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2008 LEXUS RX OEM Service and Repair Workshop Manual

Go to manual page

B GO TO DIAGNOSTIC TROUBLE CODE CHART

A

7.	CHECK FOR DTC*

(a) Check for DTCs.

Chassis > Front Recognition Camera > Trouble Codes

RESULT	PROCEED TO
DTCs are not output	A
DTCs are output	B

B GO TO DIAGNOSTIC TROUBLE CODE CHART

A

8.	CHECK VEHICLE CONTROL HISTORY (RoB)*

(a) Using the GTS, check for Vehicle Control History (RoB).

Body Electrical > Headlight Control > Utility

TESTER DISPLAY
Vehicle Control History (RoB)

Body Electrical > Headlight Control (Sub) > Utility

TESTER DISPLAY
Vehicle Control History (RoB)

Chassis > Front Recognition Camera > Utility

TESTER DISPLAY
Vehicle Control History (RoB)

NOTICE:

Make sure to record the output Vehicle Control History.

RESULT	PROCEED TO
Vehicle Control History codes are not output	A
Vehicle Control History code X2020 and/or X204D is output	B
Vehicle Control History codes other than X2020 and X204D are output	C

B GO TO VEHICLE CONTROL HISTORY (Check Details of Code X2020 or X204D)

13.	CHECK VEHICLE CONTROL HISTORY (RoB)*

(a) Clear the Vehicle Control History (RoB).

Body Electrical > Headlight Control > Utility

TESTER DISPLAY
Vehicle Control History (RoB)

Body Electrical > Headlight Control (Sub) > Utility

TESTER DISPLAY
Vehicle Control History (RoB)

Chassis > Front Recognition Camera > Utility

TESTER DISPLAY
Vehicle Control History (RoB)

(b) Using the GTS, check for Vehicle Control History (RoB).

Body Electrical > Headlight Control > Utility

TESTER DISPLAY
Vehicle Control History (RoB)

Body Electrical > Headlight Control (Sub) > Utility

TESTER DISPLAY
Vehicle Control History (RoB)

Chassis > Front Recognition Camera > Utility

TESTER DISPLAY
Vehicle Control History (RoB)

RESULT	PROCEED TO
Vehicle Control History (RoB) codes are not output	A
Vehicle Control History (RoB) codes are output	B

A ▶ **USE SIMULATION METHOD TO CHECK**

B ▶ **GO TO VEHICLE CONTROL HISTORY (RoB)**

(c) Release the parking brake.

(d) Check that the daytime running lights come on.

WELCOME LIGHT ILLUMINATION CONTROL OPERATION CHECK

NOTICE:

Make sure that the customize settings are set to default when performing the welcome light illumination control operation check.

Click here INFO

(a) Turn the ignition switch off.

(b) Turn the light control switch to the AUTO position.

(c) Cover the automatic light control sensor.

(d) Close and lock all of the doors.

(e) Unlock all of the doors using the wireless door unlock or entry door unlock function.

(f) Check that the clearance lights and taillights illuminate for 15 seconds.

DOOR MIRROR FOOT LIGHT CONTROL OPERATION CHECK

NOTICE:

Make sure that the customize settings are set to default when performing the door mirror foot light control operation check.

Click here INFO

(a) The operation and condition of this control are described below.

OPERATION	CONDITION
Fade in and illuminate constantly	When any of the following conditions is met, the lights fade in and illuminate constantly: • A key is detected in the actuation area. • Any door is unlocked when the ignition switch is off and all of the doors are closed.
Illuminate for 15 seconds, and then fade out	When any of the following conditions is met, the lights illuminate for 15 seconds, and then fade out: • An actuation area-linked function is used.* • Any door is unlocked when the ignition switch is off and all of the doors are closed.
Fade out immediately	When the following condition is met, the lights fade out immediately: • The ignition switch is turned from off to ON. • A key is not detected in the actuation area. • All doors are locked when all doors are closed and any door is unlocked.

