

Part Number: 08586-48070

Kit Contents

Item #	Quantity Reqd.	Description
1	1	Wire Harness
2	1	GBS ECU
3	1	ECU Mounting Bracket

Hardware Bag Contents

Item #	Quantity Reqd.	Description
1	1	Microphone
2	4	Small Foam Tape Strips
3	10	Medium Wire Ties
4	1	Owner's Manual

Additional Items Required For Installation

Item #	Quantity Reqd.	Description

Conflicts

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Recommended Tools

Personal & Vehicle Protection	Notes
Safety Glasses	
Safety Gloves	(Optional)
Vehicle Protection	Blankets, Part Boxes
Special Tools	Notes
Striker Tool (PPO only)	CAD-E IADS P/N: ALL 02-016-01
Installation Tools	Notes
Phillips Head Screwdriver	#2, screwdriver or tip
Flat Blade Screwdriver	Small
Socket	10 mm, 12 mm
Nylon Panel Removal Tool	e.g. Panel Pry Tool #1 Toyota SST # 00002-06001-01
Pneumatic/Electric Wrench	
Wrench	10 mm
Torque Wrench	4.9 ~ 7.8 N·m (43.4 ~ 69.0 lbf·in)
Side Cutters	
Special Chemicals	Notes
Cleaner	3M™ Prep Solvent-70

NOTE: Part number of this accessory may not be the same as the part number shown.

General Applicability

Note: Highlander with factory TDS system only

Recommended Sequence of Application






Item #	Accessory	
1	V2 (GBS)	
2	N1 (EC Mirror)	

*Mandatory

Vehicle Service Parts (may be required for reassembly)

Item #	Quantity Reqd.	Description

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 & 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.

Procedure

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, rechecking 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.

1. Vehicle Disassembly.

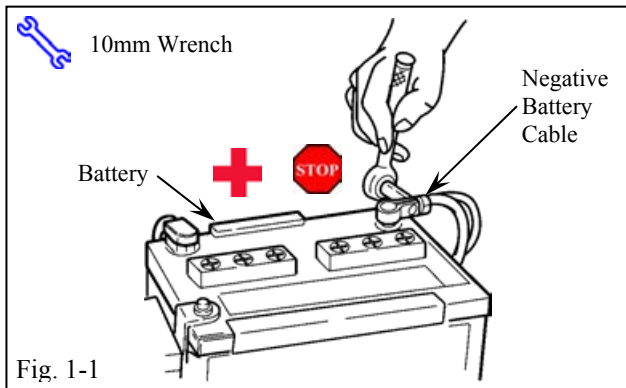


Fig. 1-1

- (a) Remove the negative battery cable. (Fig. 1-1)



- (1) Protect the fender before starting.
- (2) Be careful not to touch the positive terminal.

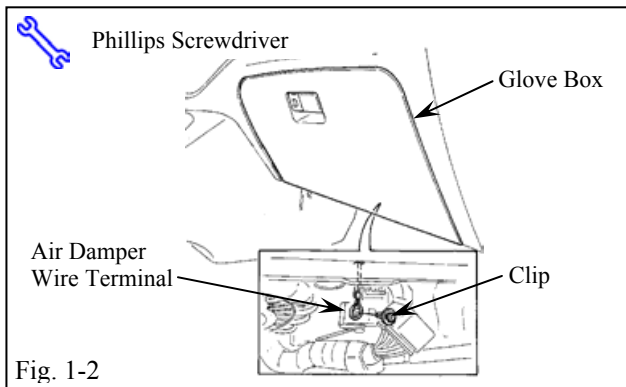


Fig. 1-2

- (b) Remove the air damper wire terminal from the bottom of the glove box. (Fig. 1-2)
- (1) Remove the clip securing the air damper wire terminal.

