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## 2010 LEXUS IS C OEM Service and Repair Workshop Manual

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## 5. UNDESIGNATED KEY PERMANENT ERASURE

### NOTICE:

If Undesignated Key Permanent Erasure is performed, previously registered electrical key transmitter sub-assemblies cannot be re-registered, and therefore they can no longer be used.

### HINT:

Undesignated Key Permanent Erasure can be used to delete and disable all key IDs other than the electrical key transmitter sub-assemblies selected during "confirmation of registered electrical key transmitter sub-assemblies to keep (process No. 3)".

PROCESS	PROCEDURE	TIME LIMIT (SECONDS)
1. Start of erasure	<ol style="list-style-type: none"> <li>1. Ignition switch off.</li> <li>2. Connect the GTS to the DLC3.</li> <li>3. Turn the ignition switch to ON.</li> <li>4. Turn the GTS on.</li> <li>5. Enter the following menus: Body Electrical / Smart Access / Utility / Undesignated Key Permanent Erasure</li> <li>6. Input the number of keys to keep and check that the number of electrical key transmitter sub-assemblies to delete is correct.</li> </ol>	-
2. Get Pass-Code	<ol style="list-style-type: none"> <li>1. According to the display on the GTS, obtain the Pass-Code using online authentication or proxy authentication.</li> </ol> <p><b>NOTICE:</b> After obtaining the Pass-Code, do not turn off the GTS until registration is completed. If the GTS is turned off before registration is completed, obtain the Pass-Code once more.</p>	-
3. Confirmation of registered electrical key transmitter sub-assemblies to keep	<ol style="list-style-type: none"> <li>1. While facing the logo side of a registered electrical key transmitter sub-assembly toward the engine switch, hold the electrical key transmitter sub-assembly near engine switch.</li> <li>2. Confirm that the wireless door lock buzzer sounds once (short beep).</li> </ol> <p><b>HINT:</b> The security indicator light illuminates when all the registered electrical key transmitter sub-assemblies to keep are confirmed.</p>	30
4. Erasure of key ID	<ol style="list-style-type: none"> <li>1. Double-check the number of electrical key transmitter sub-assembly to delete, and then press the delete button.</li> </ol>	-
5. Confirmation of ECU code	<ol style="list-style-type: none"> <li>1. Check that "confirmation of ECU code" is shown on the GTS.</li> </ol> <p><b>HINT:</b> The security indicator light goes off when confirmation of ECU code is completed.</p>	-
6. Erasure of ID code	<ol style="list-style-type: none"> <li>1. Check that "ID code deletion is completed" is shown on the GTS.</li> </ol>	-
7. End of erasure	Finish key ID erasure.	-

## 6. ALL KEYS ID ERASURE (SMART CODE RESET)

### NOTICE:

Do not perform "Smart Code Reset" (all key ID erasure) until all of the malfunctions and symptoms have been confirmed and resolved. If all key ID erasure is performed without confirming or resolving malfunctions, key registration will be unable to be performed, resulting in unnecessary part replacement.

**NOTICE:**

Do not open or close the driver door during registration. If the driver door is opened or closed, restart from step 1 of "Start of registration".