HINT:

*: When the lights are on, the lights fade out approximately 3 seconds after the key leaves the actuation areas around the doors.

AUTOMATIC HEADLIGHT BEAM LEVEL CONTROL SYSTEM OPERATION CHECK

(a) Stop the vehicle on a level surface and keep the vehicle height unchanged.

(b) Start the engine.

(c) Check that the headlight leveling motors operate.

Last Modified: 10-07-2024	6.11:8.1.0	**Doc ID:** RM100000002HAYX
Model Year Start: 2024	**Model:** GX550	**Prod Date Range:** [12/2023 -]
Title: LIGHTING (EXT): LIGHTING SYSTEM: REGISTRATION; 2024 MY GX550 [12/2023 -]		

REGISTRATION

CAUTION / NOTICE / HINT

NOTICE:

- The necessary procedures (adjustment, calibration, initialization or registration) that must be performed after parts are removed and installed, or replaced during headlight ECU sub-assembly LH removal/installation are shown below.

REPLACED PART OR PERFORMED PROCEDURE	NECESSARY PROCEDURES	PROCEED TO
Replacement of the headlight ECU sub-assembly LH	Synchronize the vehicle information	SYNCHRONIZE VEHICLE INFORMATION
	Perform headlight ECU sub-assembly LH initialization	HEADLIGHT ECU SUB-ASSEMBLY LH INITIALIZATION
Replacement of the rear height control sensor sub-assembly RH, removal and reinstallation of the rear height control sensor sub-assembly RH, replacement of the suspension, etc. have been performed	Perform headlight ECU sub-assembly LH initialization	HEADLIGHT ECU SUB-ASSEMBLY LH INITIALIZATION
Battery terminal is disconnected and connected	Steering sensor zero point calibration	INFO

- If the steering sensor zero point calibration is not performed, the adaptive high beam system may not operate correctly.
- A new headlight ECU sub-assembly LH cannot operate until the vehicle information is registered.
- After replacing the headlight ECU sub-assembly LH, it is necessary to perform vehicle information registration and initialization.
- Even if the headlight ECU sub-assembly RH is replaced with a new one, synchronize the vehicle information and initialization are not necessary.
- Adjust the headlight aim after initializing the headlight ECU sub-assembly LH.

  Click here INFO

- When a malfunction is detected in the lighting system, rear height control sensor sub-assembly RH signal initialization is impossible. Perform troubleshooting before initialization.
- The lighting system uses the CAN communication system. First, confirm that there are no malfunctions in the CAN communication system. Refer to the How to Proceed with Troubleshooting procedure.

  Click here INFO

PROCEDURE

1. SYNCHRONIZE VEHICLE INFORMATION (When using the GTS)

NOTICE:

- Make sure to synchronize the vehicle information before performing initialization.
- If synchronization fails, make sure to turn the ignition switch off then back ON before performing synchronization again.

(a) Turn the ignition switch off.

(b) Connect the GTS to the DLC3.

(c) Turn the ignition switch to ON.

NOTICE:

Make sure to synchronize the vehicle information before performing initialization.

(a) Prepare vehicle for initialization

- Unload the vehicle, ensuring that the spare tire, tools and jack are in their original positions.
- Check that there are no occupants in the vehicle.
- Stop the vehicle on a level surface and keep the vehicle height unchanged.
- Check that rear height control sensor sub-assembly RH is connected correctly.

(b) Check the warning message on the multi-information display.

(1) Turn the ignition switch to ON, and check the condition of the warning message on the multi-information display.

OK:

CONDITION	SPECIFIED CONDITION
The headlight ECU sub-assembly LH has been replaced with a new one.	"Headlight Leveling System Uninitialized" blinks 6 times at 2 Hz.
Replacement of the rear height control sensor sub-assembly RH, removal and reinstallation of the rear height control sensor sub-assembly RH, replacement of the suspension, etc. have been performed.	"Headlight Leveling System Uninitialized" is not displayed.

