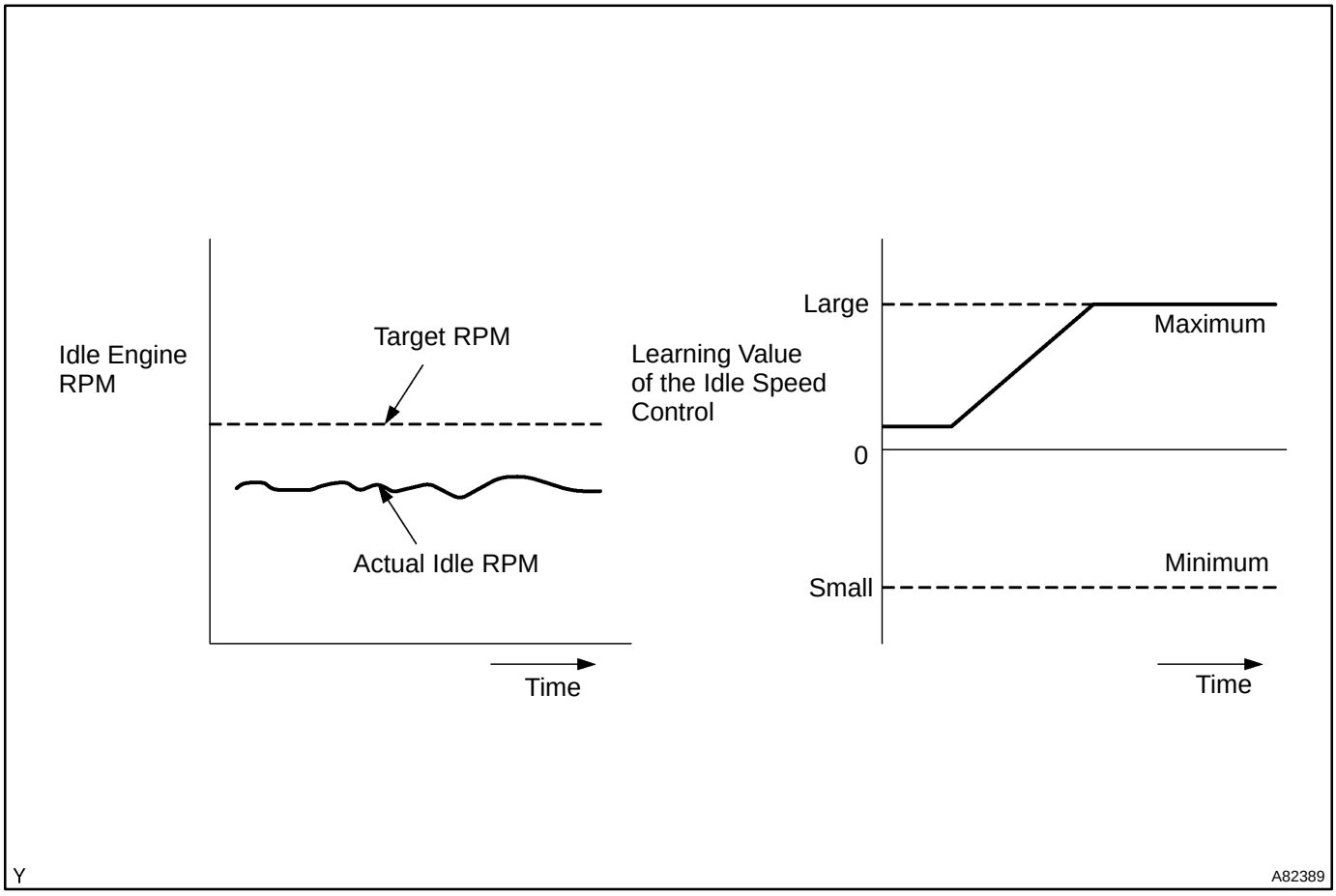
DTC P0505 IDLE AIR CONTROL SYSTEM

MONITOR DESCRIPTION

The idle speed is controlled by the Electronic Throttle Control System (ETCS).
The ETCS is composed of the throttle motor, which operates the throttle valve, and the throttle position sensor, which detects the opening angle of the throttle valve.
The ECM controls the throttle motor to provide the proper throttle valve opening angle to obtain the target idle speed.
The ECM regulates the idle speed by opening and closing the throttle valve using the ETCS. The ECM concludes that the idle speed control ECM function is malfunctioning if: 1) the actual idle RPM varies more than the specified amount five times or more during a drive cycle, or 2) a learning value of the idle speed control remains at the maximum or minimum five times or more during a drive cycle. The ECM will turn on the MIL and set a DTC.
Example:
If the actual idle RPM varies from the target idle RPM by more than 200*1 rpm five times during a drive cycle, the ECM will turn on the MIL and will set a DTC.
*1: RPM threshold varies with engine load.



DTC No.	DTC Detection Condition	Trouble Area
P0505	Idle speed continues to vary greatly from target speed	• Electronic throttle control system • Air induction system • PCV hose connection

MONITOR STRATEGY

Related DTCs	IAC Functional Check
Required sensors / components (Main)	ETCS (Electrical throttle control system)
Required sensors / components (Related)	CKP sensor, ECT sensor, and VSS
Frequency of operation	Continuous
Duration	10 min.
MIL operation	2 driving cycles
Sequence of operation	None

TYPICAL ENABLING CONDITIONS

The monitor will run whenever this DTC is not present	See page 05-16
Engine	Running

TYPICAL MALFUNCTION THRESHOLDS

Either of the Conditions is met:	Condition 1 or 2
1. Frequency that both of the following conditions (a) and (b) are met:	5 times
(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 the following conditions (a) and (b) are met:	Once
(a) IAC flow rate learning value	Below 1.3 L/second or above 4.51 L/second
(b) Engine RPM - Target engine RPM	Less than -100 rpm or more than 150 rpm

INSPECTION PROCEDURE

HINT:

Read freeze frame data using the hand−held tester or the OBD II scan tool. 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 (IN ADDITION TO DTC P0505)

(a) Read the DTC using the hand-held tester or the OBD II scan tool.
Result:

Display (DTC Output)	Proceed to
Only P0505 is output	A
P0505 and other DTCs are output	B

HINT:
If any other codes besides P0505 are output, perform the troubleshooting for those codes first.

B → **GO TO RELEVANT DTC CHART (See page 05-48)**

A

2	CHECK CONNECTION OF PCV HOSE

OK: PCV hose is connected correctly and PCV hose has no damage.

NG → **REPAIR OR REPLACE PCV HOSE**

OK

3	CHECK AIR INDUCTION SYSTEM

(a) Check for vacuum leaks in the air induction system.
OK: No leak in air induction system.

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

OK

CHECK ELECTRIC THROTTLE CONTROL SYSTEM (See page 10-1)