

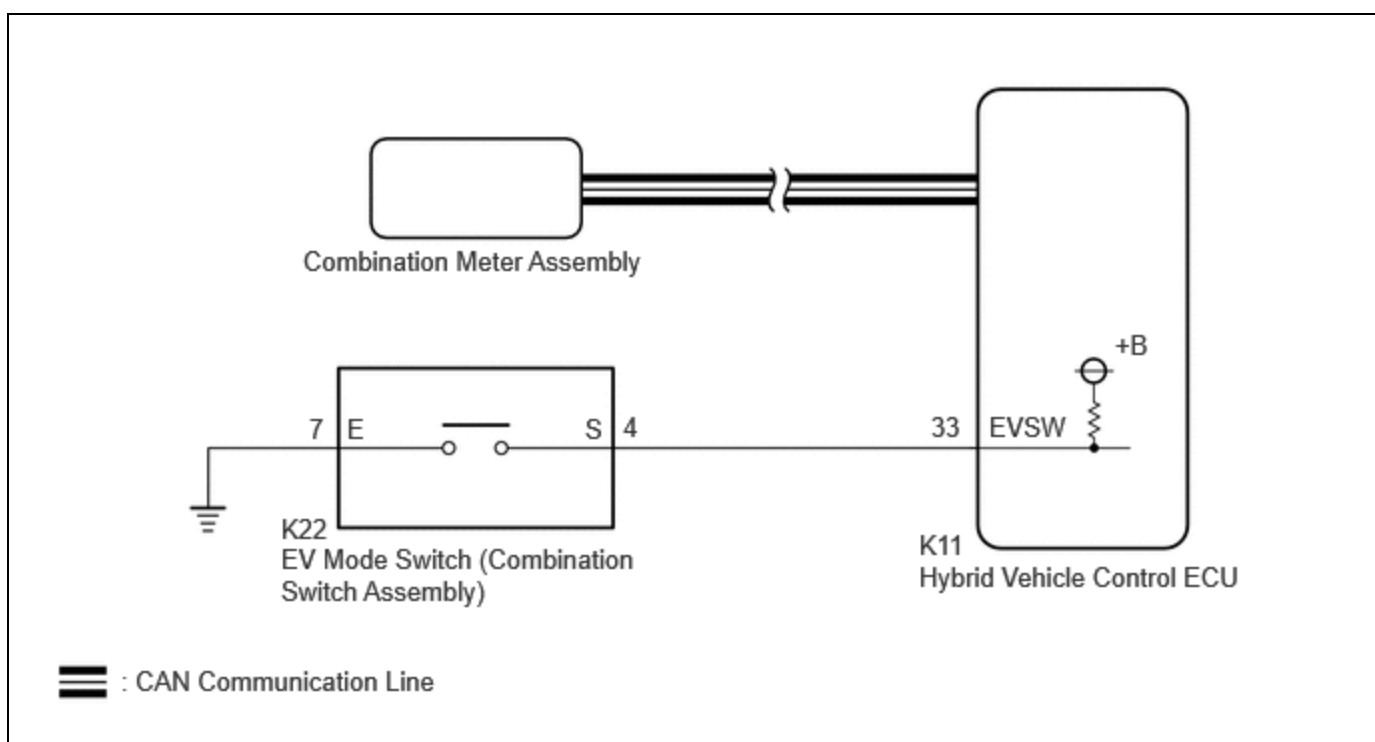
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Model Year Start: 2023	Model: Prius Prime	Prod Date Range: [12/2022 -]
Title: HYBRID / BATTERY CONTROL: HYBRID CONTROL SYSTEM (for M20A-FXS): Pattern Select Switch EV Mode Circuit; 2023 - 2024 MY Prius Prius Prime [12/2022 -]		

Pattern Select Switch EV Mode Circuit

DESCRIPTION

The EV mode switch signal will be sent to the hybrid vehicle control ECU when the EV mode switch is operated. If the specified conditions are met, the system enters EV drive mode and the vehicle will be driven using EV drive mode. This signal is then transmitted from the hybrid vehicle control ECU via CAN to the combination meter assembly to illuminate the EV drive mode indicator.

WIRING DIAGRAM



CAUTION / NOTICE / HINT

Depending on the condition of the hybrid control system and the driving conditions, the drive mode may not be able to be changed to EV drive mode and a warning message will be displayed on the multi-information display.

HINT:

Under the following principal conditions, the drive mode will not be able to be changed to EV drive mode:

- The hybrid control system is extremely hot.
- The hybrid control system is extremely cold.
- The engine is warming up.
- The SOC (State of Charge) of the HV battery is low.
- The vehicle is being driven at a speed higher than the specified value.
- The accelerator pedal is being fully depressed or the vehicle is climbing a slope.
- The defroster is on.

- DTCs are stored.

PROCEDURE

1.	ASK ABOUT VEHICLE CONDITION
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(a) Check if a buzzer sounded and a message was displayed on the multi-information display when attempting to enter EV mode.

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, one or more of the EV mode entry conditions have not been met.

B ► **END**

A



2.	READ VALUE USING GTS (CAN BUS CHECK)
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(a) Enter the following menus: System Select / 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 are output	A
DTCs are output	B

- (c) Turn the ignition switch off.

B  **GO TO DTC CHART**

A


4. READ VALUE USING GTS (EV MODE, EV MODE SWITCH)

- (a) Read the values displayed on the GTS.
Powertrain > Hybrid Control > Data List

TESTER DISPLAY
EV Mode
EV Mode Switch

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

- (b) Turn the ignition switch off.

A  **GO TO PROBLEM SYMPTOMS TABLE**

B

**5. INSPECT EV MODE SWITCH (COMBINATION SWITCH ASSEMBLY)**Click here [INFO](#)**NG** **REPLACE COMBINATION SWITCH ASSEMBLY****OK****6. CHECK HARNESS AND CONNECTOR (EV MODE SWITCH (COMBINATION SWITCH ASSEMBLY) - BODY GROUND)**

- (a) Disconnect the EV mode switch (combination switch assembly) connector.
- (b) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

[Click Location & Routing\(K22\).](#)[Click Connector\(K22\).](#)

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

- (c) Reconnect the EV mode switch (combination switch assembly) connector.

NG **REPAIR OR REPLACE HARNESS OR CONNECTOR****OK****7. CHECK HARNESS AND CONNECTOR (HYBRID VEHICLE CONTROL ECU - EV MODE SWITCH (COMBINATION SWITCH ASSEMBLY))**

- (a) Disconnect the hybrid vehicle control ECU connector.
- (b) Disconnect the EV mode switch (combination switch assembly) connector.
- (c) Measure the resistance according to the value(s) in the table below.

Standard Resistance:



[Click Location & Routing\(K11,K22\).](#)

[Click Connector\(K11\).](#)

[Click Connector\(K22\).](#)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K11-33 (EVSW) - K22-4 (S)	Always	Below 1 Ω
K11-33 (EVSW) or K22-4 (S) - Body ground	Always	10 k Ω or higher

(d) Reconnect the EV mode switch (combination switch assembly) connector.

(e) Reconnect the hybrid vehicle control ECU connector.

OK **REPLACE HYBRID VEHICLE CONTROL ECU**

NG **REPAIR OR REPLACE HARNESS OR CONNECTOR**