HINT:

If the condition of the warning message is different than listed in the table above, the headlight ECU sub-assembly LH or combination meter assembly may be malfunctioning.

(c) Perform initialization.

(1) Turn the ignition switch off.

(2) Connect the GTS to the DLC3.

(3) Turn the ignition switch to ON.

(4) Enter the following menus: Body Electrical / Headlight Control / Utility / Height Sensor Initialization.

Body Electrical > Headlight Control > Utility

TESTER DISPLAY
Height Sensor Initialization

(5) Check the display on the GTS and press "Next".

(6) Press "Exit".

(7) Check the condition of the "Headlight Leveling System Uninitialized" warning message on the multi-information display.

Standard:

CONDITION	SPECIFIED CONDITION
The headlight ECU sub-assembly LH has been replaced with a new one.	Blinks 6 times at 2 Hz → Continuously blinks 3 times at 2 Hz.
Replacement of the rear height control sensor sub-assembly RH, removal and reinstallation of the rear height control sensor sub-assembly RH, replacement of the suspension, etc. have been performed.	Off → Blinks 3 times at 2 Hz continuously for 1.5 seconds and then turns off

HINT:

If initialization does not finish normally, restart the initialization procedure from step (i).

(8) Check that initialization finishes normally and turn the ignition switch off.

CONDITION	SPECIFIED CONDITION
of the suspension, etc. have been performed.	then turns off

HINT:

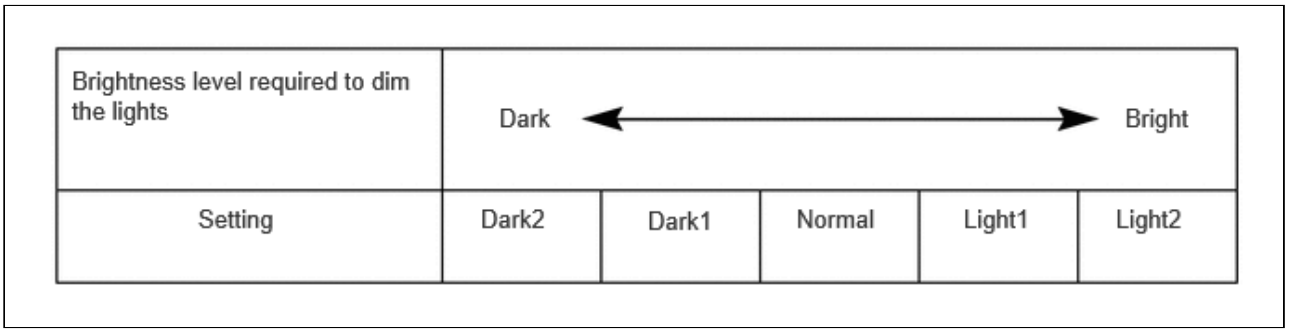
If initialization does not finish normally, restart the initialization procedure from step (i).

(6) Check that initialization finishes normally and turn the ignition switch off.

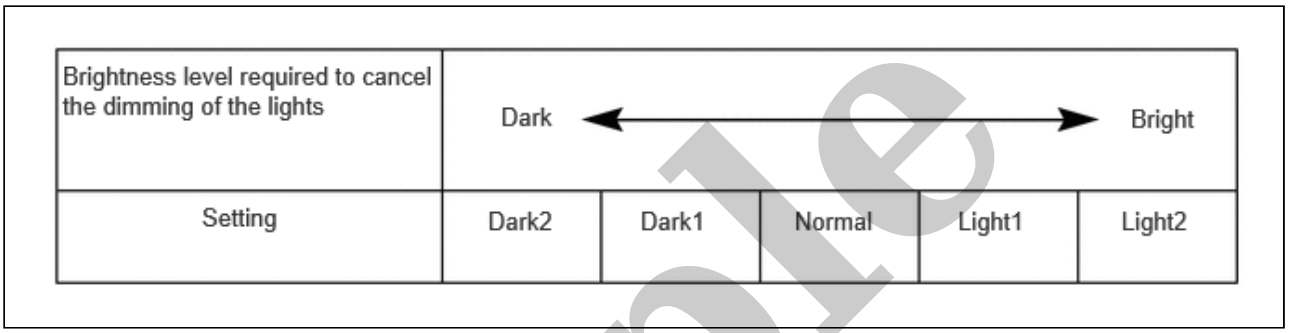
HINT:

