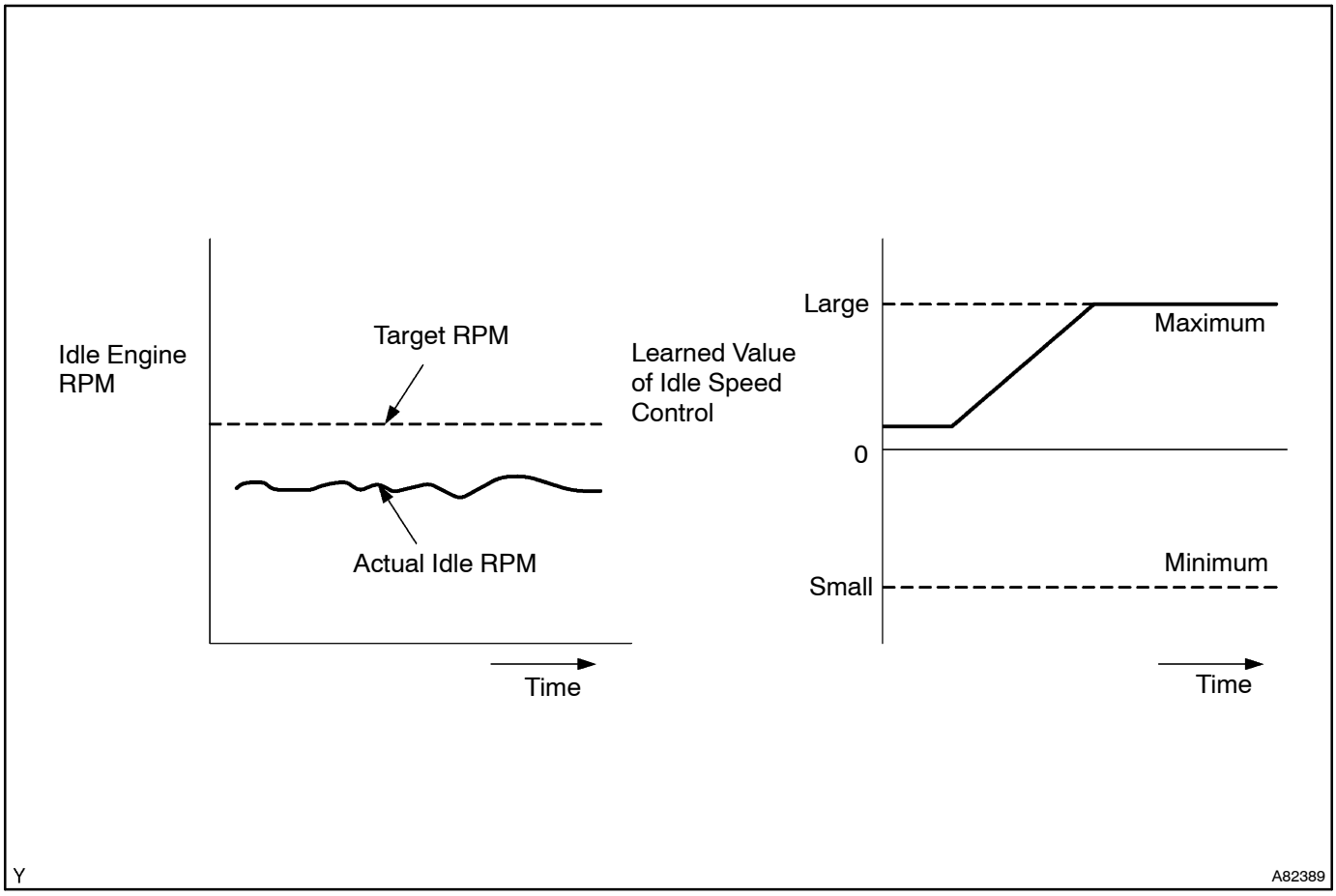
DTC P0505 IDLE AIR CONTROL SYSTEM

CIRCUIT 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. If the actual idle RPM varies more than a specified amount or a learned value of the idle speed control remains at the maximum or minimum five times or more during a trip, the ECM concludes that there is a problem in the idle speed control ECM function. The ECM will turn on the CHK ENG and a DTC is set.
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 CHK ENG and a DTC is set.
HINT:
*1: RPM threshold varies depending on engine loads.



DTC No.	DTC Detection Condition	Trouble Area
P0505	Idle speed continues to vary greatly from target speed (1 trip detection logic)	• Electric throttle control system • Air induction system • PCV hose connection • ECM

INSPECTION PROCEDURE

HINT:
Read freeze frame data using the intelligent tester II. Freeze frame data records the engine condition when 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) Connect the intelligent tester II to the DLC3.
(b) Turn the power switch ON (IG).
(c) Turn the intelligent tester II ON.
(d) On the intelligent tester II, select the item: Powertrain / Engine and ECT / DTC.
(e) Read DTCs.

Result:

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

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

B → GO TO RELEVANT DTC CHART (See page 05–39)

A

2	CHECK CONNECTION OF PCV HOSE

OK: PCV hose is connected correctly and PCV hose is not damaged.

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 the air induction system.

NG → REPAIR OR REPLACE AIR INDUCTION SYSTEM

OK

CHECK ELECTRIC THROTTLE CONTROL SYSTEM (See page 10–3)