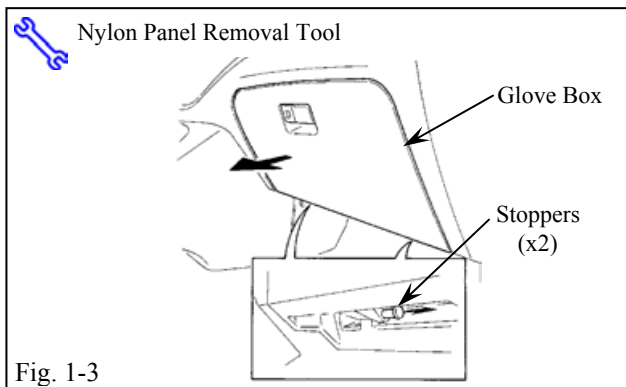
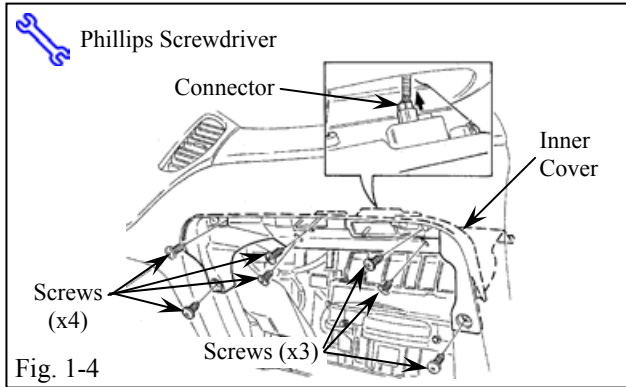
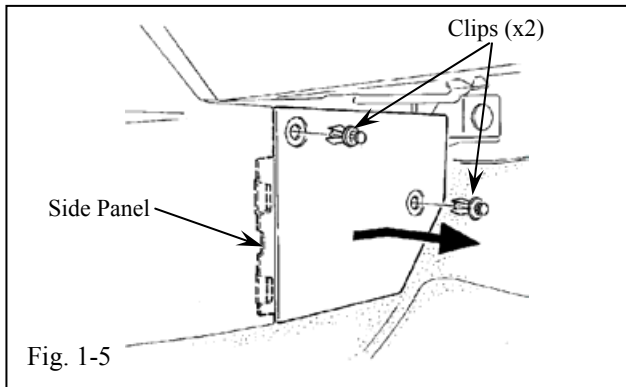


Fig. 1-3

- (c) Remove the glove box. (Fig. 1-3)
- (1) Remove two stoppers securing the bottom of the glove box.

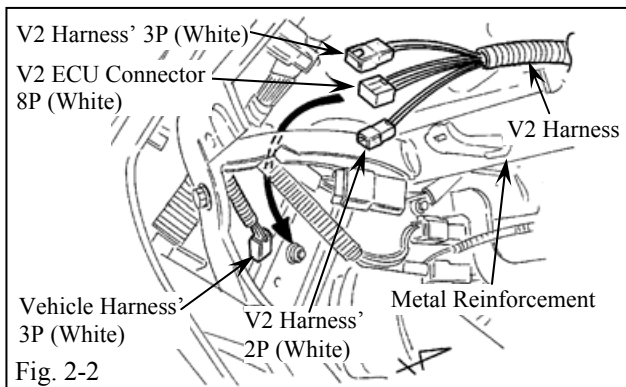
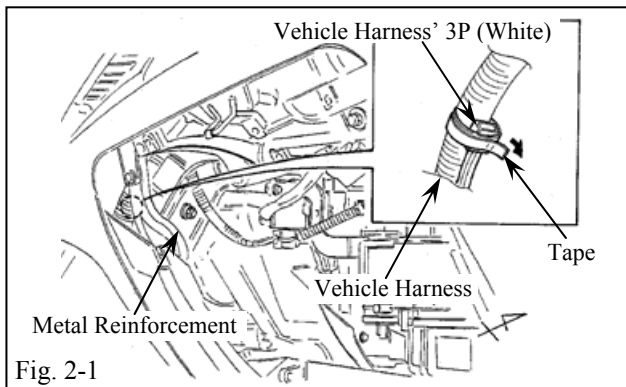


