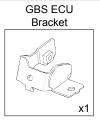
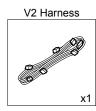
Part #: PT398-07131

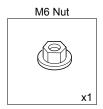
Conflicts:

Kit Contents















TVIP V2

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)

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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: 61 in•lbf (6.9 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		

Table of Contents

PREPARATION

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Ш	I. Checklist	17-19
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Legend



Do not proceed until process has been completed.



Follow steps carefully to avoid damaging the Vehicle or Accessory



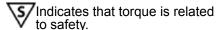
Use caution to avoid injury.



Used in Figures to call attention to specific tools recommended for the process.



Highlights a change in installation with respect to previous issue.







Video available; click to play.



Wire Tie location and number.

Accessory Installation Practice (read before installation)

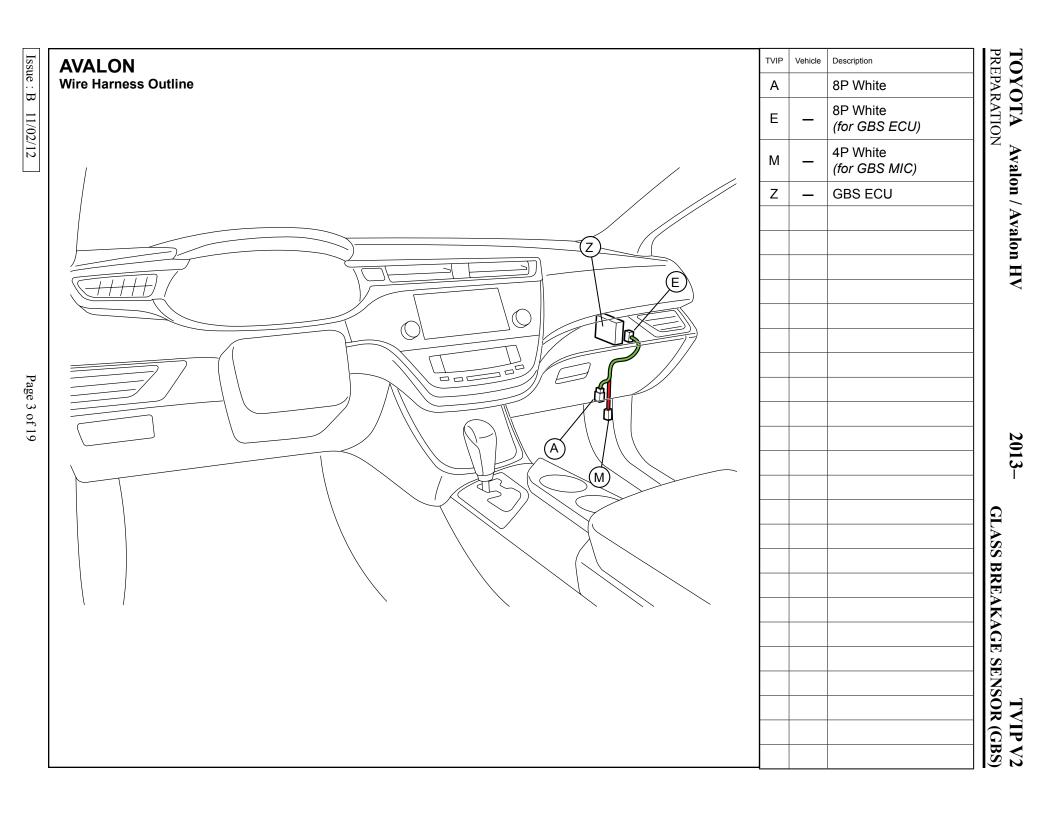
Care must be taken when installing this accessory to ensure damage does not occur to the vehicle. The installation of this accessory should follow approved guidelines to ensure a quality installation.

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.

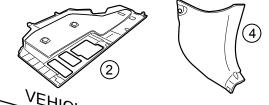


PROCEDURE

(3)

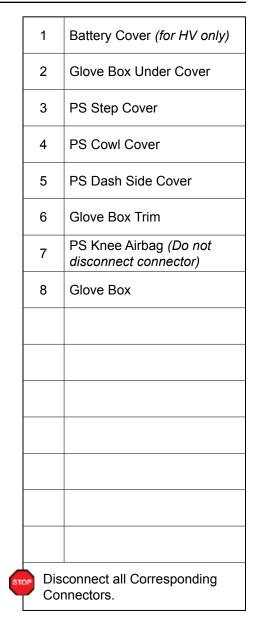






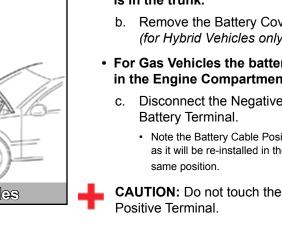








- Place the vehicle in Park with the Parking Brake set.
- For Hybrid Vehicles the battery is in the trunk.
 - Remove the Battery Cover. (for Hybrid Vehicles only)
- · For Gas Vehicles the battery is in the Engine Compartment.
 - c. Disconnect the Negative Battery Terminal.
 - · Note the Battery Cable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



Gas Vehicles

Fig. 1-1

10mm Socket

Hybrid Vehicles (HV)

d. Remove the Glove Box Under Cover.

e. Remove the Passenger's Side Step Cover.

