

# Your Ultimate Source for OEM Repair Manuals

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## 2005 LEXUS IS Sport Cross OEM Service and Repair Workshop Manual

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Communication may not be possible if the electrical key transmitter sub-assembly is within 0.2 m (0.656 ft.) of rear bumper.

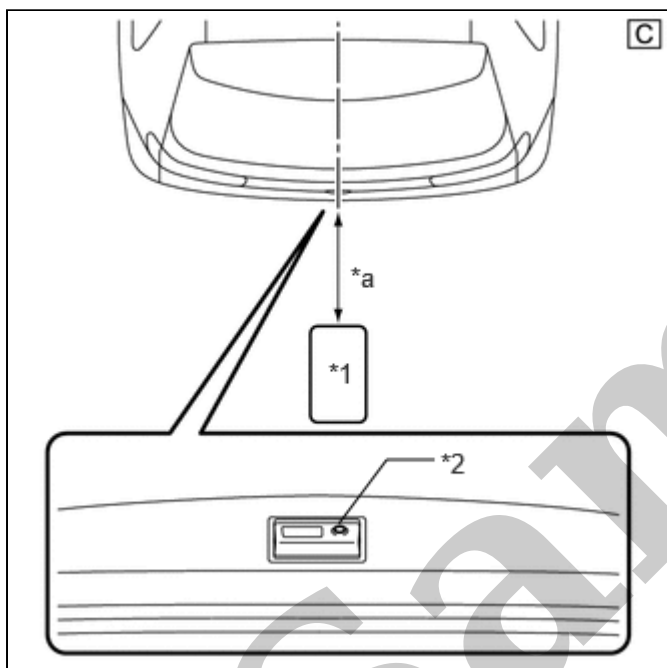
## CHECK ENTRY BACK DOOR LOCK FUNCTION

(a) Check the entry back door lock function.

### NOTICE:

If the electrical key transmitter sub-assembly is in the vehicle but outside the detection area (on the instrument panel, in the glove box or on the floor) and a back door lock operation is performed, the key lock-in prevention function will not operate and the electrical key transmitter sub-assembly will be locked inside the vehicle.

- (1) With the back door closed and unlocked, press the lock switch of the back door opener switch assembly while carrying the electrical key transmitter sub-assembly outside of the vehicle and check that the back door locks.
- (2) Inspect the entry back door lock operating range. Hold the electrical key transmitter sub-assembly at the same height as the rear bumper upper surface and approximately 0.3 m (0.984 ft.) from the vehicle as shown in the illustration, press the lock switch of the back door opener switch assembly and check that the back door locks.



*1	Electrical Key Transmitter Sub-assembly
*2	Back Door Opener Switch Assembly (Lock Switch)
*a	Approximately 0.3 m (0.984 ft.)

The illustrations shown are examples only.

### HINT:

- Communication may not be possible if the electrical key transmitter sub-assembly is within 0.2 m (0.656 ft.) of the rear bumper.
- If the key lock-in prevention function buzzer sounds, radio waves from the indoor electrical key antenna may be leaking from the vehicle.
- The entry lock function cannot be operated more than 3 times consecutively.

