

DTC	P2118	Throttle Actuator Control Motor Current Range/Performance
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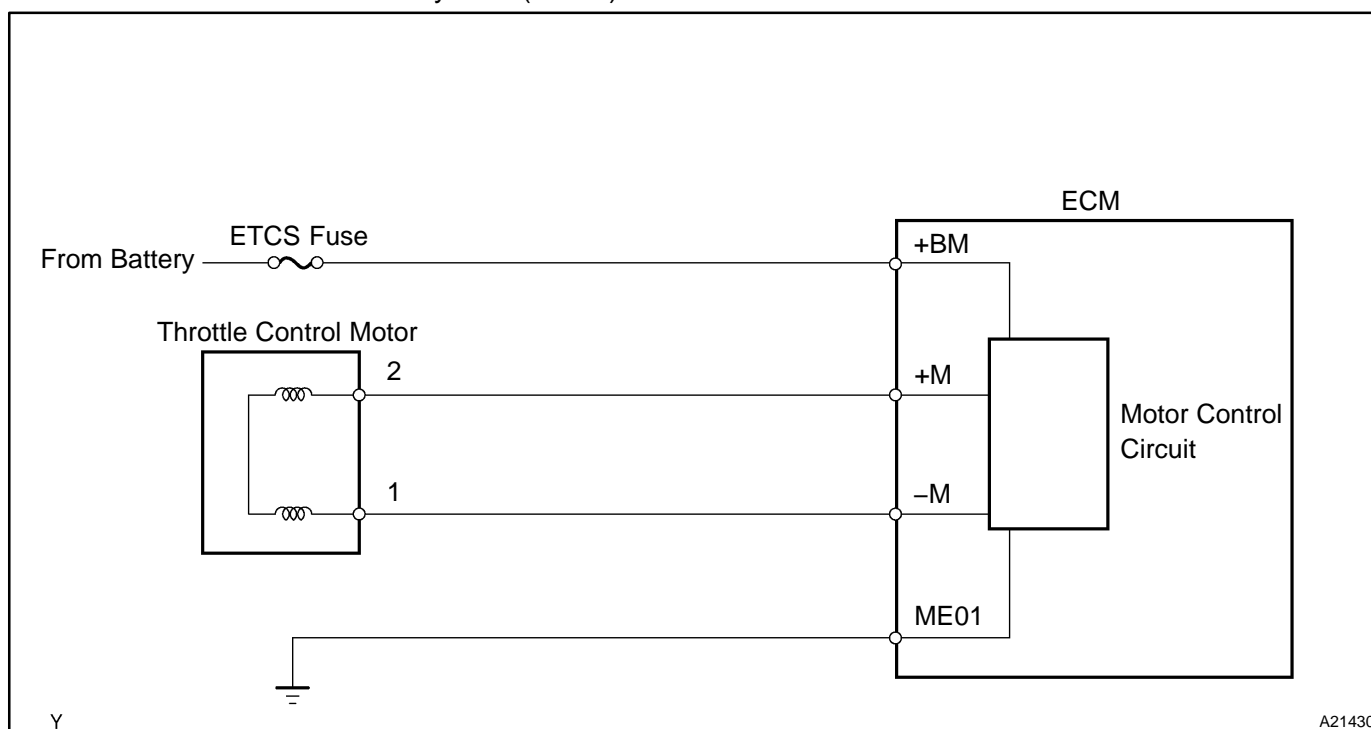
CIRCUIT DESCRIPTION

The Electronic Throttle Control System (ETCS) has a dedicated power supply circuit. The voltage (+BM) is monitored and when the voltage is low (less than 4V), the ECM concludes that the ETCS has a fault and current to the throttle control motor is cut.

When the voltage becomes unstable, the ETCS itself becomes unstable. For this reason, when the voltage is low, the current to the motor is cut. If repairs are made and the system has returned to normal, turn the ignition switch OFF. The ECM then allows current to flow to the motor and the motor can be restarted.

HINT:

This Electrical Throttle Control System (ETCS) does not use a throttle cable.



