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## 2006 LEXUS SC OEM Service and Repair Workshop Manual

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Model Year Start: 2024	Model: GX550	Prod Date Range: [12/2023 -     ]
Title: THEFT DETERRENT / KEYLESS ENTRY: SMART ACCESS SYSTEM WITH PUSH-BUTTON START (for Entry Function): Back Door Entry Lock and Unlock Functions do not Operate; 2024 MY GX550 [12/2023 -     ]		

Back Door Entry Lock and Unlock Functions do not Operate

**DESCRIPTION**

If the entry lock and unlock functions do not operate for the back door only, the request code may not be being transmitted from the back door. If the entry functions for other doors operate properly, communication between the electrical key transmitter sub-assembly and electrical key and tire pressure monitoring system receiver assembly is normal. In this case, there may be a problem with request code transmission (communication between the certification ECU (smart key ECU assembly) and electrical key antenna (outside luggage compartment)) or there may be wave interference.

**WIRING DIAGRAM**

[Click here](#) **INFO**

- Check that there are no electrical key transmitter sub-assemblies in the vehicle.
- After repair, confirm that no DTCs are output.

**HINT:**

- If the back door entry lock and unlock function does not operate, the cause of the malfunction may be stored in the certification ECU (smart key ECU assembly).
- If the cause of the malfunction is stored in the certification ECU (smart key ECU assembly), the following table is helpful in checking whether the malfunction was caused by wave interference.

**Body Electrical > Smart Access > Utility**

TESTER DISPLAY

Vehicle Control History (RoB)

## PROCEDURE

**1. CHECK POWER DOOR LOCK CONTROL SYSTEM**

(a) When the door control switch on the multiplex network master switch assembly is operated, check that the back door lock and unlock according to the switch operation.

[Click here](#) **INFO**

OK:

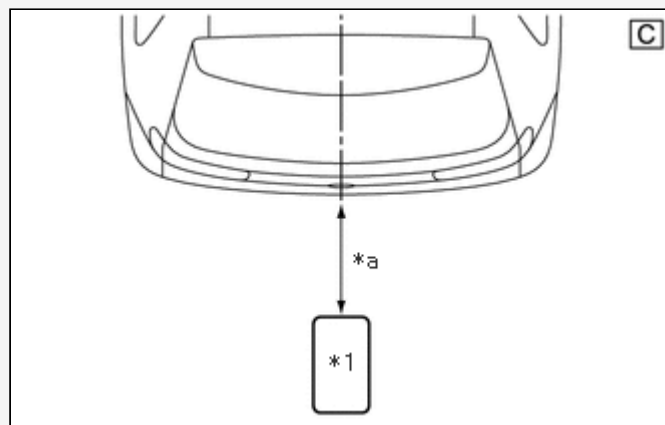
Back door lock/unlock operate normally.

**NG**  **GO TO POWER DOOR LOCK CONTROL SYSTEM****OK****2. CHECK WAVE ENVIRONMENT**

(a) Bring the electrical key transmitter sub-assembly approximately 0.3 m (0.984 ft.) from the electrical key antenna (outside luggage compartment) and perform an entry back door open/lock function check.

[Click here](#) **INFO****HINT:**

- Communication may not be possible if the electrical key transmitter sub-assembly is within 0.2 m (0.656 ft.) of the electrical key antenna (outside luggage compartment)
- When the electrical key transmitter sub-assembly is brought near the electrical key antenna (outside luggage compartment), the possibility of wave interference decreases, and it can be determined if wave interference is causing the problem symptom.
- If the inspection result is that the problem only occurs in certain locations or at certain times of day, the possibility of wave interference is high. Also, added vehicle components may cause wave interference. If installed, remove them and perform the operation check.



*1	Electrical Key Transmitter Sub-assembly
*a	Approximately 0.3 m (0.984 ft.)

TESTER DISPLAY
Trunk Lid/Back Door Lock Switch
Trunk Lid/Back Door Unlock Switch

OK:

The GTS display changes correctly in response to the operation of the back door opener switch assembly.

**NG**  **GO TO STEP 8**

**OK**



#### 4. CHECK KEY DIAGNOSTIC MODE

(a) Check the following antenna in key diagnostic mode.

