

Part Number: PT398-78180

Conflicts

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Recommended Sequence of Application

Item#	Quantity	Description

Kit Contents

Item#	Quantity	Description
1	1	GBS ECU Mounting Bracket
2	1	V2 Wire Harness

Hardware Bag Contents

Item#	Quantity	Description
1	1	GBS ECU 08190-0C820
2	3	Foam Tape
3	10	Wire Ties
4	1	Vinyl Sheet
5	1	M6 Bolt 93385-16012
6	1	GBS Microphone 08192-6C810
7	2	V2 Window Label English PT398-60084-AA
8	1	V2 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	Battery: 48 in•lbf (5.4 N•m), Bracket Bolt: 71 in•lbf (8 N•m), Knee Airbag: 88.5 in•lbf (10 N•m)
Tape	Electrical, Clear
Pick Tool	
Utility Knife	
Pliers	
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.

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:

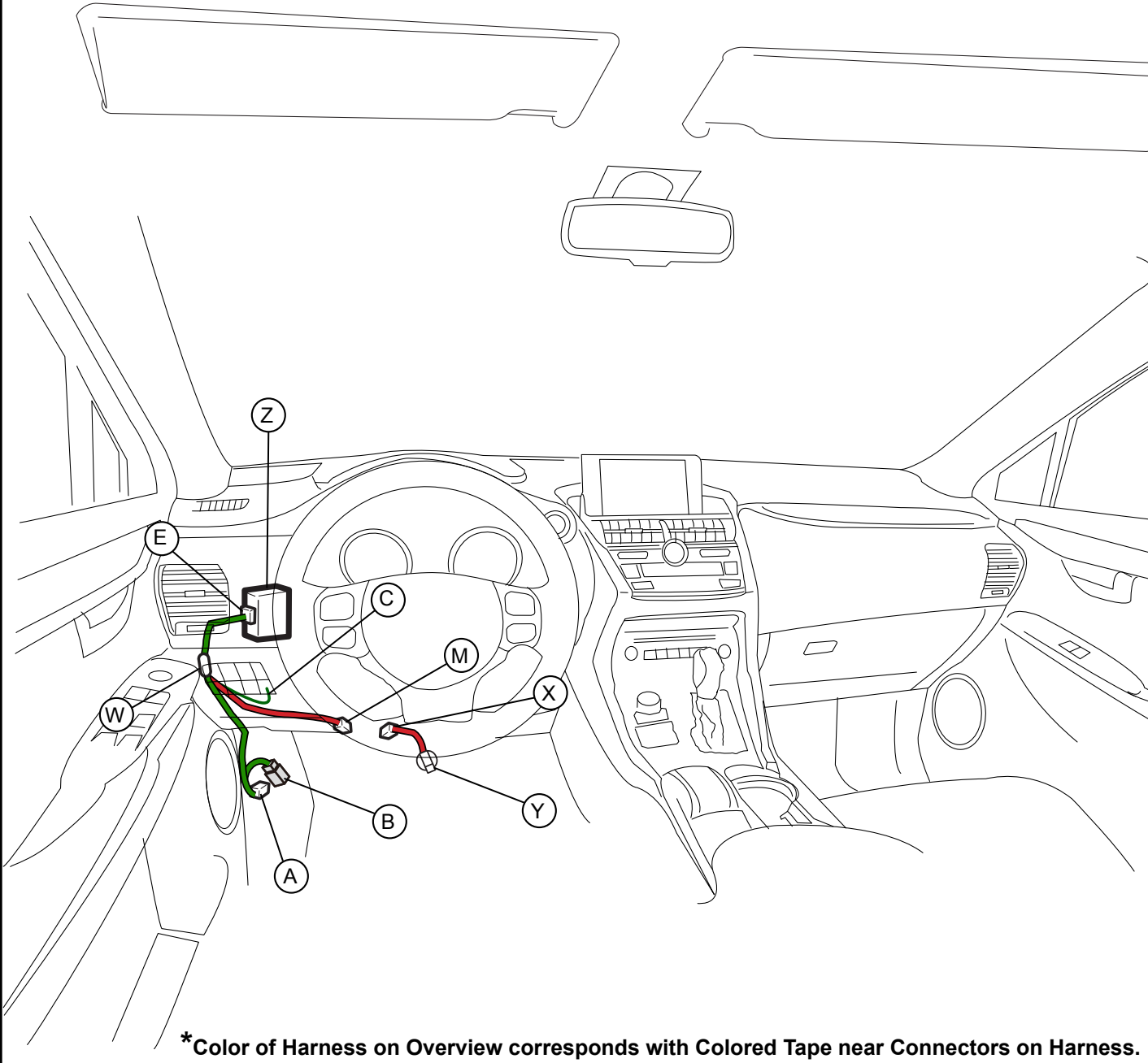
- Vehicle Protection (use of covers and blankets, cleaning chemicals, etc.)
- Safety (eye protection, checking torque procedure, etc.)
- Vehicle Disassembly/Reassembly (panel removal, part storage, etc.)
- Electrical Component Disassembly/Reassembly (battery disconnection, connector removal, etc.)

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

Table of Contents

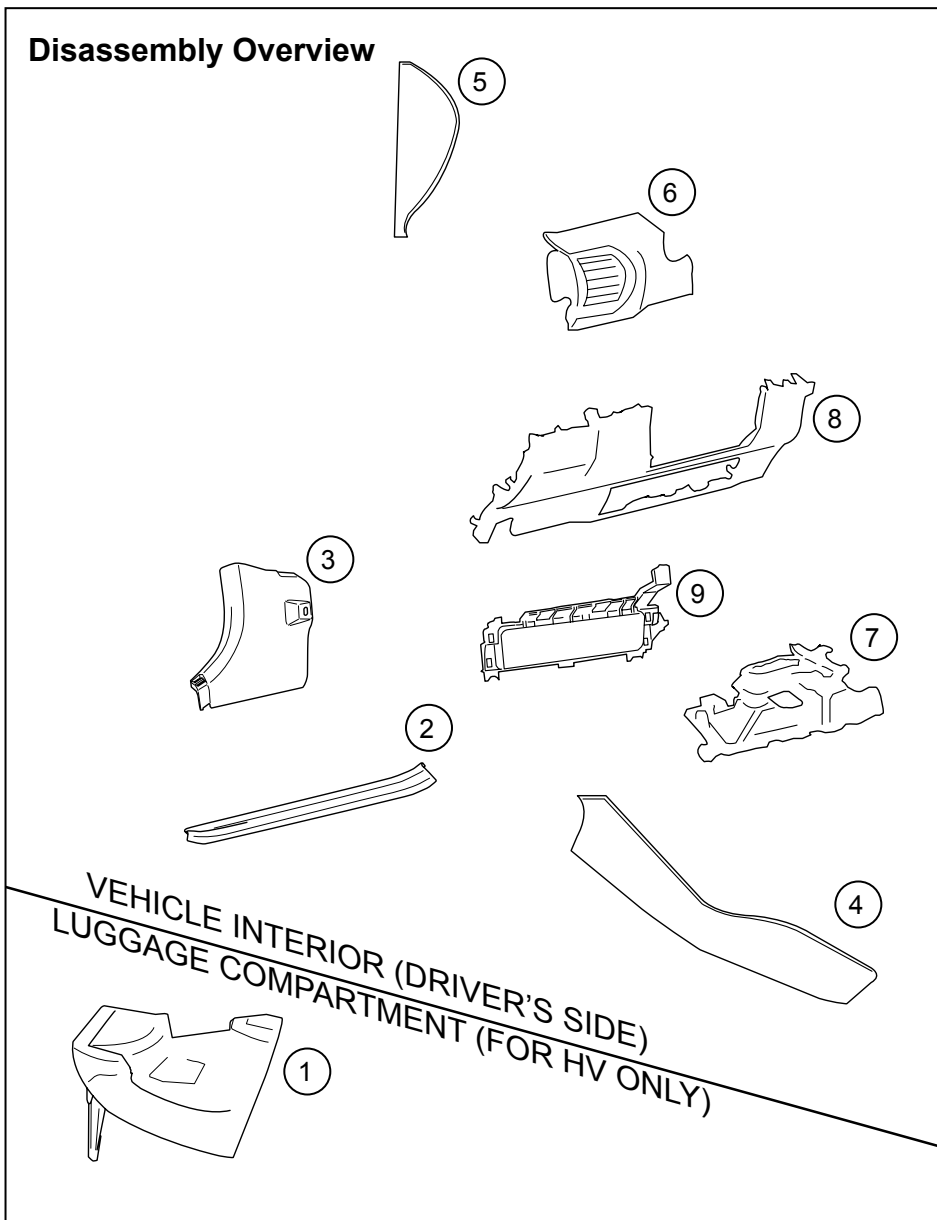
- I. Preparation 1–3
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**Lexus NX/NXh GBS
Wire Routing Overview (Vehicle Interior)***

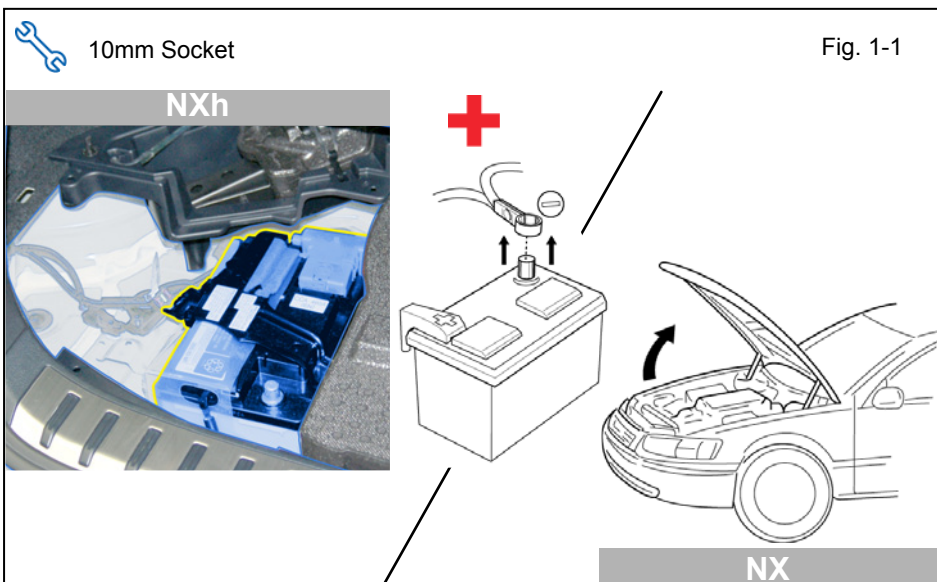


*Color of Harness on Overview corresponds with Colored Tape near Connectors on Harness.

