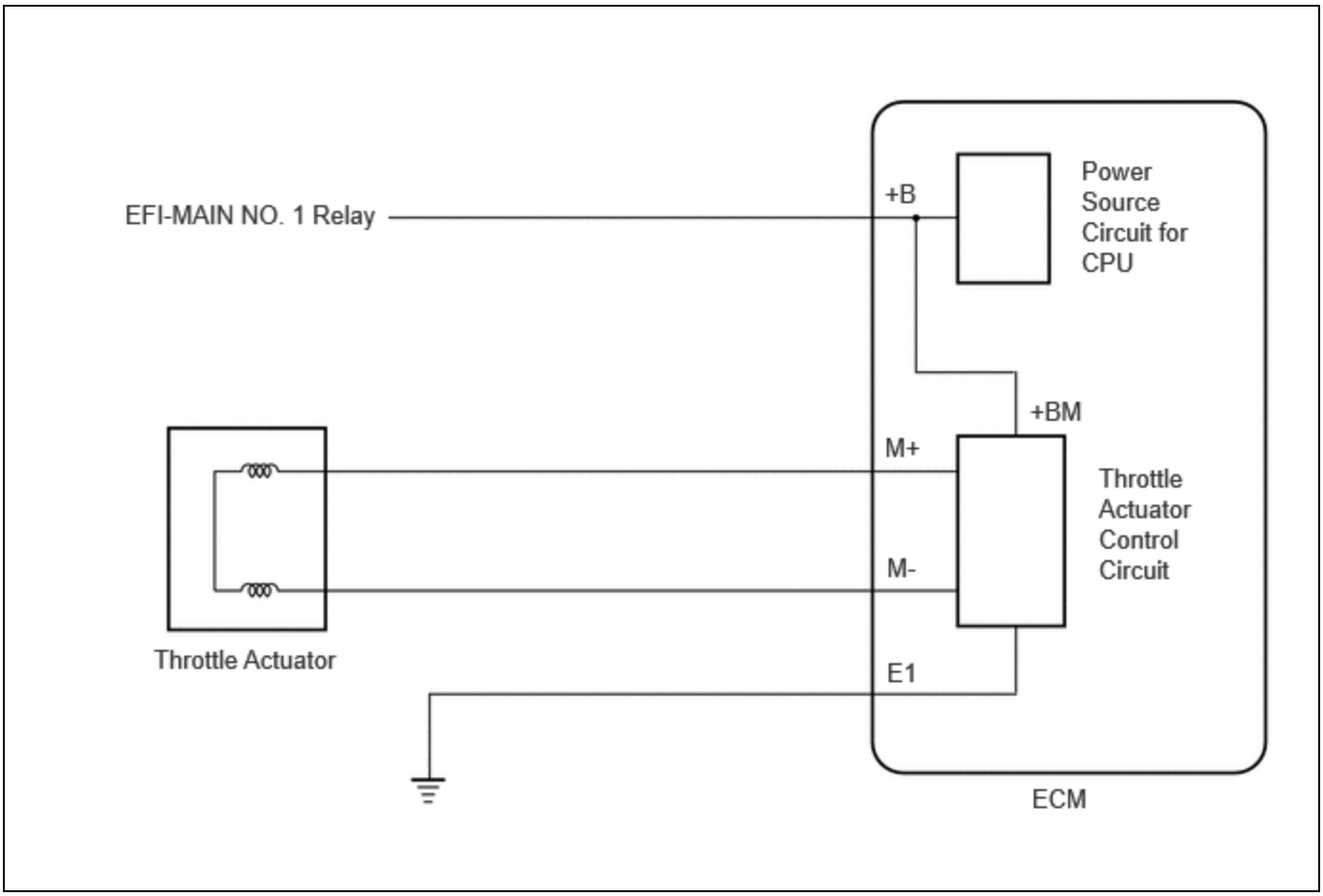
Last Modified: 12-04-2024	6.11:8.1.0	**Doc ID:** RM100000002BM0A
Model Year Start: 2023	**Model:** Prius Prime	**Prod Date Range:** [03/2023 -]
Title: M20A-FXS (ENGINE CONTROL): SFI SYSTEM: P065714; Actuator Supply Voltage "A" Circuit Short to Ground or Open; 2023 - 2024 MY Prius Prius Prime [03/2023 -]		

DTC	**P065714**	**Actuator Supply Voltage "A" Circuit Short to Ground or Open**

DESCRIPTION

The electronic throttle control system has a dedicated power supply circuit. The voltage (+BM) is monitored and when it is low (less than 4 V), the ECM determines that there is a malfunction in the electronic throttle control system and cuts off the current to the throttle actuator.

