Part Number: PT413-42130

Kit Contents

Item #	Quantity Reqd.	Description
1	1	Wire Harness
2		
3		

Hardware Bag Contents

Item #	Quantity Reqd.	Description
1	20	Cable Tie
2	2	Scotchlok
3	2	Foam Pad

Additional Items Required For Installation

Item #	Quantity Reqd.	Description
1		Electrical Tape
2		Lint Free Wipes
3		

Conflicts

None

Recommended Tools

Personal & Vehicle Protection	**Notes**
Blanket	
Special Tools	**Notes**
Nylon Panel Removal Tool	e.g. Panel Pry Tool #1 Toyota SST# 00002-06001-01
Infrared Temperature Gun	
Installation Tools	**Notes**
Screwdriver	Phillips
Ratchet	
Socket	10mm
Socket Extension	
Pliers	
Torque Wrench	5.4 N-m (48 in-lbs.)
Special Chemicals	**Notes**

General Applicability

All RAV4/HV models

Recommended Sequence of Application

Item #	Accessory
1	Remote Engine Start
2	Security
3	Interior Light Kit

*Mandatory

Vehicle Service Parts (may be required for reassembly)

Item #	Quantity Reqd.	Description
1		
2		
3		

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.

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

Issue: A 07/07/2016

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. Prepare for the Install.

(a) Check the kit for contents and damage.

(b) Disconnect the battery.

(1) IMPORTANT: The vehicle must be turned to the “OFF” position.

(2) Remove the negative cable from the battery (Fig. 1-1).

CAUTION: Do not touch the positive terminal with any tool during removal.

(3) Place the battery cable so it does not come into contact with battery terminal.

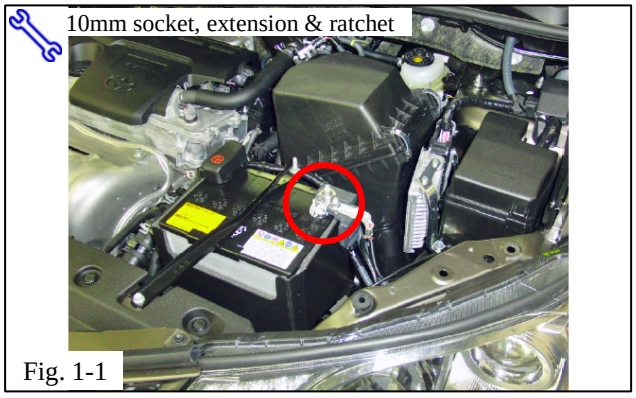


Fig. 1-1

2. Disassemble the Vehicle.

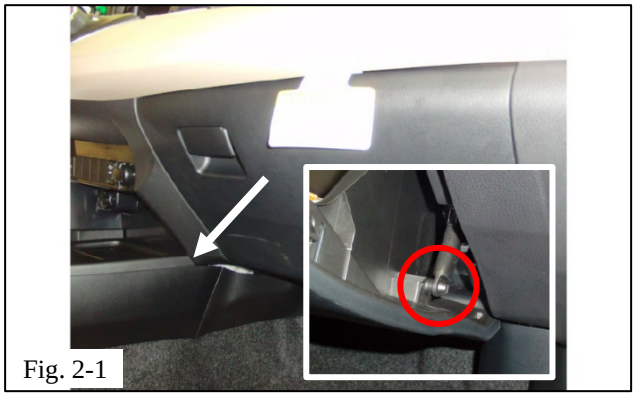
(a) Remove the glove box.

(1) Open the glove box (Fig. 2-1).

(2) Locate the glove box damper (Fig. 2-1 inset).

(3) Press the tabs securing the glove box damper piston and slide the damper off of the shaft (Fig. 2-1 inset).

(4) Gently lower the glove box and pull it towards the passenger seat to release the claws securing the lower edge.


Fig. 2-1

Issue: A 07/07/2016

(b) Remove the passenger side instrument panel under panel.

(1) Locate the tabs indicated by the arrows (Fig. 2-2).

(2) Press the tabs forward to disengage the clips.

