Last Modified: 12-04-2024	6.11:8.1.0	**Doc ID:** RM100000002BM1K
Model Year Start: 2023	**Model:** Prius Prime	**Prod Date Range:** [03/2023 -]
Title: M20A-FXS (ENGINE CONTROL): SFI SYSTEM: P261401; Camshaft Position Signal Output "A" General Electrical Failure; 2023 - 2024 MY Prius Prius Prime [03/2023 -]		

DTC	**P261401**	**Camshaft Position Signal Output "A" General Electrical Failure**

DESCRIPTION

Refer to DTC P001001.

Click here INFO

DTC NO.	DETECTION ITEM	DTC DETECTION CONDITION	TROUBLE AREA	MIL	DTC OUTPUT FROM	PRIORITY	NOTE
P261401	Camshaft Position Signal Output "A" General Electrical Failure	Malfunction in rotation sensor of cam timing control motor with EDU assembly is detected for 3 seconds (1 trip detection logic).	• Cam timing control motor with EDU assembly • ECM	Comes on	Engine	A	SAE Code: P2614

Symptoms and Fail-safe Operation During Camshaft Control Motor Malfunction

VEHICLE CONDITION	FAIL-SAFE
• Engine difficult to start • Lack of power	The cam timing control motor with EDU assembly is operated to the most retarded position.

MONITOR DESCRIPTION

This DTC is output when a malfunction in the cam timing control motor rotation sensor is detected. The cam timing control motor with EDU assembly is equipped with a self diagnostic function, which is used to output diagnosis signals (VTM) to the ECM. If the ECM receives a duty signal of 40%, this DTC is output immediately (1 trip detection logic).

MONITOR STRATEGY

Related DTC	P2614: Camshaft position signal range check
Required sensor/Components (Main)	Cam timing control motor with EDU assembly
Required sensor/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	11 V or higher
Ignition switch	ON
Engine speed	100 rpm or higher

TYPICAL MALFUNCTION THRESHOLDS

"Camshaft position signal error" from motor drive VVT system control module	Received

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 or more [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: P261401.
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 [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.

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.	**REPLACE CAM TIMING CONTROL MOTOR WITH EDU ASSEMBLY**

HINT:

Click here INFO

NEXT

2.	**CLEAR DTC**

Pre-procedure1

(a) None.

Procedure1

(b) Clear the DTCs.

Powertrain > Engine > Clear DTCs

Post-procedure1

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

NEXT

3.	**CONFIRM WHETHER MALFUNCTION HAS BEEN SUCCESSFULLY REPAIRED**

Pre-procedure1

(a) Drive the vehicle in accordance with the driving pattern described in Confirmation Driving Pattern.

Procedure1

(b) Read the DTCs.

Powertrain > Engine > Trouble Codes

RESULT	PROCEED TO
DTCs are not output	A
P261401 is output	B

Post-procedure1

(c) None.

A ▶ **END**

B ▶ **REPLACE ECM**