**Body Electrical > Smart Access > Utility**

TESTER DISPLAY
Communication Check(Key Diag Mode)

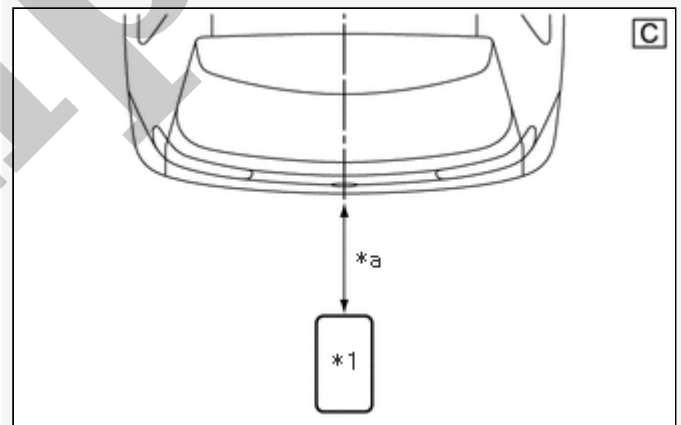
(b) Select either channel 1 or channel 2 and perform the key diagnostic mode inspection for each channel.

(1) Check the electrical key antenna (outside luggage compartment):

When the electrical key transmitter sub-assembly is brought within 0.7 to 1 m (2.30 to 3.28 ft.) of the electrical key antenna (outside luggage compartment), check that the wireless buzzer sounds.

**HINT:**

- Select either channel 1 or channel 2 and perform the key diagnostic mode inspection for each channel.
- If the buzzer sounds with [CH1] displayed but not with [CH2], the electrical key transmitter sub-assembly cannot be detected by channel 2 due to a malfunction, such as wave interference.



*1	Electrical Key Transmitter Sub-assembly
*a	0.7 to 1 m (2.30 to 3.28 ft.)

RESULT	PROCEED TO
Wireless buzzer does not sound	A
Wireless buzzer sounds	B

**B**  **REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)**

**A**



TESTER CONNECTION	CONDITION	TOOL SETTING	SPECIFIED CONDITION
	3. All doors closed 4. Back door opener switch assembly off → on		

**OK** ► **REPLACE ELECTRICAL KEY ANTENNA (OUTSIDE LUGGAGE COMPARTMENT)**

**NG**



## 7. CHECK ENTRY OPERATION

(a) Connect all connectors and check that the function operates normally.

Click here [INFO](#)

RESULT	PROCEED TO
Entry function operates normally	A
Entry function does not operate normally	B

**A** ► **END (CONNECTOR WAS NOT CONNECTED SECURELY)**

**B** ► **REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)**

## 8. CHECK HARNESS AND CONNECTOR (BACK DOOR OPENER SWITCH ASSEMBLY - CERTIFICATION ECU (SMART KEY ECU ASSEMBLY) AND BODY GROUND)

(a) Disconnect the E90 certification ECU (smart key ECU assembly) connector.

(b) Disconnect the U4 back door opener switch assembly connector.

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

Standard Resistance:



[Click Location & Routing\(E90,U4\).](#)

[Click Connector\(E90\).](#)

[Click Connector\(U4\).](#)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
E90-16 (TSW5) - U4-1 (UL)	Always	Below 1 Ω
E90-17 (TSW6) - U4-3 (L)	Always	Below 1 Ω
U4-2 (E) - Other terminals and body ground	Always	Below 1 Ω
E90-16 (TSW5) or U4-1 (UL) - Other terminals and body ground	Always	10 kΩ or higher