GBS	Vehicle	Description
A	MI4	26P Black
B	MI4	26P Black
C	I47	Green Wire Terminal
E	-	8P White
M	-	2P White (for GBS MIC)
W	-	White Tape
X	-	2P White (GBS MIC)
Y	-	GBS Microphone
Z	-	GBS ECU



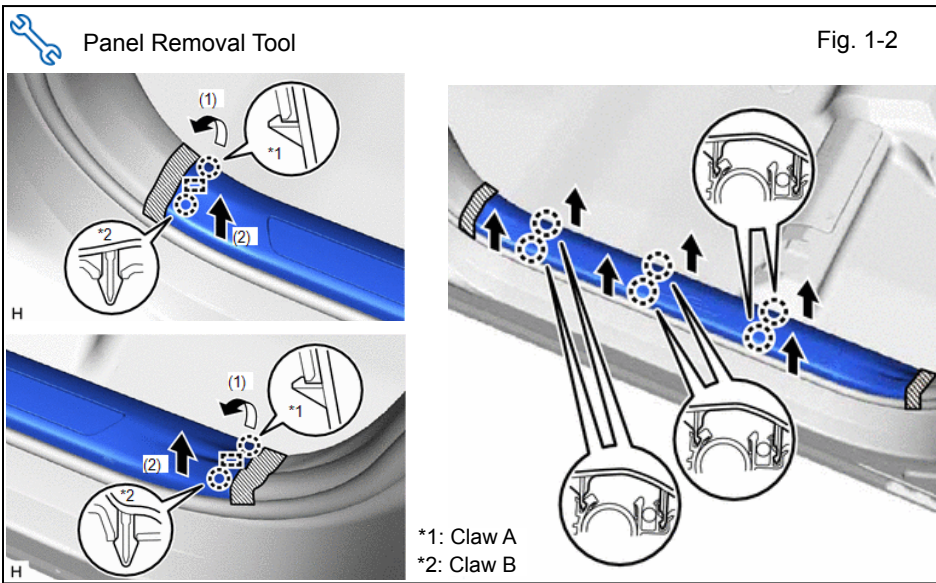
1	Battery Cover (For HV only)
2	Door scuff plate assembly
3	Cowl side trim board LH
4	Upper No.2 console panel garnish
5	Instrument side panel LH
6	No.1 Instrument panel safety pad sub-assembly
7	No.1 Instrument panel under cover sub-assembly
8	Lower No.1 Instrument panel finish panel
9	Lower No. 1 Instrument Panel Airbag Assembly (Do not disconnect connector)
	STOP Disconnect all Corresponding Connectors except the Lower No. 1 Instrument Panel Airbag Assembly connector.



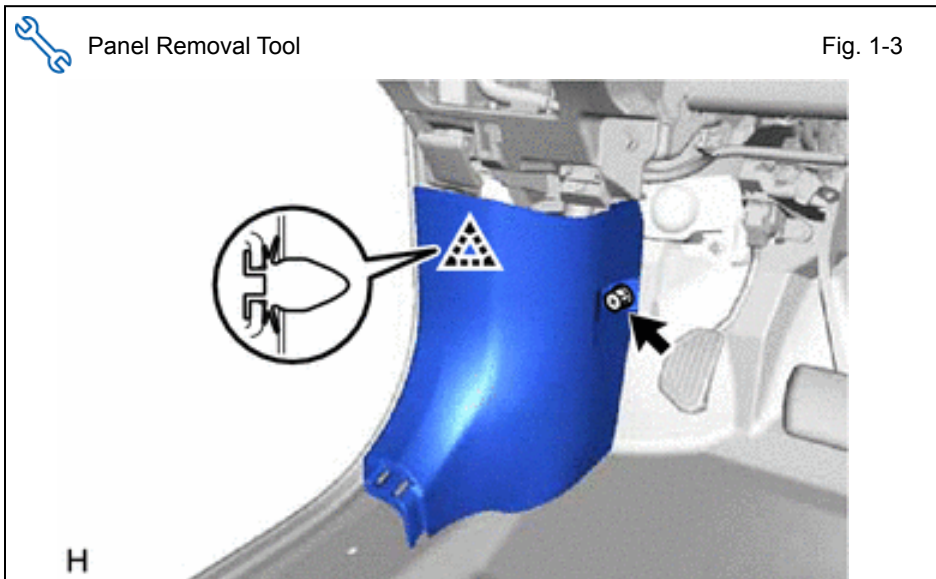
1. Vehicle Disassembly.

- a. Place the Vehicle in Park with the Parking Brake set.
- **For NXh the battery is in the trunk.**
- b. Remove the Battery Cover. (for NXh 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.

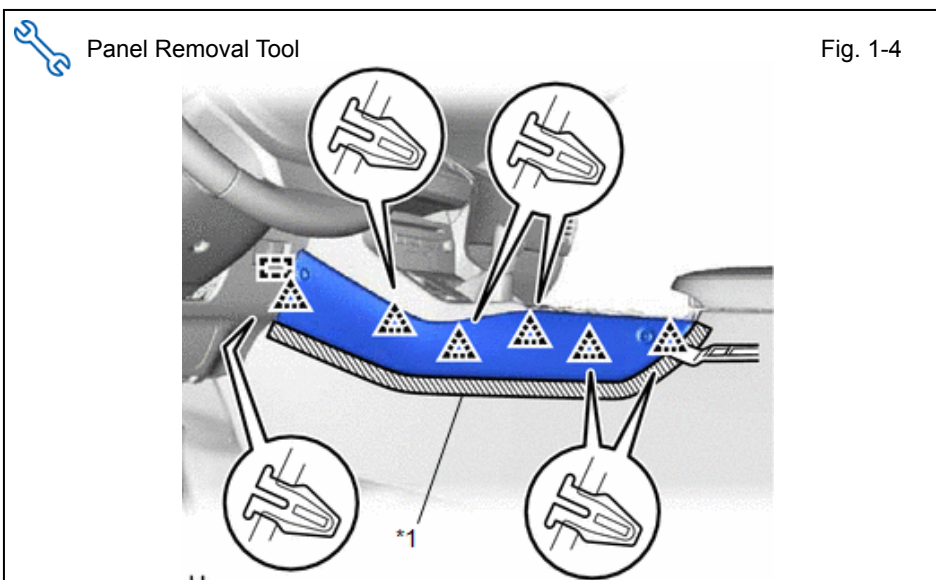
CAUTION: Do not touch the Positive Terminal with any tool while removing cable.



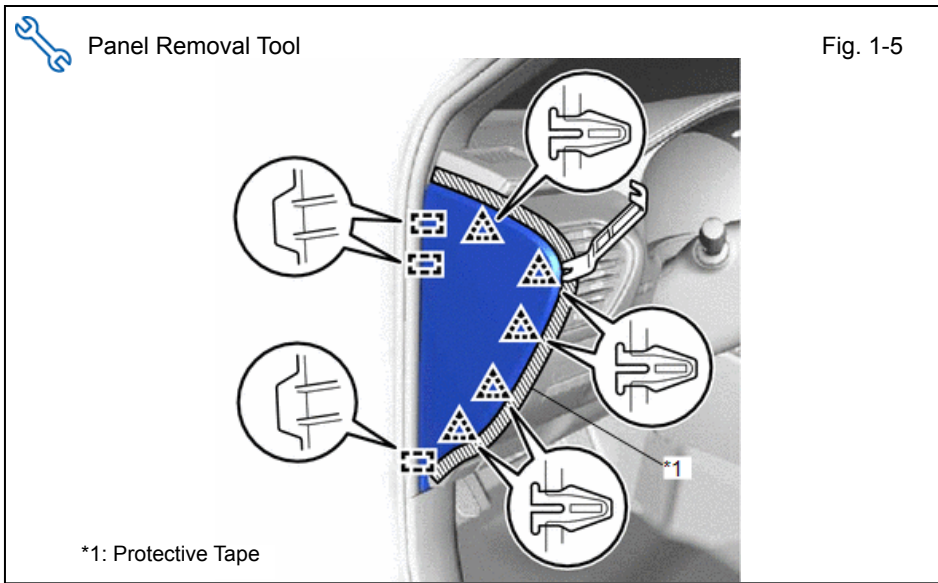
- d. Remove Door Scuff Plate Assembly LH.
- Put protective tape around the door scuff plate assembly LH.
 - Detach the 2 claws and guide on the front side of the door scuff plate assembly LH in the order shown in the illustration.
 - Detach the 2 claws and guide on the rear side of the door scuff plate assembly LH in the order shown in the illustration.
 - Pull the door scuff plate assembly LH upwards in the direction indicated by the arrow in the illustration to detach the 6 claws and remove the door scuff plate assembly LH.



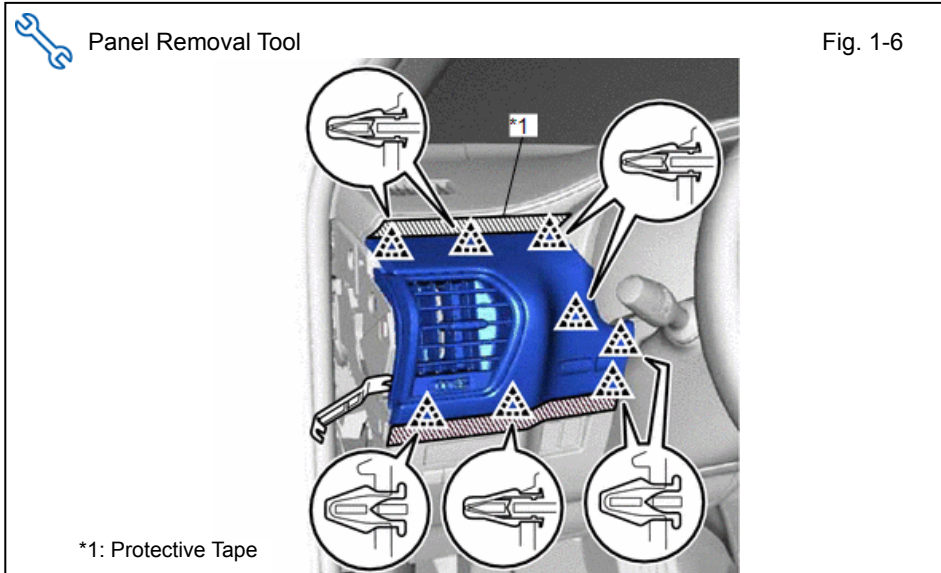
- e. Remove Cowl Side Trim Board LH.
- Remove the cap nut.
 - Detach the clip and remove the cowl side trim board LH.



