DTC	P2102/41	THROTTLE ACTUATOR CONTROL MOTOR CIRCUIT LOW

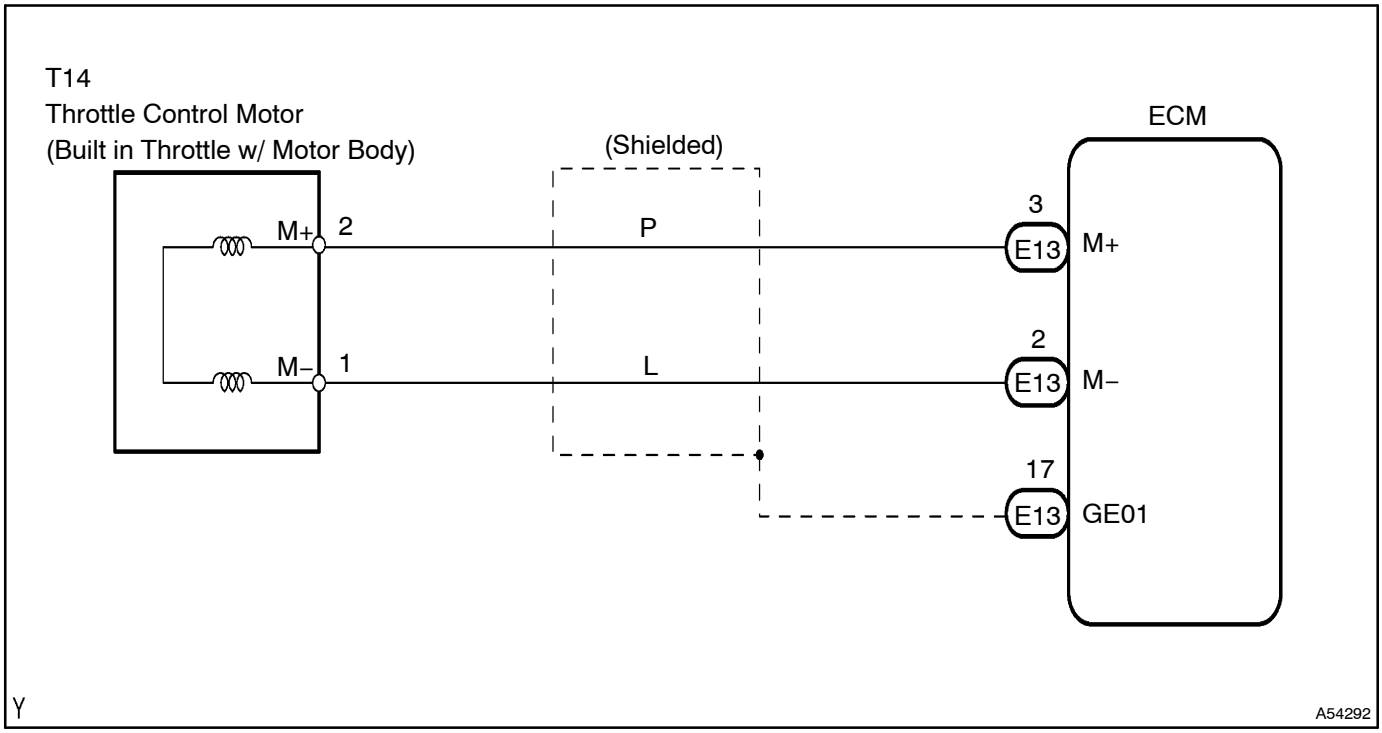
DTC	P2103/41	THROTTLE ACTUATOR CONTROL MOTOR CIRCUIT HIGH

CIRCUIT DESCRIPTION

The throttle motor is operated by the ECM and it opens and closes the throttle valve.
The opening angle of the throttle valve is detected by the throttle position sensor which is mounted on the throttle body. It provides feedback to the ECM to control the throttle motor in order to control the throttle valve opening angle properly in response to the driving condition.
If this malfunction is detected, the ECM shuts down the power for the throttle motor, and the throttle valve is fully closed by the return spring. And the throttle valve is locked at a certain opening angle. Also, the whole electronically controlled throttle operation is cancelled until the system returns to normal and the ignition switch is turned OFF.
HINT:
This electrical throttle system does not use the throttle cable.

