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## 2005 LEXUS LX OEM Service and Repair Workshop Manual

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(b) Measure the voltage and resistance according to the value (s) in the table below.

TESTER CONNECTION	TERMINAL DESCRIPTION	CONDITION	SPECIFIED CONDITION
z1-13 (GND1) - Body ground	Ground	Always	Below 1 $\Omega$
z1-26 (BECU) - Body ground	Battery power supply (for CPU)	Ignition switch off	11 to 14 V

### **SMART ACCESS SYSTEM WITH PUSH-BUTTON START (for Start Function)**

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### **POWER DOOR LOCK CONTROL SYSTEM**

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### **WIRELESS DOOR LOCK CONTROL SYSTEM**

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### **POWER BACK DOOR SYSTEM**

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TESTER DISPLAY	MEASUREMENT ITEM	RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
Rear Driver Side Unlock Sensor	Rear door LH touch sensor (unlock sensor)*1,*2	OFF or ON	OFF: Rear door LH touch sensor (unlock sensor) not touched ON: Rear door LH touch sensor (unlock sensor) touched	<ul style="list-style-type: none"> <li>Displays whether the unlock sensor is on or off (even if the sensor is touched and contact is maintained, "ON" is displayed only momentarily).</li> <li>Use this Data List item to help determine if there is an unlock sensor malfunction when the entry unlock function does not operate.</li> </ul>
Rear Passenger Side Unlock Sensor	Rear door RH touch sensor (unlock sensor)*1,*2	OFF or ON	OFF: Rear door RH touch sensor (unlock sensor) not touched ON: Rear door RH touch sensor (unlock sensor) touched	<ul style="list-style-type: none"> <li>Displays whether the unlock sensor is on or off (even if the sensor is touched and contact is maintained, "ON" is displayed only momentarily).</li> <li>Use this Data List item to help determine if there is an unlock sensor malfunction when the entry unlock function does not operate.</li> </ul>
Driver Side Lock Sensor	Driver door touch sensor (lock sensor)*1	OFF or ON	OFF: Driver door touch sensor (lock sensor) not touched ON: Driver door touch sensor (lock sensor) touched	<ul style="list-style-type: none"> <li>Displays whether the lock sensor is on or off (even if the sensor is touched and contact is maintained, "ON" is displayed only momentarily).</li> <li>Use this Data List item to help determine if there is a lock sensor malfunction when the entry lock function does not operate.</li> </ul>
Passenger Side Lock Sensor	Front passenger door touch sensor (lock sensor)*1	OFF or ON	OFF: Front passenger door touch sensor (lock sensor) not touched ON: Front passenger door touch sensor (lock sensor) touched	<ul style="list-style-type: none"> <li>Displays whether the lock sensor is on or off (even if the sensor is touched and contact is maintained, "ON" is displayed only momentarily).</li> <li>Use this Data List item to help determine if there is a lock sensor malfunction when the entry lock function does not operate.</li> </ul>
Rear Driver Side Lock Sensor	Rear door LH touch sensor (lock sensor)*1,*2	OFF or ON	OFF: Rear door LH touch sensor (lock sensor) not touched ON: Rear door LH touch sensor (lock sensor) touched	<ul style="list-style-type: none"> <li>Displays whether the lock sensor is on or off (even if the sensor is touched and contact is maintained, "ON" is displayed only momentarily).</li> <li>Use this Data List item to help determine if there is a lock sensor malfunction when the entry lock function does not operate.</li> </ul>