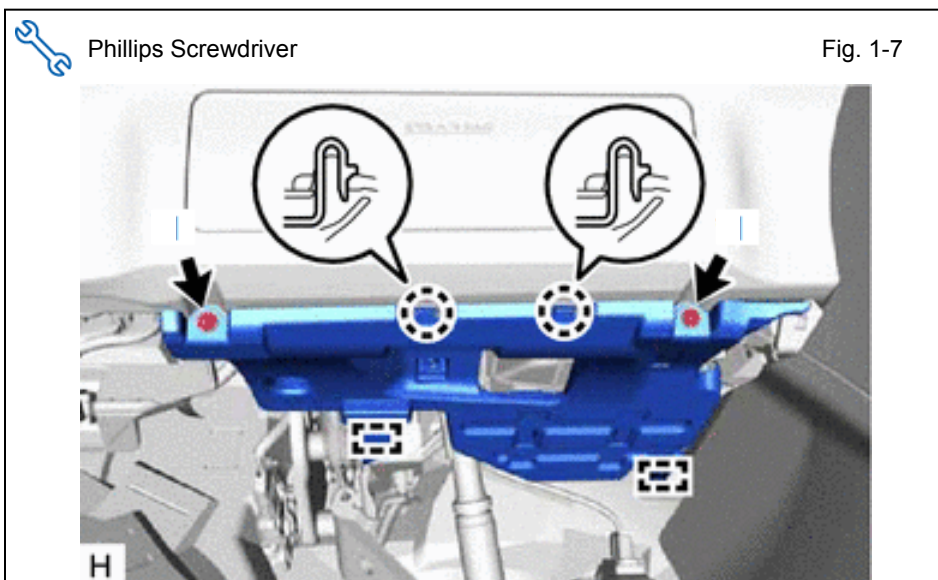
- f. Remove Upper No. 2 Console Panel Garnish.
- Put protective tape around the upper No. 2 console panel garnish.
 - Using moulding remover B, detach the 6 clips and guide and remove the upper No. 2 console panel garnish.



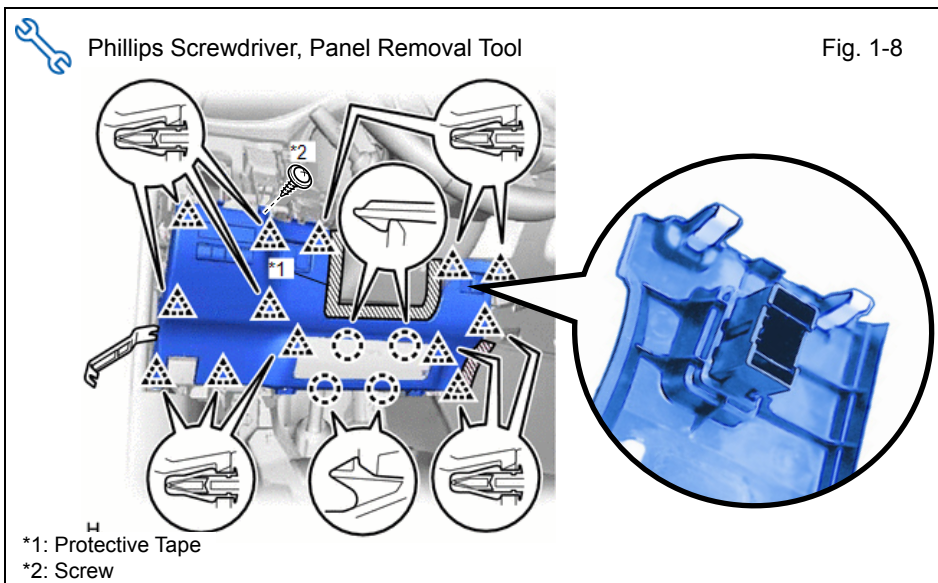
- g. Remove Instrument Side Panel LH.
- Put protective tape around the instrument side panel LH.
 - Using moulding remover B, detach the 5 clips and 3 guides.
 - Disconnect the connector and remove the instrument side panel LH.



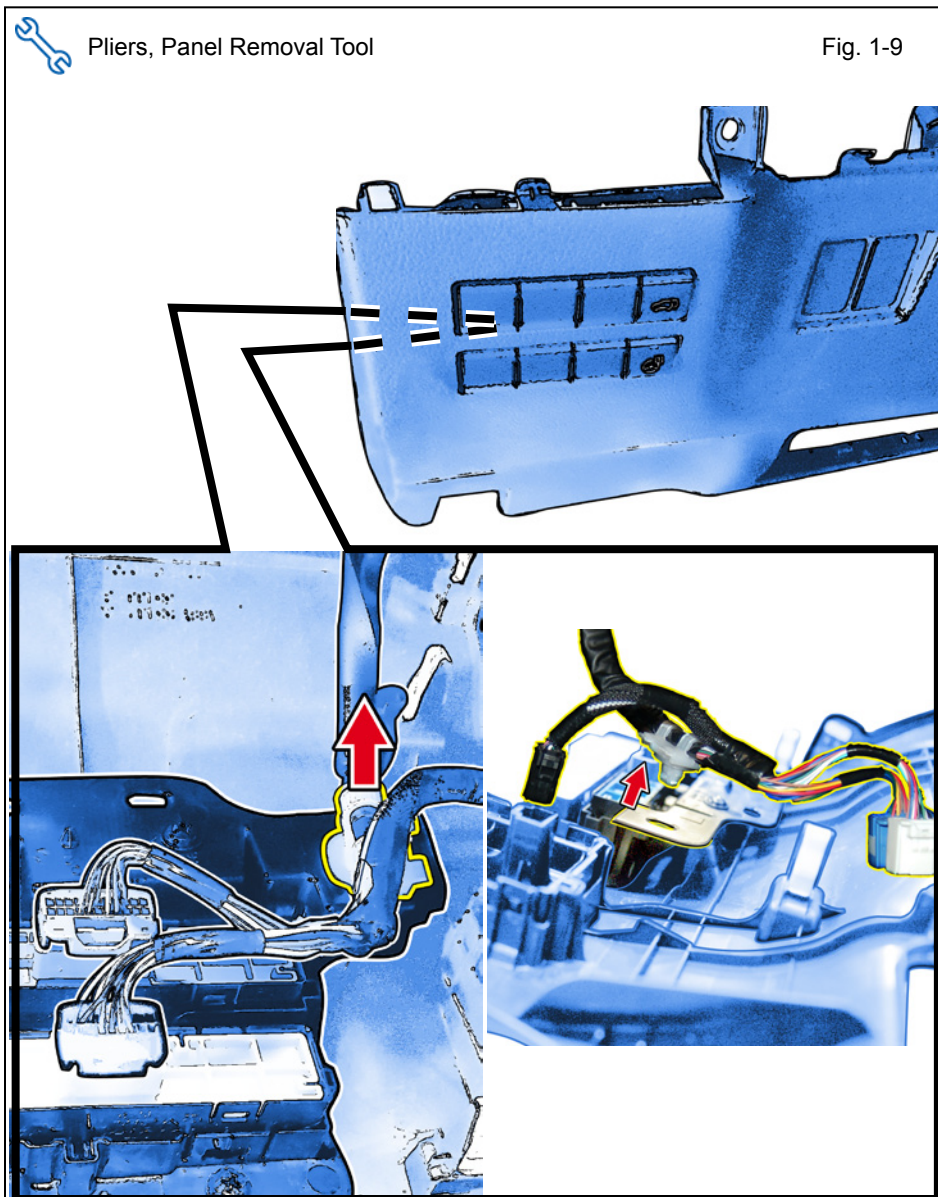
- h. Remove No. 1 Instrument Panel Safety Pad Sub-Assembly.
- Put protective tape around the No. 1 instrument panel safety pad sub-assembly.
 - Using moulding remover B, detach the 8 clips.
 - Disconnect the connector and remove the No. 1 instrument panel safety pad sub-assembly.



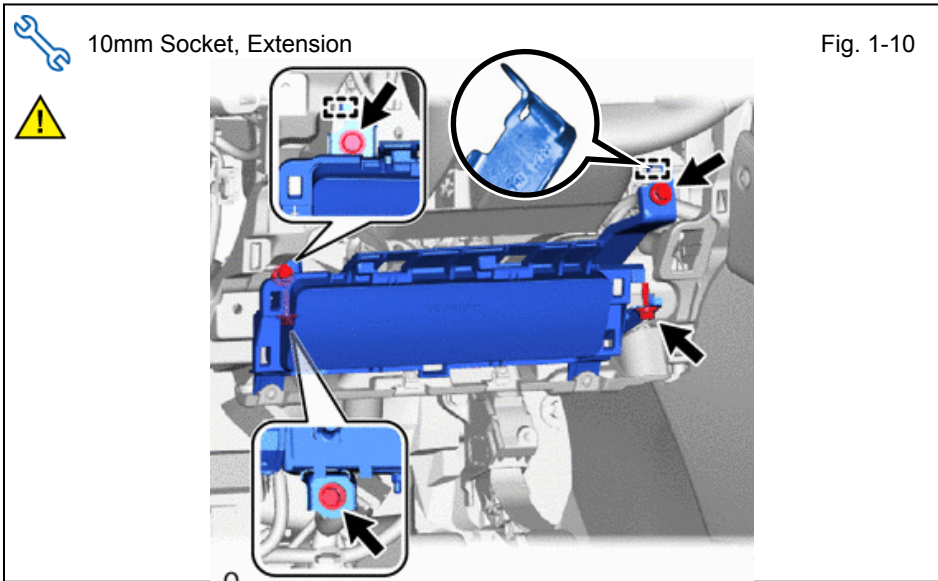
- i. Remove No. 1 Instrument Panel Under Cover Sub-Assembly.
- Remove the 2 screws.
 - Detach the 2 claws and 2 guides.
 - Disconnect the connector, detach the clamp and remove the No. 1 instrument panel under cover sub-assembly.



- j. Remove Lower No. 1 Instrument Panel Finish Panel.
- Put protective tape around the lower No. 1 instrument panel finish panel.
 - Remove the screw.
 - Using moulding remover B, detach the 13 clips and 4 claws.
 - Disconnect the connectors, detach the clamp and remove the lower No. 1 instrument panel finish panel.