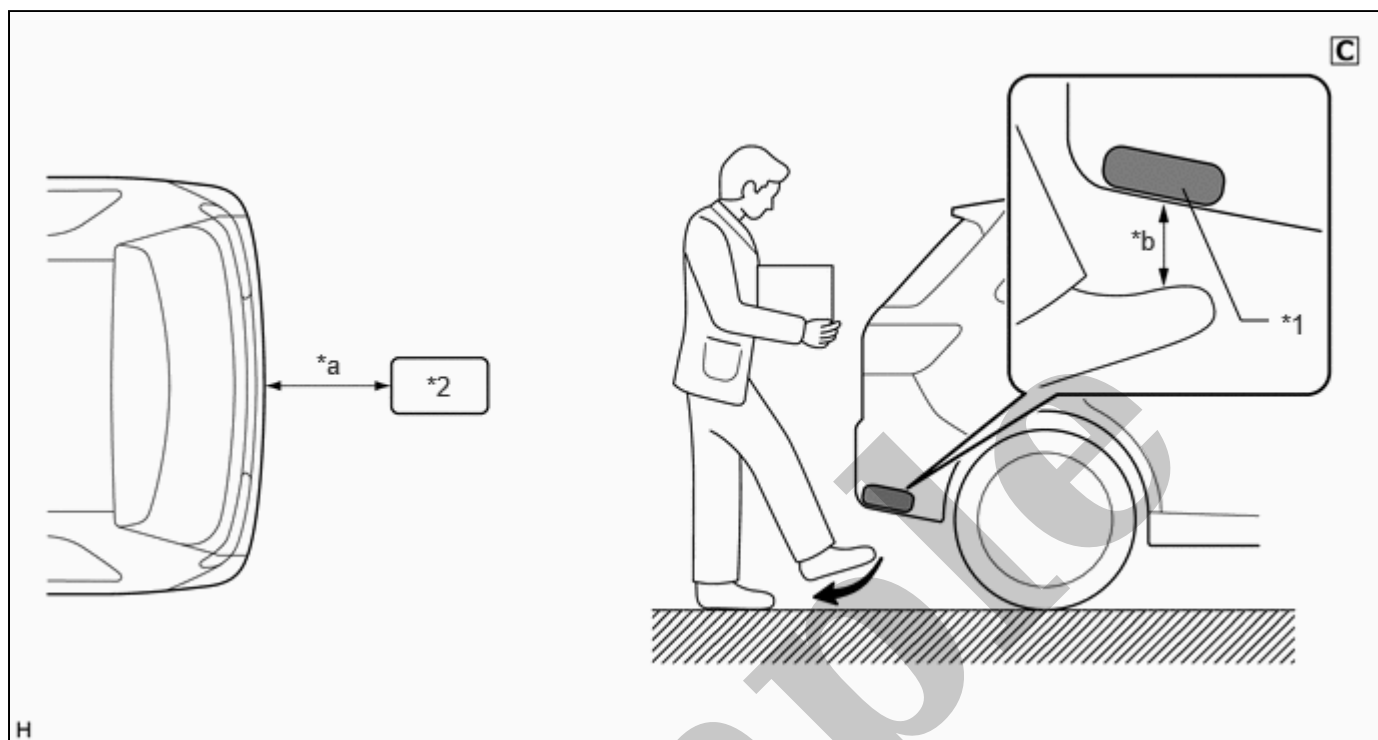
## CHECK PUSH-BUTTON START FUNCTION

Click here [INFO](#)

## CHECK KEY LOCK-IN PREVENTION FUNCTION (VEHICLE INTERIOR)

### NOTICE:

- (a) With the back door closed, while carrying the electrical key transmitter sub-assembly, kick your leg so that your foot is 0.1 m (0.328 ft.) or closer to the rear bumper surface. Pull your leg away from the sensor and check that the back door begins to open automatically.
- (b) Inspect the entry back door open operating range. Hold the electrical key transmitter sub-assembly approximately 0.7 m (2.30 ft.) from the vehicle as shown in the illustration.



*1	Kick Door Control Sensor	*2	Electrical Key Transmitter Sub-assembly
*a	Approximately 0.7 m (2.30 ft.)	*b	Approximately 0.1 m (0.328 ft.)

The illustrations shown are examples only.

#### HINT:

- Refer to Power Back Door System

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

- Inspect the close function using the same procedure.

#### CHECK POWER BACK DOOR RESERVATION LOCK FUNCTION

- (a) Check that the doors lock after the back door is closed, while carrying the electrical key transmitter sub-assembly, when the lock sensor is operated during the back door closing operation via the power back door function.

#### CHECK ANSWER-BACK FUNCTION

- (a) Check the answer-back function (hazard warning light flashing and buzzer sounding).

