

DTC	P2118	Throttle Actuator Control Motor Current Range/Performance
------------	--------------	--

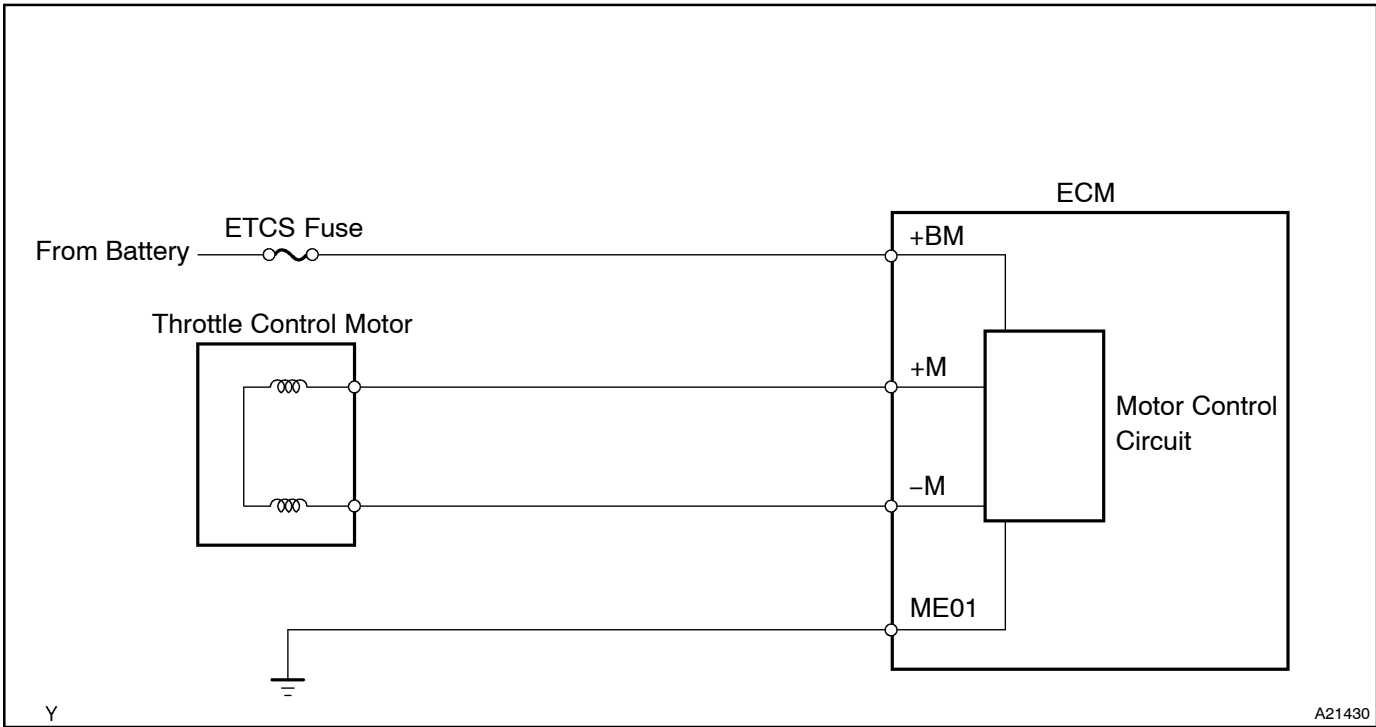
CIRCUIT DESCRIPTION

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 to 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	• Open in ETCS power source circuit • ETCS fuse • ECM

MONITOR DESCRIPTION

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

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 the following DTCs are not present	See "List of disable a monitor" (on page DI-3)	
Actuator power	ON	
Battery voltage	8 V	–