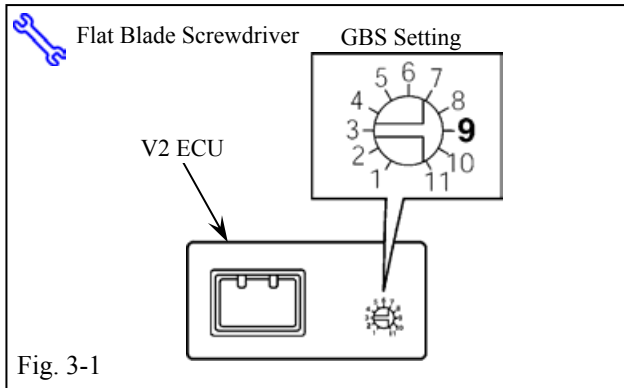
- (d) Remove the glove box inner cover. (Fig. 1-4)
 - (1) Remove seven screws securing the cover.
 - (2) Disconnect one connector.
- (e) Remove the passenger side panel. (Fig. 1-5)
 - (1) Remove two clips securing the cover.



2. V2 Harness Installation.

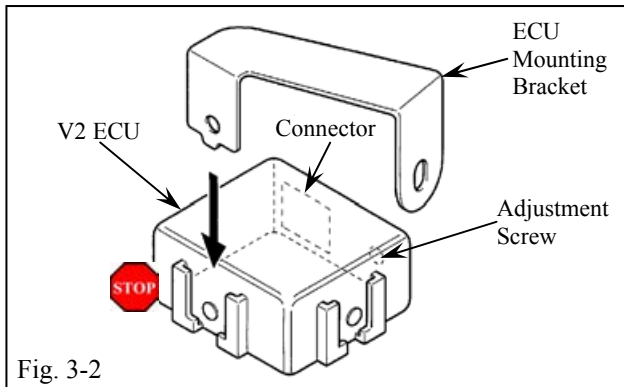
- (a) Locate and remove the tape securing the vehicle harness' white 3P connector from the passenger side center console area behind the metal reinforcement. (Fig. 2-1)
- (b) Route the V2 harness' connectors between the instrument panel and metal reinforcement. (Fig. 2-2)
 - (1) Be careful not to get cut by the sharp metal edge.



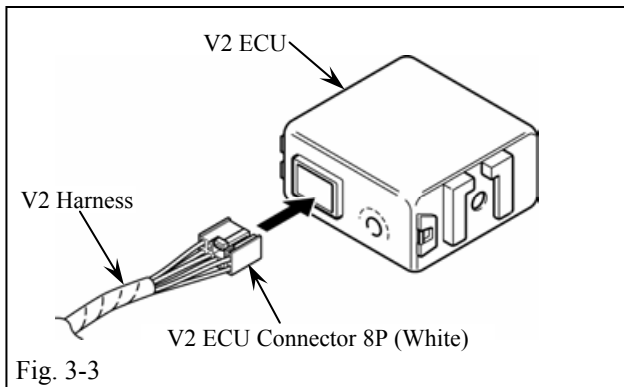


3. V2 ECU Preparation and Installation.

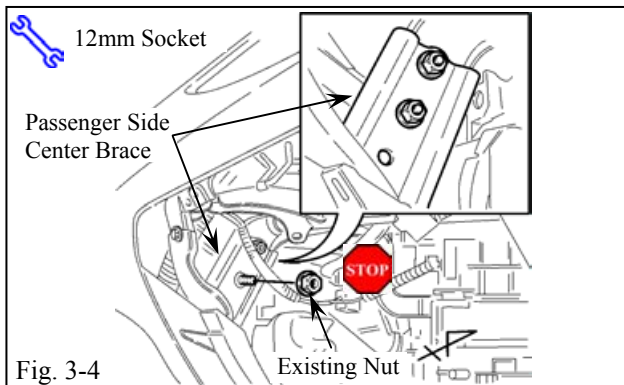
- (a) Turn the GBS adjustment screw on the V2 ECU to the “9” position. (Fig. 3-1)
- (b) Insert the ECU mounting bracket into the indicated bracket slot on the V2 ECU. (Fig. 3-2)