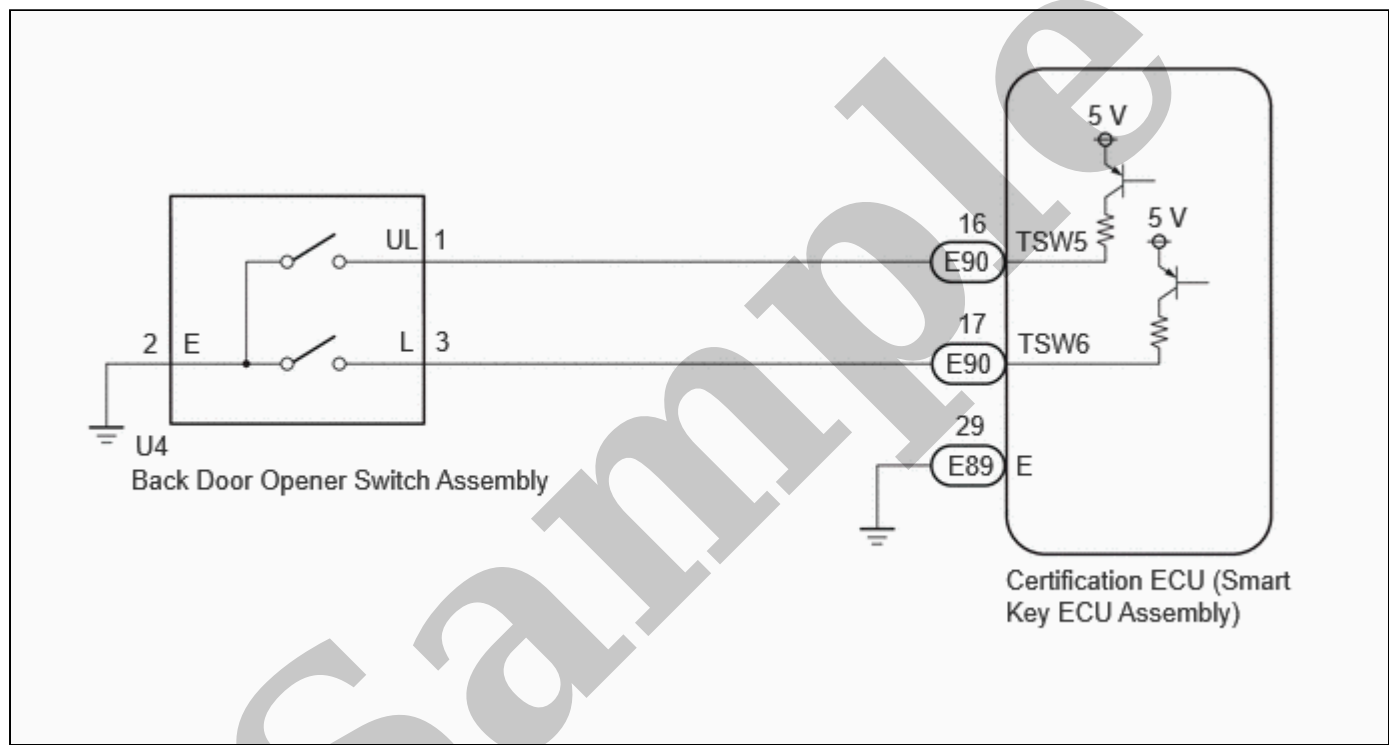
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Title: THEFT DETERRENT / KEYLESS ENTRY: SMART ACCESS SYSTEM WITH PUSH-BUTTON START (for Entry Function): Back Door Entry Lock Function does not Operate; 2024 MY GX550 [12/2023 - ]		

Back Door Entry Lock Function does not Operate

DESCRIPTION

If the entry lock function does not operate for the back door only, but the entry unlock function operates, the request code is being transmitted properly from the back door. In this case, there may be a problem related to the lock switch (connection between the back door opener switch assembly and certification ECU (smart key ECU assembly)).

WIRING DIAGRAM



CAUTION / NOTICE / HINT

- NOTICE:**
- When using the GTS with the ignition switch off, perform lock and unlock operations using the door control switch of the multiplex network master switch assembly at intervals of 1.5 seconds or less until communication between the GTS and the vehicle begins, and then select the vehicle model manually.
- Then select Model Code "KEY REGIST" under manual mode and enter the following menus: Body Electrical / Smart Access. While using the GTS, periodically perform lock and unlock operations using the door control switch of the multiplex network master switch assembly at intervals of 1.5 seconds or less to maintain communication between the GTS and the vehicle.
- The smart access system with push-button start (for Entry Function) uses the CAN communication system. Inspect the communication function by following How to Proceed with Troubleshooting. Troubleshoot the smart access system with push-button start (for Entry Function) after confirming that the communication systems are functioning properly.
- [Click here](#) **INFO**
- Before replacing the certification ECU (smart key ECU assembly), refer to Precaution.

[Click here](#) **INFO**

**3.****CHECK HARNESS AND CONNECTOR (BACK DOOR OPENER SWITCH ASSEMBLY - CERTIFICATION ECU (SMART KEY ECU ASSEMBLY))**

- (a) Disconnect the E90 certification ECU (smart key ECU assembly) connector.
- (b) Disconnect the U4 back door opener switch assembly connector.
- (c) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

[Click Location & Routing\(E90,U4\).](#)[Click Connector\(E90\).](#)[Click Connector\(U4\).](#)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
E90-17 (TSW6) - U4-1 (L)	Always	Below 1 $\Omega$
E90-17 (TSW6) or U4-3 (L) - Other terminals and body ground	Always	10 k $\Omega$ or higher

**NG** ► **REPAIR OR REPLACE HARNESS OR CONNECTOR****OK****4.****INSPECT BACK DOOR OPENER SWITCH ASSEMBLY (LOCK SWITCH)**Click here [INFO](#)**OK** ► **REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)****NG** ► **REPLACE BACK DOOR OPENER SWITCH ASSEMBLY**

TESTER DISPLAY

Vehicle Control History (RoB)

**Auto Entry Wireless Operation History (Open/Close)**

PARAMETER NAME	CONTENT
Kick Sensor Open Request Signal	The multiplex network door ECU receives kick detection signals from the kick door control sensor and sends certification requests to the certification ECU (smart key ECU assembly). If certification is OK, an open permission is sent to the multiplex network door ECU.

RESULT	PROCEED TO
Not output	A
"Kick Sensor Open Request Signal" is output	B

**B ► GO TO POWER BACK DOOR SYSTEM****A****3. CHECK ENTRY BACK DOOR OPEN FUNCTION**

(a) While carrying the electrical key transmitter sub-assembly, check that the entry unlock function operates when the back door opener switch assembly is operated.

