#### Part Number: PT398-11170

#### **Conflicts**

**PREPARATION** 

### **Recommended Sequence of Application**

Item#	Quantity	Description

#### **Kit Contents**

Item#	Quantity	Description
1	1	GBS ECU 08190-0C820
2	1	GBS Wire Harness

#### **Hardware Bag Contents**

Item#	Quantity	Description
1	1	GBS ECU Bracket
2	2	Foam Tape
3	15	Wire Ties
4	1	M6 Bolt
5	1	GBS Microphone 08192-6C810
6	2	GBS Window Label English PT398-60084-AA
7	1	GBS Owner's Guide

### **Additional Items Required For Installation**

Item#	Quantity	Description

#### **Recommended Tools**

Personal & Vehicle Protection	Description
Safety Glasses	
Safety Gloves	(Optional)
Blankets, Parts Boxes	
Special Tools	
Striker Tool	CAD-E IADS P/N ALL 02-016-01
Installation Tools	
Screwdriver	#2 Phillips, Flat Blade Jeweler's
Nylon Panel Removal Tool	e.g. Panel Pry Tool #1 Toyota SST# 00002-06001-01
Side Cutters	
Torque Wrench	Bracket Bolt: 71 in•lbf (8 N•m), Battery: 48 in•lbf (5.4 N•m), Knee Airbag: 88.5 in•lbf (10 N•m)
Tape	Clear
Pliers	45°Angled Needle Nose
Utility Knife	
Socket	10mm, extension
Special Chemicals	
Cleaner	VDC Approved Cleaner

#### Legend



**STOP:** Damage to the vehicle may occur. Do not proceed until process has been complied with.



**OPERATOR SAFETY:** Use caution to avoid risk of injury.



**CAUTION:** : A process that must be carefully observed in order to reduce the risk of damage to the accessory/vehicle and to ensure a quality installation.



**TOOLS AND EQUIPMENT:** Used in Figures calls out the specific tools and equipment recommended for this process.



**REVISION MARK:** This mark highlights a change in installation with respect to previous issue.



**SAFETY TORQUE:** This mark indicates that torque is related to safety.



**WIRE TIE LOCATION:** Wire Tie location number.



**PREVIOUS WIRE TIE LOCATION:** This mark indicates a previously installed Wire Tie.

### Accessory Installation Practice (read before installation)

Care must be taken when installing this accessory to ensure damage does not occur to the vehicle. The installation of this accessory should follow approved guidelines to ensure a quality installation.

These guidelines can be found in the "Accessory Installation Practices" document.