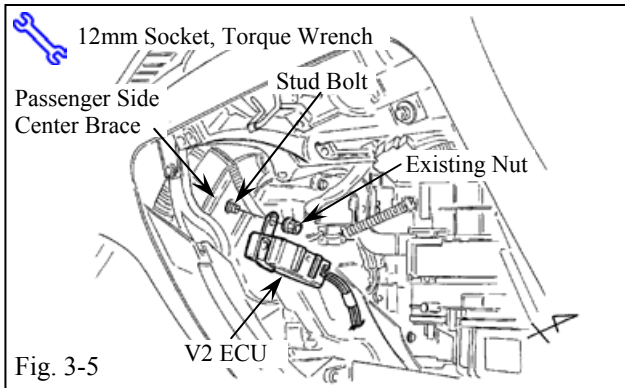
- (1) Insert the mounting bracket into the correct slot; you have only one chance to install it properly.
- (c) Plug in the V2 harness' white 8P connector to the V2 ECU. (Fig. 3-3)
- (1) Verify the connectors are plugged in securely.



- (d) Locate and remove the vehicle's existing nut from the passenger side center brace. (Fig. 3-4)



- (1) Do not discard the nut.

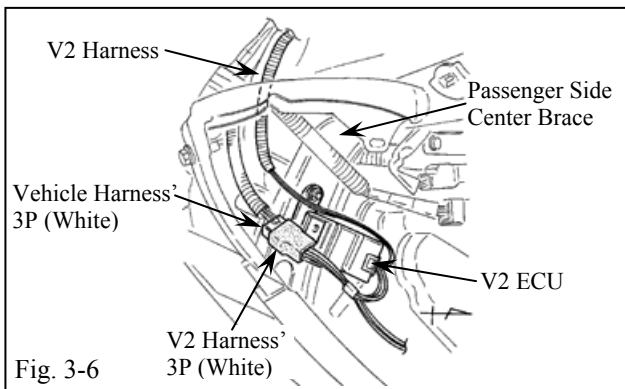


(e) Using the stud bolt and existing nut, secure the V2 ECU to the passenger side center brace in the center console area. (Fig. 3-5)

(1) Secure the V2 ECU as shown.

(f) Plug in the V2 harness' white 3P connector into the vehicle's white 3P connector. (Fig. 3-6)

(1) Verify the connectors are plugged in securely.



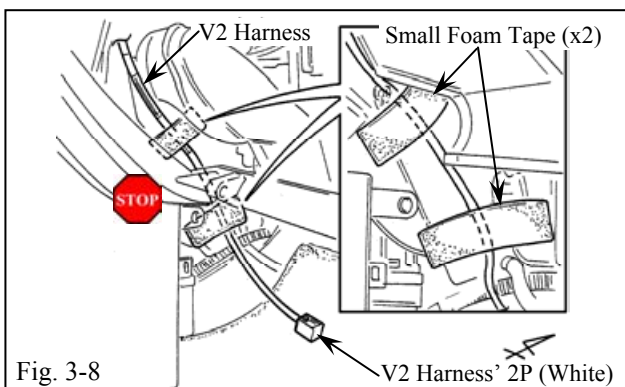
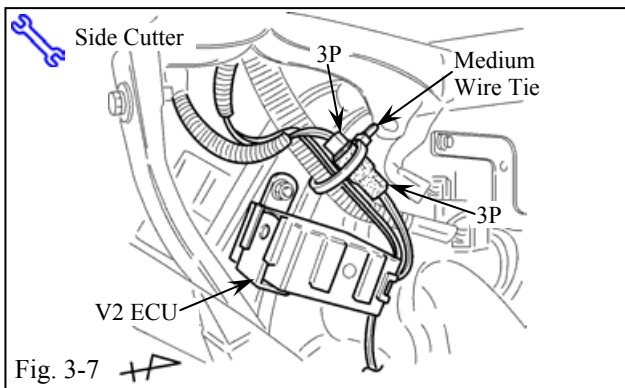
(g) Secure the 3P connectors to the vehicle harness with one medium wire tie. (Fig. 3-7)