When the voltage becomes unstable, the electronic throttle control system itself becomes unstable. For this reason, when the voltage is low, the current to the throttle actuator is cut. If repairs are made and the system returns to normal, turn the ignition switch off. If a malfunction is not detected, the ECM allows current to flow to the throttle actuator so that it can operate.



DTC NO.	DETECTION ITEM	DTC DETECTION CONDITION	TROUBLE AREA	MIL	DTC OUTPUT FROM	PRIORITY	NOTE
P065714	Actuator Supply Voltage "A" Circuit Short to Ground or Open	An open or short is detected in the electronic throttle control system power source (+BM) circuit (1 trip detection logic).	• Open or short in electronic throttle control system power source circuit • ECM	Comes on	Engine	A	SAE Code: P0658

MONITOR DESCRIPTION

The ECM monitors the auxiliary battery supply voltage applied to the throttle actuator.

When the power supply voltage (+BM) is less than 4 V for 0.8 seconds or more, the ECM interprets this as an open or ground short in the power supply circuit, then illuminates the MIL and stores this DTC.

MONITOR STRATEGY

Related DTCs	P0658: Electronic throttle actuator supply voltage circuit range check (low voltage)
Required Sensors/Components (Main)	Throttle actuator Throttle valve (throttle body with motor assembly)
Required Sensors/Components (Related)	-
Frequency of Operation	Continuous
Duration	0.8 seconds
MIL Operation	Immediate
Sequence of Operation	None

TYPICAL ENABLING CONDITIONS

Monitor runs whenever the following DTCs are not stored	None
Both of the following conditions are met	-
Command to electronic throttle actuator power	On
Auxiliary battery voltage	8 V or higher