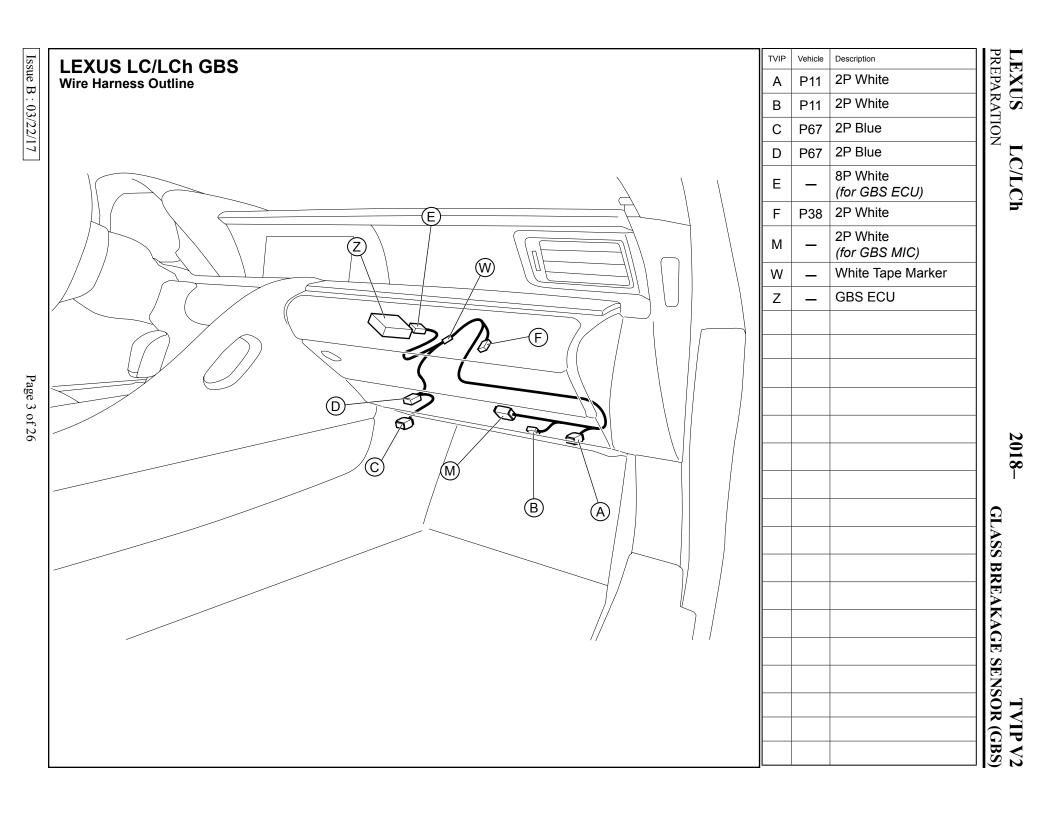
This document covers such items as:

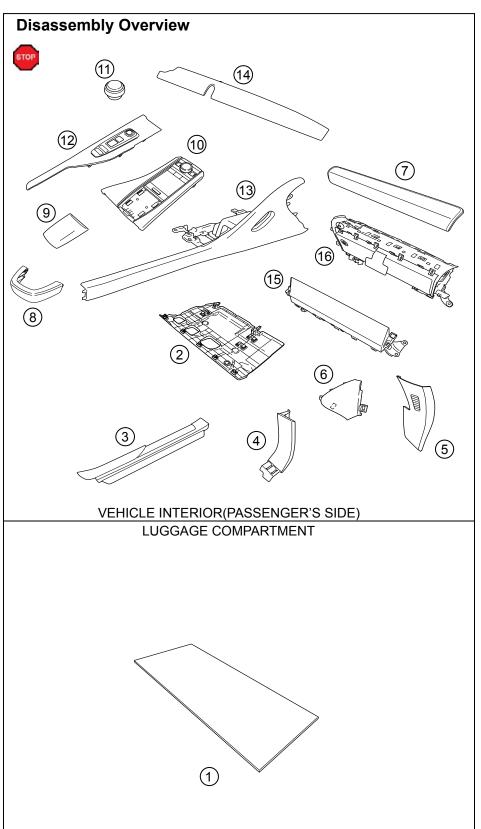
- Vehicle Protection (use of covers and blankets, cleaning chemicals, etc.)
- Safety (eye protection, checking torque procedure, etc.)
- Vehicle Disassembly/Reassembly (panel removal, part storage, etc.)
- Electrical Component Disassembly/Reassembly (battery disconnection, connector removal, etc.)

Please see your Lexus dealer for a copy of this document.

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	2. Vehicle Function Checks	

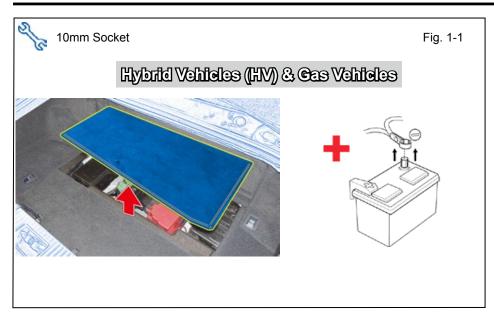




1	Luggage Board	
2	PS Under Cover	
3	PS Step Cover	
4	PS Cowl Cover	
5	PS Dash Cover	
6	Glove Box Side Cover	
7	Glove Box Upper Cover	
8	Center Console Rear Panel	
9	Armrest Pad	
10	Remote Touch Panel	
11	Shift Knob	
12	Shift Panel	
13	Center Console Upper Panel	
14	Dash Upper Cover	
15	Knee Airbag (Do not disconnect connector)	
16	Glove Box	
Disconnect all Corresponding		

**STOP** 

Disconnect all Corresponding Connectors, except for the PS Knee Airbag Connector.