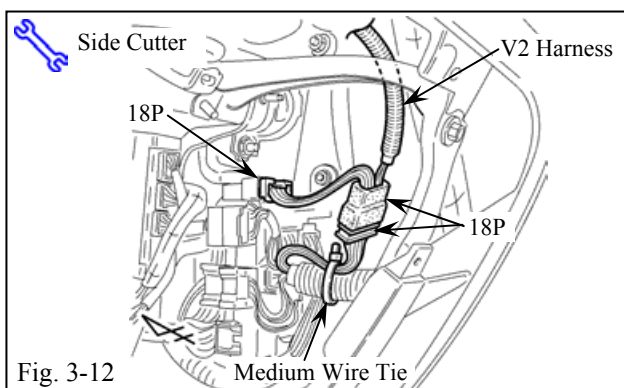
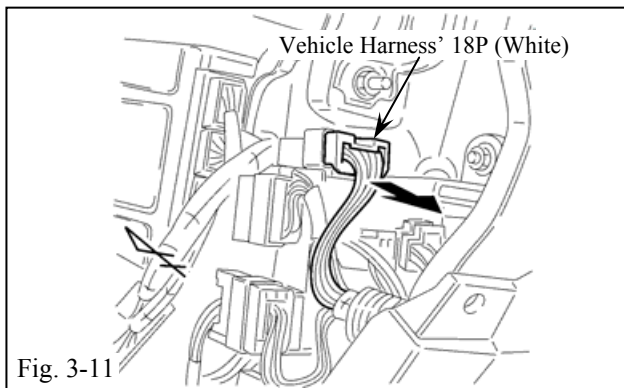
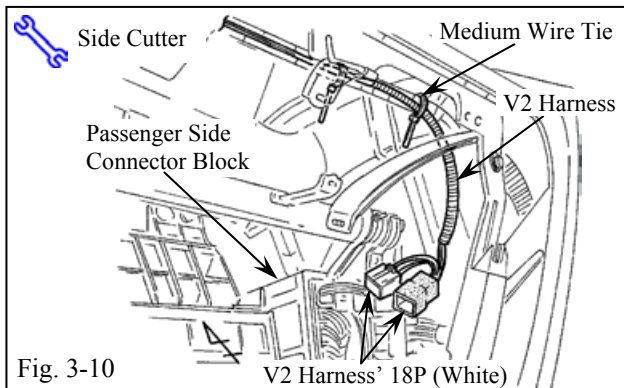
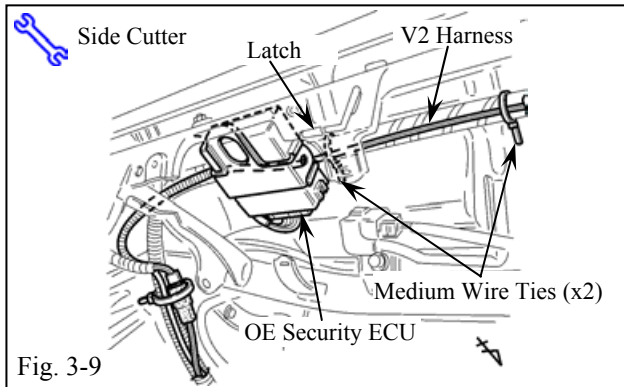
(h) Route the V2 harness down toward the passenger's floor, then secure it to the passenger side heater unit with two small strips of foam tape. (Fig. 3-8)

(1) Before securing the V2 harness, pull it gently downward as much as possible to minimize play around the heater area. If play is not reduced, the V2 harness may contact the heater unit and rattle.

