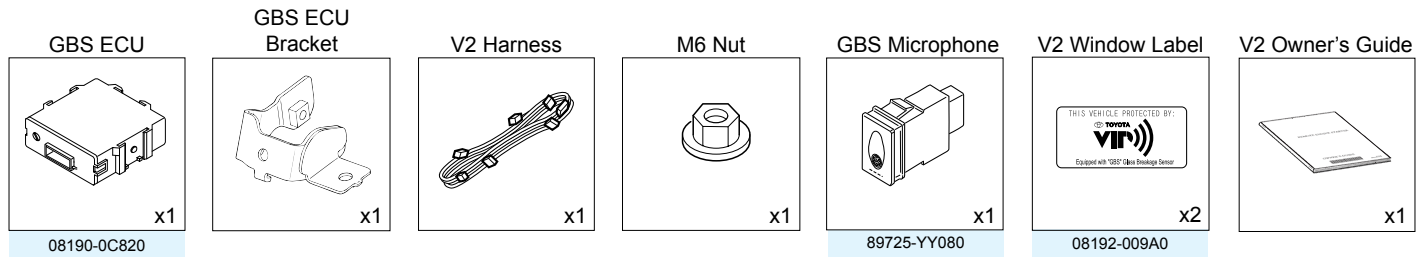


Part #: PT398-07131

Conflicts:

Kit Contents



Service Part #'s

Additional Items

(may be required)

Item#	Description

Recommended Sequence of Application

Item#	Description
1	V4 Remote Engine Starter (RES)
2	V2 Glass Breakage Sensor (GBS)








Recommended Tools

Personal & Vehicle Protection	Description
Safety Glasses	
Safety Gloves	(Optional)
Vehicle Protection	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
Pliers	Needle Nose
Torque Wrench	Battery: 48 in•lbf (5.4 N•m), Passenger's Knee Airbag: 88.5 in•lbf (10 N•m)
Tape	Clear, Electrical
Socket	10mm, extension
Special Chemicals	
Cleaner	VDC Approved Cleaner
Glass Cleaner	Household Glass Cleaner

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Legend

-  Do not proceed until process has been completed.
-  Follow steps carefully to avoid damaging the Vehicle or Accessory
-  Use caution to avoid injury.
-  Used in Figures to call attention to specific tools recommended for the process.
-  Highlights a change in installation with respect to previous issue.
-  Indicates that torque is related to safety.
-  Wire Tie location and number.

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:

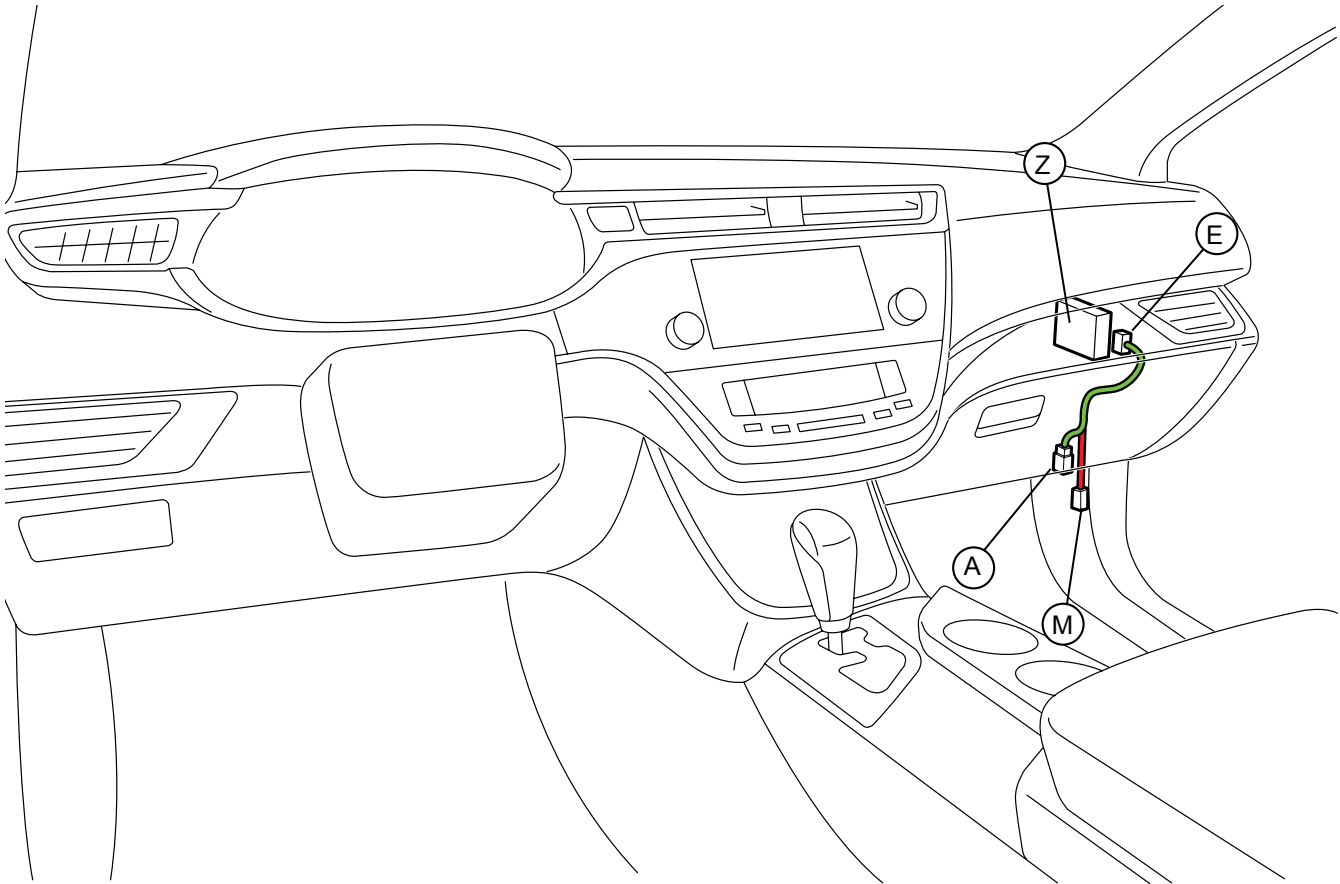
- Vehicle Protection (use of covers and blankets, cleaning chemicals, etc.)
- Safety (eye protection, checking torque procedure, etc.)
- Vehicle Disassembly/Reassembly (panel removal, part storage, etc.)
- Electrical Component Disassembly/Reassembly (battery disconnection, connector removal, etc.)

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

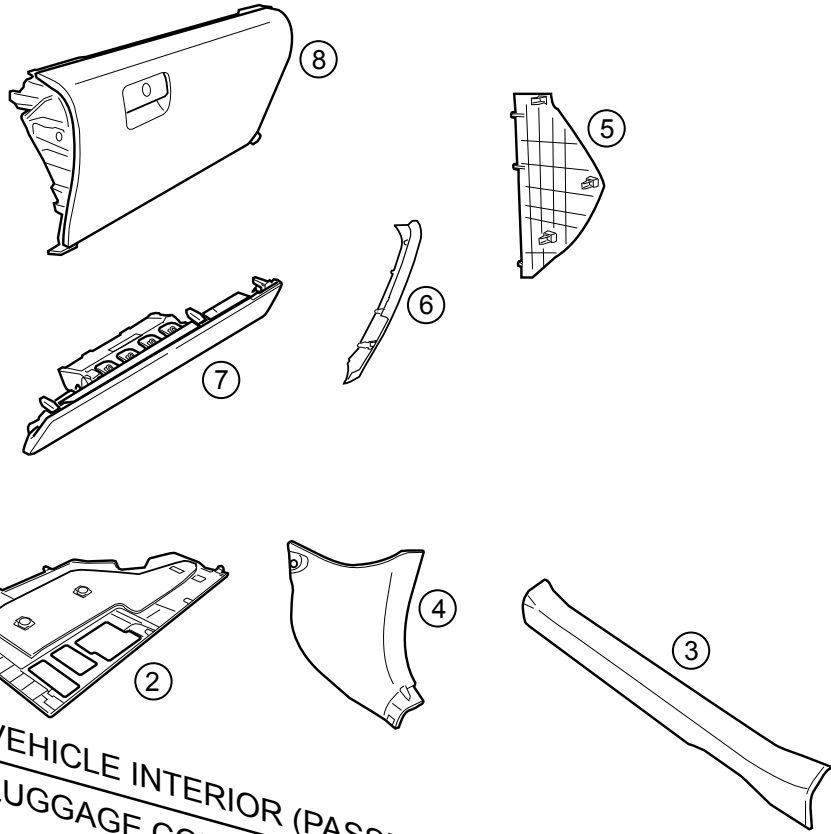
TVIP	Vehicle	Description
A	DE3	8P White
E	-	8P White (for GBS ECU)
M	-	4P White (for GBS MIC)
Z	-	GBS ECU