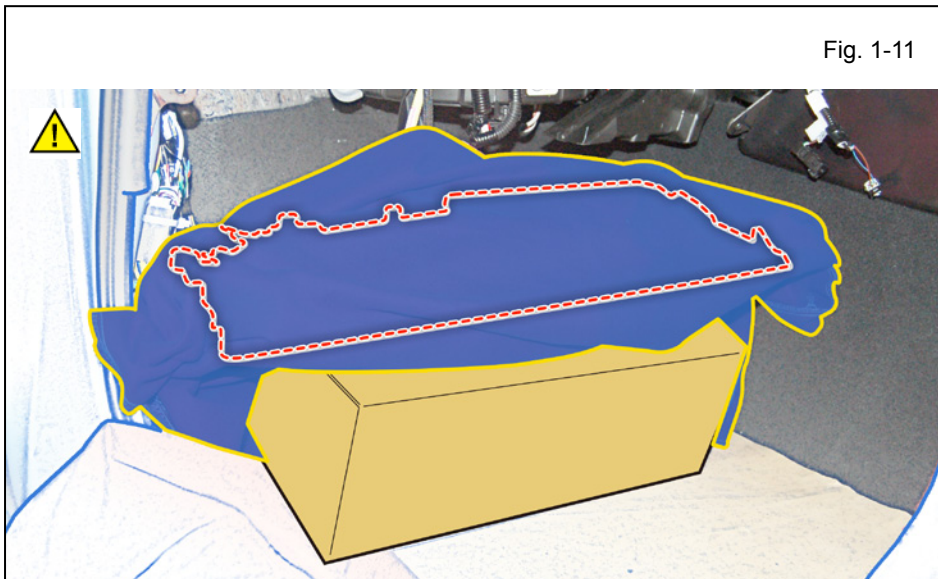


- k. Remove Instrument Panel Sub Assembly.
- Refer to the rear side of the Lower No. 1 Instrument Panel Finish Panel.
 - Use Pliers to remove the Vehicle Harness Clip.
 - Disconnect the connectors and remove the Instrument Panel Sub Assembly.



- I. Remove Lower No. 1 Instrument Panel Airbag Assembly.
 - Remove the 4 bolts.
 - Detach the 2 hooks and remove the lower No. 1 instrument panel airbag assembly.

CAUTION: Do not disconnect the Vehicle's Airbag Connector.



- m. Wrap the Airbag in a Blanket or the like and place it on top of the GBS box.

CAUTION: Prevent stress on the Airbag Wire harness.



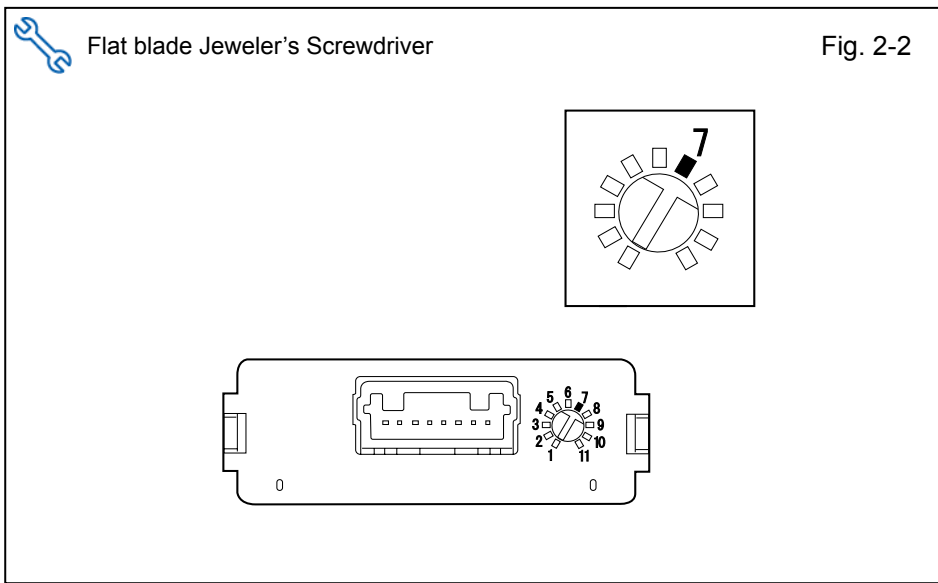
2. GBS ECU & V2 Harness Preparation and Installation.

CAUTION: Use gloves during wire tie and ECU installation.

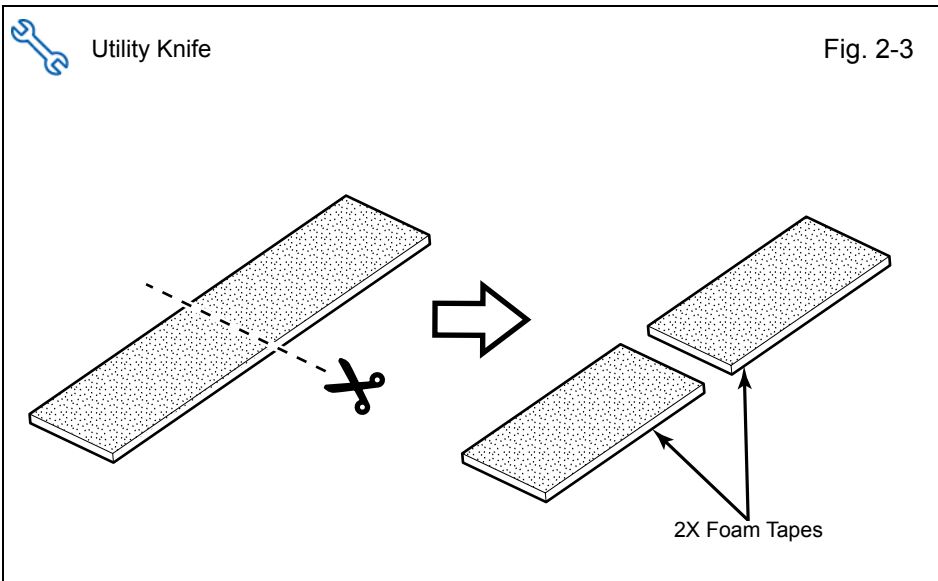
NOTE: Ensure all Kit Parts are thoroughly inspected before installation.

- a. Attach GBS ECU Bracket to the GBS ECU as shown.

- b. Set the GBS Sensitivity Value to "7."



- c. Cut 2 Foam Tapes into 1/2 pieces.



- d. Plug the V2 8P White Connector to the GBS ECU.




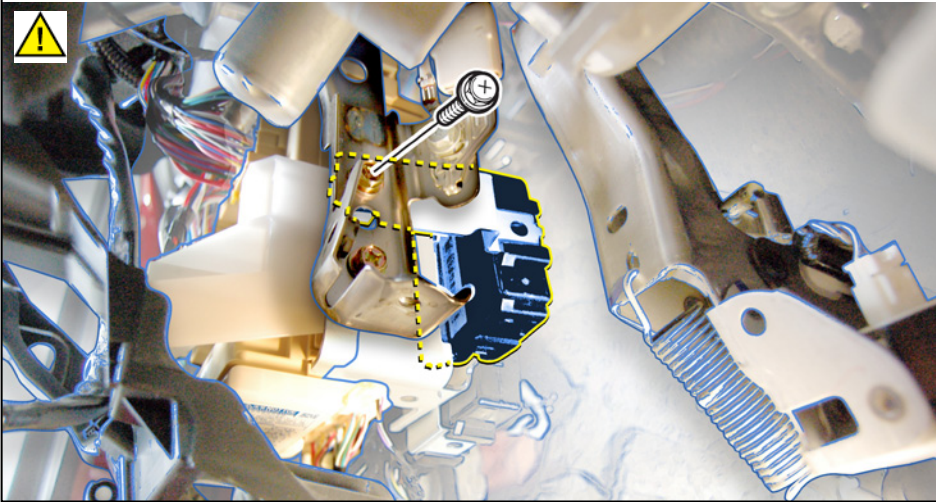
 10mm Socket, Torque Wrench

Fig. 2-5



- e. Install the GBS ECU to the Vehicle Bracket using the supplied M6 Bolt as shown.


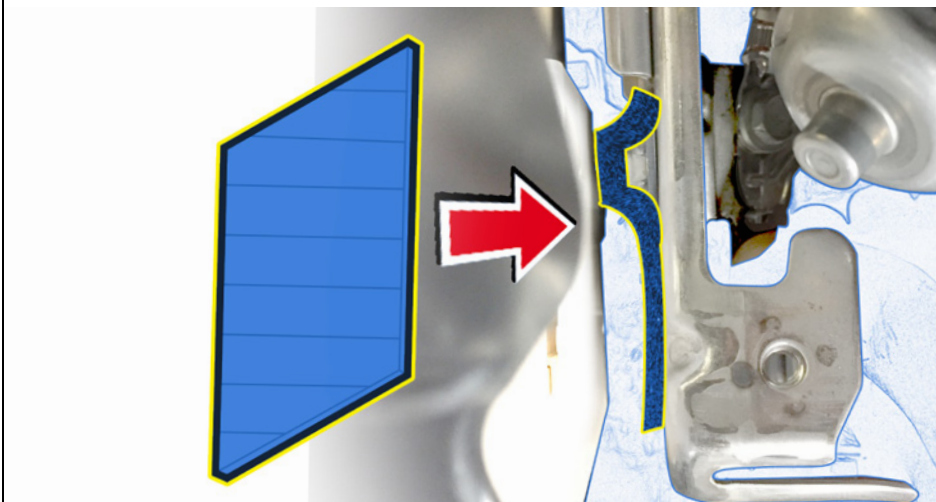
 Tighten the Bolt to 71 in•lbf (8 N•m)

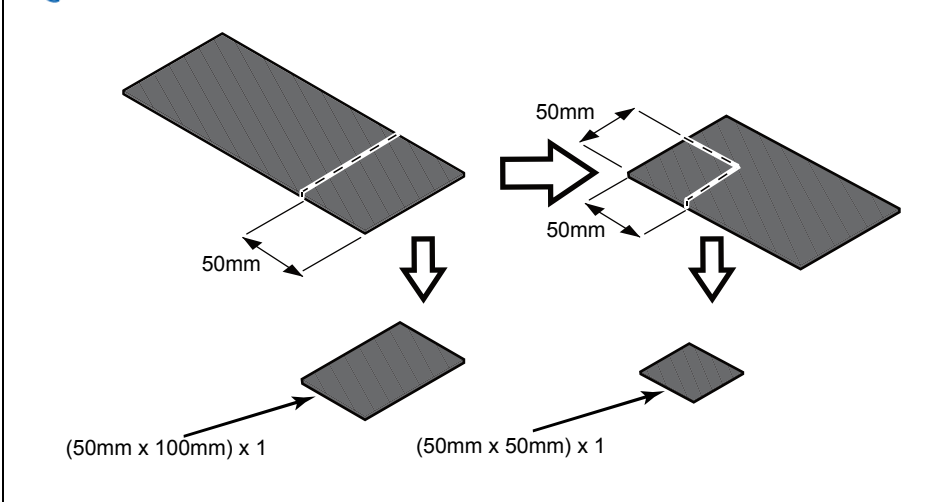
Fig. 2-6



- f. Apply 1/2 Foam Tape to cover the weld nut on GBS ECU bracket where M6 bolt goes through.