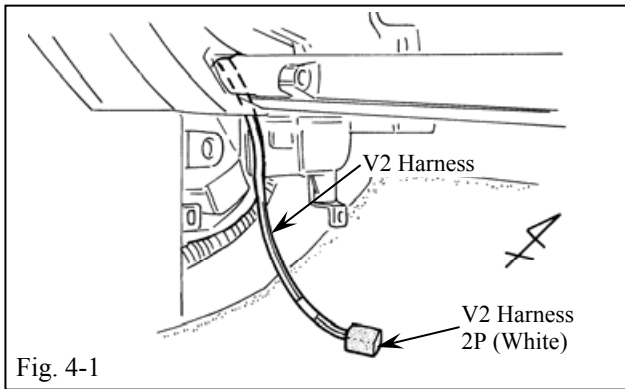


(2) Route the V2 harness away from any moving parts such as levers.





- (i) Looking up from the glove box, route the V2 harness behind the OE security ECU; secure it to the vehicle harness with two medium wire ties. (Fig. 3-9)
- (j) Route the V2 harness toward the passenger side connector block, then secure it to the vehicle harness with one medium wire tie. (Fig. 3-10)
- (k) Locate and disconnect the white 18P connector from the passenger side connector block area. (Fig. 3-11)
- (l) Plug in the V2 harness' white 18P connectors between the vehicle harness' white 18P connector and the passenger side connector block. (Fig. 3-12)
 - (1) Verify the connectors are plugged in securely.
- (m) Secure the white 18P connectors to the vehicle harness with one medium wire tie. (Fig. 3-12)



4. Microphone Installation.

(a) Locate the V2 harness' white 2P connector from the passenger side center console area. (Fig. 4-1)



(b) Using 3M™ Prep Solvent-70, clean the area indicated on the backside of the passenger side panel. (Fig. 4-2)

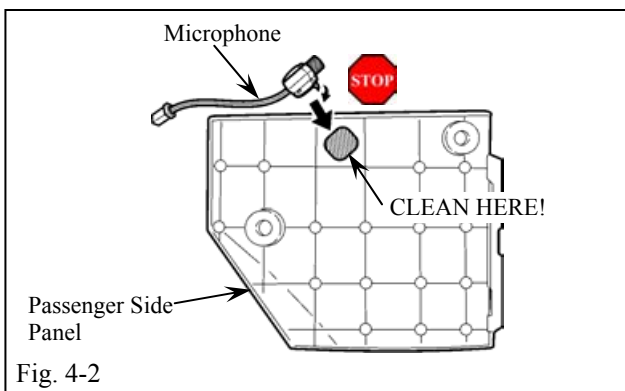
(1) When cleaning with 3M™ Prep Solvent-70, follow the manufacturer's directions. Do not allow cleaner to air dry.

(c) Remove the backing sheet and secure the microphone to the backside of the passenger side panel. (Fig. 4-2)

(1) Secure the microphone as shown.

(2) Do not touch the adhesive surface of the microphone.

(3) Press the microphone to the passenger side panel firmly.

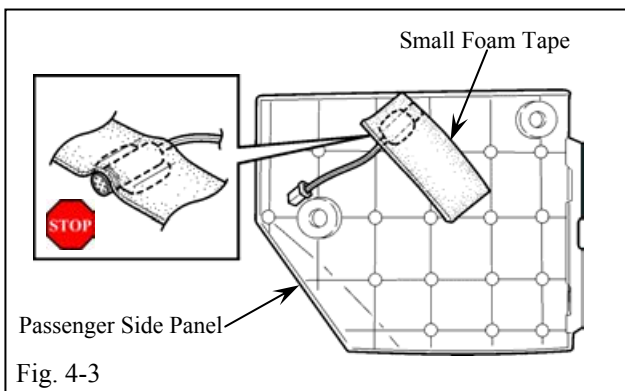


(d) Secure the microphone with one small strip of foam tape. (Fig. 4-3)

(1) Do not cover the opening of the microphone with the foam tape.