DTC No.	DTC Detection Condition	Trouble Area
P2118	Open in ETCS power source circuit (+BM)	<ul style="list-style-type: none"> • Open in ETCS power source circuit • ETCS fuse • ECM

MONITOR DESCRIPTION

The ECM monitors the battery supply voltage applied to the electronic throttle motor +BM. When the power supply voltage drops below the threshold, the ECM concludes that the power supply has an open circuit. The MIL is turned on and a DTC is set.

FAIL SAFE

If the ETCS (Electronic Throttle Control System) has a malfunction, the ECM cuts off current to the throttle control motor. The throttle control valve returns to a predetermined opening angle (approximately 16°) by the force of the return spring. The ECM then adjusts the engine output by controlling the fuel injection (intermittent fuel-cut) and ignition timing in accordance with the accelerator pedal opening angle to enable the vehicle to continue at a minimum speed.

If the accelerator pedal is depressed firmly and slowly, the vehicle can be driven slowly.

If a "pass" condition is detected and then the ignition switch is turned OFF, the fail-safe operation will stop and the system will return to normal condition.

MONITOR STRATEGY

Related DTCs	P2118	Throttle actuator motor power supply line range check (Low voltage)
Required sensors/components	Throttle actuator motor	
Frequency of operation	Continuous	
Duration	0.8 sec.	
MIL operation	Immediate	
Sequence of operation	None	

TYPICAL ENABLING CONDITIONS

Item	Specification	
	Minimum	Maximum
The monitor will run whenever this DTC is not present	See page DI-437	
Actuator power	ON	
Battery voltage	8 V	–

