DTC P0505/33 IDLE CONTROL SYSTEM MALFUNCTION

CIRCUIT DESCRIPTION

The idle speed is controlled by the Electric Throttle Control System (ETCS).
ETCS is composed of the throttle motor to operate the throttle valve to connect the throttle motor with the throttle valve, the throttle position sensor to detect the opening angle of the throttle valve, the accelerator pedal position sensor to detect the accelerator pedal position, the ECM to control the ETCS and the one valve type throttle body.
The ECM controls the throttle motor to make the throttle valve opening angle properly for the target idle speed.

DTC No.	DTC Detection Condition	Trouble Area
P0505/33	Idle speed continues to vary greatly from target speed (2 trip detection logic)	• Throttle body assy • Air induction system • ECM

INSPECTION PROCEDURE

HINT:
Read freed frame data using hand–held tester. Because freeze frame records the engine conditions when the malfunction is detected, when troubleshooting it is useful for determining whether the vehicle was running or stopped, the engine warmed up or not, the air–fuel ratio lean or rich, etc. at the time of the malfunction.

1	CHECK OTHER DTC OUTPUT(BESIDES DTC P0505)

(a) Read the DTC using the hand–held tester.

YES → GO TO RELEVANT DTC CHART

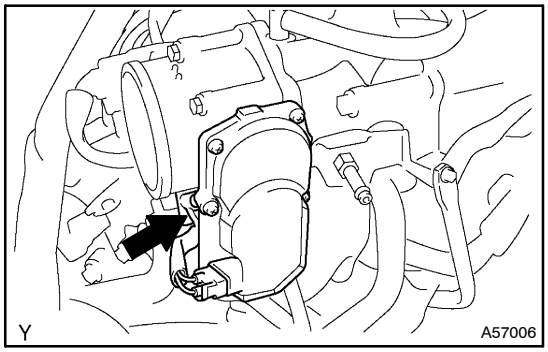
NO

2	CHECK AIR INDUCTION SYSTEM

NG → REPAIR OR REPLACE AIR INDUCTION SYSTEM

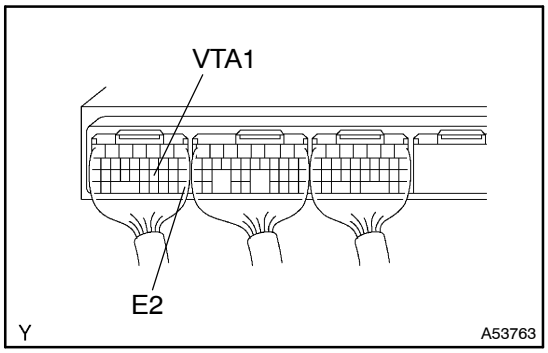
OK

3 INSPECT THROTTLE BODY ASSY



(a) Inspect the throttle control motor operation.
  (1) Start the engine.
  (2) When depressing the accelerator pedal, check the operating sound of the motor.

(b) Using a hand–held tester, check that the throttle valve opening percentage (THROTTLE POS) of the CURRENT DATA when depressing the accelerator pedal full.
Standard: 60 % or more



(c) Turn the IG switch ON.

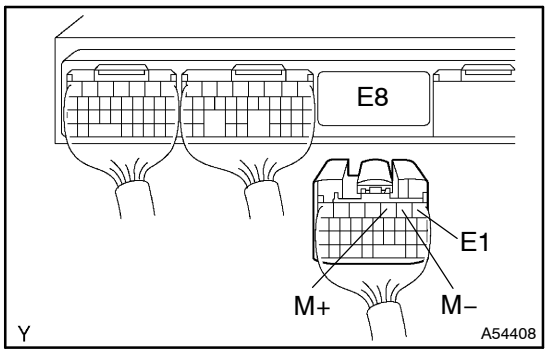
(d) Measure the voltage between terminals VTA1 and E2 of the ECM connector.
Standard: 9 – 14 V

(e) Check the idle speed (See page 14–137)

NG → **REPAIR OR REPLACE THROTTLE BODY ASSY (See Page 10–18)**

OK

4 CHECK HARNESS AND CONNECTOR(ECM – THROTTLE BODY ASSY)

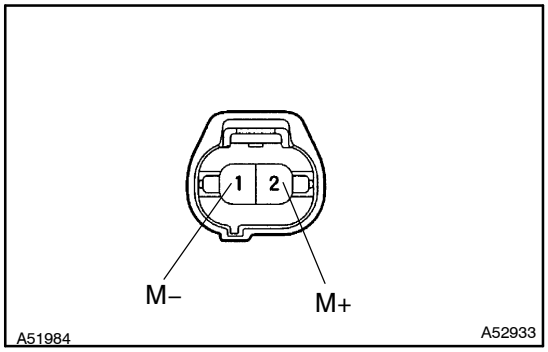


(a) Disconnect the throttle body connector.

(b) Disconnect the E8 ECM connector.

(c) Check the continuity between terminals.
Standard:

Throttle body terminal	ECM terminal	Continuity
M+	M+	Continuity
M–	M–	Continuity
M+	E1	No continuity
M–		No continuity



NG → **REPAIR OR REPLACE HARNESS AND CONNECTOR**

OK

5	INSPECT E.F.I. THROTTLE POSITION SENSOR

NG → REPLACE E.F.I. THROTTLE POSITION SENSOR

OK

6	CHECK HARNESS AND CONNECTOR(ECM – THROTTLE POSITION SENSOR)

NG → REPAIR OR REPLACE HARNESS AND CONNECTOR

OK

CHECK AND REPLACE ECM

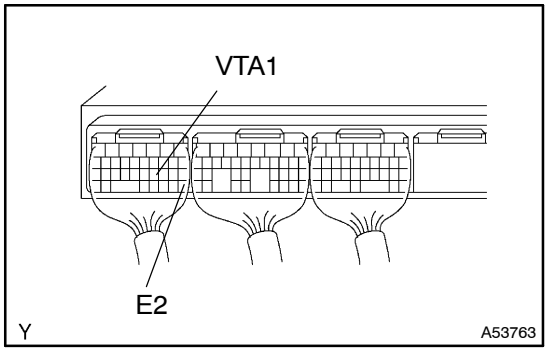
When not using Hand–held Tester:

1	CHECK AIR INDUCTION SYSTEM

NG → REPAIR OR REPLACE AIR INDUCTION SYSTEM

OK

2	INSPECT ECM(CHECK VOLTAGE)



(a) Turn the ignition switch ON.
(b) Measure the voltage between the terminals VTA1 and E2 of the ECM connector.
Standard: 9 – 14 V

NG → REPAIR OR REPLACE THROTTLE BODY ASSY

OK

3	CHECK HARNESS AND CONNECTOR(ECM – THROTTLE BODY ASSY)

NG → REPAIR OR REPLACE HARNESS AND CONNECTOR

OK

4	INSPECT THROTTLE BODY ASSY (See page 10–14)

NG → REPAIR OR REPLACE THROTTLE BODY ASSY

OK

5	CHECK HARNESS AND CONNECTOR(ECM – THROTTLE POSISTION SENSOR) (See page 05–328)

NG → REPAIR OR REPLACE HARNESS AND CONNECTOR

OK

CHECK AND REPLACE ECM