TESTER DISPLAY	MEASUREMENT ITEM	RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
				<p>code not being detected when a lock switch or the engine switch is pressed, etc., "Yes" is displayed for "Electronic Key No Response" in the Data List. If there is wave interference in the LF band that the vehicle uses for transmission or the RF band that the electrical key transmitter sub-assembly uses for transmission, "Yes" may be displayed for "Electronic Key No Response" in the Data List.)</p> <p>Other potential causes:</p> <ul style="list-style-type: none"> <li>An electrical key transmitter sub-assembly from a different vehicle is being used.</li> <li>The electrical key transmitter sub-assembly or certification ECU (smart key ECU assembly) is malfunctioning.</li> </ul>
Unmatched Response Code or Form	Code format (incorrect or correct)	No or Yes	<p>No: Communication normal</p> <p>Yes: Communication malfunction</p>	<p>There is an error in the data sent from the electrical key transmitter sub-assembly (if there is wave interference in the RF band that the electrical key transmitter sub-assembly uses for transmission, "Yes" may be displayed for "Unmatched Response Code or Form", "Electronic Key No Response", "ID Code Difference" and "C Code Difference" in the Data List).</p> <p>Other potential causes:</p> <ul style="list-style-type: none"> <li>An electrical key transmitter sub-assembly from a different manufacturer is being used.</li> <li>The electrical key transmitter sub-assembly or certification ECU (smart key ECU assembly) is malfunctioning.</li> </ul>
Key Low Battery	Transmitter battery depleted	No or Yes	<p>No: Transmitter battery not depleted</p> <p>Yes: Transmitter battery depleted</p>	<p>The electrical key transmitter sub-assembly sends voltage information to the certification ECU (smart key ECU assembly) when it is transmitting. "Yes" is displayed for the Data List item "Key Low Battery" when this voltage information indicates 2.2 V or less. This Data List item should be checked when the electrical key transmitter sub-assembly is at room temperature (example: at -20°C (-4°F), "Yes" may be displayed even if the transmitter battery is new).</p>
Response ID Code Difference	ID code difference	No or Yes	<p>No: Communication normal</p> <p>Yes: Communication malfunction</p>	<p>The ID code registered to the vehicle and the ID code registered to the electrical key transmitter sub-assembly differ. (If wave interference in the RF band affects the signal transmitted from the electrical key transmitter sub-assembly, the value of Data List items "Unmatched Response Code or Form", "Electronic Key No Response",</p>

TESTER DISPLAY	MEASUREMENT ITEM	RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
			Yes: B code is registered properly	
Vehicle ID Difference (Key Registration)	Status of vehicle ID (key registration)	No or Yes	No: Vehicle ID normal (key registration) Yes: Vehicle ID malfunction (key registration)	-
Electrical Key 7 Low Battery History	Low battery transmission history (electronic key 7)	OFF or ON	OFF: Transmitter battery not depleted ON: Transmitter battery depleted	-
Electrical Key 6 Low Battery History	Low battery transmission history (electronic key 6)	OFF or ON	OFF: Transmitter battery not depleted ON: Transmitter battery depleted	-
Electrical Key 5 Low Battery History	Low battery transmission history (electronic key 5)	OFF or ON	OFF: Transmitter battery not depleted ON: Transmitter battery depleted	-
Electrical Key 4 Low Battery History	Low battery transmission history (electronic key 4)	OFF or ON	OFF: Transmitter battery not depleted ON: Transmitter battery depleted	-
Electrical Key 3 Low Battery History	Low battery transmission history (electronic key 3)	OFF or ON	OFF: Transmitter battery not depleted ON: Transmitter battery depleted	-
Electrical Key 2 Low Battery History	Low battery transmission history (electronic key 2)	OFF or ON	OFF: Transmitter battery not depleted ON: Transmitter battery depleted	-
Electrical Key 1 Low Battery History	Low battery transmission history (electronic key 1)	OFF or ON	OFF: Transmitter battery not depleted ON: Transmitter battery depleted	-

TESTER DISPLAY	MEASUREMENT ITEM	RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
				(smart key ECU assembly) is malfunctioning.
Rolling Code Difference	Rolling code (incorrect or correct)	No or Yes	No: Communication normal  Yes: Communication malfunction	The rolling code registered in the vehicle and the rolling code registered in the electrical key transmitter sub-assembly are different  Other potential causes: <ul style="list-style-type: none"> <li>An electrical key transmitter sub-assembly switch is pressed 100 times or more in a location where the radio waves cannot reach the vehicle.</li> <li>A communication error due to external noise (RF).</li> <li>The electrical key transmitter sub-assembly or certification ECU (smart key ECU assembly) is malfunctioning.</li> </ul>
Wireless Certification Signal Encryption	Wireless signal encryption support	Without or With	Without: Wireless signal encryption not supported  With: Wireless signal encryption supported	-
Driver Side Door Oscillators Circuit Short	Short in driver door electrical key antenna circuit	OFF or ON	OFF: Driver door electrical key antenna circuit is normal  ON: Driver door electrical key antenna circuit is abnormal	-
Front P Side Door Oscillators Circuit Short	Short in front passenger door electrical key antenna circuit	OFF or ON	OFF: Front passenger door electrical key antenna circuit is normal  ON: Front passenger door electrical key antenna circuit is abnormal	-
DR Side Door Oscillators Circuit Short	Short in rear door LH electrical key antenna circuit	OFF or ON	OFF: Rear door LH electrical key antenna circuit is normal  ON: Rear door LH electrical key antenna circuit is abnormal	-
PR Side Door Oscillators Circuit Short	Short in rear door RH electrical key antenna circuit	OFF or ON	OFF: Rear door RH electrical key	-

