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Model Year Start: 2023	Model: Prius Prime	Prod Date Range: [12/2022 -]
Title: ADVANCED DRIVER ASSISTANCE SYSTEM: FRONT SIDE RADAR SENSOR: DRIVING ADJUSTMENT; 2023 - 2024 MY Prius Prius Prime [12/2022 -]		

DRIVING ADJUSTMENT

CAUTION / NOTICE / HINT

NOTICE:

- Make sure to read "Before Starting Driving Adjustment" before proceeding with work.

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- Make sure that the alignment is suitable and non-standard tires are not installed.
- Make sure to perform the transition to online axis alignment mode with the vehicle stopped.
- Transitioning to online axis alignment mode will erase the learning value, so make sure to complete the adjustment.
- Turning the ignition switch off while in online axis alignment mode will cause the system to exit online axis alignment mode, so to continue with the adjustment, it is necessary to transition to online axis alignment mode again.
- All of the driving support system functions will be inoperative while the adjustment is in progress.
- When driving the vehicle with the GTS connected, be careful with how the wires are routed.
- If the adjustment does not complete within a total cumulative time of 15 minutes when the vehicle is driven with all conditions met, perform the adjustment on another route.
- If the adjustment does not complete within a total cumulative time of 30 minutes when the vehicle is driven with all conditions met, perform the adjustment using target recognition.
- After adjustment is complete, to start the various systems it is necessary to turn the ignition switch off and then to ON again.
- In situations such as when the online axis alignment terminates abnormally, to perform online axis alignment again, turn the ignition switch off and then back to ON and enter online axis alignment mode again.
- If the front bumper cover has been replaced or body repair has been performed at a radio wave transmission area, "driving adjustment" cannot be performed.
- If body repairs have been performed, perform "Check Reflection Power".

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PROCEDURE

1. PERFORM FRONT SIDE RADAR SENSOR BEAM AXIS LEARNING

(a) Adjust the tire pressures to the standard values.

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- (b) Check that the surface and back of the front bumper cover and the surface of the front side radar sensors are clean and free of foreign matter such as dirt and snow. If foreign matter such as dirt and snow is found, remove it.
- (c) Check that the front bumper assembly, headlight assembly and front side radar sensor bracket are securely installed, and that there is no damage or deformation around the installation areas. If any abnormalities are found, repair or replace parts as necessary.
- (d) Perform Transition to Online Axis Alignment Mode.
- (1) With the ignition switch off, connect the GTS to the DLC3.
 - (2) Turn the ignition switch to ON.
 - (3) Enter the following menus: Body Electrical / Front Side Radar "A" or Front Side Radar "B" / Utility / Transition to Online Axis Alignment Mode.

HINT:

The "A" is on the LH side and the "B" is on the RH side.

for Type A:

Body Electrical > Front Side Radar "A" > Utility

TESTER DISPLAY
Transition to Online Axis Alignment Mode

Body Electrical > Front Side Radar "B" > Utility

TESTER DISPLAY
Transition to Online Axis Alignment Mode

for Type B:

Body Electrical > Front Side Radar "A" > Utility

TESTER DISPLAY
Transition to Online Axis Alignment Mode

Body Electrical > Front Side Radar "B" > Utility

TESTER DISPLAY
Transition to Online Axis Alignment Mode

(4) Confirm the conditions displayed on the screen and then press "Next".

(5) Select "Front Side Radar "A"" or "Front Side Radar "B"" and then press "Next".

(6) Check the GTS screen and confirm that it has transitioned to online axis alignment mode.

(7) Press "Next".

(8) When driving with GTS not connected to vehicle:

1. In accordance with the instructions on the screen press "Exit" and then disconnect the GTS from the DLC3.

(e) Online axis adjustment (Beam Axis Learning)

(1) Drive the vehicle to perform beam axis learning.

HINT:

If the alignment is performed with the GTS connected to the vehicle, the alignment progress can be monitored through 5 stages on the GTS screen.

(2) If the online axis alignment completes normally, the buzzer will sound intermittently for 1.5 seconds.