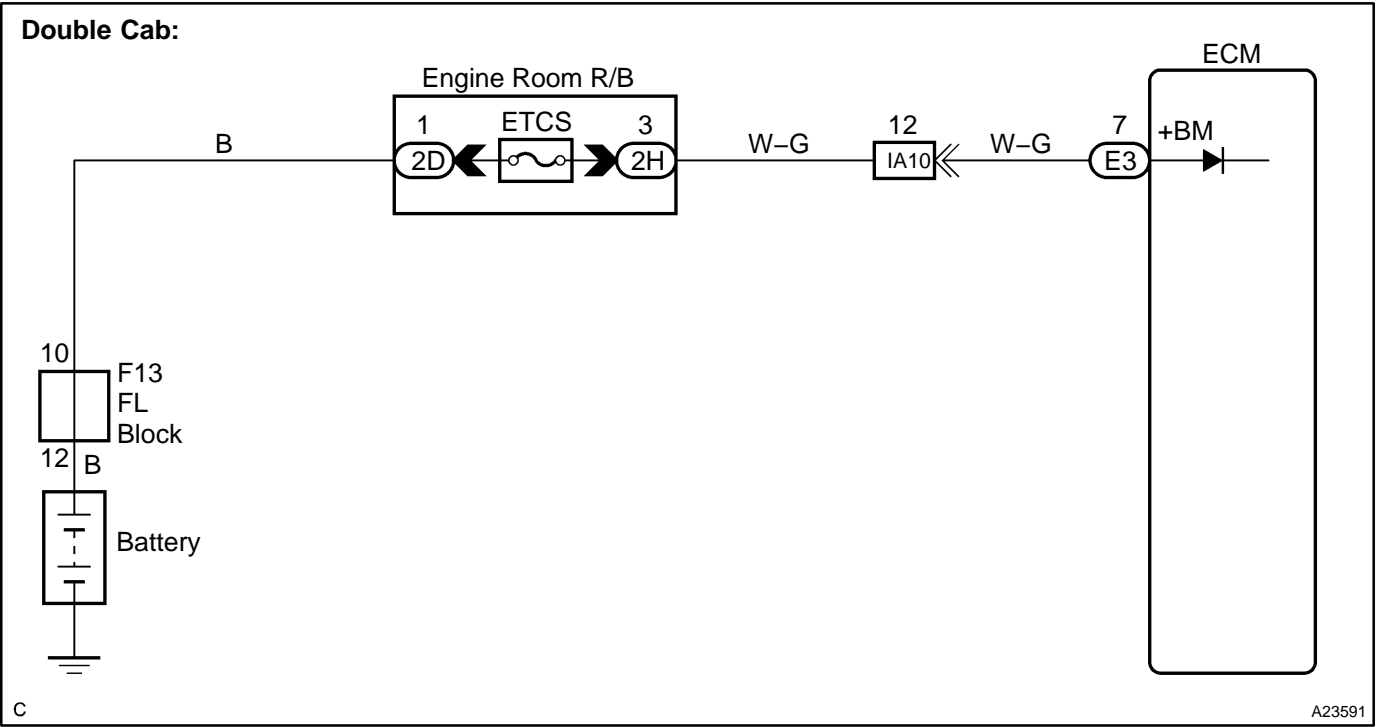
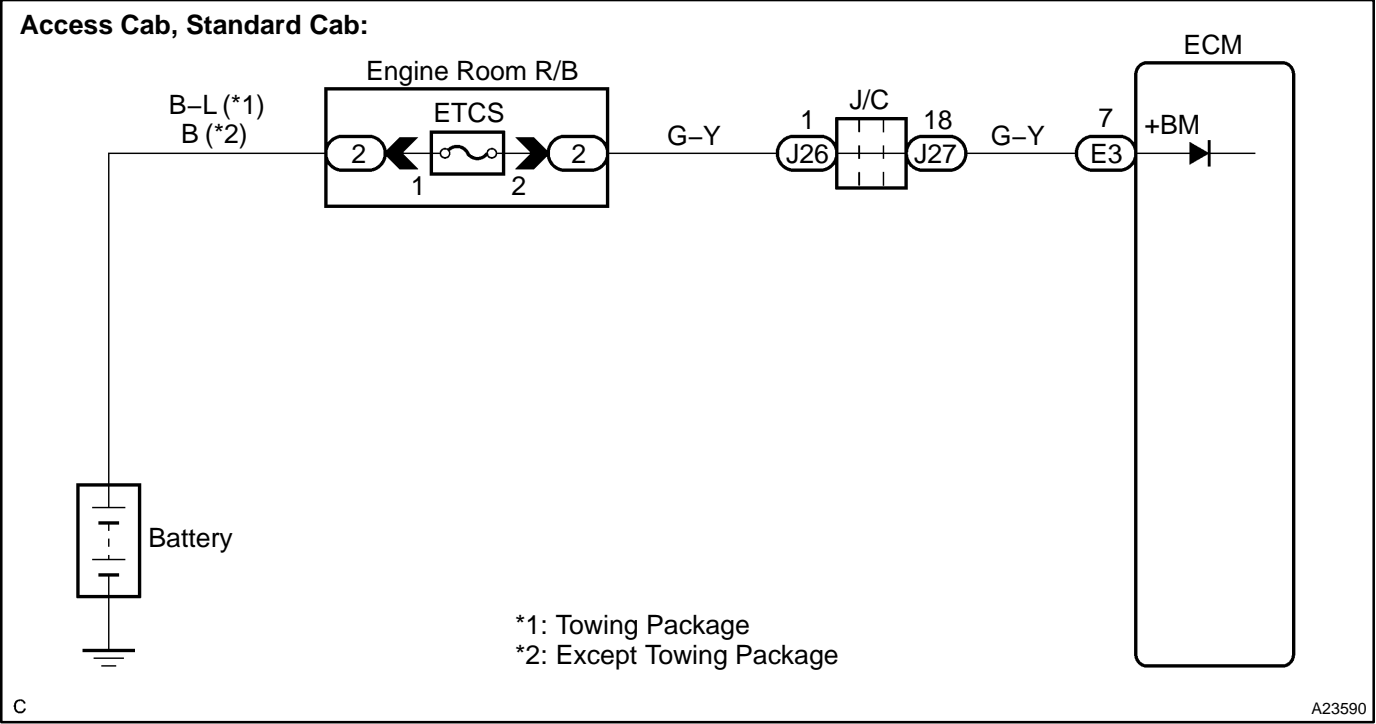
TYPICAL MALFUNCTION THRESHOLDS

Detection Criteria	Threshold
Throttle actuator motor power supply voltage	Less than 4 V

COMPONENT OPERATING RANGE

Parameter	Standard Value
Throttle actuator motor power supply voltage	9 to 14 V

WIRING DIAGRAM

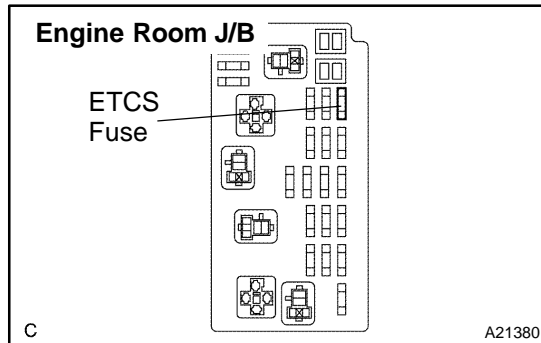


INSPECTION PROCEDURE

HINT:

Read freeze frame data using the hand-held tester. 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, as well as other data from the time when a malfunction occurred.