### 1. Vehicle Disassembly.

- Place the Vehicle in Park with the Parking Brake set.
- b. Move the Passenger Seat to its rear most position.
- c. Remove the Luggage Board.
- d. Disconnect the Negative Battery Terminal.
  - Note the Battery Cable Position as it will be re-installed in the same position.
- **CAUTION:** Do not touch the Positive Terminal.
  - e. Dislodge the Passenger Side Under Cover.

- f. Disconnect the Under Cover Foot Lamp Connector.
- g. Remove the Under Cover.

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**NOTE:** Add protective tape to pry area as shown.

h. Remove the Passenger Side Step Cover.

i. Remove the Passenger Side Cowl Cover.

j. Remove the Passenger Side Dash Cover.

1

k. Remove the Glove Box Side Cover.



NOTE: Add protective tape to pry area as shown.

. Remove the Glove Box Upper Cover.

m. Remove the Center Console Rear Panel.

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n. Remove the Armrest Pad.

- o. Dislodge the Remote Touch Panel.
  - · Remove 2 screws.

p. Disconnect the Vehicle Connectors.

q. Remove the Shift Knob.

r. Dislodge the Shift Panel.

s. Disconnect the Vehicle Connectors.

- t. Remove 2 Screws from the upper side of the Center Console Upper Panel.
- Disengage the 2 plastic nibs (red circle) to the right of the 2 screw holes by pushing down the Center Console Upper and pulling up on the metal bracket.

v. Remove 2 Screws and 2 Bolts from the Center Console Upper Panel.

w. Remove 1 Bolt from the right side of the Center Console Upper Panel as shown.

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**NOTE:** Add protective tape to pry area as shown.

- Disengage the 11 clips (Illustrated Yellow Clips) in the direction indicated by the arrow (1) in the illustration.
- y. Pull the Center Console
  Upper Panel in the direction
  indicated by arrow (2) in
  the illustration to disengage
  the 4 Clips (Illustrated Red
  Clips) and remove the Center
  Console Upper Panel.



**NOTE:** Add protective tape to pry area as shown.

Remove the Dash Upper Cover.

- aa. Dislodge the Passenger's Knee Airbag carefully.
  - Remove 3 Bolts.



**NOTE:** Do not Disconnect the Vehicle's Airbag Connector.

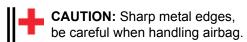


**CAUTION:** Sharp metal edges, be careful when handling airbag.

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## GLASS BREAKAGE SENSOR (GBS)

ab. Remove the vehicle Clamp from the Knee Airbag.



ac. Wrap the Airbag in a Blanket or the like and place it on top of the TVIP box.

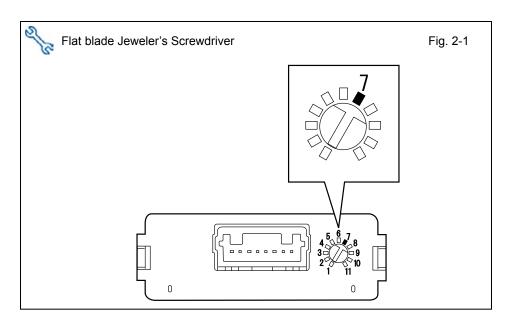


**CAUTION:** Prevent stress on the Airbag Harness.

- ad. Remove the 2 Screws and 2 Bolts.
- ae. Dislodge the Glove Box.