(e) Plug in the V2 harness' white 2P connector to the microphone's white 2P connector. (Fig. 4-4)

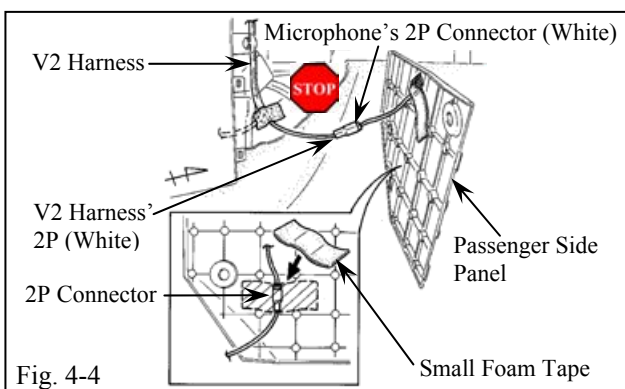
(1) Verify the connectors are plugged in securely.

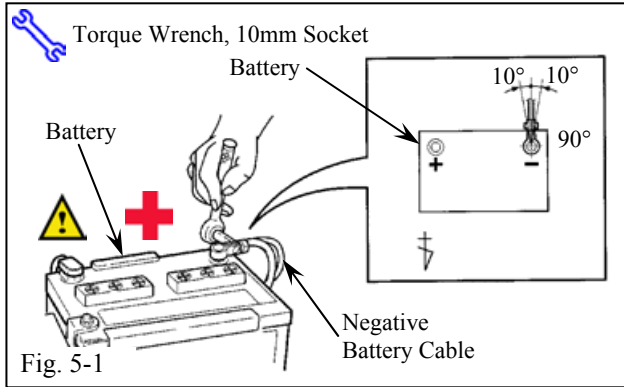


(f) Secure the 2P connectors to the passenger side panel with one small foam strip of foam tape. (Fig. 4-4)












(g) Reinstall the passenger side panel. Ensure that the V2 harness does not interfere with moving parts.





5. Completing the Installation.

- (a) Complete the reassembly of the vehicle.
 - (1) Reconnect any disconnected connectors.
 - (2) Verify the panels fit together properly with no uneven gaps between them.
- (b) Clean up and remove any trash.
- (c) Reconnect the vehicle's negative battery cable. (Fig. 5-1)
 - (1) Position the negative terminal at an angle of $90^\circ (\pm 10^\circ)$ to the battery as shown.
 -  (2) Tighten the nut to 4.9 ~ 7.8 N·m (43.4 ~ 69.0 lbf·in).
 -  (3) Do not touch the positive terminal with any tool when replacing the cable.
-  (d) Reset the power windows.
 -  (1) Turn the ignition key to "ON."
 - (2) Press the power window buttons of each door to lower the windows halfway.
 - (3) Press the buttons until the windows close and hold switches up for one (1) additional second (minimum).
-  (e) Reset the power moon roof.
 -  (1) Press and hold the moon roof button until the moon roof is closed. Hold for two (2) additional seconds.
-  (f) Reset the tailgate door.
 -  (1) Press the door lock control switch to its "unlock" position.
 - (2) Pull the tailgate door handle up.
-  (g) Place the owner's manual, left in its protective bags, in the glove box.

Check:

Accessory Function Checks

Fit the appropriate fuse before beginning.

Close the hood before beginning.

Press and release the remote control's lock button to start the system's arming process.

Wait 30 seconds.

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



With the tip of a key (or striker tool pulled all the way out [PPO only]), tap the center of the driver's door window to trigger the "warn away" alarm.

Insert the key into the driver's door key cylinder and turn it toward the back of the vehicle to stop the alarm.

Look For:

1. The turn signal lights flash once.
The buzzer chirps once.
All doors lock.
The security LED lights up.
2. After 30 seconds, the security LED starts flashing; the system is now armed.

3. The horn sounds repeatedly.
The interior lights turn on.
The headlights flash repeatedly.
The turn signal lights flash repeatedly.
The security LED lights up.

NOTE: Increase the GBS sensitivity setting to the next level if the alarm does not trigger.

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

4. The horn stops sounding.
All the lights stop flashing and/or turn off.
The security LED starts to flash.

TOYOTA HIGHLANDER 2004 - TVIP V2 (GBS ADD ON)
 Checklist - these points **MUST** be checked to ensure a quality installation.