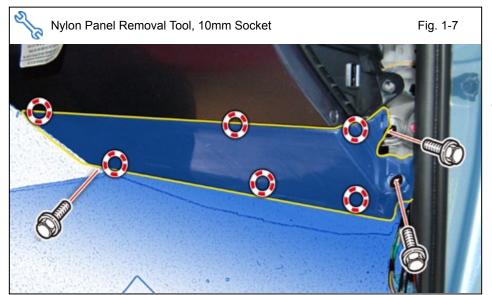
- Remove the Passenger's Side Cowl Cover.
 - Remove 1 Nut.

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

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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.

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- 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.

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.

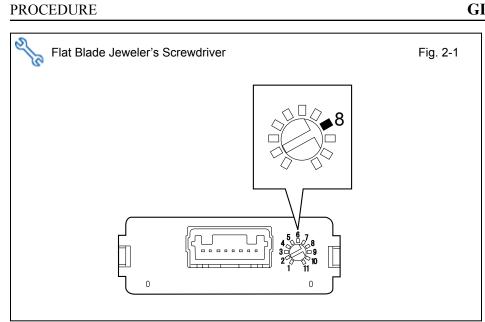
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- o. Remove 3 Screws.
- p. Dislodge the Glove Box.

- 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.

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GLASS BREAKAGE SENSOR (GBS)



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.

PROCEDURE

GLASS BREAKAGE

d. Dislodge RES ECU Bracket.

V2/V4 Add-on ONLY

- 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.

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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.

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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.

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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.

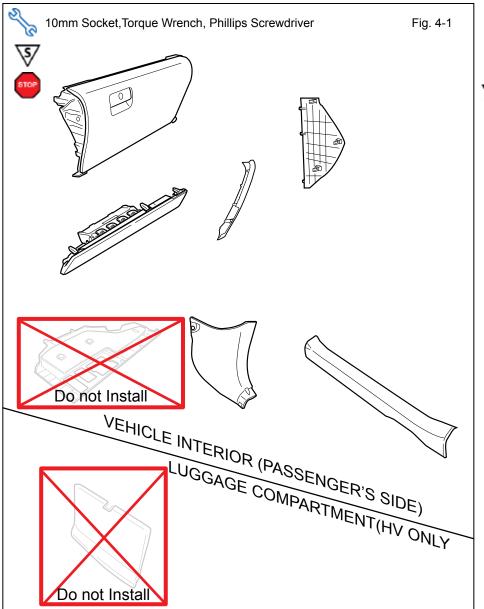


NOTE: Place the V2 Harness parallel to the Vehicle Harness.



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

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4. Microphone Installation.

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



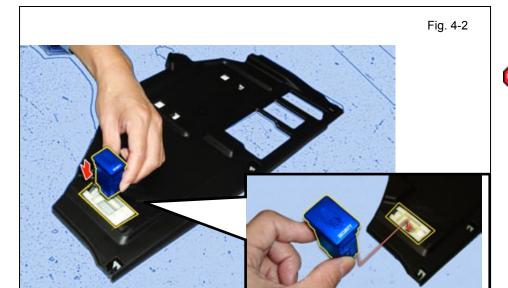
NOTE: When reinstalling Knee Airbag, make sure to tighten the Bolts to 88.5 in•lbf (10 N•m).



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.

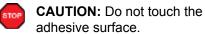
VERIFY: That the Microphone is installed in the right orientation.

- c. Connect the V2 White4P Connector to theMicrophone'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.

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



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.

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- 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.



• Tighten the Nut to 61 in•lbf (6.9 N•m)



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.

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

GLASS BREAKAGE SENSOR (GBS)

Accessory Function Checks

Roll up all windows, and exit the vehicle with the Smart Key.



Take the Smart Key and the Smart Card Key and 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.	

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	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 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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TVIP V2 GLASS BREAKAGE SENSOR (GBS)

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

Vehicle Function Checks

	Function			Function	
En	Enter the Vehicle				
		Dome/Courtesy Lights		Steering Wheel Column Adjusts Without Interference	
		Horn			
Sta	rt the \	/ehicle			
		Starter		Gauges	
		Panel/Switch Illumination		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) Prior to TPMS activation and Pre-delivery	
		Air Bag Warning Light If the warning light remains on, it may indicate a system malfunction.		Service (PDS) of the Vehicle the TPMS light will blink when IG is turned on. After TPMS activation and PDS of the Ve-	
		Cruise Control Light (if equipped)		hicle the TPMS light will illuminate for a few seconds and go off when IG is turned on.	
Us	sing a N	lirror 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)			
Stop the Engine, Place the Vehicle's IG in the ON position.					
		Hazard Lights		Turn Signal Lights	
		Head Lights		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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TVIP V2 GLASS BREAKAGE SENSOR (GBS)

 $CHECKLIST-these\ points\ \textbf{MUST}\ be\ checked\ to\ ensure\ a\ quality\ installation.$

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)
	Massage Seats (if equipped)		Heated/Vented Seats (if equipped)
	Glove Box Light (if equipped)		Passenger Air Bag Switch (if equipped)
	Power Locks (if equipped)		Power Windows (if equipped)
	Power Seats (if equipped)		Key Sensor Buzzer

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