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- af. Disconnect the Vehicle Connectors.
- ag. Remove the vehicle Clamp from the Glove Box.
- ah. Remove the Glove Box.



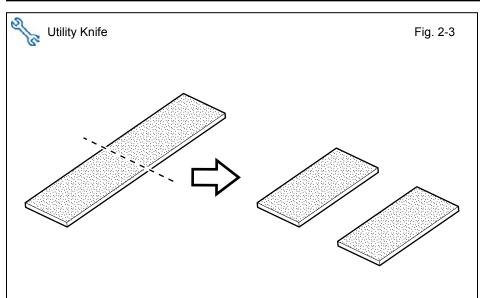
### 2. GBS ECU Preparation.

a. Set the GBS Sensitivity Value to "7".



b. Attach the GBS ECU Bracket to the GBS ECU as shown.

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c. Cut the Foam Tape in half.

# 3. GBS ECU and Harness Installation.



**NOTE:** Throughout section 3, the figures show the GBS Harness is colored green, OE Harness is colored blue and GBS Mic Harness is colored red.

 a. Route the GBS Harness
 8P Connector behind the Vehicle's Brace.

b. Connect the GBS White 8P Connector to the GBS ECU.

c. Install the GBS ECU using

the supplied Bolt.

Torque: 71 in-lbf (8 N-m)



**NOTE:** Make sure the Guide Pin is seated correctly and verify that the Bolt is tightened securely.

d. Attach 1/2 Foam Tape to the GBS ECU Bracket as shown.

e. Secure the GBS Harness's White Tape Marker to the Vehicle Harness using 1 Wire Tie (#1). (Fig. 3-5)

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f. Secure the GBS Harness to the Vehicle Brace using 1 Wire Tie (#2). (Fig. 3-6)

g. Secure the GBS Harness to the Vehicle Harness using 1 Wire Tie (#3). (Fig. 3-7)

h. Connect the Vehicle's Blue 2P Connector to the GBS Blue 2P Connector.

j. Secure the GBS Harness to the Vehicle Harness using 1 Wire Tie (#5). (Fig. 3-10)

 k. Connect the GBS White 2P Connector to the Vehicle's White 2P Pre-Connector.

- Secure the GBS Harness to the Vehicle Harness using 2 Wire Ties (#6, #7). (Fig. 3-12)
- m. Route the GBS Harness behind the Heater Duct toward the Passenger Side Under Cover area.

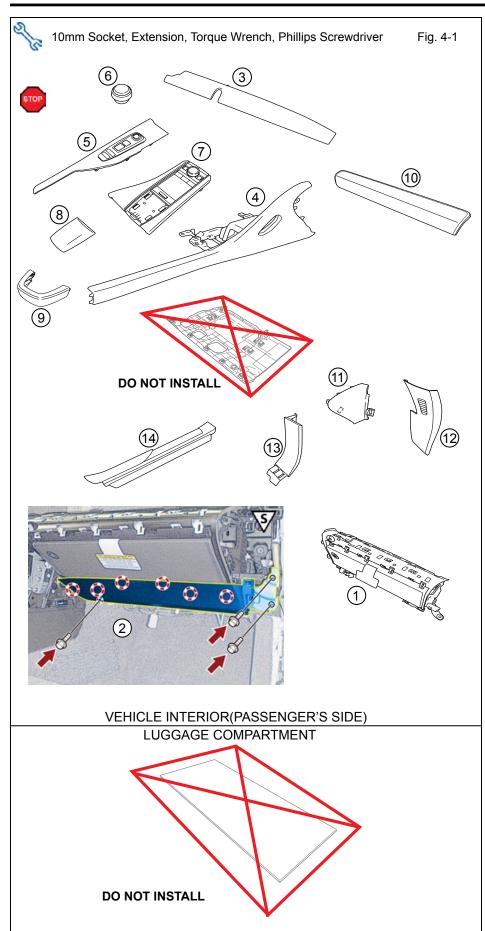
n. Secure the GBS Harness to the upper side of the Vehicle Harness using 2 Wire Ties (#8, #9). (Fig. 3-13)

o. Secure the GBS Harness to the Vehicle Harness using 2 Wire Ties (#10, #11). (Fig. 3-14)

 Connect the GBS White Female 2P Connector to the OE Under Cover Foot Lamp Gray Male 2P Connector.