The sensitivity adjustment may be difficult to confirm. Check by driving the vehicle.

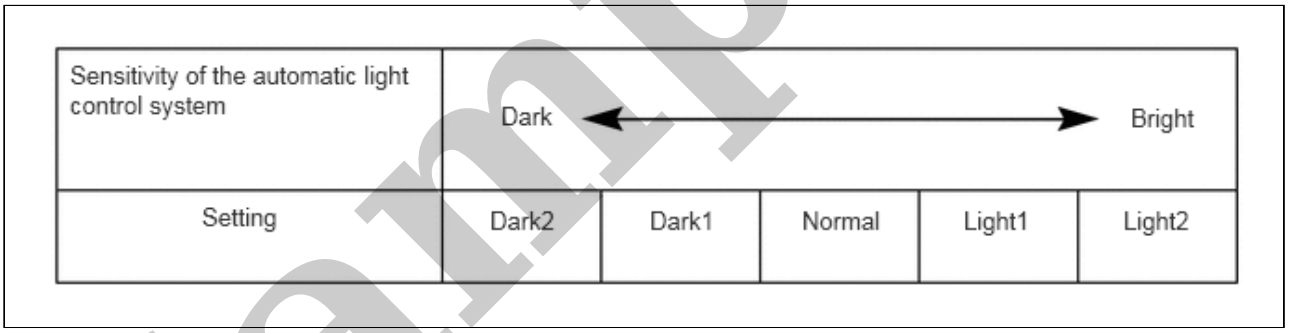
*A



*B



*C



Warning

TESTER DISPLAY	DESCRIPTION	DEFAULT	SETTING	ECU
Lane Change Flashing Times Adjust	Function to change the lane change flashing times.	3	$00:OFF,$01:3,$02:4,$03:5,$04:6,$05:7	Combination Meter Assembly
Proposal Services Function	Turns the suggestion service function on/off.	ON	$00:OFF,$01:Parked,$03:ON	Main body ECU (multiplex network body ECU)

Illuminated Entry

TESTER DISPLAY	DESCRIPTION	DEFAULT	SETTING	ECU
Exterior Lights ON when Approached Function	Lights up the door mirror foot lights when a key enters any actuation area around the doors.	Enable	$00:Disable,$01:Enable	Main body ECU (multiplex network body ECU)
Exterior Lights ON when Door Unlocked Function	Lights up door mirror foot lights when doors are unlocked using a mechanical key or door control transmitter.	Enable	$00:Disable,$01:Enable	Main body ECU (multiplex network body ECU)
Exterior Lights ON when Door Opened Function	Changes the door open control function of the door mirror foot light control.	Enable	$00:Disable,$01:Enable	Main body ECU (multiplex network body ECU)

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Model Year Start: 2024	**Model:** GX550	**Prod Date Range:** [12/2023 -]
Title: LIGHTING (EXT): LIGHTING SYSTEM: FREEZE FRAME DATA; 2024 MY GX550 [12/2023 -]		

FREEZE FRAME DATA

FREEZE FRAME DATA

(a) Whenever a lighting system DTC is stored, the headlight ECU sub-assembly LH, headlight ECU sub-assembly RH and forward recognition camera stores the current vehicle state as freeze frame data.

CHECK FREEZE FRAME DATA

(a) Using the GTS, select a DTC to display its freeze frame data.

