Last Modified: 12-04-2024	6.11:8.1.0	**Doc ID:** RM100000002BLVI
Model Year Start: 2023	**Model:** Prius Prime	**Prod Date Range:** [03/2023 -]
Title: M20A-FXS (ENGINE CONTROL): SFI SYSTEM: P019015; Fuel Rail Pressure Sensor "A" Circuit Short to Battery or Open; 2023 - 2024 MY Prius Prius Prime [03/2023 -]		

DTC	**P019015**	**Fuel Rail Pressure Sensor "A" Circuit Short to Battery or Open**

DESCRIPTION

Refer to DTC P019011.

Click here INFO

DTC NO.	DETECTION ITEM	DTC DETECTION CONDITION	TROUBLE AREA	MIL	DTC OUTPUT FROM	PRIORITY	NOTE
P019015	Fuel Rail Pressure Sensor "A" Circuit Short to Battery or Open	The fuel pressure sensor (for high pressure side) output voltage is higher than 4.9 V for 3 seconds or more (1 trip detection logic).	• Open or short in fuel pressure sensor (for high pressure side) circuit • Fuel pressure sensor (for high pressure side) • ECM	Comes on	Engine	A	SAE Code: P0193

HINT:

When a DTC is output, check the Data List item "Fuel Pressure (High)" using the GTS.

Click here INFO

DTC NO.	FUEL PRESSURE (HIGH)	MALFUNCTION
P019015	Approximately 33000 kPag or higher	• Short in VCPR to PR circuit • Open in PR circuit • Open in EPR circuit

If the Data List displays a normal value, the normal value may be due to a temporary recovery from the malfunction condition. Check for intermittent problems.

MONITOR DESCRIPTION

This DTC is stored if the fuel pressure sensor (for high pressure side) output voltage is out of the standard range due to an open or short in the sensor circuit.

Example:

If the fuel pressure sensor (for high pressure side) output voltage is higher than 4.9 V for 3 seconds or more, the ECM will illuminate the MIL and store this DTC.

MONITOR STRATEGY

Related DTCs	P0193: Fuel rail pressure sensor range check (High voltage)
Required Sensors/Components (Main)	Fuel pressure sensor (for high pressure side)
Required Sensors/Components (Related)	-
Frequency of Operation	Continuous
Duration	3 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	-
Auxiliary battery voltage	8 V or higher
Ignition switch	ON

TYPICAL MALFUNCTION THRESHOLDS

Fuel rail pressure sensor voltage	Higher than 4.9 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. Put the engine in Inspection Mode (Maintenance Mode).

   Click here INFO
4. Start the engine [A].
5. Idle the engine for 10 seconds [B].
6. Enter the following menus: Powertrain / Engine / Trouble Codes [C].
7. 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.
8. Enter the following menus: Powertrain / Engine / Utility / All Readiness.
9. Input the DTC: P019015.
10. Check the DTC judgment result.

    HINT:

- If the judgment result is NORMAL, the system is normal.
- If the judgment result is ABNORMAL, the system has a malfunction.
- 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.

WIRING DIAGRAM

Refer to DTC P019011.

Click here INFO

CAUTION / NOTICE / HINT

NOTICE:

- 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 HARNESS AND CONNECTOR**

HINT:

Make sure that the connector is properly connected. If it is not, securely connect it and check for DTCs again.

Pre-procedure1

(a) Disconnect the fuel pressure sensor (for high pressure side) connector.

(b) Turn the ignition switch to ON.

Procedure1

(c) Measure the voltage according to the value(s) in the table below.

Standard Voltage:

EWD INFO

Click Location & Routing(T1)
Click Connector(T1)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION	RESULT
T1-1 (VC) - T1-2 (E2)	Ignition switch ON	4.75 to 5.25 V	V
T1-3 (PR) - T1-2 (E2)	Ignition switch ON	3.0 to 5.25 V	V

Post-procedure1

(d) Turn the ignition switch off and wait for at least 30 seconds.

Pre-procedure2

(e) None.

Procedure2

(f) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

EWD INFO

Click Location & Routing(T1)
Click Connector(T1)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION	RESULT
T1-2 (E2) - Body ground	Ignition switch off	Below 1 Ω	Ω
T1-1 (VC) - T1-3 (PR)	Ignition switch off	171 to 189 kΩ	kΩ

Post-procedure2

(g) None.

OK ▶ **REPLACE FUEL PRESSURE SENSOR (FOR HIGH PRESSURE SIDE)**

NG ▼

2.	**CHECK HARNESS AND CONNECTOR (FUEL PRESSURE SENSOR (FOR HIGH PRESSURE SIDE) - ECM)**

Pre-procedure1

(a) Disconnect the fuel pressure sensor (for high pressure side) connector.

(b) Disconnect the ECM connector.

Procedure1

(c) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

EWD INFO

Click Location & Routing(T1,C52)
Click Connector(T1)
Click Connector(C52)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION	RESULT
T1-3 (PR) - C52-97 (PR)	Always	Below 1 Ω	Ω
T1-2 (E2) - C52-96 (EPR)	Always	Below 1 Ω	Ω
T1-3 (PR) or C52-97 (PR) - Other terminals	Always	10 kΩ or higher	kΩ

Post-procedure1

(d) None.

OK ▶ **REPLACE ECM**

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**