DTC No.	DTC Detection Condition	Trouble Area
P2102/41	Conditions (a) and (b) continue for 2.0 seconds: (a) Throttle control motor output duty ≧ 80 % (b) Throttle control motor current < 0.5 A	• Open in throttle control motor circuit • Throttle control motor • ECM
P2103/41	Throttle control motor current ≧ 10 A	• Short in throttle control motor circuit • Throttle control motor • ECM
	Condition (a) continue for 0.6 seconds: (a) Throttle control motor current ≧ 7 A	

WIRING DIAGRAM

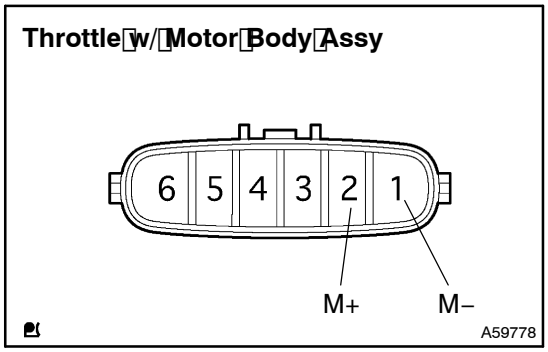


INSPECTION PROCEDURE

HINT:

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

1 INSPECT THROTTLE W/MOTOR BODY ASSY (RESISTANCE OF THROTTLE CONTROL MOTOR)



(a) Disconnect the throttle w/ motor body connector.

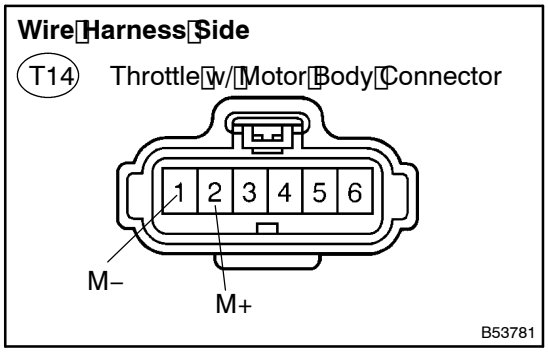
(b) Measure the motor resistance between terminals M+ and M–.

Motor resistance: 0.3 to 100 Ω at 20°C (68°F)

NG → REPLACE THROTTLE W/MOTOR BODY ASSY

OK

2 CHECK HARNESS AND CONNECTOR (THROTTLE CONTROL MOTOR – ECM)



(a) Disconnect the throttle w/ motor body connector.

(b) Disconnect the E13 ECM connector.

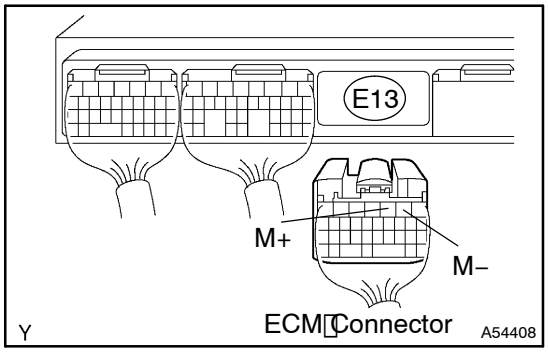
(c) Check for continuity between the wire harness side connectors.

Standard (Check for open):

Symbols (Terminal No.)	Specified condition
M+ (T14–2) – M+ (E13–3)	Continuity
M– (T14–1) – M– (E13–2)	

Standard (Check for short):

Symbols (Terminal No.)	Specified condition
M+ (T14–2) or M+ (E13–3) – Body ground	No continuity
M– (T14–1) or M– (E13–2) – Body ground	



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

CHECK AND REPLACE ECM (See page 01–35)