ENTRY OPERATION	HAZARD WARNING LIGHT	WIRELESS BUZZER
Entry Lock	Flashes once	Sounds once
Entry Unlock	Flashes twice	Sounds twice

#### CHECK TRANSMITTER BATTERY SAVING MODE FUNCTION

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

#### CHECK ENTRY CANCEL FUNCTION

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

TESTER DISPLAY	INSPECTION ITEM
[CH1] Luggage (inside)+ Luggage (inside)*7	Electrical key antenna (outside luggage compartment)
[CH2] Luggage (inside)+ Luggage (inside)*7	
[CH1/CH2] Luggage+ Luggage (inside)*8	
[CH1] Luggage+ Luggage (inside)*8	
[CH2] Luggage+ Luggage (inside)*8	
[CH1/CH2] Immobiliser Amp*9	Amplifier (engine switch)
[CH1] Immobiliser Amp*9	
[CH2] Immobiliser Amp*9	

- [CH1]: Channel 1 is set.
- [CH2]: Channel 2 is set.
- [CH1/CH2]: Channel 1 and 2 switch automatically at a specific interval\*10.

\*10: If the electrical key transmitter sub-assembly is detected with either channel 1 or 2, the buzzer sounds.

(c) Bring the electrical key transmitter sub-assembly near the selected electrical key antenna and check that the wireless buzzer sounds.

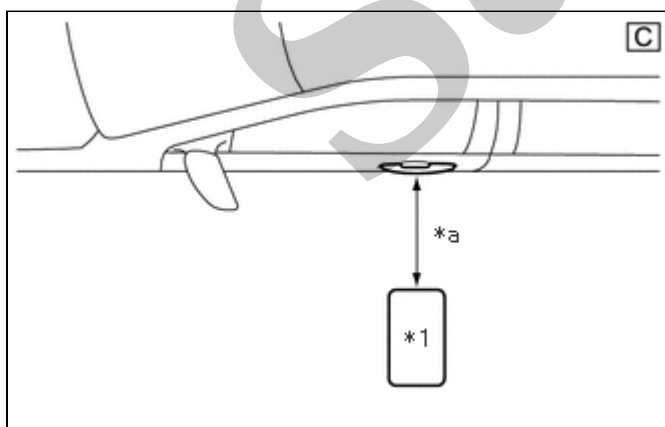
#### HINT:

The buzzer sounds in short, repeated beeps for all items except "Overhead + Rear Room"\*6. For "Overhead + Rear Room"\*6, the buzzer sounds in one long, continuous beep.

(d) \*1: Front door outside handle assembly (for driver door)

#### HINT:

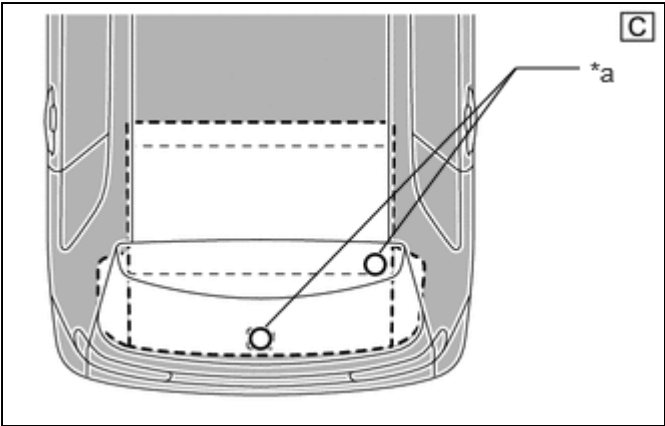
- Hold the electrical key transmitter sub-assembly at the same height as the front door outside handle assembly in the position shown in the illustration.
  - \*2, \*3, \*4: Perform the same inspection for the front passenger door, rear door LH\* and rear door RH\*.
- \*: w/ Rear Door Entry Function



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

The illustrations shown are examples only.