TESTER DISPLAY	MEASUREMENT ITEM	RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
	compartment) circuit (history)		circuit was normal  ON: Electrical key antenna (outside luggage compartment) circuit was abnormal	
B Code Registration Error History	B code registration status (history)	OFF or ON	OFF: B code is registered properly  ON: B code is not registered properly	-
Number of Registered Key Codes	Number of registered electrical key transmitter sub-assemblies	0 to 7	Number of registered electrical key transmitter sub-assemblies	Up to 7 electrical key transmitter sub-assemblies can be registered.
Ignition Available Area Setting (Back Door Type)	Ignition available area	Fr+Rr+BD	Customize setting displayed	-
Park Wait Time Adjust	Parking wait time	0.5sec, 1.5sec, 2.5sec or 5sec	Customize setting displayed	-
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 state	OFF, Short, Middle or Long	Customize setting displayed	-
Key Low Battery Warning Function	Low transmitter battery warning	OFF or ON	Customize setting displayed	-
Key Left in Vehicle Alarm Function	Key left in vehicle buzzer	OFF or ON	Customize setting displayed	-
Forget to Turn IG OFF Alarm Function	Forget to turn ignition switch off alarm	OFF or ON	Customize setting displayed	-
Start Indicator Function	Key indicator display	OFF or ON	Customize setting displayed	-
Auto Entry Cancel Setting	Smart entry and start system function	OFF or ON	Customize setting displayed	-
Touch Activation	Consecutive entry lock operation	Active or Not Active	Customize setting displayed	-

TESTER DISPLAY	MEASUREMENT ITEM	RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
Status			Unlock: Rear door LH unlocked	
FR Door Courtesy Switch Status	Front door RH courtesy light switch signal	Close or Open	Close: Front door RH closed Open: Front door RH open	-
FL Door Courtesy Switch Status	Front door LH courtesy light switch signal	Close or Open	Close: Front door LH closed Open: Front door LH open	-
RR Door Courtesy Switch Status	Rear door RH courtesy light switch	Close or Open	Close: Rear door RH closed Open: Rear door RH open	-
RL Door Courtesy Switch Status	Rear door LH courtesy light switch	Close or Open	Close: Rear door LH closed Open: Rear door LH open	-
Back Door Courtesy Switch Status	Back door courtesy light switch	Close or Open	Close: Back door closed Open: Back door open	For vehicles with power back door system, this item is not related to back door condition.
IGR Power	Ignition switch status	OFF or ON	OFF: Ignition switch off ON: Ignition switch ON	-
Wireless Buzzer Response Function	Buzzer answer-back of entry function	Enable or Disable	Customize setting displayed	-

### Body Electrical > Power Source Control > Data List

TESTER DISPLAY	MEASUREMENT ITEM	RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
Power Supply Condition	Power supply state	OFF, ACC ON, IGR ON, IGP ON or Starter ON	OFF: Ignition switch off ACC ON: Ignition switch ACC IGR ON: Ignition switch ON IGP ON: Ignition switch ON Starter ON: Sending engine start request signal	-

### Body Electrical > Back Door > Data List

TESTER DISPLAY	MEASUREMENT ITEM	RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
Courtesy Switch	Back door courtesy switch signal	OFF or ON	OFF: Back door closed ON: Back door open	-