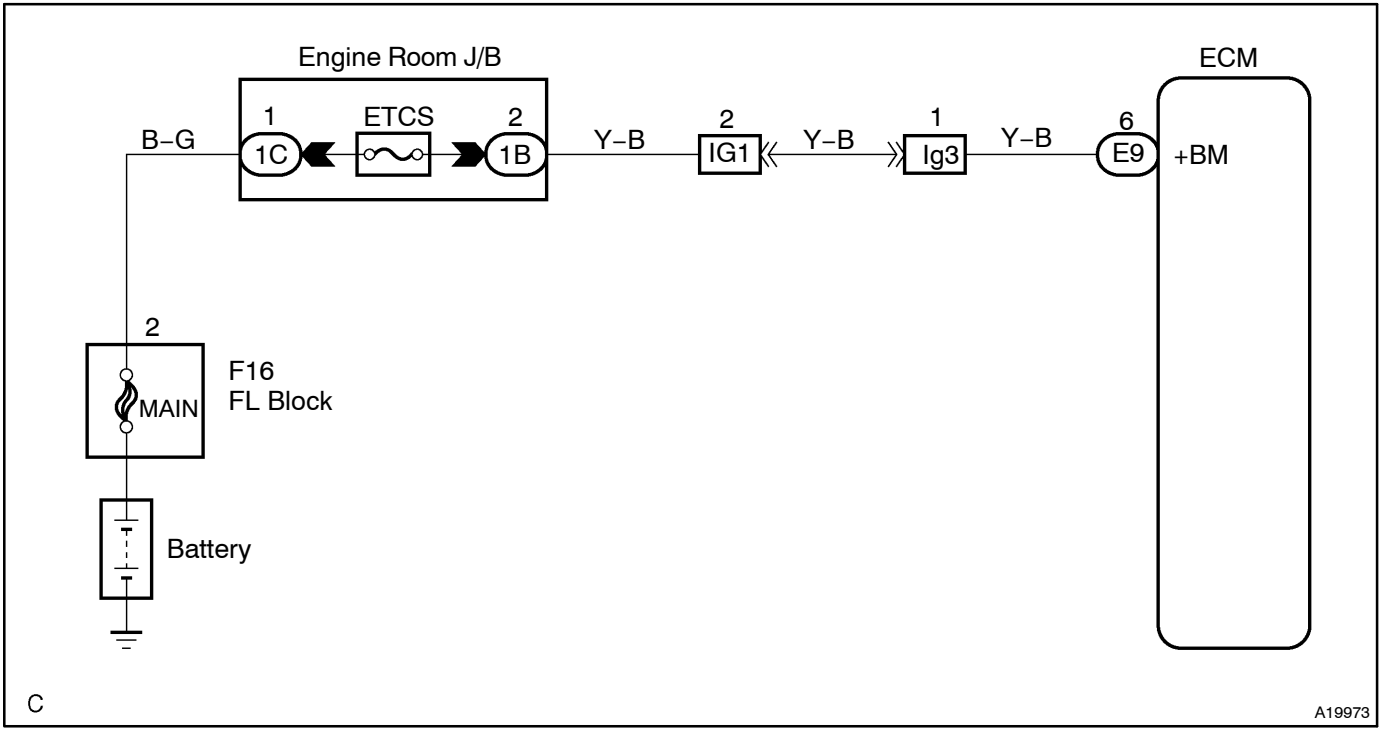
TYPICAL MALFUNCTION THRESHOLDS

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

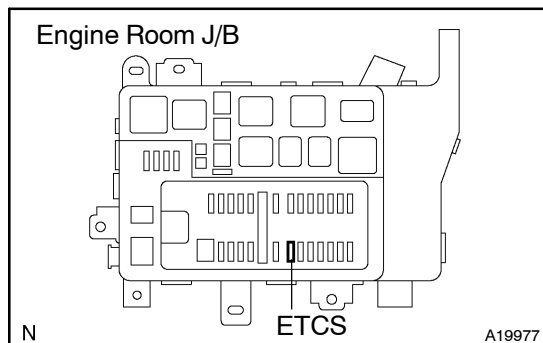


INSPECTION PROCEDURE

HINT:

Read freeze frame data using the hand-held tester 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, 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 continuity of the ETCS fuse.

OK:

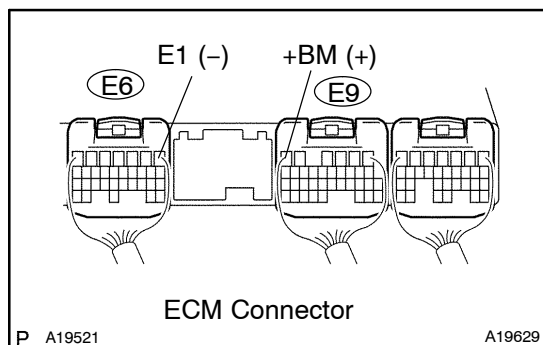
Continuity

NG

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 E6 and E9 ECM connector.

OK:

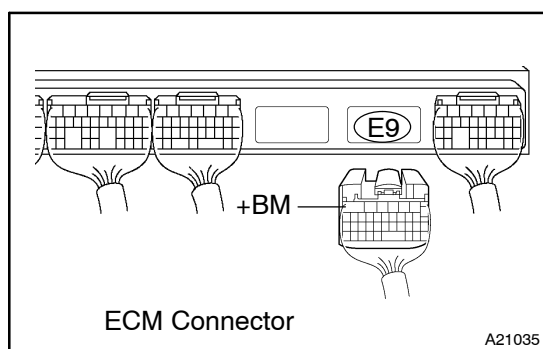
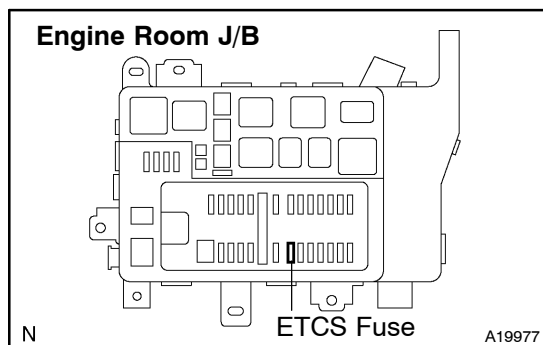
Tester Connection	Specified Condition
+BM (E9-6) - E1 (E6-1)	9 to 14 V

OK

Check for intermittent problems (See page [DI-3](#)).

NG

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



Check the harness and the connector between the ETCS fuse and the ECM:

PREPARATION:

- Remove the ETCS fuse from the engine room J/B.
- Disconnect the E9 ECM connector.

CHECK:

Measure the resistance between the wire harness side connector.

OK:

Tester Connection	Specified Condition
Engine Room J/B (ETCS fuse terminal 2) – +BM (E9-6)	Below 1 Ω
Engine Room J/B (ETCS fuse terminal 2) or +BM (E9-6) – Body ground	10 k Ω or higher

Check the harness and connector between the ETCS fuse and the battery:

PREPARATION:

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

CHECK:

Measure the resistance between the wire harness side connector.

OK:

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

NG

Repair or replace harness or connector.

OK

Check engine room J/B.