(e) \*5: No. 1 indoor electrical key antenna assembly (front floor)



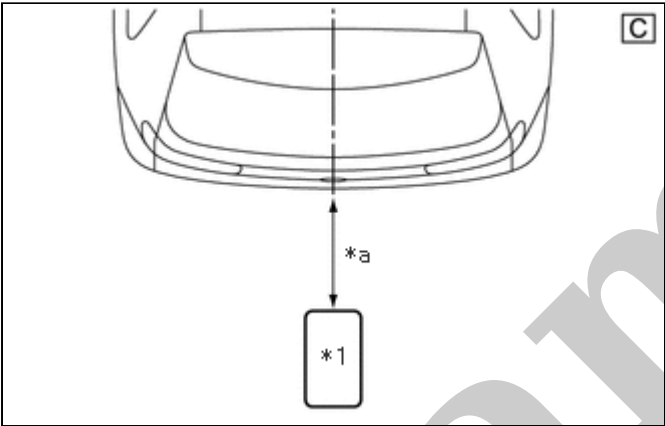
*a	Electrical Key Transmitter Sub-assembly Inspection Point
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The illustrations shown are examples only.

(h) \*8: Electrical key antenna (outside luggage compartment)

**HINT:**

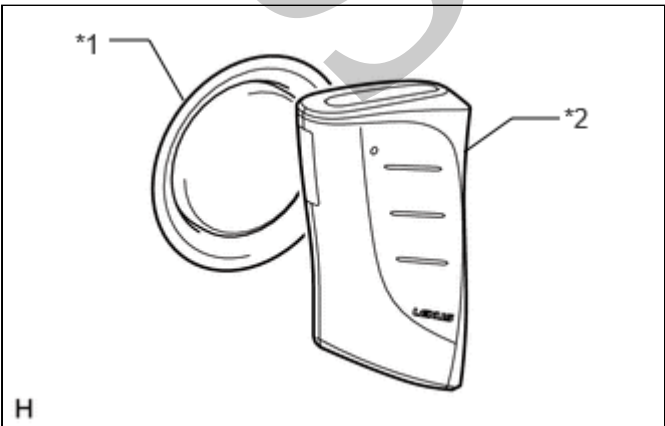
Hold the electrical key transmitter sub-assembly at the same height as the rear bumper upper surface and align it with the center of the rear of the vehicle as shown in the illustration.



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

The illustrations shown are examples only.

(i) \*9: Amplifier (engine switch)



*1	Engine Switch
*2	Electrical Key Transmitter Sub-assembly

The illustrations shown are examples only.

**HINT:**

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<b>Title:</b> THEFT DETERRENT / KEYLESS ENTRY: SMART ACCESS SYSTEM WITH PUSH-BUTTON START (for Entry Function): CUSTOMIZE PARAMETERS; 2024 MY GX550 [12/2023 - ]		

## CUSTOMIZE PARAMETERS

### CUSTOMIZE WIRELESS DOOR LOCK CONTROL SYSTEM

Click here [INFO](#)

### CUSTOMIZE POWER BACK DOOR SYSTEM

Click here [INFO](#)

### CUSTOMIZE SMART ACCESS SYSTEM WITH PUSH-BUTTON START (for Entry Function)

#### HINT:

The following items can be customized.

#### NOTICE:

- When the customer requests a change in a function, first make sure that the function can be customized.
- Record the current settings before customizing.

(a) Customizing with the GTS

- Connect the GTS to the DLC3.
- Turn the ignition switch to ON.
- Turn the GTS on.
- Enter the following menus: Customize Setting / Smart Key /Access.
- Select the setting by referring to the table below.