- q. Secure the GBS Harness to the Vehicle Harness using 1 Wire Tie (#12). (Fig. 3-16)
- r. Secure the 2P Connectors to the Vehicle Harness using 1 Wire Tie (#13). (Fig. 3-16)
- s. Secure the GBS Harness to the Vehicle Harness using 1 Wire Tie (#14). (Fig. 3-16)

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### 4. Microphone Installation.

- Reassemble the Vehicle except for the Under Cover and the Luggage Board.
- b. When reinstalling the Knee Airbag, make sure to torque the Bolts.



Torque: 10 N·m (88.5 in•lbf)



**VERIFY:** That all Connectors are plugged in.



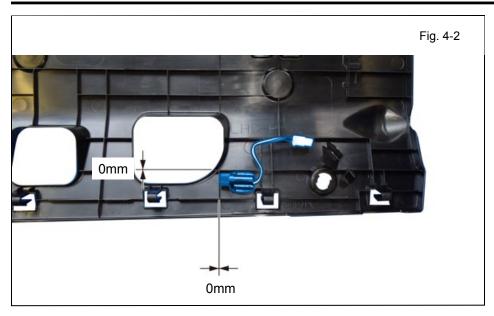
**VERIFY:** That all Vehicle Clamps are reinstalled.



**VERIFY:** That Panels fit together properly, with no uneven gaps.

### **GLASS BREAKAGE SENSOR (GBS)**

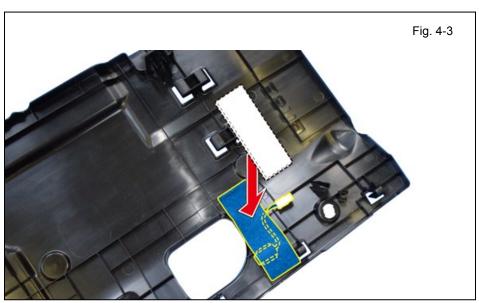
**PROCEDURE** 



- Using the VDC approved cleaner and Cleaning Method, clean the area indicated on the backside of the Under Cover.
- d. Attach the GBS Microphone to the backside of the Under Cover as shown.



**NOTE:** Make sure to align GBS Microphone to the edge of the Under Cover ribbing.



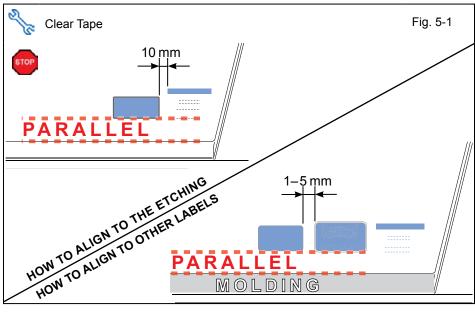
e. Apply the Foam Tape to the GBS Microphone as shown.

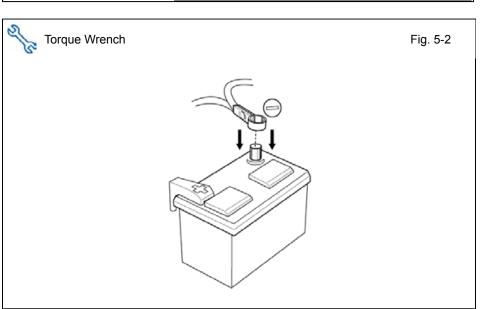


**NOTE:** Make sure not cover the Microphone's opening with the Foam Tape.

- f. Connect the GBS White 2P Connector to the GBS Microphone's Connector.
- g. Reconnect the Foot Lamp connector to the under cover.

h. Reinstall the Under Cover.





