12/16/24, 6:08 PM

M20A-FXS (ENGINE CONTROL): SFI SYSTEM: P136629; "E" Camshaft Position Actuator Bank 1 Signal Invalid; 2023 - 2024 MY...

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Model Year Start: 2023	Model: Prius Prime	Prod Date Range: [03/2023 -]	
Title: M20A-FXS (ENGINE CONTROL): SFI SYSTEM: P136629; "E" Camshaft Position Actuator Bank 1 Signal			
Invalid; 2023 - 2024 MY Prius Prius Prime [03/2023 -]			

DTC

P136629 "

"E" Camshaft Position Actuator Bank 1 Signal Invalid

DESCRIPTION

Refer to DTC P001001.

Click here

DTC NO.	DETECTION ITEM	DTC DETECTION CONDITION	TROUBLE AREA	MIL	DTC OUTPUT FROM	PRIORITY	NOTE
P136629	"E" Camshaft Position Actuator Bank 1 Signal Invalid	Malfunction in diagnostic signal (VTM) of cam timing control motor with EDU assembly is detected for 3 seconds (1 trip detection logic).	 Cam timing control motor with EDU assembly Open or short in cam timing control motor with EDU assembly circuit ECM 	Comes on	Engine	A	SAE Code: P1366

MONITOR DESCRIPTION

This DTC is output when a diagnostic signal malfunction is detected in the cam timing control motor with EDU assembly. The cam timing control motor with EDU assembly is equipped with a self diagnostic function, which is used to output the condition of the cam timing control motor with EDU assembly as a diagnosis signal (VTM) to the ECM. If the ECM receives a diagnosis signal that is not one of the set signals, a DTC is output immediately (1 trip detection logic).

MONITOR STRATEGY

Related DTCs	P1366: Motor drive VVT system control module performance
Required sensors/Components (Main)	Cam timing control motor with EDU assembly
Required sensors/Components (Related)	-
Frequency of Operation	Continuous
Duration	3 seconds
MIL Operation	Immediate
Sequence of Operation	None

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TYPICAL ENABLING CONDITIONS

Monitor runs whenever the following DTCs are not stored	None
Both of the following conditions are met	-
Auxiliary battery voltage	11 V or higher
Ignition switch	ON

TYPICAL MALFUNCTION THRESHOLDS

"VVT motor driver error" from motor drive 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

• When clearing the permanent DTCs, refer to the "CLEAR PERMANENT DTC" procedure.

Click here

- 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

- 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: P136629.
- 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 P136001.

Click here

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

for PHEV Model: Click here	
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(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

for PHEV Model: Click here

PROCEDURE

Pre-procedure1

- (a) Disconnect the cam timing control motor with EDU assembly connector.
- (b) Disconnect the ECM connector.

Procedure1

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

Standard Resistance:



<u>Click Location & Routing(C20,C52)</u> <u>Click Connector(C20)</u> <u>Click Connector(C52)</u>

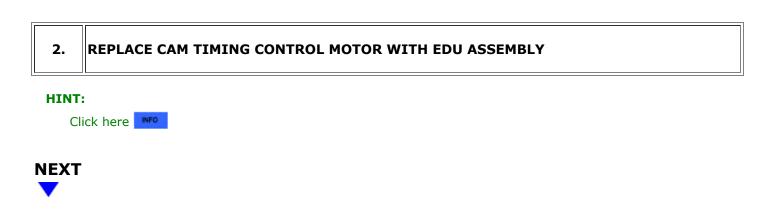
TESTER CONNECTION	CONDITION	SPECIFIED CONDITION	RESULT
C20-4 (VTM) - C52-72 (EMD1)	Always	Below 1 Ω	Ω
C20-4 (VTM) or C52-72 (EMD1) - Body ground and other terminals	Always	$10 \text{ k}\Omega$ or higher	kΩ

Post-procedure1

(d) None.

NG REPAIR OR REPLACE HARNESS OR CONNECTOR





3.	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.



4. 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

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RESULT	PROCEED TO		
DTCs are not output	A		
P136629 is output	В		

Post-procedure1

(c) None.





TOYOTA