<u>Check:</u>	<u>Look For:</u>
<u>Vehicle Function Checks</u>	
<input type="checkbox"/> Head Lights	Functioning Head Lights
<input type="checkbox"/> High Beams	Functioning High Beams
<input type="checkbox"/> Turn Signal Lights	Functioning Turn Signal Lights
<input type="checkbox"/> Tail Lights	Functioning Tail Lights
<input type="checkbox"/> Stop Lights	Functioning Stop Lights
<input type="checkbox"/> Backup Lights	Functioning Backup Lights
<input type="checkbox"/> Hazard Lights	Functioning Hazard Lights
<input type="checkbox"/> Marker Lights	Functioning Marker Lights
<input type="checkbox"/> Dome/Courtesy Lights	Functioning Dome/Courtesy Lights
<input type="checkbox"/> Panel/Switch Illumination	Functioning Controls/Illumination
<input type="checkbox"/> Accessory Controls/Illumination (if equipped)	Functioning Accessory
<input type="checkbox"/> Key Sensor Buzzer	Functioning Key Sensor
<input type="checkbox"/> Fog Lights (if equipped)	Functioning Fog Lights
<input type="checkbox"/> Daytime Running Lights (if equipped)	Functioning DR Lights
<input type="checkbox"/> Trunk/Tailgate/Bed Lights (if equipped)	Functioning Lights
<input type="checkbox"/> Glove Box Light (if equipped)	Functioning Glove Box Light
<input type="checkbox"/> Cruise Control Light (if equipped)	Functioning Cruise Control Light
<input type="checkbox"/> Seat Belt Warning Light	Functioning Seatbelt Warning Light. If the warning light remains on, it may indicate a system malfunction.

TOYOTA HIGHLANDER 2004 - TVIP V2 (GBS ADD ON)
 Checklist - these points **MUST** be checked to ensure a quality installation.

Check:

- Air Bag Warning Light
- ABS Light (if equipped)
- Lamp Failure Sensor (if equipped)
- Track/Skid Control Light (if equipped)
- HVAC
- Power Locks (if equipped)
- Power Windows (if equipped)
- Power Seats (if equipped)
- Power Sunroof (if equipped)
- Horn
- Gauges
- Front Wiper/Washer
- Rear Wiper/Washer (if equipped)
- Clock (if equipped)
- Accessory Power Socket (if equipped)
- Starter

Look For:

- Functioning Air Bag Warning Light. If the warning light remains on, it may indicate a system malfunction.
- Functioning ABS Light. If the warning light remains on, it may indicate a system malfunction.
- Functioning Lamp Failure Light. If the warning light remains on, it may indicate a system malfunction.
- Functional Track/VSC Light. If the warning light remains on, it may indicate a system malfunction.
- All HVAC Controls Function
- Functioning Power Locks
- Functioning Power Windows
- Functioning Power Seats
- Functioning Sunroof
- Functioning Horn
- Functioning Gauges
- Functioning Front Wiper/Washer
- Functioning Rear Wiper/Washer
- Functioning Clock
- Functioning Power Socket
- Functioning Starter

TOYOTA HIGHLANDER 2004 - TVIP V2 (GBS ADD ON)
Checklist - these points **MUST** be checked to ensure a quality installation.

Check:

- Audio/Video (if equipped)
- Power Sliding Door (if equipped)
- Convenience Memory Settings (if equipped)
- Heated Seats (if equipped)
- Massage Seats (if equipped)
- Rear Window Defogger (if equipped)
- Power Side Mirrors (if equipped)
- Side Mirror Defogger (if equipped)
- Front Windshield Defogger (if equipped)
- Navigation System (if equipped)

Remove the appropriate fuse after checks are completed.

Look For:

- Functioning Audio/Video
- Functioning Power Sliding Door
- Functioning Memory Settings
- Functioning Heated Seats
- Functioning Massage Seats
- Functioning Rear Window Defogger
- Functioning Power Side Mirrors
- Functioning Side Mirror Defogger
- Functioning Front Windshield Defogger
- Functioning Navigation System