 Utility Knife

Fig. 2-7

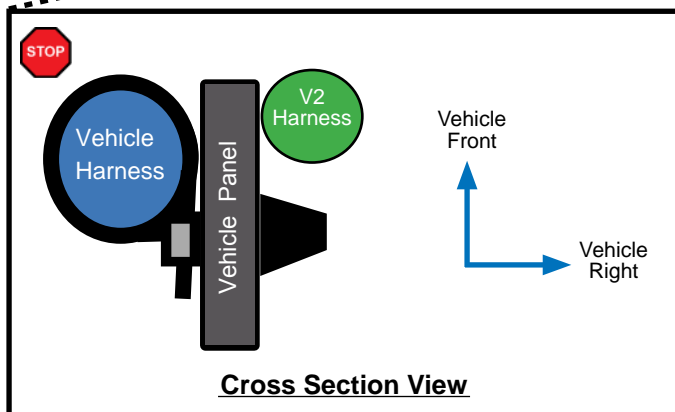
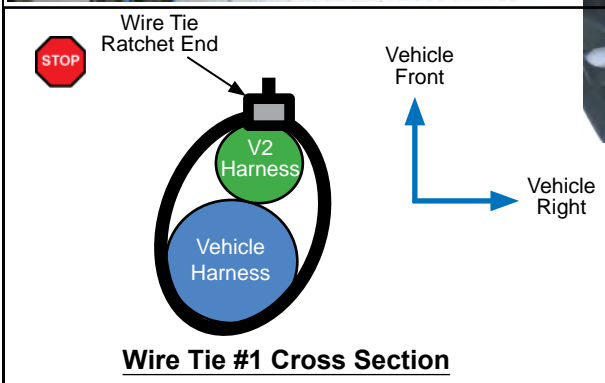
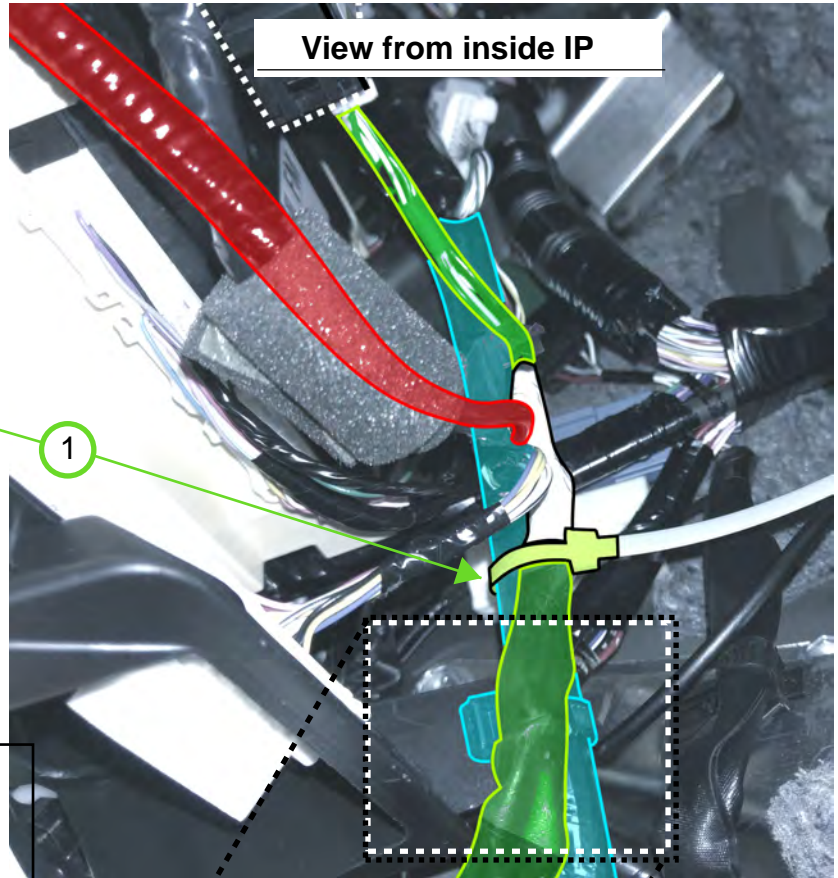
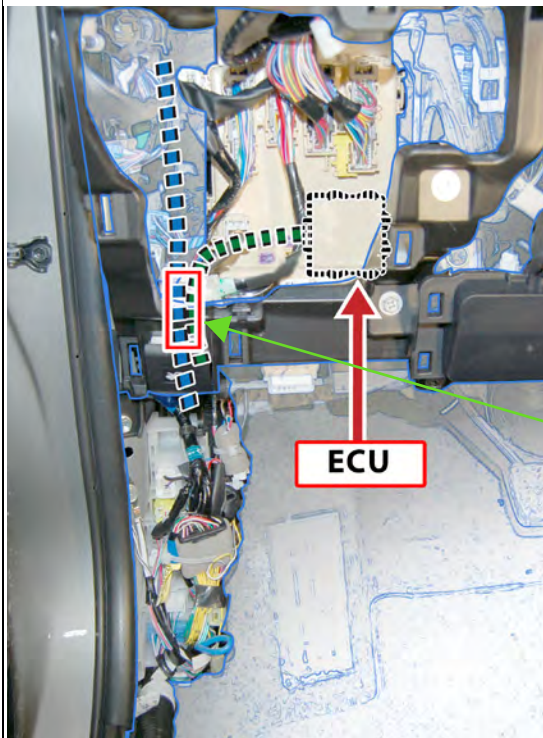


- g. Cut out 1 (50mm x 100mm) sized pieces of the Vinyl Sheet as shown.
- h. Cut 1 (50mm x 50mm) sized piece from the remaining Vinyl Sheet as shown.

Fig. 2-8



Side Cutters



- i. Secure the V2 Harness to the Vehicle Harness using 1 Wire Tie.



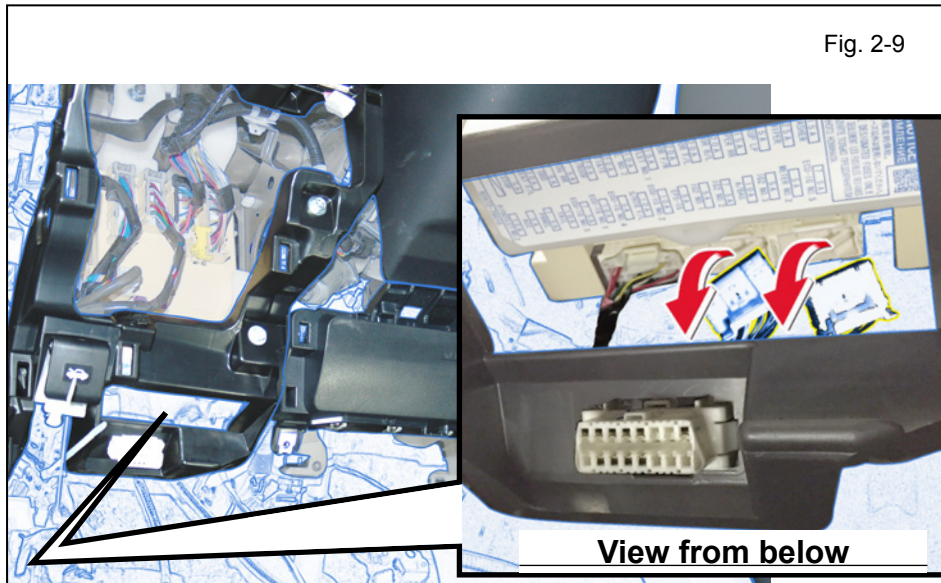
CAUTION: Do not secure to the Vehicle's Hood Release cable.



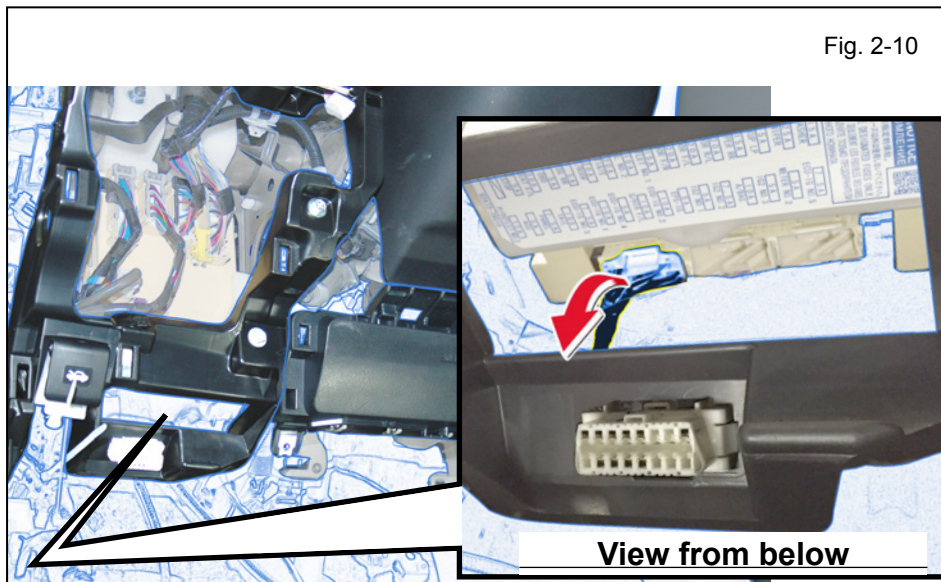
- j. Rotate the Ratchet end of the Wire Tie toward the front of the vehicle.



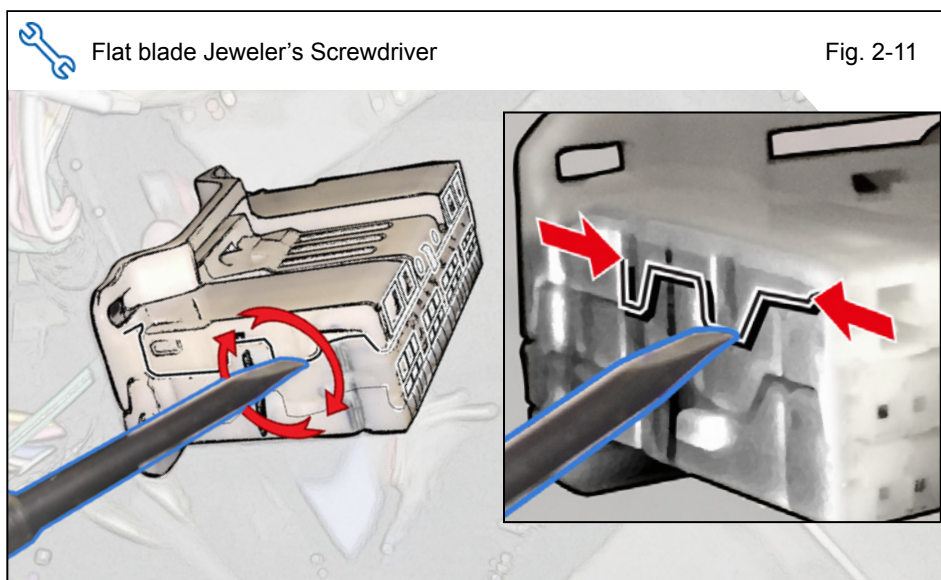
- k. Route the V2 Harness beside the Vehicle Panel and Vehicle Harness as shown.



