Last Modified: 12-04-2024	6.11:8.1.0	**Doc ID:** RM1000000028ZYF
Model Year Start: 2023	**Model:** Prius Prime	**Prod Date Range:** [12/2022 -]
Title: HYBRID / BATTERY CONTROL: MOTOR GENERATOR CONTROL SYSTEM (for M20A-FXS): P1CFF62; Hybrid/EV Battery Current/DC/DC Converter Current Signal Compare Failure; 2023 - 2024 MY Prius Prius Prime [12/2022 -]		

DTC	**P1CFF62**	**Hybrid/EV Battery Current/DC/DC Converter Current Signal Compare Failure**

DTC SUMMARY

MALFUNCTION DESCRIPTION

If there is a large difference between the reactor current sensor value and the HV battery current sensor value, a malfunction will be detected.

Internal inverter malfunction

- Current sensor malfunction
- Inverter with converter assembly internal circuit malfunction

DESCRIPTION

DTC NO.	DETECTION ITEM	DTC DETECTION CONDITION	TROUBLE AREA	MIL	WARNING INDICATE	DTC OUTPUT FROM	PRIORITY	NOTE
P1CFF62	Hybrid/EV Battery Current/DC/DC Converter Current Signal Compare Failure	The difference between the reactor current sensor value and the HV battery current sensor value is large. (1 trip detection logic)	• Inverter with converter assembly • Wire harness or connector	Comes on	Master Warning: Comes on	Motor Generator	A	SAE Code: P1CFF

MONITOR DESCRIPTION

If the motor generator control ECU detects a large difference between the reactor current sensor value and battery current sensor value, it will illuminate the MIL and store a DTC.

MONITOR STRATEGY

Related DTCs	P1CFF (INF P1CFF62): Hybrid/EV Battery Current/DC/DC Converter Current Correlation
Required sensors/components	DC/DC Converter Current Sensor Circuit

Frequency of operation	Continuous
Duration	TMC's intellectual property
MIL operation	1 driving cycle
Sequence of operation	None

TYPICAL ENABLING CONDITIONS

The monitor will run whenever the following DTCs are not stored	TMC's intellectual property
Other conditions belong to TMC's intellectual property	-

TYPICAL MALFUNCTION THRESHOLDS

TMC's intellectual property	-

COMPONENT OPERATING RANGE

Motor generator control ECU	DTC P1CFF (INF P1CFF62) is not detected

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 2 minutes or more.
3. With the ignition switch ON and wait for 5 seconds or more. [*1]
4. Turn the ignition switch to ON (READY) and wait for 5 seconds or more. [*2]
5. With the brake pedal depressed, depress the accelerator pedal to start the engine. [*3]
6. Wait for approximately 10 seconds while depressing the brake pedal and accelerator pedal. [*4]

HINT:

[*1] to [*4]: Normal judgment procedure.

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

7. Enter the following menus: Powertrain / Motor Generator / Utility / All Readiness.
8. Check the DTC judgment result.

HINT:

- If the judgment result shows NORMAL, the system is normal.
- If the judgment result shows ABNORMAL, the system has a malfunction.
- If the judgment result shows INCOMPLETE, perform the normal judgment procedure again.

CAUTION / NOTICE / HINT

CAUTION:

Refer to the precautions before inspecting high voltage circuit.

Click here INFO

NOTICE:

- After the ignition switch is turned off, there may be a waiting time before disconnecting the auxiliary negative (-) battery terminal.

  Click here INFO
- When disconnecting and reconnecting the auxiliary battery.

HINT:

When disconnecting and reconnecting the auxiliary battery, there is an automatic learning function that completes learning when the respective system is used.

Click here INFO

HINT:

P1CFF62 may be output as a result of the malfunction indicated by the DTCs in table below.

a. The chart above is listed in inspection order of priority.
b. Check DTCs that are output at the same time by following the listed order. (The main cause of the malfunction can be determined without performing unnecessary inspections.)

Table 1

MALFUNCTION CONTENT	SYSTEM	RELEVANT DTC	
Insulation Malfunction	Hybrid control system	P1C7C49	Hybrid/EV Battery Voltage System Isolation (A/C Area) Internal Electronic Failure
		P1C7D49	Hybrid/EV Battery Voltage System Isolation (Hybrid/EV Battery Area) Internal Electronic Failure
		P1C7E49	Hybrid/EV Battery Voltage System Isolation (Transaxle Area) Internal Electronic Failure
		P1C7F49	Hybrid/EV Battery Voltage System Isolation (Direct Current Area) Internal Electronic Failure
		P1C8049	Hybrid/EV Battery Voltage System Isolation (Rear Motor Area) Internal Electronic Failure
HV Battery Malfunction	Hybrid control system	P0ABF00	Hybrid/EV Battery Current Sensor "A" Circuit Range/Performance
		P0ABF11	Hybrid/EV Battery Current Sensor "A" Circuit Short to Ground
		P0ABF15	Hybrid/EV Battery Current Sensor "A" Circuit Short to Auxiliary Battery or Open
		P0ABF28	Hybrid/EV Battery Current Sensor "A" Signal Bias Level Out of Range / Zero Adjustment Failure
		P0ABF2A	Hybrid/EV Battery Current Sensor "A" Signal Stuck In Range
		P1CBB12	Hybrid/EV Battery Current Sensor Power Supply Circuit Short to Auxiliary Battery
		P1CBB14	Hybrid/EV Battery Current Sensor Power Supply Circuit Short to Ground or Open