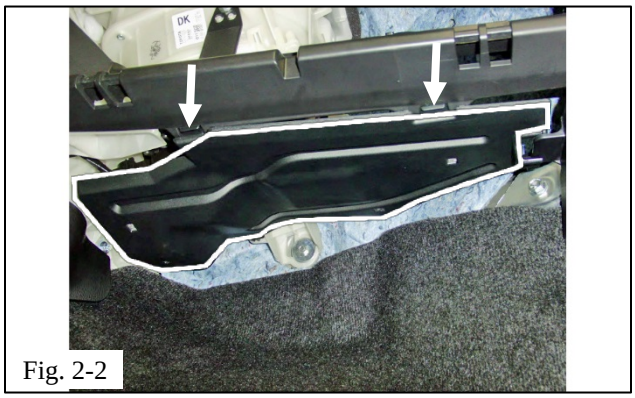


Fig. 2-2

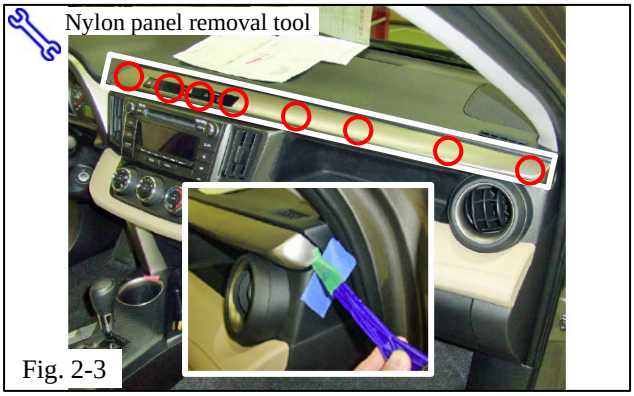


Fig. 2-3

(c) Remove the upper trim (Fig. 2-3).

(1) Apply tape to the panel below the edge of the upper trim (Fig. 2-3 inset).

(2) Use a nylon panel removal tool to disengage the clip at the right end of the upper trim (Fig. 2-3 inset).

(3) Carefully pull the trim away from the instrument panel to disengage the remainder of the clips.

(d) Remove the air vents.

(1) Place protective tape to the right side of the dashboard by the air vent. Place protective tape in the areas indicated by arrows to protect the surfaces (Fig. 2-4).

(2) Use a nylon panel removal tool to loosen the air vents (Fig. 2-4).

(3) Carefully pull the vents outward to disengage the yellow clips (Fig. 2-4 inset).

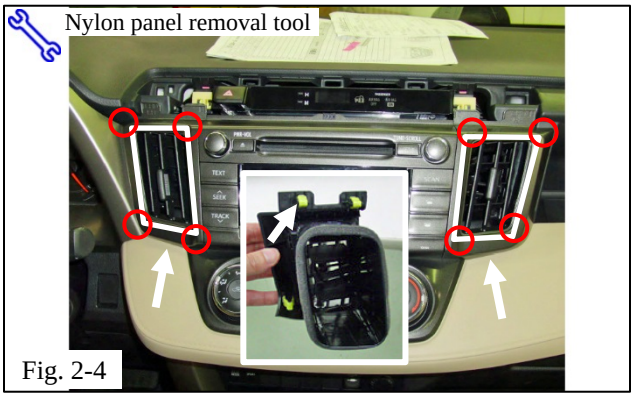


Fig. 2-4

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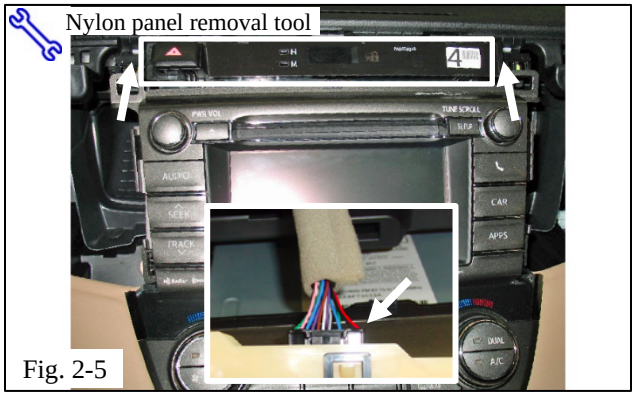


Fig. 2-5

(e) Remove the hazard switch/clock panel.

(1) Use a nylon panel removal tool to pull outward to disengage the two (2) yellow clips indicated by arrows (Fig. 2-5).

(2) Disconnect the hazard switch/clock connector (Fig. 2-5 inset).

(3) Remove the panel.


Fig. 2-6

(f) Remove the audio head unit.

(1) Place a protective blanket below the head unit (Fig. 2-6).

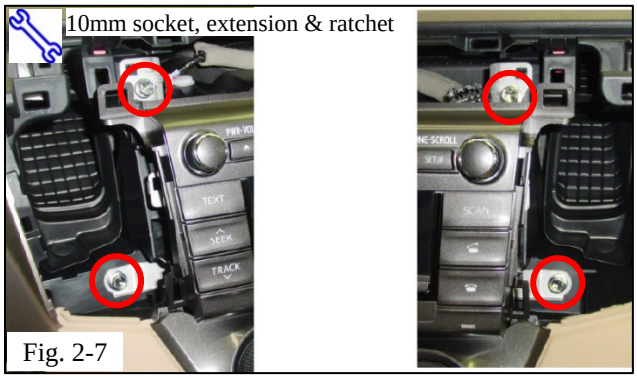
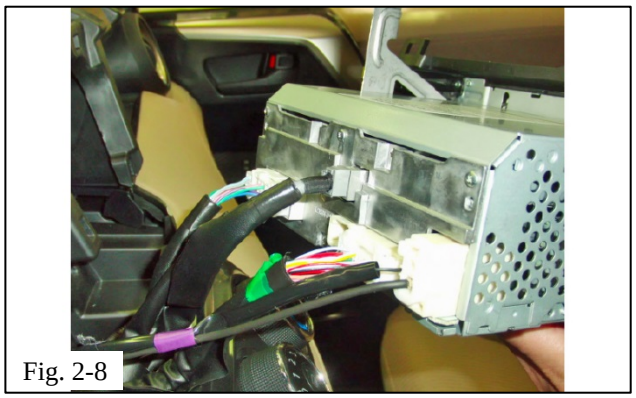


