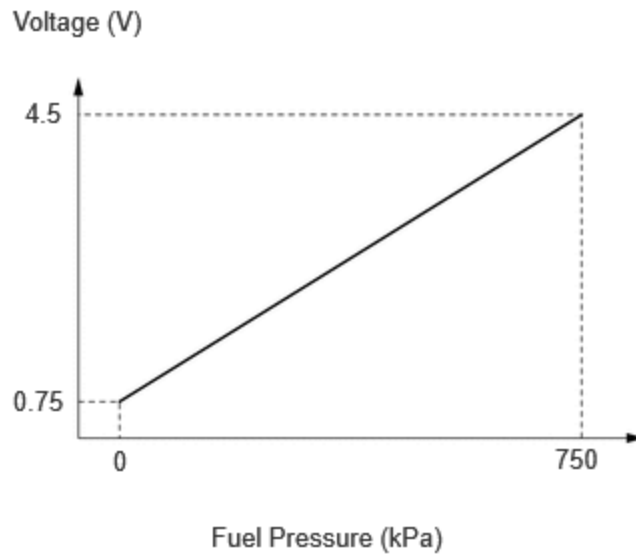


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Model Year Start: 2023	Model: Prius Prime	Prod Date Range: [03/2023 -]
Title: M20A-FXS (ENGINE CONTROL): SFI SYSTEM: P107A11; Fuel Rail Pressure Sensor (Low) / Fuel Rail Pressure Sensor "B" Circuit Short to Ground; 2023 - 2024 MY Prius Prius Prime [03/2023 -]		

DTC	P107A11	Fuel Rail Pressure Sensor (Low) / Fuel Rail Pressure Sensor "B" Circuit Short to Ground
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DESCRIPTION

Characteristics of No. 2 Fuel Pressure Sensor (for Low Pressure Side):



The No. 2 fuel pressure sensor (for low pressure side) replaces the fuel pressure with electrical signals and outputs them to the ECM. The ECM controls the optimal fuel pressure for the operation conditions to reduce the fuel pump power consumption and improve fuel economy.

DTC NO.	DETECTION ITEM	DTC DETECTION CONDITION	TROUBLE AREA	MIL	DTC OUTPUT FROM	PRIORITY	NOTE
P107A11	Fuel Rail Pressure Sensor (Low) / Fuel Rail Pressure Sensor "B" Circuit Short to Ground	The No. 2 fuel pressure sensor (for low pressure side) output voltage is less than 0.43 V for 3	<ul style="list-style-type: none"> Open or short in No. 2 fuel pressure sensor (for low pressure side) circuit 	Comes on	Engine	A	SAE Code: P107C

DTC NO.	DETECTION ITEM	DTC DETECTION CONDITION	TROUBLE AREA	MIL	DTC OUTPUT FROM	PRIORITY	NOTE
		seconds or more (1 trip detection logic).	<ul style="list-style-type: none"> No. 2 fuel pressure sensor (for low pressure side) ECM 				

HINT:

When a DTC is output, check the Data List item "Fuel Pressure (Low) / Fuel Pressure 2" using the GTS.

Click here [INFO](#)

DTC NO.	FUEL PRESSURE (LOW) / FUEL PRESSURE 2	MALFUNCTION
P107A11	Approximately 0 kPag	<ul style="list-style-type: none"> Short to ground in PFL circuit Short in PFL to EPFL circuit Open in VCPF 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 No. 2 fuel pressure sensor (for low pressure side) output voltage is out of the standard range due to an open or short in the sensor circuit.

MONITOR STRATEGY

Related DTCs	P107C: Fuel rail pressure sensor range check (Low voltage)
Required Sensors/Components (Main)	No. 2 fuel pressure sensor (for low 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
All of the following conditions are met	-
Auxiliary battery voltage	8 V or higher
Ignition switch	ON
Time after engine start	2 seconds or more

TYPICAL MALFUNCTION THRESHOLDS

Fuel rail pressure sensor voltage

Less than 0.43 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.
5. Idle the engine for 10 seconds or more [A].
6. Enter the following menus: Powertrain / Engine / Trouble Codes [B].
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: P107A11.
10. Check the DTC judgment result.