#### Smart Key / Access

TESTER DISPLAY	DESCRIPTION	DEFAULT	SETTING	ECU
Auto Entry Cancel Setting	Function that enables or disables the smart access system with push-button start.	OFF	\$00:OFF,\$01:ON	Certification ECU (Smart key ECU assembly)
Auto Entry Cancel 2 Setting	Function that only prevents locking of the doors.	OFF	\$00:OFF,\$04:ON	Certification ECU (Smart key ECU assembly)
Ignition Available Area Setting (Back Door Type)	Function that sets the area that the electrical key transmitter sub-assembly must be in before the engine switch can be operated.	Fr+Rr+BD	\$00:Fr+Rr,\$01:Fr+Rr+BD	Certification ECU (Smart key ECU assembly)
Park Wait Time Adjust	Function that sets the period of time (lock confirmation time) that the door is prevented from being unlocked by operating the door outside handle after an entry lock operation is performed.	2.5s	\$00:0.5sec,\$01:1.5sec,\$02:2.5sec,\$03:5sec	Certification ECU (Smart key ECU assembly)
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.	Middle	\$00:OFF,\$01:Short,\$02:Middle,\$03:Long	Certification ECU (Smart key ECU assembly)
Key Low Battery Warning Function	Enables or disables the sounding of the buzzer when the transmitter battery is low and the ignition switch is turned off after being ON for 20 minutes or more.	ON	\$00:OFF,\$01:ON	Certification ECU (Smart key ECU assembly)
Key Left in Vehicle Alarm Function	Enables or disables the sounding of the buzzer when entry lock is performed with the electrical key transmitter sub-assembly inside the vehicle.	ON	\$00:OFF,\$01:ON	Certification ECU (Smart key ECU assembly)
Forget to Turn IG OFF Alarm Function	Enables or disables lock sensor warning function when shift position is in P with ignition switch ON (If this value is	ON	\$00:OFF,\$01:ON	Certification ECU (Smart key ECU assembly)

key transmitter sub-assembly is in the exterior detection area.

3. Check the current setting.

**HINT:**

- The mode changes from all door unlock mode to driver door unlock mode and then back to all door unlock mode.
- The answer-back (wireless buzzer) operation for each mode is indicated in the table below.

Currently Selected Mode	Answer-back (Wireless Buzzer)
All door unlock mode	Buzzer sounds twice (short beeps)
Driver door unlock mode	Buzzer sounds 3 times (short beeps)




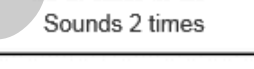
4. Release the lock and unlock switches of the electrical key transmitter sub-assembly.

5. Check that the LED of the electrical key transmitter sub-assembly is not illuminated, and then press and hold the lock and unlock switches of the electrical key transmitter sub-assembly for 5 seconds or more to change the mode.

**HINT:**

Repeat the procedure as necessary to select the desired mode.

6. Unlock the doors using the wireless function, and then open any door.

	Wireless Door Lock Buzzer	Combination Meter Assembly
		Multi-information Display
Driver Door	ON  OFF  Sounds 3 times	Driver door "OPEN" indication
All doors	ON  OFF  Sounds 2 times	All doors "OPEN" indication

## ENTRY CANCEL FUNCTION

(a) Entry cancel function (manual operation)

**HINT:**

While the smart access system with push-button start is canceled, it is possible to lock and unlock the doors with the wireless function, and the engine can be started by holding the electrical key transmitter sub-assembly near the engine switch.

(1) The following functions are disabled when the smart access system with push-button start is canceled.

1. Entry unlock/lock functions
2. Push-button start function
3. Key lock-in prevention function
4. Entry warning functions

(2) When canceling the smart access system with push-button start through manual operation:

1. Make sure the following conditions are met:
  - The ignition switch is off.

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<b>Title:</b> THEFT DETERRENT / KEYLESS ENTRY: SMART ACCESS SYSTEM WITH PUSH-BUTTON START (for Entry Function): PROBLEM SYMPTOMS TABLE; 2024 MY GX550 [12/2023 - ]		

## PROBLEM SYMPTOMS TABLE

### HINT:

- If a problem occurs in certain locations or at certain times of day, check for the possibility of wave interference.
- When the electrical key transmitter sub-assembly is brought near an electrical key and tire pressure monitoring system receiver assembly (RF band), door outside handle assembly (LF band), indoor electrical key antenna (LF band) or any of the electrical key antennas (LF band), the possibility of wave interference decreases. By doing this, whether wave interference is causing the problem can be checked.
- Use the table below to help determine the cause of problem symptoms. If multiple suspected areas are listed, the potential causes of the symptoms are listed in order of probability in the "Suspected Area" column of the table. Check each symptom by checking the suspected areas in the order they are listed. Replace parts as necessary.