TYPICAL MALFUNCTION THRESHOLDS

Electronic throttle actuator power supply voltage	Less than 4 V

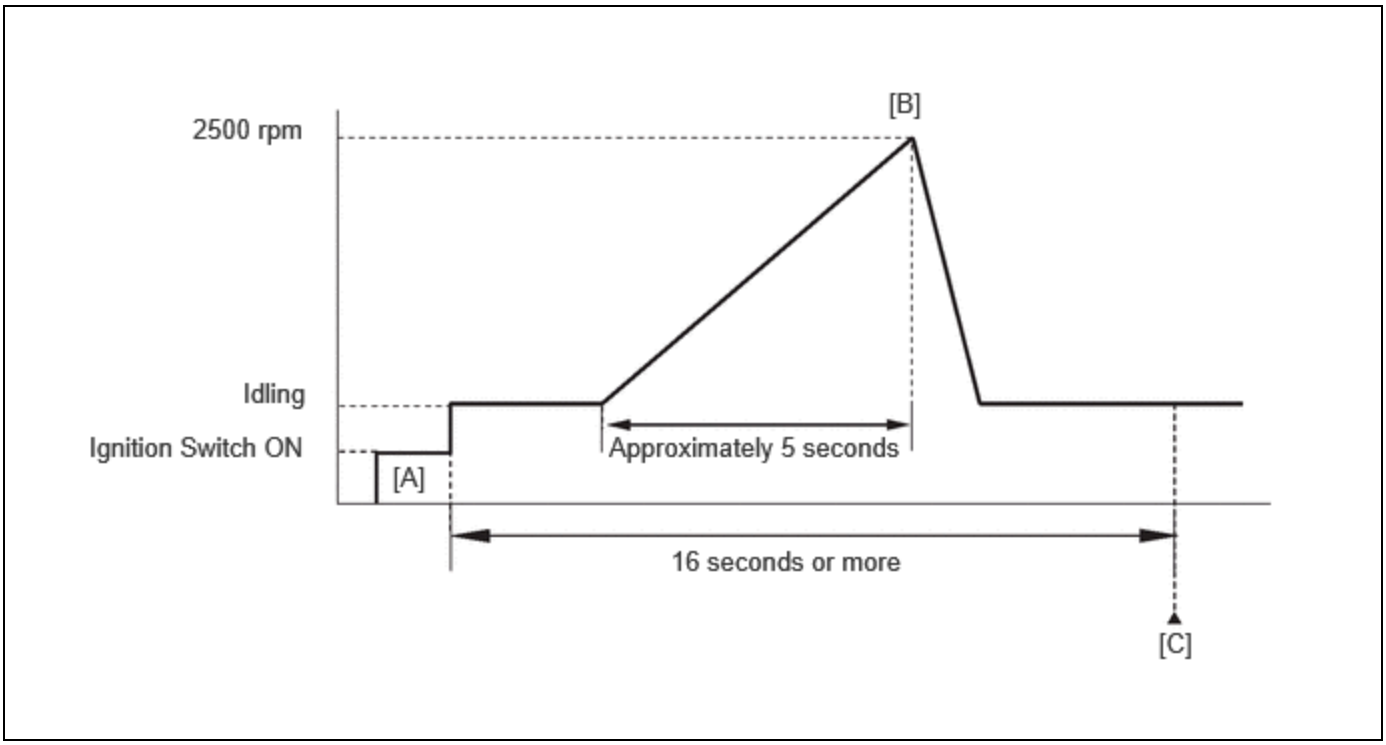
CONFIRMATION DRIVING PATTERN

HINT:

- After repair has been completed, clear the DTC and then check that the vehicle has returned to normal by performing the following All Readiness check procedure.

  Click here INFO
- When clearing the permanent DTCs, refer to the "CLEAR PERMANENT DTC" procedure.

  Click here INFO



1. Clear the DTCs (even if no DTCs are stored, perform the clear DTC procedure).
2. Turn the ignition switch off and wait for at least 30 seconds.
3. Turn the ignition switch to ON [A].
4. Put the engine in Inspection Mode (Maintenance Mode).

   Click here INFO
5. Start the engine.
6. Slowly depress the accelerator pedal, raise the engine speed to approximately 2500 rpm over approximately 5 seconds, and then idle the engine [B].
7. Check that 16 seconds or more have elapsed since the engine was started.
8. Enter the following menus: Powertrain / Engine / Trouble Codes [C].
9. Read the pending DTCs.

   HINT:

   - If a pending DTC is output, the system is malfunctioning.
   - If a pending DTC is not output, perform the following procedure.
10. Enter the following menus: Powertrain / Engine / Utility / All Readiness.
11. Input the DTC: P065714.
12. Check the DTC judgment result.

    HINT:

    - If the judgment result is NORMAL, the system is normal.
    - If the judgment result is ABNORMAL, the system is malfunctioning.
    - If the judgment result is INCOMPLETE, perform steps [B] through [C] again.
    - [A] to [C]: Normal judgment procedure.

      The normal judgment procedure is used to complete DTC judgment and also used when clearing permanent DTCs.

- When clearing the permanent DTCs, do not disconnect the cable from the auxiliary battery terminal or attempt to clear the DTCs during this procedure, as doing so will clear the universal trip and normal judgment histories.

FAIL-SAFE

When any of these DTCs or other DTCs relating to Electronic Throttle Control System (ETCS) malfunctions are stored, the ECM enters fail-safe mode. During fail-safe mode, the ECM cuts the current to the throttle actuator, and the throttle valve is returned to a 7.5° throttle valve opening angle by 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 angle, to allow the vehicle to continue running at a minimal speed. If the accelerator pedal is depressed firmly and gently, the vehicle can be driven slowly.

Fail-safe mode continues until a pass condition is detected, and the ignition switch is turned off.

WIRING DIAGRAM

Refer to DTC P210018.

Click here INFO

CAUTION / NOTICE / HINT

NOTICE:

- Inspect the fuses for circuits related to this system before performing the following procedure.
- Vehicle Control History may be stored in the hybrid vehicle control ECU if the engine is malfunctioning. Certain vehicle condition information is recorded when Vehicle Control History is stored. Reading the vehicle conditions recorded in both the freeze frame data and Vehicle Control History can be useful for troubleshooting.

  for HEV Model: Click here INFO

  for PHEV Model: Click here INFO

  (Select Powertrain in Health Check and then check the time stamp data.)
- If any "Engine Malfunction" Vehicle Control History item has been stored in the hybrid vehicle control ECU, make sure to clear it. However, as all Vehicle Control History items are cleared simultaneously, if any Vehicle Control History items other than "Engine Malfunction" are stored, make sure to perform any troubleshooting for them before clearing Vehicle Control History.

  for HEV Model: Click here INFO

  for PHEV Model: Click here INFO

PROCEDURE

1.	**CHECK ANY OTHER DTCS OUTPUT (IN ADDITION TO DTC P065714)**

(a) Read the DTCs.

Powertrain > Engine > Trouble Codes

RESULT	PROCEED TO
P065714 is output	A

RESULT	PROCEED TO
DTCs are not output	B

A ▶ **REPLACE ECM**

B ▶ **CHECK FOR INTERMITTENT PROBLEMS**