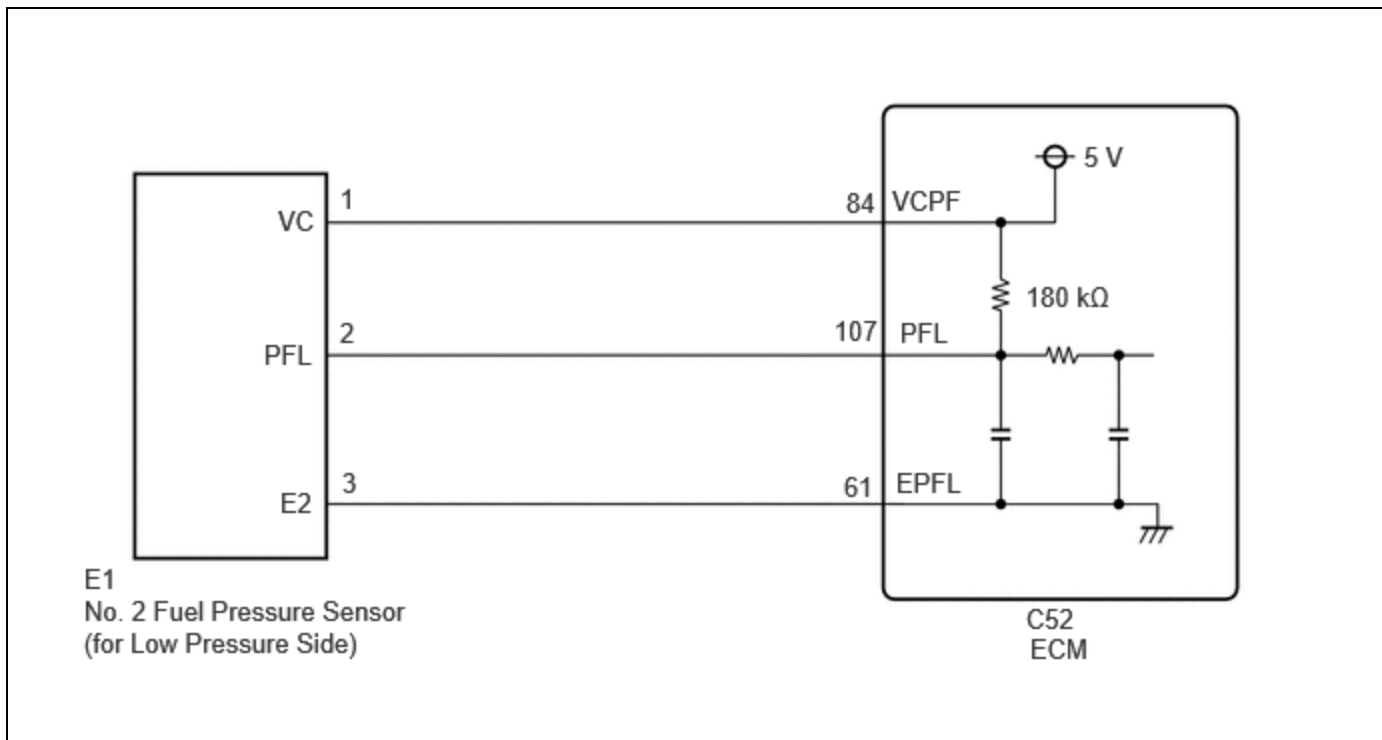
HINT:

- 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 [A] through [B] again.
- [A] to [B]: 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



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

- Disconnect the No. 2 fuel pressure sensor (for low pressure side) connector.
- Turn the ignition switch to ON.

Procedure1

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

Standard Voltage:



[Click Location & Routing\(E1\)](#)

[Click Connector\(E1\)](#)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION	RESULT
E1-1 (VC) - E1-3 (E2)	Ignition switch ON	4.5 to 5.5 V	V
E1-2 (PFL) - E1-3 (E2)	Ignition switch ON	4.4 to 5.6 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:



[Click Location & Routing\(E1\)](#)

[Click Connector\(E1\)](#)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION	RESULT
E1-1 (VC) - E1-2 (PFL)	Ignition switch off	171 to 189 kΩ	kΩ

Post-procedure2

(g) None

OK ► **REPLACE NO. 2 FUEL PRESSURE SENSOR (FOR LOW PRESSURE SIDE)**

NG



2.	CHECK HARNESS AND CONNECTOR (NO. 2 FUEL PRESSURE SENSOR (FOR LOW PRESSURE SIDE) - ECM)
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Pre-procedure1

- (a) Disconnect the No. 2 fuel pressure sensor (for low pressure side) connector.
- (b) Disconnect the ECM connector.

Procedure1

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

Standard Resistance:



[Click Location & Routing\(E1,C52\).](#)

[Click Connector\(E1\).](#)

[Click Connector\(C52\).](#)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION	RESULT
E1-1 (VC) - C52-84 (VCPF)	Always	Below 1 Ω	Ω
E1-2 (PFL) or C52-107 (PFL) - Body ground and other terminals	Always	10 k Ω or higher	k Ω

Post-procedure1

- (d) None.

OK ► REPLACE ECM

NG ► REPAIR OR REPLACE HARNESS OR CONNECTOR

