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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): FREEZE FRAME DATA; 2023 - 2024 MY Prius Prime [03/2023 -]		

FREEZE FRAME DATA

FREEZE FRAME DATA

HINT:

The hybrid vehicle control ECU records vehicle and driving condition information as Freeze Frame Data the moment a DTC is stored. It can be used for estimating or duplicating the vehicle conditions that were present when the malfunction occurred.

(a) Select a DTC in order to display its Freeze Frame Data.

Powertrain > Hybrid Control > Trouble Codes

(b) Check the freeze frame information recorded with the DTC.

Powertrain > Hybrid Control

TESTER DISPLAY
Vehicle Speed
Target Engine Power
Execute Engine Power
Target Engine Revolution
Engine Speed
Calculate Load
Coolant Temperature
Starter Switch Signal
Engine Idling Request
Engine Start Request (A/C)
Engine Start Request (Engine Warm-up)
Engine Start Request (Hybrid/EV Battery Charging)

TESTER DISPLAY
Engine Mode
Engine Run Time
Engine Stop Request
Engine Stop F/C Status
Lack of Fuel
Accelerator Position
Accelerator Pedal Status
Accelerator Position Sensor No.1 Voltage %
Accelerator Position Sensor No.2 Voltage %
Throttle Position Sensor No.1 Voltage %
Master Cylinder Control Torque
Brake Cancel Switch
Shift Position
Shift Position (Meter)
Shift Switch Status (N,P Position)
Sports Shift Position
FR Wheel Speed
FL Wheel Speed
RR Wheel Speed

TESTER DISPLAY
RL Wheel Speed
Atmospheric Pressure
Intake Manifold Absolute Pressure
Ambient Temperature
Intake Air Temperature
Vehicle Information (Sub CPU)
BATT Voltage
Smoothed Value of BATT Voltage
Warmup Cycle Cleared DTC
Distance from DTC Cleared
Time after DTC Cleared
Running Time from MIL ON
Total Distance Traveled
Total Distance Traveled - Unit
MIL ON Run Distance
IGB Signal Status
IGB Keeping Status
IG2 Signal Status
MRL2 Signal Status

TESTER DISPLAY
IGBD Status
IGBD Signal Status
ACC Signal
Ready Signal
IGR
IGP Signal Status
IGR Signal Status
HV/EV Activate Condition
MG Activate Condition
DSS Control Status
Generate Torque (Request from DSS)
Primary Driving Force Adjustment Result
SMRG Status
SMRG Control Status
SMRG Connect Retry Counter
SMRB Status
SMRB Control Status
SMRB Connect Retry Counter
WIN Control Limit Power

TESTER DISPLAY
WOUT Control Limit Power
Voltage Deviation between before Boosting and after Boosting during SMR Precharge
A/C Consumption Power
Electric Component Actuation Restriction Count
Drive Mode Switch-
Drive Mode Switch+
HV/EV Mode Switch
EVMS Signal Status
Drive Mode
Snow Mode Status
Hybrid/EV Control System Control Mode
Inter Lock Switch
Inter Lock Switch (MG)
Stop Light Switch
VSC/TRC OFF Switch
AC100V Accessory Outlet Switch
Airbag Status (Collision)
Airbag Status (Collision) (CAN)
Airbag Status (Normal)

TESTER DISPLAY
Crank Position
TC Terminal
Power Supply Control Driver Operation Status
Elapsed time from HV/EV ECU Boot Up
IG OFF Elapsed Time
IG ON Duration Time
IG OFF Duration Time
Hybrid/EV Control Output Invalidation Signal (Sub)
DDFS Control Switching Request
SMR One Side Welding
WIN after Arbitration by System Control
WOUT after Arbitration by System Control
Emergency Shutdown Signal (Main)
Emergency Shutdown Signal (Sub)
Key Cycle
Elapsed Time
Generator Revolution
Target Generator Torque
Generator Torque

TESTER DISPLAY
Motor Revolution
Target Motor Torque
Motor Torque
Request Motor Regenerative Brake Torque
Motor Regenerate Brake Execution Torque
Generator Inverter Temperature
Generator Inverter Temperature just after IG ON
Generator Inverter Maximum Temperature
Motor Inverter Temperature
Motor Inverter Temperature just after IG ON
Motor Inverter Maximum Temperature
Boosting Converter Temperature (Upper)
Boosting Converter Temperature (Lower)
Boosting Converter Temperature just after IG ON
Boosting Converter Maximum Temperature
Boosting Converter B Temperature (Upper)
Boosting Converter B Temperature (Lower)
Boosting Converter B Temperature just after IG ON
Boosting Converter B Maximum Temperature