AVALON

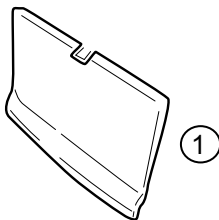
Wire Harness Outline



Disassembly Overview



VEHICLE INTERIOR (PASSENGER'S SIDE)
LUGGAGE COMPARTMENT (FOR HV ONLY)



Disconnect all Corresponding Connectors.

1. Vehicle Disassembly.

- a. Place the vehicle in Park with the Parking Brake set.
- For Hybrid Vehicles the battery is in the trunk.
- b. Remove the Battery Cover. (for Hybrid Vehicles only)
- For Gas Vehicles the battery is in the Engine Compartment.
- c. Disconnect the Negative Battery Terminal.
 - Note the Battery Cable Position as it will be re-installed in the same position.

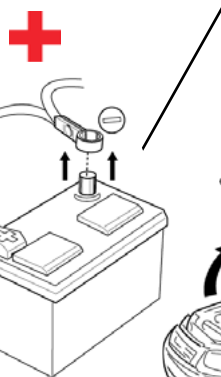


CAUTION: Do not touch the Positive Terminal.

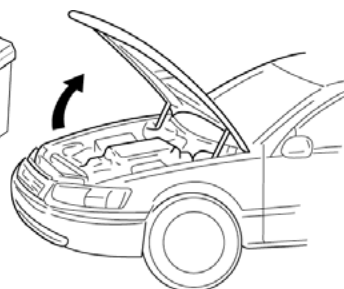
10mm Socket

Fig. 1-1

Hybrid Vehicles (HV)



Gas Vehicles



d. Remove the Glove Box Under Cover.

e. Remove the Passenger's Side Step Cover.

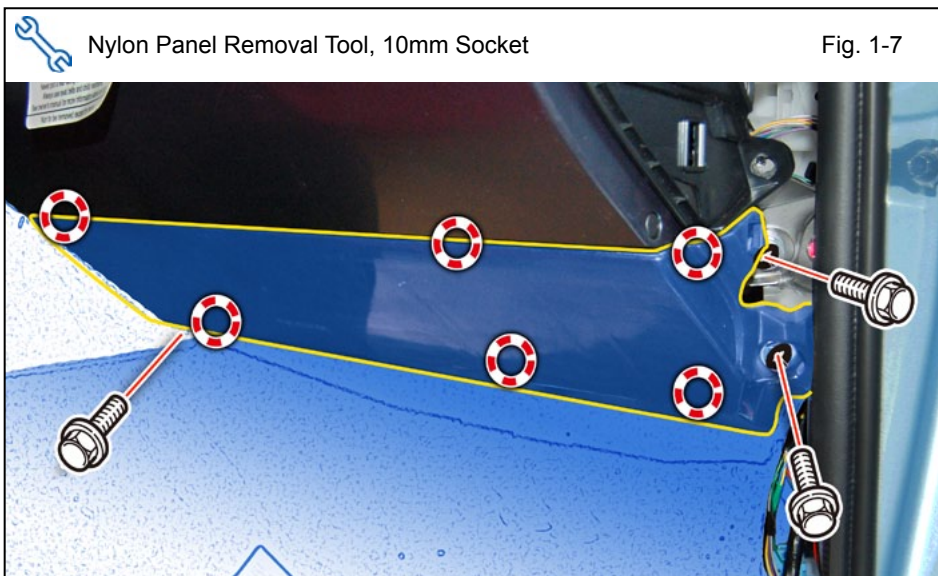
f. Remove the Passenger's Side Cowl Cover.
• Remove 1 Nut.