#### 5. Complete the Installation.

- a. Use Household Glass Cleaner to clean the inside of the Front Door Windows.
- b. Use a piece of Clear Tape to lift the Label off its protective backing.



CAUTION: Do not touch the adhesive surface.

c. Attach the Label as shown.



NOTE: Make sure to Align the Label according to Etching or Other Label.

REPEAT: steps a-c with the other Window.

d. Position the Negative Battery Cable at the original factory position.



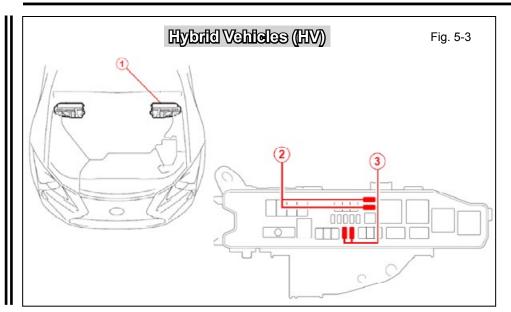
Torque: 5.4 N·m (48 in·lbf)



CAUTION: Do not touch the Positive Terminal.

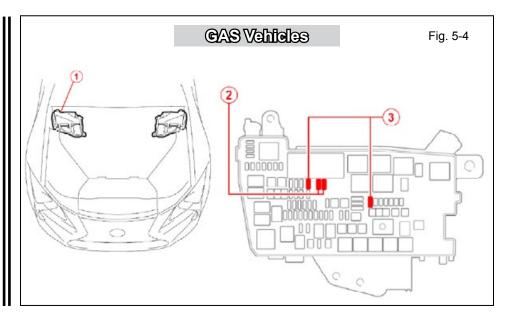
- Clean up and remove trash.
- Sealed in its protective bag, place the Owner's Guide in the Glove Box.

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#### Hybrid Vehicles only

- g. Verify that the two 30 Amp D/C Cut Fuse is installed.
  - · If not, install now.
- 1: Relay Block location
- 2 : Temporary storage location
- 3: Original location D/C Cut Fuse (30A)



### Gas Vehicles only

- h. Verify that the two 30 Amp D/C Cut Fuse is installed.
  - · If not, install now.
- 1: Relay Block location
- 2 : Temporary storage location
- 3: Original location D/C Cut Fuse (30A)

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CHECKLIST – these points MUST be checked to ensure a quality installation

### **Accessory Function Checks**

Roll up all windows, and exit the vehicle with the remote.



**LEXUS** 

Take out the Smart Key and the Smart Card Key from the Vehicle. Place them 7 ft. (2 meters) or more away from the Vehicle.

	Perform	Look For	
1	Lock the doors to start the system's arming process.	The turn signal lights flash once. All doors lock. The Security LED lights up.	
2	Wait 30 seconds.	Security LED starts flashing; the system is now armed.	
Desferme the fellowing sheet in a tensor control of an incorporat (FO° CO°F)			

Perform the following check in a temperature controlled environment (50°-90°F)

3	With the tip of a key, or Striker Tool pulled all the way out (PPO only), tap the center of the driver's door windows to trigger the alarm.	The horn sounds repeatedly. The headlights flash repeatedly. The turn signal lights flash repeatedly. The Security LED lights up.
4	Press the unlock button on the smart key to stop the alarm.	The horn stops sounding. All the lights stop flashing and/ or turn off. The Security LED lights up.



If the alarm does not trigger during functional verifications the Smart Key and Smart Card Key might be too close. Move them farther from the vehicle and test the system again.

**NOTE:** If the alarm still does not trigger during the section test, increase the GBS sensitivity to the next setting and test again.

NOTE: If you do not disarm the system, the alarm will last 20 seconds. It is not necessary to check the alarm duration.