### ACTIVE TEST

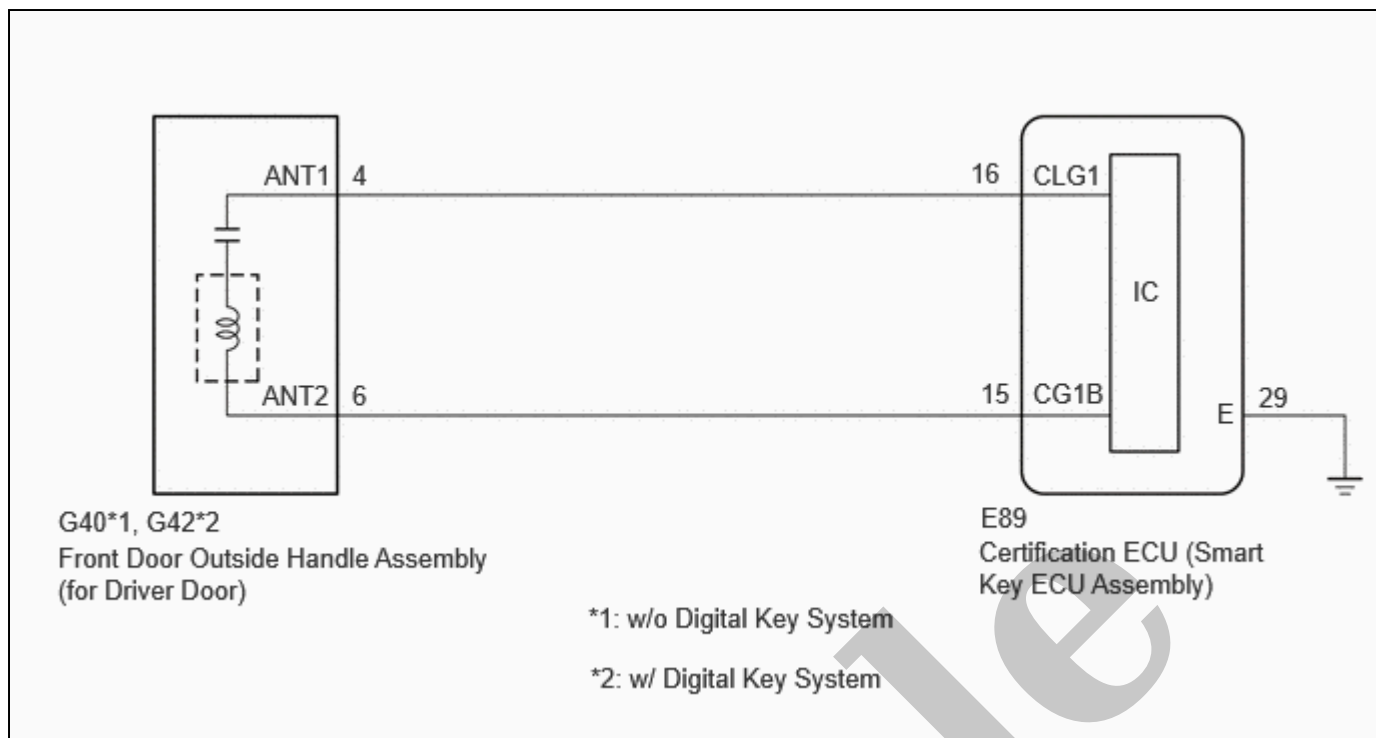


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Model Year Start: 2024	Model: GX550	Prod Date Range: [12/2023 -     ]
Title: THEFT DETERRENT / KEYLESS ENTRY: SMART ACCESS SYSTEM WITH PUSH-BUTTON START (for Entry Function): DIAGNOSTIC TROUBLE CODE CHART; 2024 MY GX550 [12/2023 -     ]		

DIAGNOSTIC TROUBLE CODE CHART

Smart Access System with Push-button Start (for Entry Function)

DTC NO.	DETECTION ITEM	DTC OUTPUT FROM	PRIORITY	LINK
B27A113	Driver Side Electrical Antenna Circuit Open	Smart Access	A	<a href="#">INFO</a>
B27A213	Front Passenger Side Electrical Antenna Circuit Open	Smart Access	A	<a href="#">INFO</a>
B27A313	Rear Door Electrical Antenna, Driver's Side Circuit Open	Smart Access	A	<a href="#">INFO</a>
B27A413	Rear Door Electrical Antenna, Front Passenger's Side Circuit Open	Smart Access	A	<a href="#">INFO</a>
B27A813	Outside Luggage Compartment (Back Door) Electrical key Antenna Circuit Open	Smart Access	A	<a href="#">INFO</a>



## 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](#)

- After repair, confirm that no DTCs are output by performing "DTC Output Confirmation Operation".

## PROCEDURE

### 1. CHECK CONNECTOR CONNECTION

- (a) Check that the connectors are properly connected to the certification ECU (smart key ECU assembly) and front door outside handle assembly (for driver door).

OK:

Connectors are properly connected.

**NG** **CONNECT CONNECTORS PROPERLY**

**OK**