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Model Year Start: 2023	**Model:** Prius Prime	**Prod Date Range:** [03/2023 -]
Title: HYBRID / BATTERY CONTROL: HYBRID CONTROL SYSTEM (for PHEV Model): Pattern Select Switch EV/HV Mode Circuit; 2023 - 2024 MY Prius Prime [03/2023 -]		

Pattern Select Switch EV/HV Mode Circuit

DESCRIPTION

EV mode

When a sufficient amount of electricity is remaining after charging, EV driving is performed using electricity stored in the HV battery.

Depending on the situation, EV driving may be canceled and both gasoline engine and electric motor are used (HV mode).

When in EV mode, the "EV MODE" indicator illuminates.

When in HV mode, the "HV MODE" indicator illuminates.

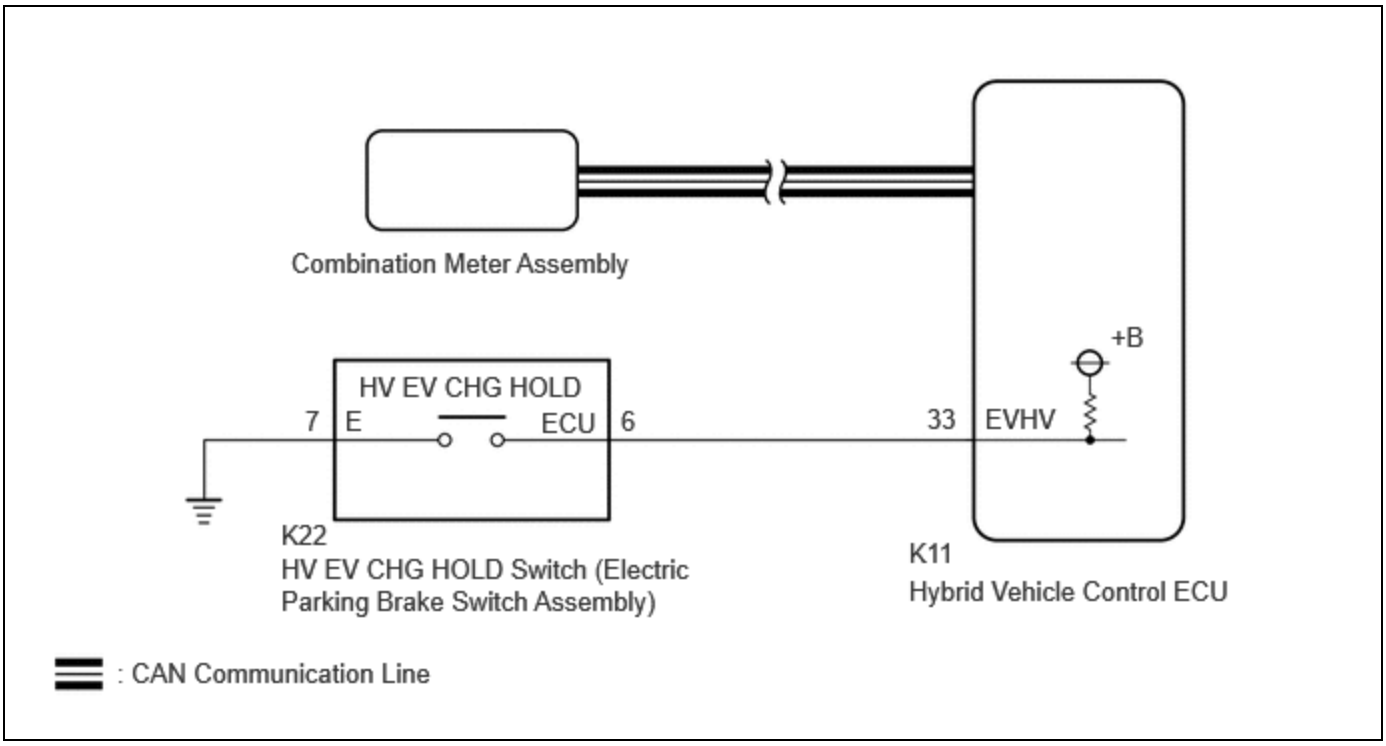
HV battery charge mode

Electricity generated in the gasoline engine can be stored in the HV battery by switching to the HV battery charge mode when electricity needed for EV driving is not remaining.