### **Vehicle Appearance Check**

Perform	Look For	
After accessory installation and removal of protective cover(s), perform a visual inspection of the vehicle.	Ensure no damage (including scuffs and scratches) was caused during the installation process.  (For PPO installations, refer to TMS Accessory Quality Shipping Standard.)	

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2018-

TVIP V2

CHECKLIST – these points MUST be checked to ensure a quality installation GLASS BREAKAGE SENSOR (GBS)

## **Vehicle Function Checks**

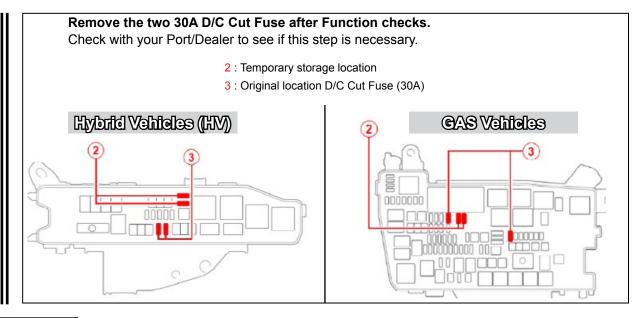
**LEXUS** 

	Function			Function	
En	Enter the Vehicle				
		Dome/Courtesy Lights		Illuminated Door Sill (if equipped)	
Sta	rt the \	/ehicle			
		Panel/Switch Illumination		Gauges	
		Check Engine Light  If the warning light remains on, it may indicate a system malfunction.		ABS Light (if equipped)  If the warning light remains on, it may indicate a system malfunction.	
		Lamp Failure Sensor  If the warning light remains on, it may indicate a system malfunction.		Track/Skid Control Light (if equipped)  If the warning light remains on, it may indicate a system malfunction.	
		Seat Belt Warning Light If the warning light remains on, it may indicate a system malfunction.		Tire Pressure Monitoring System (TPMS)	
		Air Bag Warning Light If the warning light remains on, it may indicate a system malfunction.		Prior to TPMS activation and Pre-delivery Service (PDS) of the Vehicle the TPMS light will blink when IG is turned on.  After TPMS activation and PDS of the Vehicle the	
		Cruise Control Light (if equipped)		TPMS light will illuminate for a few seconds and go off when IG is turned on.	
Using a Mirror or Assistant check the following.					
		Trunk/Tailgate/Bed Lights (if equipped)		Tail Lights	
		Brake Lights		Daytime Running Lights (if equipped)	
		Backup Lights		Marker Lights	
		Clearance Sonar (if equipped)		Power Back Door/Hatch (if equipped)	
St	Stop the Engine, Place the Vehicle's IG in the ON posit				
		Hazard Lights		Turn Signal Lights	
		Head Light		Fog Lights (if equipped)	
		High Beams		Accessory Controls/Illumination (if equipped)	
		Power Side Mirrors (if equipped)		Convenience Memory Settings (if equipped)	
		Power Sliding Door (if equipped)		Rear Sunshade (if equipped)	

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1

Function		Function	
	Front Wiper/Washer		Rear Wiper/Washer (if equipped)
	Power Sun/Moon Roof (if equipped)		Rollover Side Curtain Air Bag Switch (RSCA) (if equipped)
	Clock (if equipped)		Navigation System (if equipped)
	Audio/Video (if equipped)		USB Connections (if equipped)
	Steering Wheel Audio Control (if equipped)		HVAC
	Front Windshield Defogger (if equipped)		Rear Window Defogger (if equipped)
	Side Mirror Defogger (if equipped)		Accessory Power Socket (if equipped)
	Horn		Heated/Vented Seats (if equipped)
	Glove Box Light (if equipped)		Trunk or Back Door/Hatch Cancel Switch (if equipped)
	Passenger Side Foot Lamp		
	Power Locks (if equipped)		Power Windows (if equipped)
	Power Seats (if equipped)		Key Sensor Buzzer



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