### Smart access system with push-button start (for Entry Function)

SYMPTOM	SUSPECTED AREA	LINK
Key vehicle inside lock-in prevention function does not operate	Affected by wave interference	<a href="#">INFO</a>
	Harness or connector	
	No. 1 indoor electrical key antenna assembly (front floor)	
	No. 2 indoor electrical key antenna assembly (rear floor)	
	No. 3 indoor electrical key antenna assembly (inside luggage compartment)	
	Certification ECU (Smart key ECU assembly)	
	Transmitter battery	
	Power distribution box assembly	
Entry lock/unlock functions and wireless functions do not operate after new/additional key ID registration	Engine switch	<a href="#">INFO</a>
	Code registration	
	Main body ECU (Multiplex network body ECU)	
	Certification ECU (Smart key ECU assembly)	
All door entry lock/unlock functions and wireless functions do not operate	Power door lock control system	<a href="#">INFO</a>
	Affected by wave interference	
	Code registration	
	Transmitter battery	
	Harness or connector	
	Electrical key transmitter sub-assembly	
	Electrical key and tire pressure monitoring system receiver assembly	
	Main body ECU (Multiplex network body ECU)	
All door entry lock/unlock functions do not operate, but wireless functions operate	Certification ECU (Smart key ECU assembly)	<a href="#">INFO</a>
	Affected by wave interference	
	Electrical key transmitter sub-assembly	
Driver side door entry unlock function does not operate	Certification ECU (Smart key ECU assembly)	<a href="#">INFO</a>
	Power door lock control system	
	Harness or connector	



SYMPTOM	SUSPECTED AREA	LINK
Front passenger side door entry lock function does not operate	Power door lock control system	<a href="#">INFO</a>
	Harness or connector	
	Front door outside handle assembly (for front passenger door)	
	Certification ECU (Smart key ECU assembly)	
Rear door LH entry lock function does not operate*1	Power door lock control system	<a href="#">INFO</a>
	Harness or connector	
	Rear door outside handle assembly (for driver side)	
	Certification ECU (Smart key ECU assembly)	
Rear door RH entry lock function does not operate*1	Power door lock control system	<a href="#">INFO</a>
	Harness or connector	
	Rear door outside handle assembly (for front passenger side)	
	Certification ECU (Smart key ECU assembly)	
Entry interior alarm does not sound	Meter/gauge System	<a href="#">INFO</a>
Back door entry unlock function does not operate	Power door lock control system	<a href="#">INFO</a>
	Harness or connector	
	Back door opener switch assembly	
	Certification ECU (Smart key ECU assembly)	
Back door entry lock and unlock function does not operate	Power door lock control system	<a href="#">INFO</a>
	Affected by wave interference	
	Harness or connector	
	Back door opener switch assembly	
	Electrical key antenna (outside luggage compartment)	
	Certification ECU (Smart key ECU assembly)	
Back door entry lock function does not operate	Power door lock control system	<a href="#">INFO</a>
	Harness or connector	
	Back door opener switch assembly	
	Certification ECU (Smart key ECU assembly)	
Entry unlock and unlatch functions do not operate using kick sensor*2	Check customize setting (Kick Sensor Function)	<a href="#">INFO</a>
	Power back door system	
	Certification ECU (Smart key ECU assembly)	
Touching unlock sensor for certain period of time does not unlock all doors	Check customize setting (Door Unlock Sensor Touch Time Adjust)	<a href="#">INFO</a>
	Power door lock control system	
	Certification ECU (Smart key ECU assembly)	
Entry lock function does not operate using close & lock function	Power back door system	<a href="#">INFO</a>
Entry exterior alarm and answer-back buzzer do not sound	Check customize setting (Wireless Buzzer Response Function)	<a href="#">INFO</a>
	Wireless door lock control system	
	Power door lock control system	
	Harness or connector	
	Wireless door lock buzzer	
	Certification ECU (Smart key ECU assembly)	