PROCESS	PROCEDURE
1. Start of registration	<ol style="list-style-type: none"> <li>1. Ignition switch off.</li> <li>2. Connect the GTS to the DLC3.</li> <li>3. Turn the ignition switch to ON.</li> </ol> <p><b>HINT:</b> The security indicator light goes off.</p> <ol style="list-style-type: none"> <li>4. Turn the GTS on.</li> <li>5. Enter the following menus: Powertrain / Engine / Active Test / Activate the TC Terminal</li> <li>6. Turn the TC terminal ON to send a TC ON forced operation request.</li> </ol>
2. ECU communication ID registration	<ol style="list-style-type: none"> <li>1. After 30 minutes or more have elapsed, Enter the following menus: Powertrain / Engine / Active Test / Activate the TC Terminal</li> <li>2. Turn the TC terminal OFF to send a TC ON forced operation cancellation request.</li> <li>3. Turn the ignition switch off.</li> </ol> <p><b>HINT:</b> The security indicator light blinks.</p>
3. Confirmation of registration	<ol style="list-style-type: none"> <li>1. Turn the ignition switch to ON.</li> </ol> <p><b>HINT:</b> The security indicator light goes off.</p> <ol style="list-style-type: none"> <li>2. Check that the engine starts and stays for more than 3 seconds.</li> </ol> <p><b>NOTICE:</b> There are cases in which the engine will not start on the first attempt after completing ECU communication ID code registration. However, this is not a malfunction, as the engine can be started normally from the second start attempt.</p>
4. Clear DTC	<ol style="list-style-type: none"> <li>1. After confirming that the engine starts, use the GTS to clear DTC B279986 "Engine Immobiliser System Signal (Some Circuit Quantity, Reported via Serial Data) Invalid".</li> </ol>
5. End of registration	Finish ECU communication ID registration.

**9. REMOTE DOOR LOCK AND UNLOCK REGISTRATION**

PROCESS	PROCEDURE
1. Start of registration	<ol style="list-style-type: none"> <li>1. Ignition switch off.</li> <li>2. Connect the GTS to the DLC3.</li> <li>3. Turn the ignition switch to ON.</li> <li>4. Turn the GTS on.</li> <li>5. Enter the following menus: Body Electrical / Telematics / Utility / Remote Door Lock Setting.</li> </ol>
2. Registration of remote door lock and unlock	<ol style="list-style-type: none"> <li>1. Perform operation according to prompts on the GTS screen</li> </ol>
3. End of registration	Finish remote door lock and unlock registration.

**10. REMOTE ENGINE START AND STOP REGISTRATION**

PROCESS	PROCEDURE	TIME LIMIT (SECONDS)
	2. Confirm that the wireless door lock buzzer sounds once (short beep).  <b>HINT:</b> When checking registered electrical key transmitter sub-assemblies, check using an electrical key transmitter sub-assembly that is registered to the vehicle.	
4. End of erasure	Finish all digital keys clearance.	-

### 13. ALL DIGITAL KEYS (SHARE KEY) CLEARANCE

PROCESS	PROCEDURE	TIME LIMIT (SECONDS)
1. Start of erasure	1. Ignition switch off. 2. Connect the GTS to the DLC3. 3. Turn the ignition switch to ON. 4. Turn the GTS on. 5. Enter the following menus: Body Electrical / Smart Access / Utility / Guest Digital Key Code Reset	-
2. Get Pass-Code	1. According to the display on the GTS, obtain the Pass-Code using online authentication or proxy authentication.  <b>NOTICE:</b> After obtaining the Pass-Code, do not turn off the GTS until erasure is completed. If the GTS is turned off before erasure is completed, obtain the Pass-Code once more.	-
3. Confirmation of registered electrical key transmitter sub-assemblies	1. While facing the logo side of a registered electrical key transmitter sub-assembly toward the engine switch, hold the electrical key transmitter sub-assembly near engine switch. 2. Confirm that the wireless door lock buzzer sounds once (short beep).  <b>HINT:</b> When checking registered electrical key transmitter sub-assemblies, check using an electrical key transmitter sub-assembly that is registered to the vehicle.	30
4. End of erasure	Finish all digital keys (share key) clearance.	-

### Wireless Door Lock and Smart System Questionnaire

Vehicle Brought to workshop (    /    /    )

Name	Vehicle registration No.	Initial registration	
Mr./Ms.	Model code	Frame No.	