TESTER DISPLAY
Step Down Current Limit
Generator Inverter Operation Request
Generator Inverter Fail
Generator Inverter Shutdown Status
Motor Inverter Operation Request
Motor Inverter Fail
Motor Inverter Shutdown Status
Boosting Converter Operation Request
Boosting Converter Fail
Boosting Converter Shutdown Status
Generator Carrier Frequency
Generator Control Mode
Motor Carrier Frequency
Motor Control Mode
Boosting Converter Carrier Frequency
VL-Voltage before Boosting
VH-Voltage after Boosting
Boost Ratio
V Phase Generator Current

TESTER DISPLAY
W Phase Generator Current
V Phase Motor Current
W Phase Motor Current
Target DC/DC Converter Voltage
DC/DC Converter Operation Status Notification
DC/DC Converter Voltage Sensor (High Voltage Side) Unavailable Status
DC/DC Converter CAN Unreceivable Status
DC/DC Converter Unavailable Status
DC/DC Converter Over Temperature Protection Status
DC/DC Converter Stopping Status
DC/DC Converter Drooping Operation Status
DC/DC Converter Activate Condition
DC/DC Converter Output Current
DC/DC Converter Voltage (Low Voltage Side)
DC/DC Converter Voltage (High Voltage Side)
Target DC/DC Converter Precharge Voltage
DC/DC Converter Precharge Abnormal
DC/DC Converter Diagnosis Status
Inverter Coolant Water Temperature

TESTER DISPLAY
Inverter Water Pump Duty Ratio
Inverter Water Pump Revolution
Overvoltage Input to Inverter
Inverter Input Current
Overvoltage Input to Boosting Converter
Motor/Generator Reactor Current before SMR Precharge
Motor/Generator Reactor Maximum Current during SMR Precharge
Motor/Generator Reactor Current-Carrying Status during SMR Precharge
Motor/Generator Reactor Noncurrent-Carrying Status during SMR Precharge
Inverter Water Pump Status
Hybrid/EV Battery SOC
Hybrid/EV Battery SOC of Immediately after IG ON
Hybrid/EV Battery Maximum SOC
Hybrid/EV Battery Minimum SOC
Hybrid/EV Battery Voltage
Hybrid/EV Battery Current
Charging Voltage for Hybrid/EV Battery
Hybrid/EV Battery Cooling Fan Low Speed Request
High Voltage Power Supply Line Abnormal

TESTER DISPLAY
Short Wave Highest Value Level
Insulation Resistance Division Check Completion using MG Inv
Insulation Resistance Division Check Completion using A/C Inv
Insulation Resistance Division Check Completion using SMR
Insulation Resistance Division Check Completion using AC Charging Area
Short Wave Highest Value Availability just after MG Inv On/Off
Short Wave Highest Value Availability just after A/C Inv On/Off
Short Wave Highest Value Availability just after SMR On/Off
Short Wave Highest Value Availability just after AC Charging Relay On/Off
Immobiliser Communication
Permit Start by Immobiliser
Auxiliary Battery Voltage
Auxiliary Battery Voltage just before SMR Precharge
Auxiliary Battery Current
Smoothed Value of Auxiliary Battery Temperature
Auxiliary Battery Status of Full Charge
Auxiliary Battery Charging Rate Accuracy
Auxiliary Battery Current Sensor Value
Auxiliary Battery Warning (Low Voltage)

TESTER DISPLAY
Auxiliary Battery Warning (Over Voltage)
Hybrid/EV Battery Discharging Current Upper Limit
AC Charging Negative Relay Drive Request
AC Charging Positive Relay Drive Request
AC Charging Precharge Relay Drive Request
AC Charging Negative Relay Status
AC Charging Positive Relay Status
AC Charging Precharge Relay Status
AC Charging Relay Permission Signal Status
AC Charging Relay Permission Signal Stuck Low Status
AC Charging Relay Permission Signal Stuck High Status
AC Charging Relay Permission Signal Status (Hybrid/EV Battery)
DC Charging and Discharging Mode Determination
External Power Supply Inverter Indicator Status
External Power Supply Inverter Output Monitor Status
External Power Supply Inverter Operation Request by HV/EV ECU
External Power Supply Inverter Operation Request by Plug-in Control ECU
External Power Supply Inverter Shutdown Request
Power Feeding Electrical Using Status

TESTER DISPLAY
Solar Charge Hybrid/EV Battery DC/DC Converter Drive Request
Solar Charge Hybrid/EV Battery DC/DC Converter Input Power
Smoothed Value of Solar Charge Hybrid/EV Battery DC/DC Converter Input Voltage