Body Electrical > Headlight Control > Trouble Codes

Body Electrical > Headlight Control

TESTER DISPLAY	MEASUREMENT ITEM	RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
Total Distance Traveled	Actual driven distance	0 to 999999	Roughly the same as the actual driven distance	-
Total Distance Traveled - Unit	Actual driven distance unit	km or mile	Displays the current actual driven distance unit	-
ECU Power Source Voltage	Headlight ECU sub-assembly LH ECUB power supply voltage value	0.00 to 19.75 V	11.00 to 14.00 V	-
IG Voltage	Headlight ECU sub-assembly LH IG power supply voltage value	0.00 to 19.75 V	11.00 to 14.00 V	-
FR Wheel Speed	Front right wheel speed	0.00 to 260.00 km/h (162.00 mph)	Condition can be displayed	-
FL Wheel Speed	Front left wheel speed	0.00 to 260.00 km/h (162.00 mph)	Condition can be displayed	-
Vehicle Speed	Vehicle speed	0.00 to 260.00 km/h (162.00 mph)	Condition can be displayed	-
Vehicle Acceleration	Vehicle acceleration	-445.00 to 446.00 m/s^2	Condition can be displayed	When accelerating: Value is positive. When decelerating: Value is negative.
Steering Angle Value After Calibration	Steering sensor signal value	-384.0 to 382.5 deg	Changes according to the operation of the steering wheel	Turning left: Increases Turning right: Decreases
Front Height Sensor Power Supply Voltage	Front height control sensor power supply value	0.00 to 5.00 V	Condition can be displayed	Although the item is displayed on the GTS, it is not applicable to this vehicle.
Rear Height Sensor Power Supply Voltage	Rear height control sensor power supply value	0.00 to 5.00 V	0.5 to 4.5 V	Value changes according to vehicle height

TESTER DISPLAY	MEASUREMENT ITEM	RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
	supply voltage value			
FR Wheel Speed	Front right wheel speed	0.00 to 260.00 km/h (162.00 mph)	Condition can be displayed	-
FL Wheel Speed	Front left wheel speed	0.00 to 260.00 km/h (162.00 mph)	Condition can be displayed	-
Vehicle Speed	Vehicle speed	0.00 to 260.00 km/h (162.00 mph)	Condition can be displayed	-
Vehicle Acceleration	Vehicle acceleration	-445.00 to 446.00 m/s^2	Condition can be displayed	When accelerating: Value is positive. When decelerating: Value is negative.
Steering Angle Value After Calibration	Steering sensor signal value	-384.0 to 382.5 deg	Changes according to the operation of the steering wheel	Turning left: Increases Turning right: Decreases
Front Height Sensor Vehicle Height Value	Front height control sensor signal value	-128 to 128 mm	Value changes according to vehicle height	Although the item is displayed on the GTS, it is not applicable to this vehicle.
Rear Height Sensor Vehicle Height Value	Rear height control sensor signal value	-128 to 128 mm	Value changes according to vehicle height	Value changes according to vehicle height
Powertrain Status	Ready signal status	OFF or ON	OFF: Ignition switch off ON: Ignition switch ON (READY)	-
Daytime Running Light	Daytime running light state	OFF or ON	OFF: Daytime running lights off ON: Daytime running lights on	-
Clearance Light (+ Front Side Marker Light)	Clearance light state	OFF or ON	OFF: Clearance lights off ON: Clearance lights on	-
Low Beam	Low beam headlight state	OFF or ON	OFF: Low beam headlights off ON: Low beam headlights on	-
Cornering Light/Front Side Illuminate Light	Cornering light/front side illuminate light state	OFF or ON	OFF: Cornering light/front side illuminate light off ON: Cornering light/front side illuminate light on	-
Cornering Light/Front Side Illuminate Light (Dim)	Cornering light/front side illuminate light state (Dim)	OFF or ON	OFF: Cornering light/front side illuminate light off	-