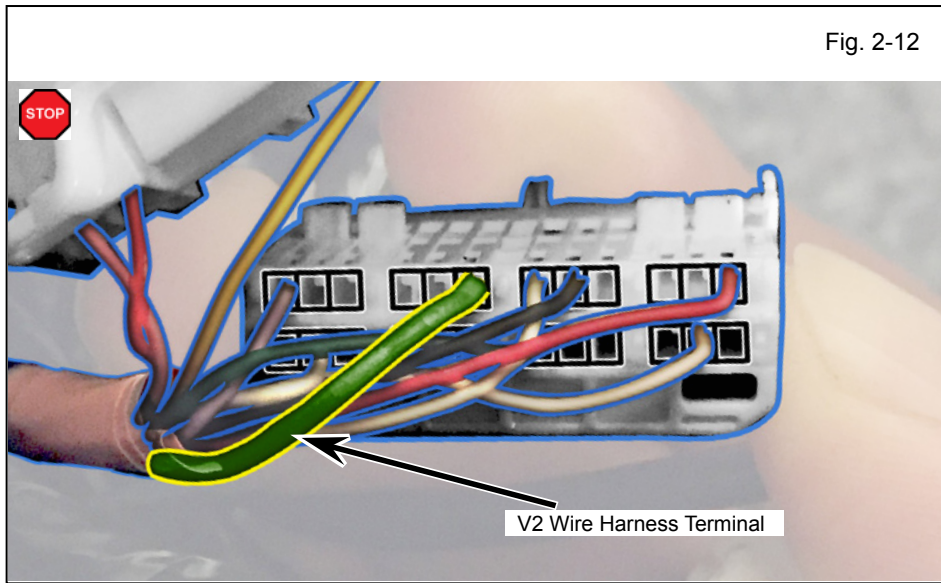
- I. Unplug the two right side Vehicle connectors below the junction box area.



- m. Unplug the very left Vehicle connector below the junction box area.



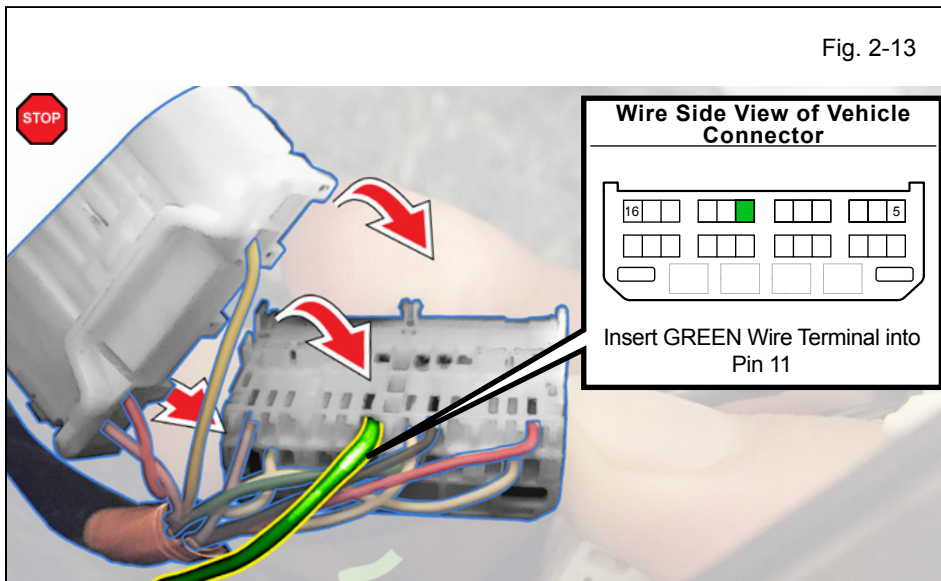
- n. Detach the Top part of the Vehicle Connector using a flat blade jeweler's screwdriver as shown.



- o. Insert the Green Terminal into Pin 11.

CAUTION: If terminal wire does not insert into the connector, confirm that the correct portion of the connector has been removed in Step 2-m.

STOP VERIFY: That the Terminal Pin is inserted in the specified location.



- p. Reattach the Top part of the Vehicle Connector as shown.

STOP VERIFY: That the Terminal Pin is inserted properly and does not come out.

CAUTION: Ensure Terminal Pin is inserted and secured within the correct Terminal location.



- q. Reconnect the Vehicle Connectors as shown.

CAUTION: Ensure surrounding connectors are plugged back into place after the procedure.

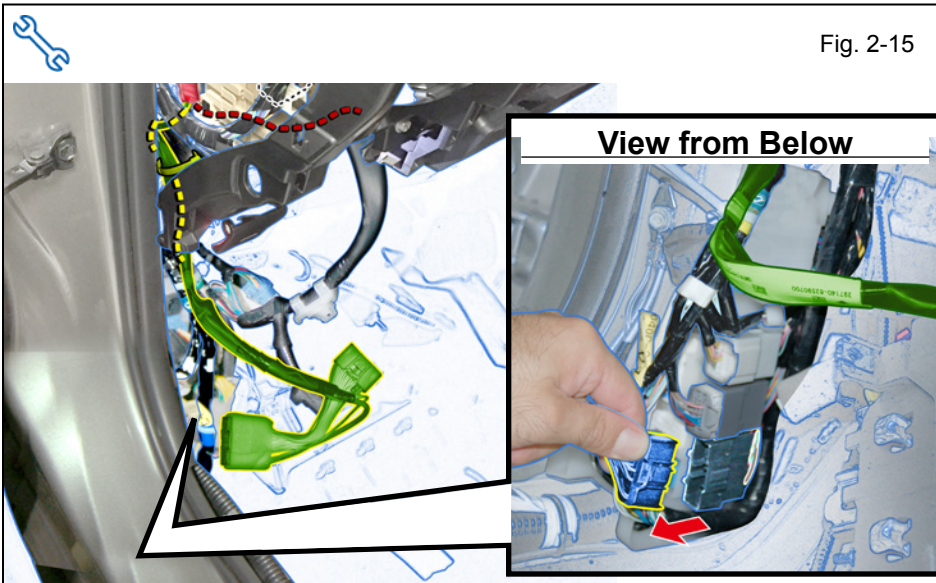


Fig. 2-15

- r. Disconnect the Vehicle 26P Black Connector from the Cowl Side area.

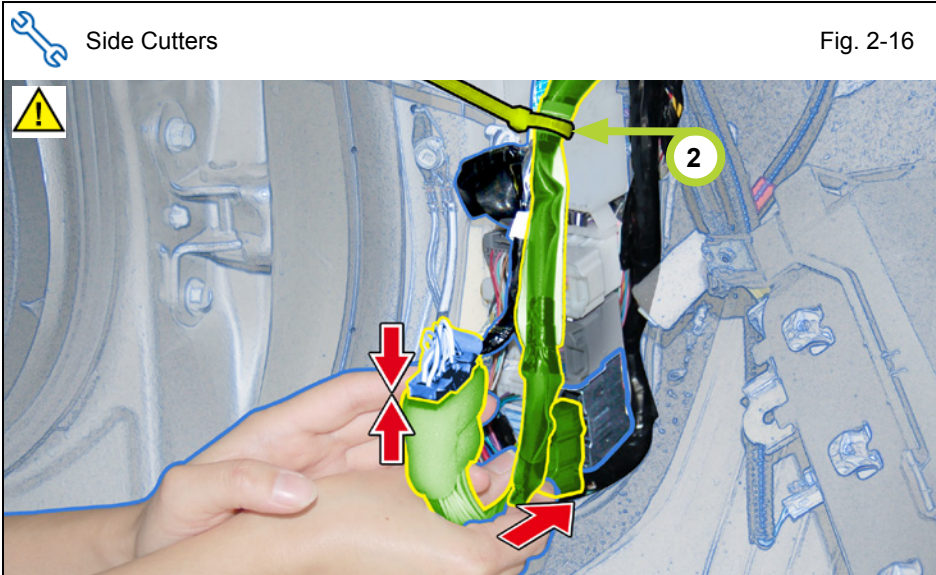


Fig. 2-16

- s. Plug in the V2 26P Black Connectors in between the Vehicle 26P Black Connectors in the Cowl Side.
- t. Secure the V2 Harness to the Vehicle Harness using 1 Wire Tie.



CAUTION: Do not secure to the Vehicle's Hood Release cable.



CAUTION: Ensure V2 Harness routes in front of the Vehicle Harness and facing the rear of the Vehicle.