NOTE: If the clips stays in the vehicle, make sure to remove and re-attach to the Cowl Cover.

- g. Remove the Passenger's Side Dash Cover.

- h. Remove the Glove Box Trim.



- i. Dislodge the Passenger's Knee Airbag carefully.
 - Pry out the 3 Top Clips.
 - Remove 3 Bolts



CAUTION: Do not disconnect the Airbag's Connector.

- j. Wrap the Airbag in a Blanket or the like as shown.
- k. Place the Airbag on top of the TVIP box.



CAUTION: Prevent stress on the Airbag Wire harness.

- l. Remove 2 Screws from the bottom of the Glove Box.

m. Open the Glove Box.

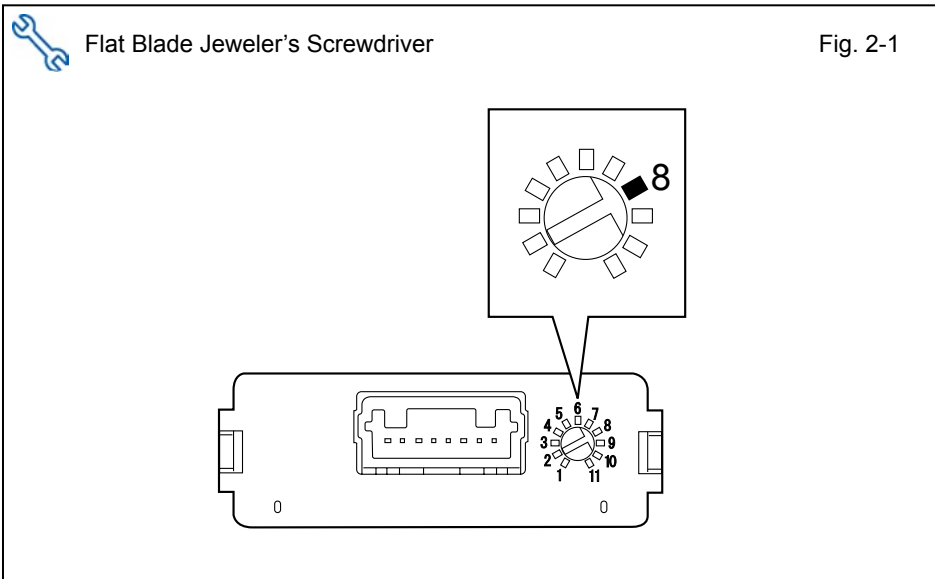


n. Dislodge the Center Cluster Trim Panel.

- Apply Protective Tape to Center Console Area.
- Dislodge the 3 Clips only and do not remove the Center Cluster Trim Panel.

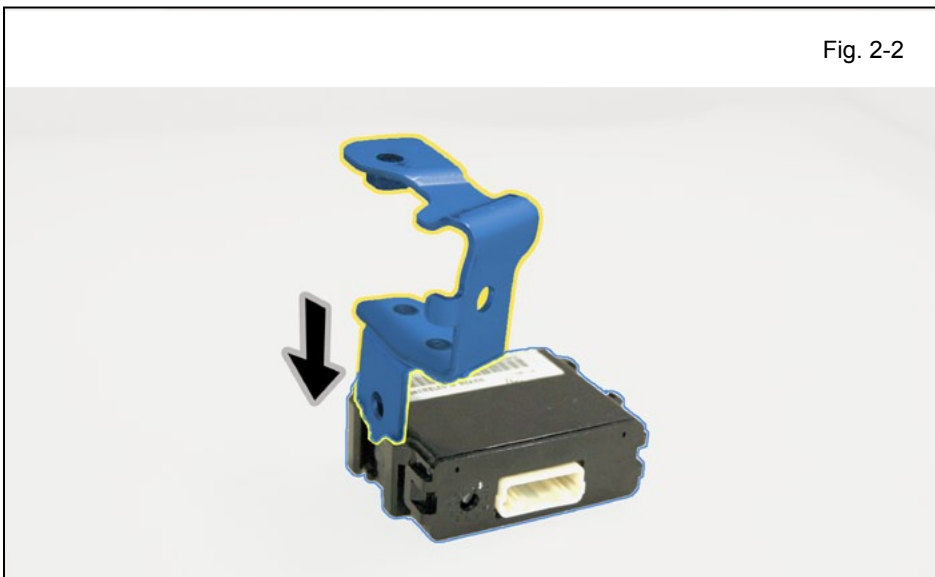
- o. Remove 3 Screws.
- p. Dislodge the Glove Box.