MALFUNCTION CONTENT	SYSTEM	RELEVANT DTC	
		P060687	Hybrid/EV Powertrain Control Module Processor to Monitoring Processor Missing Message
		P060A47	Hybrid/EV Powertrain Control Module Monitoring Processor Watchdog / Safety MCU Failure
		P060A87	Hybrid/EV Powertrain Control Module Processor from Monitoring Processor Missing Message
		P060B49	Hybrid/EV Powertrain Control Module A/D Processing Internal Electronic Failure
		U011187	Lost Communication with Hybrid/EV Battery Energy Control Module "A" Missing Message
	Hybrid battery system	P0B0E11	Hybrid/EV Battery Current Sensor "B" Circuit Short to Ground
		P0B0E15	Hybrid/EV Battery Current Sensor "B" Circuit Short to Auxiliary Battery or Open
		P0B1362	Hybrid/EV Battery Current Sensor "A"/"B" Signal Compare Failure
		P0E2D00	Hybrid/EV Battery Energy Control Module Hybrid/EV Battery Monitor Performance

Table 2

MALFUNCTION CONTENT	SYSTEM	RELEVANT DTC	
Microcomputer malfunction	Motor generator control system	P0A1A47	Generator Control Module Watchdog / Safety MC Failure
		P0A1A49	Generator Control Module Internal Electronic Failure
		P0A1B1F	Generator Control Module Circuit Intermittent
		P0A1B47	Drive Motor "A" Control Module Watchdog / Safety MC Failure
		P1C2A1C	Generator A/D Converter Circuit Circuit Voltage Out of Range
		P1C2A49	Generator A/D Converter Circuit Internal Electronic Failure
		P1C2A71	Generator A/D Converter Circuit Actuator Stuck
		P1C2B1C	Drive Motor "A" Control Module A/D Converter Circuit Voltage Out of Range
		P1C2B49	Drive Motor "A" Control Module A/D Converter Circuit Internal Electronic Failure
		P1C2B71	Drive Motor "A" Control Module A/D Converter Circuit Actuator Stuck
		P313383	Communication Error from Generator to Drive Motor "A" Value of Signal Protection Calculation Incorrect
		P313386	Communication Error from Generator to Drive Motor "A" Signal Invalid

MALFUNCTION CONTENT	SYSTEM	RELEVANT DTC	
		P313387	Communication Error from Generator to Drive Motor "A" Missing Message
		P313483	Communication Error from Drive Motor "A" to Generator Value of Signal Protection Calculation Incorrect
		P313486	Communication Error from Drive Motor "A" to Generator Signal Invalid
		P313487	Communication Error from Drive Motor "A" to Generator Missing Message
	Hybrid control system	P0A1B49	Drive Motor "A" Control Module Internal Electronic Failure
Power source circuit malfunction	Motor generator control system	P06B01C	Generator Control Module Position Sensor REF Power Source Circuit Voltage Out of Range
		P06D61C	Generator Control Module Offset Power Circuit Voltage Out of Range
		P19F81C	Generator Control Module Offset Power Circuit Voltage Out of Range
		P26DF1C	Generator Control Module Position Sensor REF Power Source Circuit Voltage Out of Range
Communication malfunction	Motor generator control system	U11B387	Lost Communication with Hybrid/EV Powertrain Control Module (ch5) Missing Message
	Hybrid control system	U117E87	Lost Communication with Drive Motor Control Module "A" (ch4) MissingMessage
Sensor and actuator circuit malfunction	Motor generator control system	P0E5111	DC/DC Converter Current Sensor Circuit Short to Ground
		P0E5115	DC/DC Converter Current Sensor Circuit Short to Battery or Open
		P0E5128	DC/DC Converter Current Sensor Signal Bias Level Out of Range / Zero Adjustment Failure

PROCEDURE

1.	**CHECK CONNECTOR CONNECTION CONDITION (INVERTER WITH CONVERTER ASSEMBLY CONNECTOR)**

Click here INFO

RESULT	PROCEED TO
OK	A

RESULT	PROCEED TO
NG (The connector is not connected securely.)	B
NG (The terminals are not making secure contact or are deformed, or water or foreign matter exists in the connector.)	C

A ▶ **REPLACE INVERTER WITH CONVERTER ASSEMBLY**

B ▶ **CONNECT SECURELY**

C ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**