When in the HV battery charge mode, the HV battery can be charged while driving. However, the gasoline engine runs to charge the battery and fuel consumption becomes higher compared with driving in HV mode.

When in the HV battery charge mode, the "CHG MODE" indicator illuminates.

WIRING DIAGRAM



PROCEDURE

1.	**ASK ABOUT VEHICLE CONDITION**

(a) Check if a buzzer sounded and a message was displayed on the multi-information display when operating the HV EV HOLD CHG switch (electric parking brake switch assembly).

RESULT	PROCEED TO
No buzzer sounded and no message was displayed on multi-information display.	A
A buzzer sounded and a message was displayed on multi-information display.	B

HINT:

If a buzzer sounds and a message is displayed on the multi-information display, the EV mode entry conditions have not been met.

B ▶ **END**

A ▼

2.	**READ VALUE USING GTS (CAN BUS CHECK)**

(a) Check the CAN Bus Check.

CAN Bus Check

RESULT	PROCEED TO
All of the ECUs and sensors that are currently connected to the CAN communication system are displayed.	A
None of the ECUs and sensors that are currently connected to the CAN communication system are displayed, or some of them are not displayed.	B

(b) Turn the ignition switch off.

B ▶ **GO TO CAN COMMUNICATION SYSTEM**

A ▼

3.	**CHECK DTC OUTPUT (HEALTH CHECK)**

(a) Enter the following menus: System Select / Health Check.

(b) Check for DTCs.

RESULT	PROCEED TO
No DTCs output	A
DTCs output	B

(c) Turn the ignition switch off.

B ▶ **GO TO DTC CHART**

A

4.	**READ VALUE USING GTS (HV/EV MODE SWITCH)**

(a) Read the value displayed on the GTS.

Powertrain > Hybrid Control > Data List

TESTER DISPLAY
HV/EV Mode Switch

RESULT	PROCEED TO
The display changes according to the HV EV CHG HOLD mode switch operation.	A
The display does not change according to the HV EV CHG HOLD mode switch operation.	B

(b) Turn the ignition switch off.

A ▶ **CHECK FOR INTERMITTENT PROBLEMS**

B

5.	**INSPECT HV EV CHG HOLD MODE SWITCH (ELECTRIC PARKING BRAKE SWITCH ASSEMBLY)**

Click here INFO

NG ▶ **REPLACE HV EV CHG HOLD MODE SWITCH (ELECTRIC PARKING BRAKE SWITCH ASSEMBLY)**

OK ▼

6.	**CHECK HARNESS AND CONNECTOR (HV EV CHG HOLD MODE SWITCH (ELECTRIC PARKING BRAKE SWITCH ASSEMBLY) - BODY GROUND)**

(a) Disconnect the HV EV CHG HOLD (electric parking brake switch assembly) mode switch connector.

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

Standard Resistance:

EWD INFO

Click Location & Routing(K22)
Click Connector(K22)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K22-7 (E) - Body ground	Always	Below 1 Ω

(c) Reconnect the HV EV CHG HOLD mode switch (electric parking brake switch assembly) connector.

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

OK ▼

7.	**CHECK HARNESS AND CONNECTOR (HYBRID VEHICLE CONTROL ECU - HV EV CHG HOLD MODE SWITCH (ELECTRIC PARKING BRAKE SWITCH ASSEMBLY))**

(a) Disconnect the hybrid vehicle control ECU connector.

(b) Disconnect the HV EV CHG HOLD mode switch (electric parking brake switch assembly) connector.

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

Standard Resistance:

EWD INFO

Click Location & Routing(K11,K22)
Click Connector(K11)
Click Connector(K22)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K11-33 (EVHV) - K22-6 (ECU)	Always	Below 1 Ω
K11-33 (EVHV) or K22-6 (ECU) - Body ground	Always	10 kΩ or higher

(d) Reconnect the HV EV CHG HOLD mode switch (electric parking brake switch assembly) connector.

(e) Reconnect the hybrid vehicle control ECU connector.

OK ▶ **REPLACE HYBRID VEHICLE CONTROL ECU**

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