NOTICE:

- In the case of abnormal termination, the buzzer sounds intermittently for 1 second.
- When driving with GTS connected to vehicle:
 - If an error code is displayed, perform troubleshooting according to the following table, then perform the beam axis alignment again.

- When driving with GTS not connected to vehicle:
 - When the system terminates abnormally, connect the GTS and refer to the following error code table, then perform beam axis alignment again.

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ERROR NO.	ERROR DESCRIPTION	CAUSE OF ERROR	ACTION TO BE TAKEN
2	Target angle abnormality	<ul style="list-style-type: none"> • The beam axis of the front side radar sensor is outside the automatic correction range. 	Check the condition of the front side radar sensor, front side radar sensor bracket, headlight assembly and front bumper assembly.
3	Radar abnormality	<ul style="list-style-type: none"> • Operation of the front side radar sensor is abnormal. 	Replace the front side radar sensor.
4	Temperature abnormality	<ul style="list-style-type: none"> • The temperature around the front side radar sensor is too high. 	Wait until the temperature drops to the operable range (-40 to 85 °C (-40 to 185 °F)).
5	Voltage abnormality	<ul style="list-style-type: none"> • IG power source voltage is outside the operable range of the front side radar sensor. 	Check the auxiliary battery voltage (specified condition: 7.5 to 16 V). <ul style="list-style-type: none"> • for M20A-FXS: Click here INFO • for 2ZR-FXE: Click here INFO
6	Vehicle information undefined	<ul style="list-style-type: none"> • There is a front side radar sensor communication error (CAN communication error between the front side radar sensors). 	Check that the connectors of the front side radar sensor and the junction block are firmly connected.
7	Vehicle speed abnormality	<ul style="list-style-type: none"> • The vehicle is moving. 	Ensure that the vehicle remains stationary.
8	Time out	<ul style="list-style-type: none"> • The vehicle cannot communicate with GTS normally. • Operation of the front side radar sensor is abnormal. 	<ul style="list-style-type: none"> • Ensure that the vehicle is connected with the GTS correctly. • Perform online axis adjustment again and replace the front side radar sensor if the same error code is output.

(3) When driving with GTS connected to vehicle:

1. Press "Exit" to exit the Online axis adjustment mode.

(4) Turn the ignition switch off.

(5) When driving with GTS not connected to vehicle:

1. Connect the GTS to the DLC3.

(6) Turn the ignition switch to ON and check that the warning light turns off.

(7) Check that the value of Data List item "Beam Axis Adjustment Completion Status" is "Completed".

HINT:

- If the value of "Beam Axis Adjustment Completion Status" is "Incompleted", perform "Online Axis Alignment Mode" again.
- The "A" is on the LH side and the "B" is on the RH side.

Body Electrical > Front Side Radar "A" > Data List

TESTER DISPLAY	MEASUREMENT ITEM	RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
Beam Axis Adjustment Completion Status	Displays the status of beam axis alignment completion	Incompleted or Completed	Incompleted: Beam axis alignment not completed Completed: Beam axis alignment completed	-

Body Electrical > Front Side Radar "A" > Data List

TESTER DISPLAY
Beam Axis Adjustment Completion Status

Body Electrical > Front Side Radar "B" > Data List

TESTER DISPLAY	MEASUREMENT ITEM	RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
Beam Axis Adjustment Completion Status	Displays the status of beam axis alignment completion	Incompleted or Completed	Incompleted: Beam axis alignment not completed Completed: Beam axis alignment completed	-

Body Electrical > Front Side Radar "B" > Data List

TESTER DISPLAY
Beam Axis Adjustment Completion Status

Standard:

The value of the Data List item is displayed as "Completed".

(8) In accordance with the instructions on the screen press "Exit".

(9) Turn the ignition switch off.

(10) Disconnect the GTS from the DLC3.

(f) Front side radar sensor beam axis learning is complete.

(g) After beam axis adjustment completes, clear the following system vehicle control history entries.

(1) Clear vehicle control history (Front Side Radar Sensor System).

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