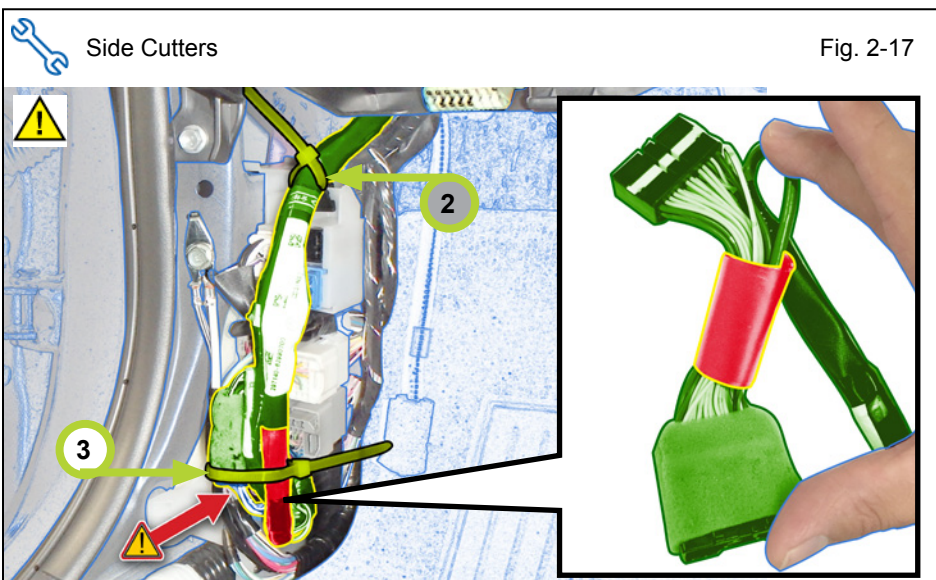


Fig. 2-17

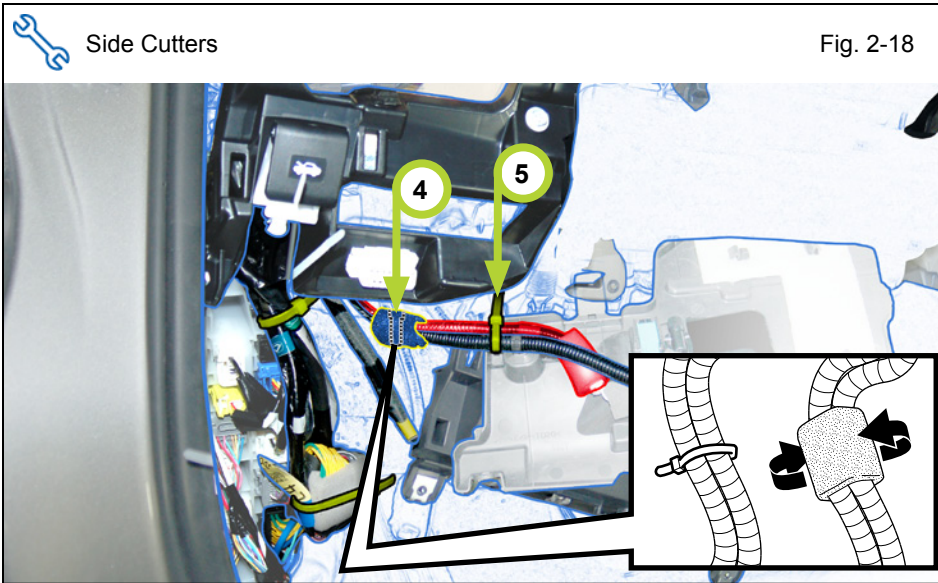
- u. Bundle the 26P connectors and wrap the bare wire using a (50mm x 100mm) piece of Vinyl Sheet as shown.
- v. Place the 26P connector Bundle facing the Vehicle Cowl side and secure the 26P Connectors to the Vehicle Harness using 1 Wire Tie.



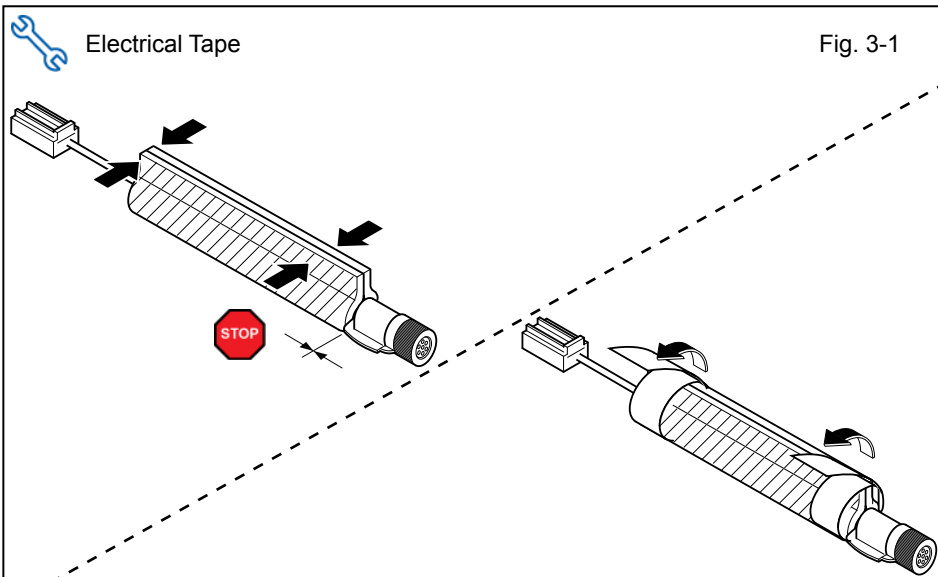
CAUTION: Do not Wire Tie the bare wires to the Vehicle Harness.



CAUTION: Make sure to secure the Wire Tie over Vinyl Sheet to avoid damage on bare wire.



- w. Secure the V2 Harness to the Vehicle Harness using 2 Wire Ties.
- x. Wrap the Wire Tied Vehicle Harness and V2 Harness using 1 Foam Tape.

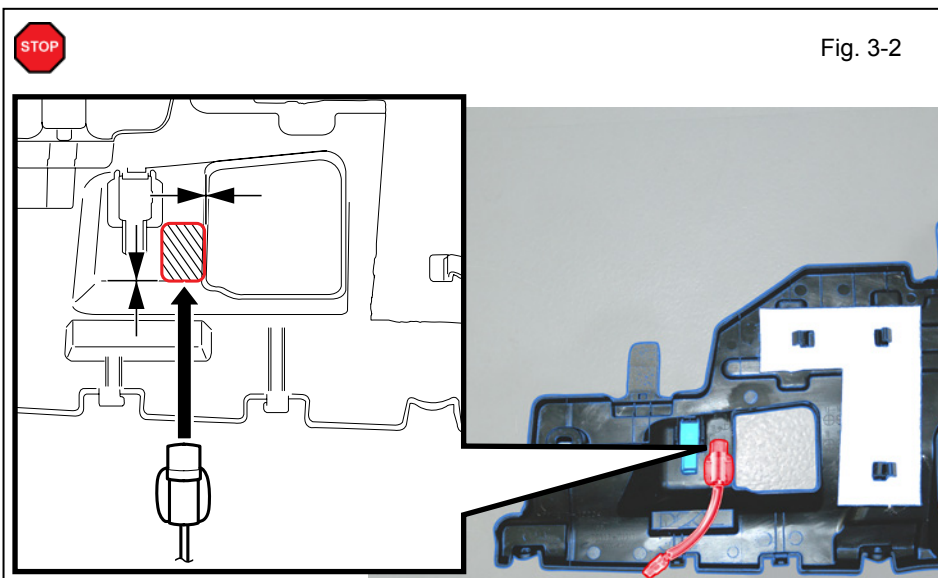


3. Microphone Installation.

- a. Using the (50mm x 50mm) piece of Vinyl Sheet; wrap the GBS Microphone Harness as shown.
- b. Secure the Vinyl Sheet using 2 pieces of Electrical Tape on both ends as shown.



VERIFY: That Vinyl Sheet covers the edge of the GBS Microphone as shown.

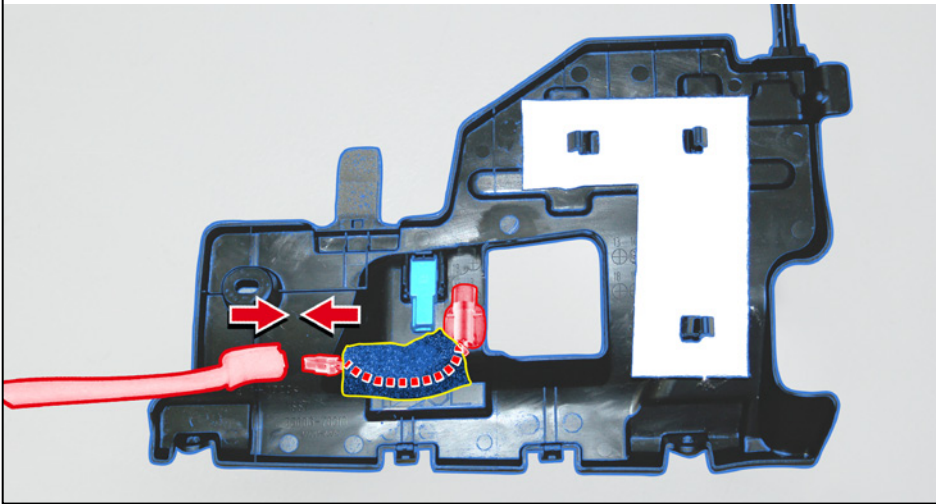


- c. Using the VDC approved cleaner and Cleaning Method, clean the area indicated on the backside of the No.1 Instrument panel under cover sub-assembly.
- d. Attach the GBS Microphone to the backside of the No.1 Instrument panel under cover sub-assembly as shown.



NOTE: Make sure to align GBS Microphone to the No.1 Instrument panel under cover sub-assembly.

Fig. 3-3



- e. Apply 1 Foam Tape to the GBS Microphone as shown.



NOTE: Do not cover the Microphone opening with the Foam Tape.

- f. Connect the Microphone's 2P Connector to the V2 Harness 2P Connector.

- g. Secure the 2P Connectors using 1 Wire Tie.



NOTE: Ensure the Foot Lamp Connector is reconnected.