#### 1. Customer Feedback

Problem symptoms first occurred	:    /    /    :    Electrical waves may vary depending on the time of day, even in the same location
Frequency of problem symptoms	<input type="checkbox"/> Continuously <input type="checkbox"/> Occasionally    (    )
Location of occurrence	City and County <span style="float: right;">Attach a map if possible</span>
Condition (action and consequence)	
Customer feedback (Example: No wireless operations)	
Map of location of occurrence	

#### 2. Check DTC Output and Save Operation History

DTC/Operation history	First Time (when vehicle brought to workshop)	Operation history <input type="checkbox"/> present / <input type="checkbox"/> not present
	Second Time (after DTCs cleared)	Operation history <input type="checkbox"/> present / <input type="checkbox"/> not present

#### 3. Vehicle Check Items

**HINT:**

- You can reduce the number of systems to check by using the results of the following operation check
- Perform the following checks based on Customer Feedback and the vehicle condition
- Perform the following checks by referring to the checks in "How to Proceed with Troubleshooting"

Lock and Unlock Operation Using Electrical Key (Wireless Door Lock Operation)	Lock and Unlock Operation of All Doors* (Entry Operation)	Starting Hybrid Control System (Start Function)	Suspected Area
x	x	x	①、②、④
x	x	o	①、③、④
x	o	o	①、②、④
o	x	x	①、②、⑤
o	x	o	①、⑤
o	o	x	①、⑥
o	o	o	①、⑧

\*: If it does not operate but not always (poor entry response, does not operate sometimes, operates occasionally, etc.), refer to "Operation method check"

Suspected area	Check	Action
①	Check for DTCs	 Go to "Diagnostic Trouble Code Chart" in Repair Manual Go to step 6 of "How to Proceed with Troubleshooting" Go to step 7 of "How to Proceed with Troubleshooting" Go to step 8 of "How to Proceed with Troubleshooting" Go to step 9 of "How to Proceed with Troubleshooting" Go to step 10 of "How to Proceed with Troubleshooting" Go to step 11 of "How to Proceed with Troubleshooting" Go to "How to Proceed with Troubleshooting" for each system
②	Check customize settings	
③	Check power door lock control system	
④	Check wireless door lock control system	
⑤	Check entry system	
⑥	Check start system	
⑦	Check electrical key registration function	
⑧	Check systems related to customer feedback	
〈Notes〉		

**HINT:**

Be sure to ask the customer in detail about the following points concerning the vehicle operating conditions, environment and problem, and then check for DTCs.

- If the entry unlock function does not operate.
- If the power source mode does not change even though the engine switch was pressed (does not change to ACC).
- If the entry lock function does not operate.
- If the entry lock/unlock function does not operate for all doors.
- If both the entry lock and unlock functions do not operate.
- If the wireless lock and unlock functions do not operate.
- If the engine cannot be started the push-button start function.
- If an engine start was attempted by holding the electrical key transmitter sub-assembly near the engine switch and then pressing the engine switch.
- If the warning buzzers inside the vehicle do not sound.
- If the warning buzzers outside the vehicle do not sound.

If it is suspected that wave interference is likely, be sure to ask the customer in detail about the following points concerning the vehicle operating conditions, environment and problem.

- Specific locations where the system does not operate (such as near TV towers, large video displays, wireless garage door opener systems, wireless security cameras, home security systems, etc.).
- Specific times when the system does not operate.
- If the symptoms occurred immediately after purchase or only recently.
- If the system does not operate only when near specific vehicles (there may be wave interference from the wireless systems of other vehicles).
- If the system operates intermittently.
- If the electrical key transmitter sub-assembly is bundled together with other items.
- If the electrical key transmitter sub-assembly is carried together with other electronic devices, such as cell phones, personal computers, portable music players, other electrical key transmitter sub-assemblies, etc. (make sure to keep the electrical key transmitter sub-assembly at least 0.1 m (0.328 ft.) away from such items).
- Where the electrical key transmitter sub-assembly is being kept when not in use: If the electrical key transmitter sub-assembly is being placed within 1 m (3.28 ft.) of items such as TVs, DVD recorders, induction cookers, rice cookers, dishwashers, modems, cell phones, personal computers, microwave ovens, desk or floor lights, cordless telephones, etc.
- If there are electronic devices that transmit radio waves placed in the vehicle.
- When the transmitter battery was last replaced. The transmitter battery capacity can be approximated using the Key Low Battery Data List item.