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## TERMINALS OF ECU

### NOTICE:

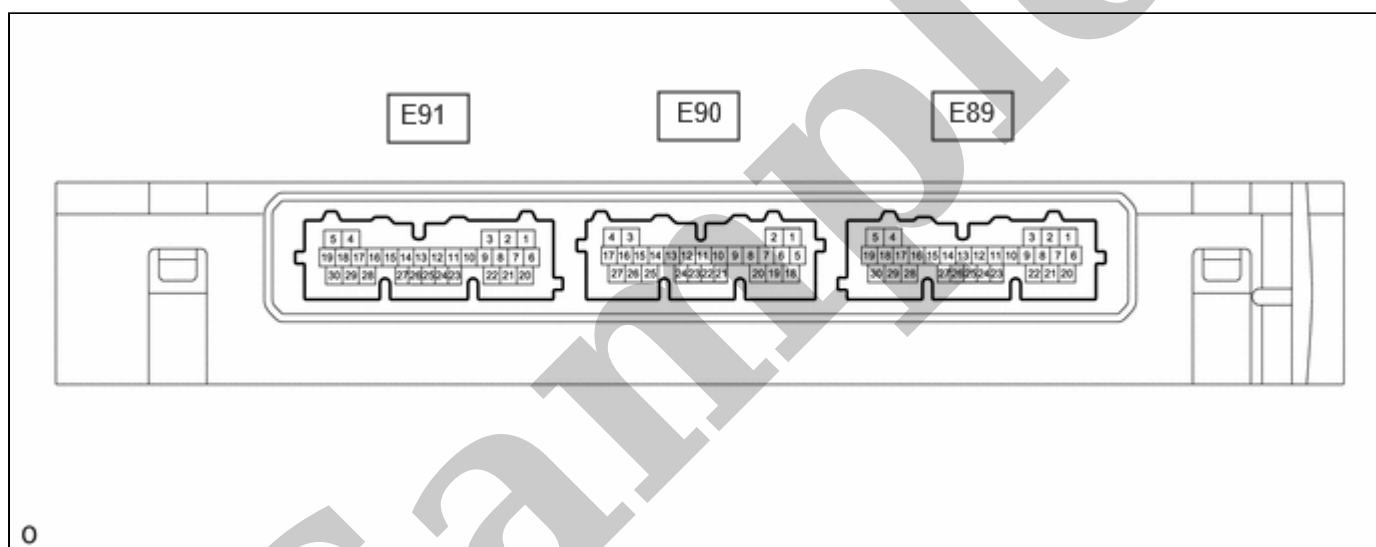
- When performing an inspection, make sure that "ACC Customize" is set to "ON" using the multi-display.

Click here [INFO](#)

- When "ACC Customize" is set to "ON" (ACC supply power enabled), the certification ECU (smart key ECU assembly) controls the ACC relay on and off. When "ACC Customize" is set to "OFF" (ACC supply power disabled), the certification ECU (smart key ECU assembly) and radio and display receiver assembly control the ACC relay on and off.

Therefore, inspection conditions and results may differ depending on whether "ACC customize" is set to ON or OFF when inspecting ACC related terminals.

### CHECK CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)



(a) Disconnect the E91 and E89 certification ECU (smart key ECU assembly) connectors.

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

TESTER CONNECTION	TERMINAL DESCRIPTION	CONDITION	SPECIFIED CONDITION	RELATED DATA LIST ITEM
E89-29 (E) - Body ground	Ground	Always	Below 1 $\Omega$	-
E89-6 (+B) - E89-29 (E)	Power supply	Ignition switch off	11 to 14 V	-
E91-22 (CUTB) - E89-29 (E)	Dark current cut pin*	Ignition switch off	11 to 14 V	-

\*: In order to prevent the vehicle battery from being depleted when the vehicle is shipped long distances, a fuse that cuts unnecessary electrical load while the vehicle is being shipped is installed in the circuit. If the fuse is removed, the circuit becomes open. If the fuse that is between the vehicle battery and terminal CUTB is removed and the circuit is open, the certification ECU (smart key ECU assembly) changes to a certain control mode (example: the transmission of radio waves every 0.25 seconds, which form the detection area, stops).

(c) Connect the E91 and E89 certification ECU (smart key ECU assembly) connectors.