- q. Remove the Vehicle's clamp on the top left side of the Glove Box.
- r. Disconnect the Vehicle's Connectors.
- s. Remove the Glove Box Light by rotating counterclockwise.



2. GBS ECU Preparation and Installation.

- a. Set the GBS Sensitivity Value to "8."



V2 ONLY

- b. Attach the GBS ECU Bracket to the GBS ECU.

- c. Install the GBS ECU to the Vehicle's IP Reinforcement using the supplied Nut.



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

V2/V4 Add-on ONLY

- d. Dislodge RES ECU Bracket.
 - Disconnect RES Connector.
 - Remove Nut and discard.

- e. Dislodge the V4 Harness Clip from the RES ECU Bracket.

- f. Install GBS ECU on to the RES ECU bracket.



- g. Install the RES-GBS ECU combination using the supplied nut.



NOTE: Make sure the Guide Pin is seated correctly and Verify that the Nut is tightened securely.

- h. Re-secure Vehicle's V4 Harness Clip to the V4 ECU Bracket.

3. V2 Harness Installation.

V2 ONLY

- a. Connect the V2 White 8P Connector to the GBS ECU.

V2/V4 Add-on ONLY

- b. Reconnect the V4 White 24P connector to the RES ECU.
- c. Connect the V2 White 8P connector to the GBS ECU

- d. Use the V2 Harness Clip to secure it to the hole on the Vehicle's IP Reinforcement.

- e. Use the V2 Harness Clamp to secure it to the Vehicle Harness.



NOTE: Place the V2 Harness parallel to the Vehicle Harness.



NOTE: Make sure to follow steps above to avoid interference with the Glove Box.

- f. Locate the Vehicle's 8P White Pre-Connector and Remove the Tape securing it.

- g. Connect the V2 8P White Connector to the Vehicle's 8P White Pre-Connector.

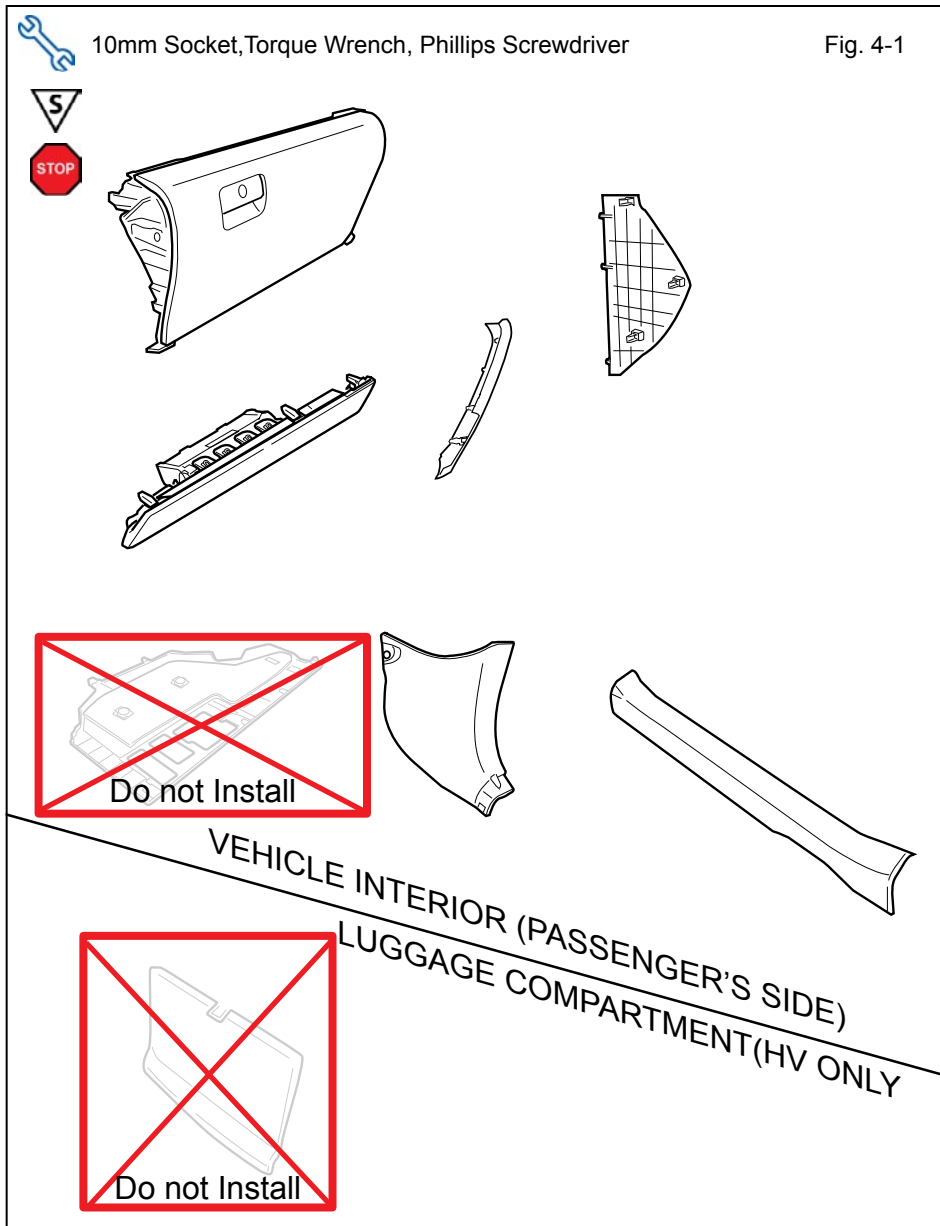
- h. Use the V2 Harness Clamp to secure on to the Vehicle's Harness.