Click here [INFO](#)

- If the customer installed any optional components (theft deterrent devices, wireless fog lights, etc.) to the vehicle.

CODE	ITEM LIST	ITEM DESCRIPTION	NOTE
X0A1E	Auto Entry Unlock (Inactive)	The reason that operations other than entry lock operation did not operate correctly.	-

**HINT:**

Some items may not be displayed depending on the specifications of the vehicle.

(b) Read the Vehicle Control History (RoB) according to the display on the GTS.

**Body Electrical > Power Source Control > Utility**

TESTER DISPLAY
Vehicle Control History (RoB)

CODE	ITEM LIST	ITEM DESCRIPTION	NOTE
X0A00	Cause Details of Engine Start / READY ON Failure	The reason that engine did not start or system did not enter READY ON.	-
X0A01	Cause Details of Engine Stop / READY OFF in IG ON	The reason that engine stalled or engine stopped.	-
X0A02	Cause Details of Leave ACC ON / IG ON	The reason that vehicle power source turned off automatically.	-

**HINT:**

Some items may not be displayed depending on the specifications of the vehicle.

**SYMPTOM SIMULATION**

Click here [INFO](#)

DTC NO.	DATA LIST AND ACTIVE TEST
	<ul style="list-style-type: none"><li>• IGP Relay Circuit (Outside) Monitor</li><li>• IGR Relay Circuit (Outside) Monitor</li></ul>

## **WIRING DIAGRAM**

Sample

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 Start Function) uses the LIN communication system and CAN communication system. Inspect the communication function by following How to Proceed with Troubleshooting. Troubleshoot the smart access system with push-button start (for Start Function) after confirming that the communication systems are functioning properly.

[Click here](#) 

- Before replacing the certification ECU (smart key ECU assembly), refer to Registration.

[Click here](#) 

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

## PROCEDURE

### 1. CHECK HARNESS AND CONNECTOR (POWER SOURCE)

Pre-procedure1

(a) Disconnect the E89 certification ECU (smart key ECU assembly) connector.

Procedure1

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

Standard Voltage:



[Click Location & Routing\(E89\).](#)

[Click Connector\(E89\).](#)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION	RESULT
E89-6 (+B) - Body ground	Ignition switch off	11 to 14 V	V

Post-procedure1

(c) None

**NG**  **REPAIR OR REPLACE HARNESS OR CONNECTOR IN CIRCUIT CONNECTED TO POWER SOURCE**

**OK**



### 2. CHECK HARNESS AND CONNECTOR (GROUND)

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

Standard Resistance:



[Click Location & Routing\(E89\).](#)

[Click Connector\(E89\).](#)

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

Standard Resistance:



[Click Location & Routing\(E3,A4\).](#)

[Click Connector\(E3\).](#)

[Click Connector\(A4\).](#)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION	RESULT
E3-17 - A4-14	Always	Below 1 $\Omega$	$\Omega$
E3-17 or A4-14 - Other terminals	Always	10 k $\Omega$ or higher	k $\Omega$

Post-procedure1

(c) None

**NG** **REPLACE POWER DISTRIBUTION BOX ASSEMBLY**

**OK**



**5. CHECK HARNESS AND CONNECTOR (POWER DISTRIBUTION BOX ASSEMBLY - IGP NO.2 RELAY)**

Pre-procedure1

(a) Remove the IGP NO. 2 relay from the No. 2 engine room relay block and No. 2 junction block assembly.

Procedure1

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

Standard Resistance:



[Click Location & Routing\(A4\).](#)

[Click Connector\(A4\).](#)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION	RESULT
A4-14 - IGP NO. 2 relay terminal 2	Always	Below 1 $\Omega$	$\Omega$
A4-14 or IGP NO. 2 relay terminal 2 - Other terminals and body ground	Always	10 k $\Omega$ or higher	k $\Omega$

Post-procedure1

(c) None

**NG** **REPAIR OR REPLACE HARNESS OR CONNECTOR**

**OK**