Click here [INFO](#)

RESULT	PROCEED TO
Entry back door open function operates	A
Entry back door open function does not operate	B

**A ► GO TO POWER BACK DOOR SYSTEM (Power Back Door cannot be Operated Using Kick Sensor)****B ► GO TO SMART ACCESS SYSTEM WITH PUSH-BUTTON START (Back Door Entry Unlock Function does not Operate)**



NG

▶ GO TO POWER DOOR LOCK CONTROL SYSTEM

OK

▼

2.

CHECK CUSTOMIZE SETTING (DOOR UNLOCK SENSOR TOUCH TIME ADJUST)

(a) Read the customize setting according to the display on the GTS.

Smart Key / Access

TESTER DISPLAY	DESCRIPTION	DEFAULT	SETTING	ECU
Door Unlock Sensor Touch Time Adjust	Function that sets the length of time the unlock sensor on the door outside handle assembly (for driver door) must be touched to unlock all of the doors.	OFF	\$00:OFF,\$01:Short,\$02:Middle,\$03:Long	Certification ECU (Smart key ECU assembly)

RESULT	PROCEED TO
The customize setting is set to Short, Middle or Long	A
The customize setting is set to OFF	B

B

▶ PERFORM CUSTOMIZE SETTING

A

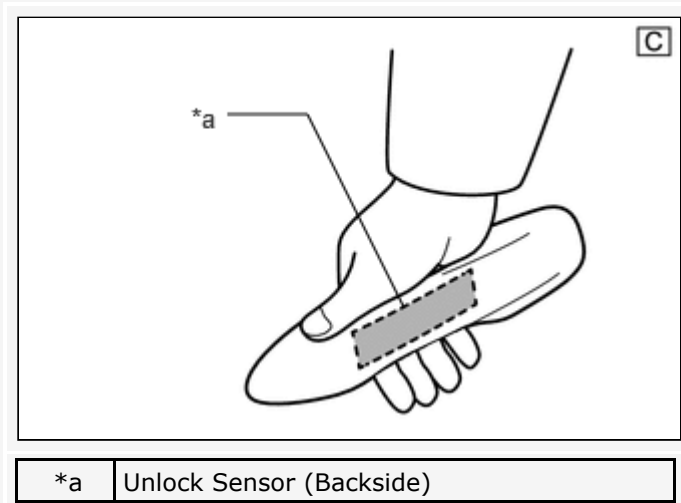
▼

3.

READ VALUE USING GTS (DRIVER SIDE UNLOCK SENSOR)

(a) Turn the ignition switch off.

(b) Open and close the driver door.



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Entry Lock Function does not Operate Using Close & Lock Function

DESCRIPTION

If the back door does not lock when using the power back door close and lock function, there may be communication problem between the certification ECU (smart key ECU assembly) and main body ECU (multiplex network body ECU).

CAUTION / NOTICE / HINT

NOTICE:

- When using the GTS with the ignition switch off, perform lock and unlock operations using the door control switch of the multiplex network master switch assembly at intervals of 1.5 seconds or less until communication between the GTS and the vehicle begins, and then select the vehicle model manually.

- Then select Model Code "KEY REGIST" under manual mode and enter the following menus: Body Electrical / Smart Access. While using the GTS, periodically perform lock and unlock operations using the door control switch of the multiplex network master switch assembly at intervals of 1.5 seconds or less to maintain communication between the GTS and the vehicle.
- The smart access system with push-button start (for Entry Function) uses the CAN communication system. Inspect the communication function by following How to Proceed with Troubleshooting. Troubleshoot the smart access system with push-button start (for Entry Function) after confirming that the communication systems are functioning properly.

Click here INFO

- Check that there are no electrical key transmitter sub-assemblies in the vehicle.
- After repair, confirm that no DTCs are output.
- Make sure that the electrical key transmitter sub-assembly is within the power back door close and lock function operating range when performing a back door close and lock operation.

Click here INFO

HINT:

- If the entry lock function does not operate using close & lock function, the cause of the malfunction may be stored in the certification ECU (smart key ECU assembly).
- If the cause of the malfunction is stored in the certification ECU (smart key ECU assembly), the following table is helpful in checking whether the malfunction was caused by wave interference.

Body Electrical > Smart Access > Utility

TESTER DISPLAY
Vehicle Control History (RoB)

PROCEDURE

1. CHECK VEHICLE CONTROL HISTORY (ROB)

(a) Enter the following menus: Body Electrical / Smart Access / Utility / Vehicle Control History (RoB).  
Body Electrical > Smart Access > Utility

TESTER DISPLAY
Vehicle Control History (RoB)