NOTE: Place the V2 Harness parallel to the Vehicle Harness.



NOTE: Make sure to follow steps above to avoid interference with the Glove Box.



4. Microphone Installation.

- a. Reassemble the Vehicle except for the Glove Box Under Cover.

NOTE: When reinstalling Knee Airbag, make sure to tighten the Bolts to 10 N•m (88.5 in•lbf).



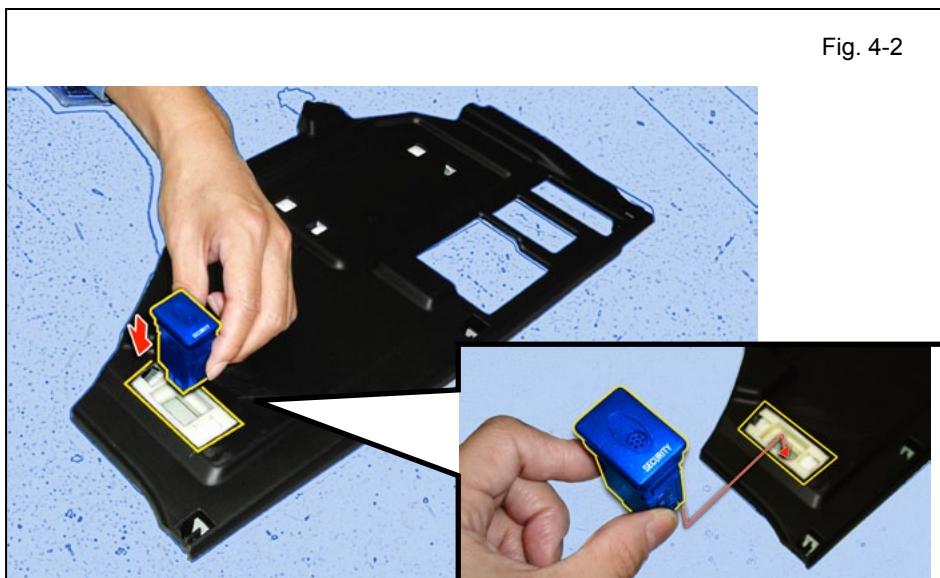
Torque: 10 N•m (88.5 in•lbf)



VERIFY: That all Connectors are plugged in.



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



- b. Install the GBS Microphone to the Glove Box Under Cover as shown.



VERIFY: That the Microphone is installed in the right orientation.