1 Check ETCS fuse.



PREPARATION:

Remove the ETCS fuse from the engine room J/B.

CHECK:

Check the resistance of the ETCS fuse.

OK:

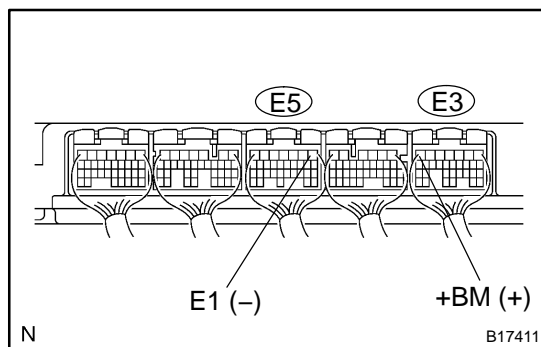
Below 1 Ω

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Check for short in all harness and components connected to ETCS fuse.

OK

2 Check voltage between terminal +BM and E1 of ECM connector.



CHECK:

Measure the voltage between the specified terminals of the E5 and E3 ECM connector.

OK:

Standard:

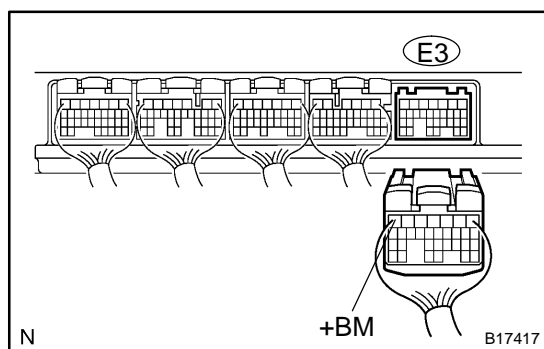
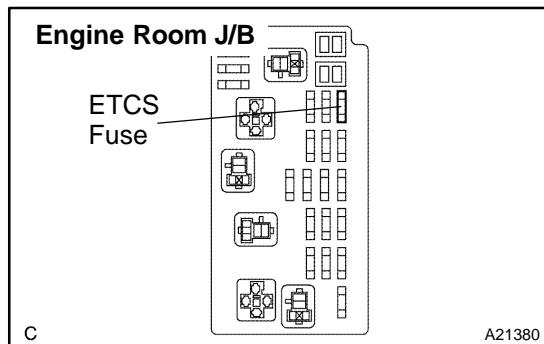
Tester Connection	Specified Condition
+BM (E3-7) – E1 (E5-1)	9 to 14 V

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Check for intermittent problems (See page [DI-430](#)).

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3 Check for open or short in harness or connector between battery and ETCS fuse, ETCS fuse and ECM.



PREPARATION:

- Remove the ETCS fuse from the engine room J/B.
- Disconnect the E3 ECM connector.

CHECK:

Measure the resistance of the wire harness side connector between the ETCS fuse and ECM.

OK:

Standard:

Tester Connection	Specified Condition
Engine Room J/B (ETCS fuse terminal) – +BM (E3–7)	Below 1 Ω
Engine Room J/B (ETCS fuse terminal) or +BM (E3–7) – Body ground	10 k Ω or higher

PREPARATION:

- Remove the ETCS fuse from the engine room J/B.
- Disconnect the battery positive terminal.

CHECK:

Measure the resistance of the wire harness side connector between the ETCS fuse and battery.

OK:

Standard:

Tester Connection	Specified Condition
Engine Room J/B (ETCS fuse terminal) – Battery positive terminal	Below 1 Ω
Engine Room J/B (ETCS fuse terminal) or Battery positive terminal – Body ground	10 k Ω or higher

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Repair or replace harness or connector.

OK

Check engine room J/B.