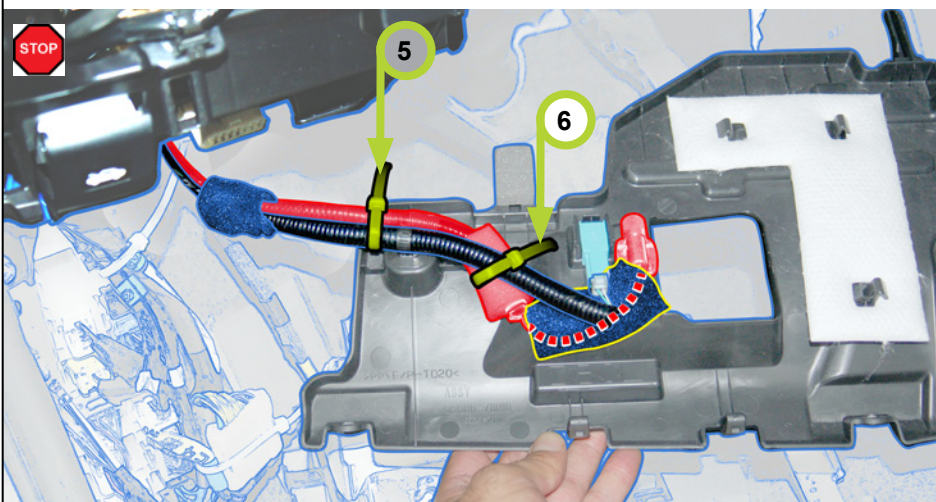
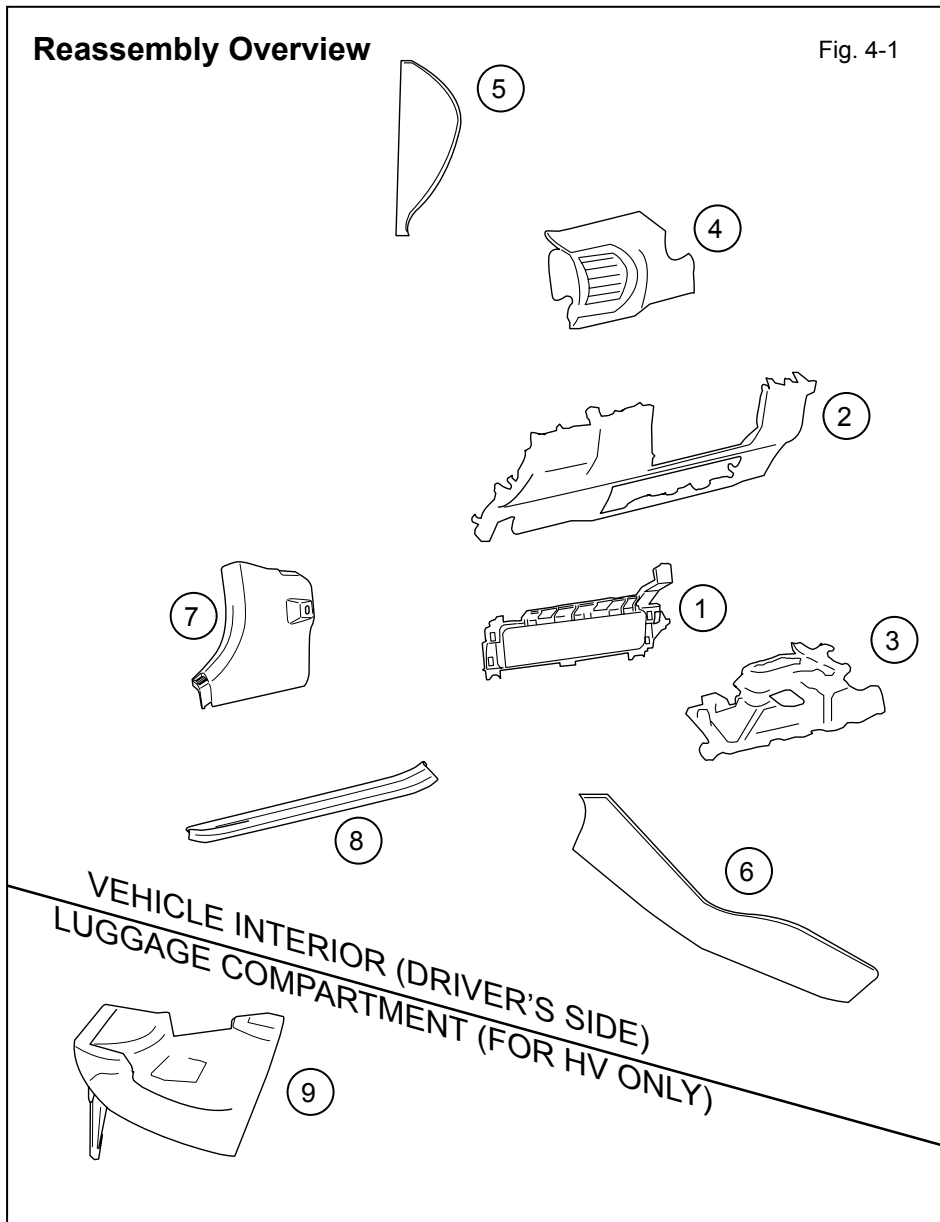
 Side Cutters

Fig. 3-4





4. Complete the Installation.

- a. Finish reassembling the Vehicle.
- b. When reinstalling the Knee Airbag, make sure to torque the Bolts.



Torque: 10 N•m (88.5 in•lbf)

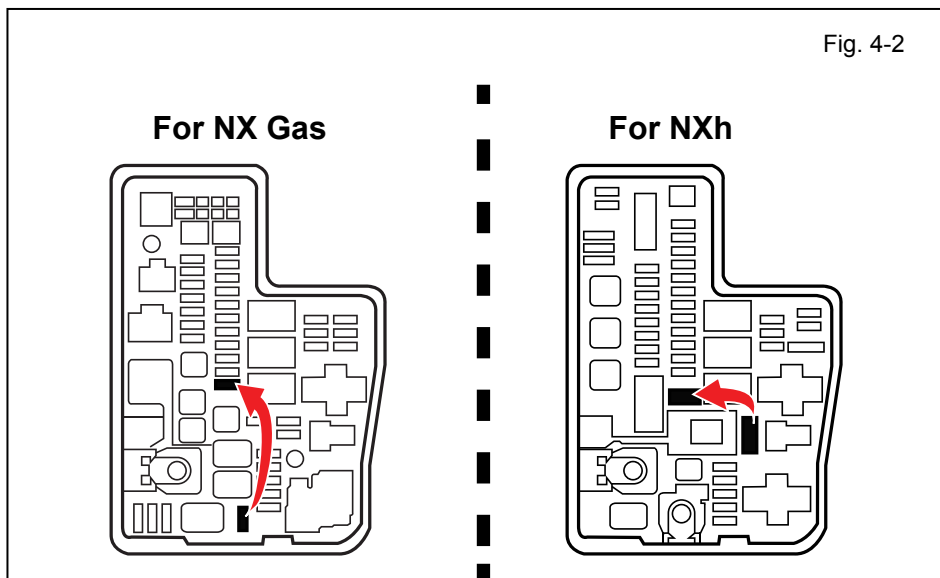
1	Lower No. 1 Instrument Panel Airbag Assembly (Do not disconnect connector)
2	Lower No.1 Instrument panel finish panel
3	No.1 Instrument panel under cover sub-assembly
4	No.1 Instrument panel safety pad sub-assembly
5	Instrument side panel LH
6	Upper No.2 console panel garnish
7	Cowl side trim board LH
8	Door scuff plate assembly
9	Battery Cover (For HV only)



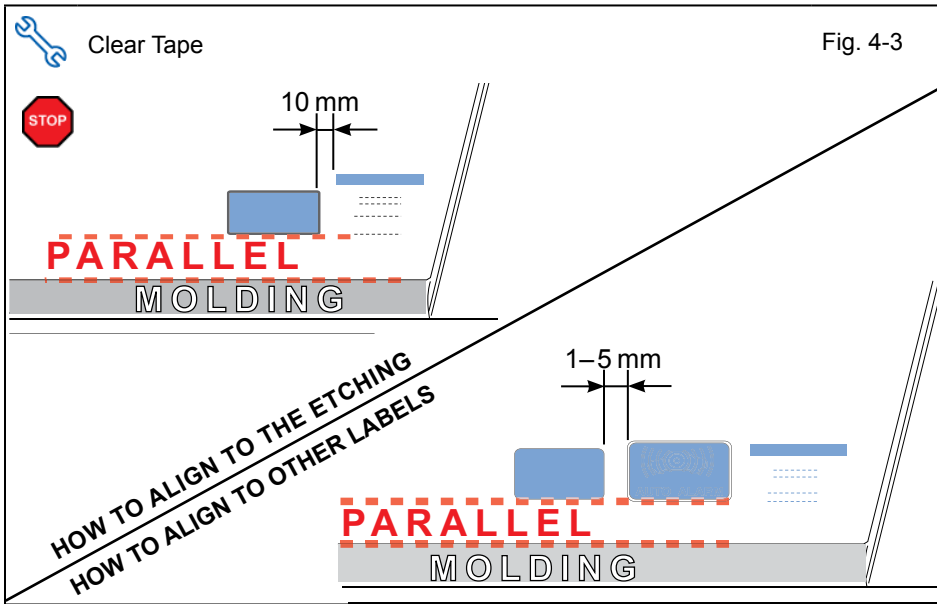
VERIFY: That all Connectors are plugged in.



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



- c. Verify that the 20 Amp Fuse is installed to D/C Cut.
 - If not install now.



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



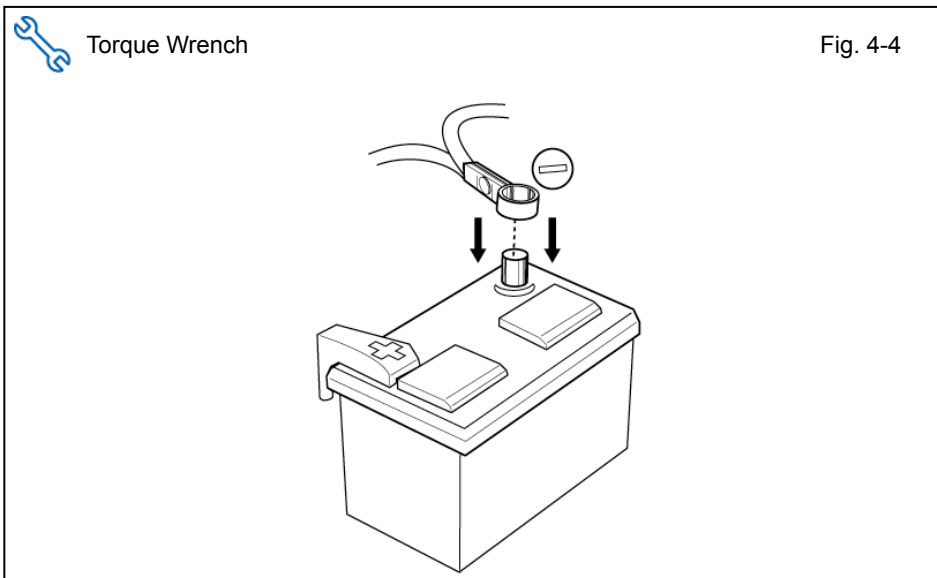
CAUTION: Do not touch the adhesive surface.

- f. Attach the Label as shown.



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

REPEAT: steps d-f with the other Window.



- g. 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.

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

Accessory Function Checks

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



Take out the Smart Key and the Smart Card Key from the Vehicle. Place them 7 feet (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.

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.



NOTE: 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
<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)

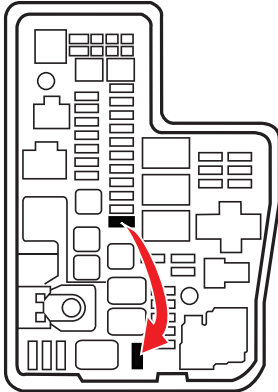
Function		Function	
<input type="checkbox"/>	Front Wiper/Washer	<input type="checkbox"/>	Rear Wiper/Washer (if equipped)
<input type="checkbox"/>	Power Sun/Moon Roof (if equipped)	<input type="checkbox"/>	Rollover Side Curtain Air Bag Switch (RSCA) (if equipped)
<input type="checkbox"/>	Clock (if equipped)	<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"/>	Steering Wheel Heater (if equipped)
<input type="checkbox"/>	Blind Spot Monitor (BSM) (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

Remove the 20A D/C Cut Fuse after Function check.
 Check with your Port/Dealer to see if this step is necessary.

For NX Gas



For NXh