- c. Connect the V2 White 4P Connector to the Microphone's Connector.
- d. Reinstall the Glove Box Under Cover.

5. Complete the Installation.

- a. Verify that the Short Pin is Installed.
 - If not Install now.

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



CAUTION: Do not touch the adhesive surface.

- d. Attach the Label as shown.



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

REPEAT: steps b-d with the other Window.

- For Hybrid Vehicles the battery is in the trunk.
- For Gas Vehicles the battery is in the Engine Compartment.
- e. 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.

- f. Reinstall Battery Cover.
(For Hybrid Vehicles only)
- g. Clean up and Remove trash.
- h. Sealed in its protective bag, place the Owner's Manual in the Glove Box.

Accessory Function Checks

This procedure will require an assistant. With the installer inside the vehicle, roll up all windows.



Have the assistant take out the Smart Key from the Vehicle, and place them 15 feet (4.5 meters) or more away from the Vehicle.

Perform		Look For
1	Have the assistant press the smart key's lock button 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.

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), have the installer tap the center of the driver's door window from the inside to trigger the alarm.	The horn sounds repeatedly. The headlights flash repeatedly. The turn signal lights flash repeatedly. The Security LED lights up.
4	Assistant must insert the key into the driver's door key cylinder and turn it toward the back of the vehicle to stop the alarm.	The horn stops sounding. All the lights stop flashing and/ or turn off. The Security LED lights up.



NOTE: If the alarm does not trigger during functional verifications the Smart 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
<input type="checkbox"/>	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.)









Vehicle Function Checks

Function	Function
----------	----------

Enter the Vehicle

<input type="checkbox"/> Dome/Courtesy Lights	<input type="checkbox"/> Horn
---	-------------------------------

Start the Vehicle

<input type="checkbox"/> Panel/Switch Illumination	<input type="checkbox"/> Gauges
<input type="checkbox"/> Check Engine Light <i>If the warning light remains on, it may indicate a system malfunction.</i> 	<input type="checkbox"/> ABS Light (if equipped) <i>If the warning light remains on, it may indicate a system malfunction.</i> 
<input type="checkbox"/> Lamp Failure Sensor <i>If the warning light remains on, it may indicate a system malfunction.</i> 	<input type="checkbox"/> Track/Skid Control Light (if equipped) <i>If the warning light remains on, it may indicate a system malfunction.</i> 
<input type="checkbox"/> Seat Belt Warning Light <i>If the warning light remains on, it may indicate a system malfunction.</i> 	<input type="checkbox"/> Tire Pressure Monitoring System (TPMS) <i>Prior to TPMS activation and Pre-delivery Service (PDS) of the Vehicle the TPMS light will blink when IG is turned on.</i> <i>After TPMS activation and PDS of the Vehicle the TPMS light will illuminate for a few seconds and go off when IG is turned on.</i> 
<input type="checkbox"/> Air Bag Warning Light <i>If the warning light remains on, it may indicate a system malfunction.</i> 	
<input type="checkbox"/> Cruise Control Light (if equipped) 	

Using a Mirror or Assistant check the following.

<input type="checkbox"/> Trunk/Tailgate/Bed Lights (if equipped)	<input type="checkbox"/> Tail Lights
<input type="checkbox"/> Brake Lights	<input type="checkbox"/> Daytime Running Lights (if equipped)
<input type="checkbox"/> Backup Lights	<input type="checkbox"/> Marker Lights
<input type="checkbox"/> Clearance Sonar (if equipped)	<input type="checkbox"/> Power Back Door/Hatch (if equipped)

Stop the Engine, Place the Vehicle's IG in the ON position.

<input type="checkbox"/> Hazard Lights	<input type="checkbox"/> Turn Signal Lights
<input type="checkbox"/> Head Light	<input type="checkbox"/> Fog Lights (if equipped)
<input type="checkbox"/> High Beams	<input type="checkbox"/> Accessory Controls/Illumination (if equipped)
<input type="checkbox"/> Power Side Mirrors (if equipped)	<input type="checkbox"/> Convenience Memory Settings (if equipped)
<input type="checkbox"/> Power Sliding Door (if equipped)	<input type="checkbox"/> Rear Sunshade (if equipped)

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