Fig. 2-7

(2) Use a ratchet, extension and 10mm socket to remove the four (4) bolts (Fig. 2-7).

(3) Slowly pull the audio head unit outward to disengage the four (4) clips.


Fig. 2-8

(4) Disconnect all connectors and remove the audio head unit (Fig. 2-8).

(g) Disengage the upper steering wheel cover.

(1) Adjust the steering wheel out and down.

(2) Disengage the steering wheel clips indicated by circles (Fig. 2-9).

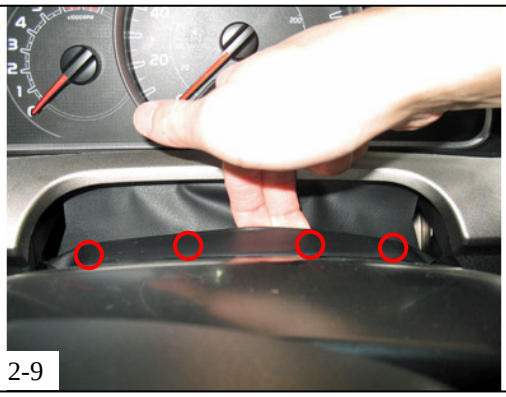


Fig. 2-9

(h) Lift the steering wheel cover (Fig. 2-10).



Fig. 2-10

(i) Remove the instrument cluster bezel.

(1) Apply protective tape to the top portion of the steering wheel cover.

(2) Disengage the bezel clips indicated by circles (Fig. 2-11).

(3) Remove the instrument cluster bezel.

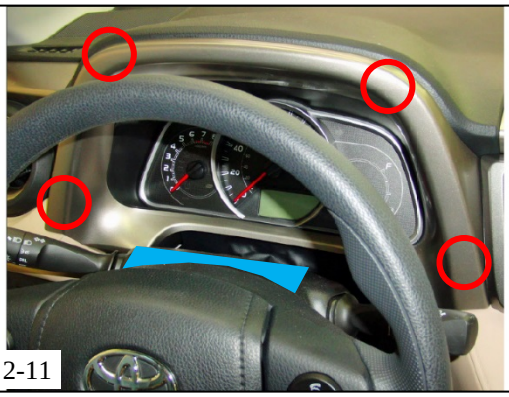


Fig. 2-11

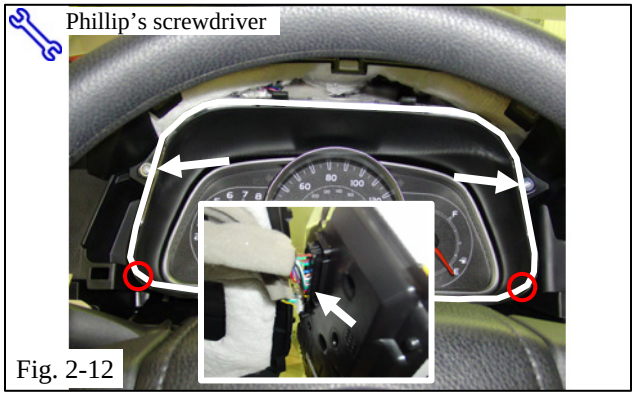


Fig. 2-12

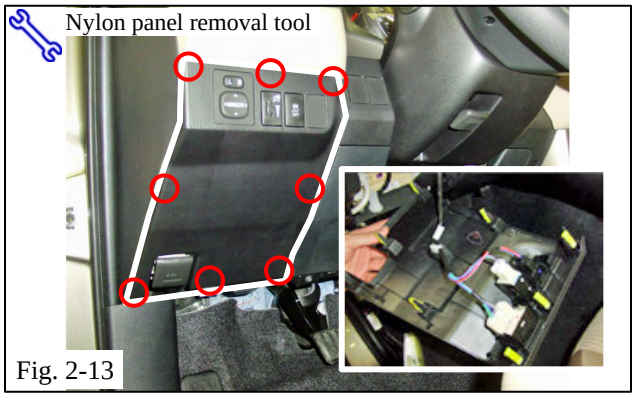


Fig. 2-13

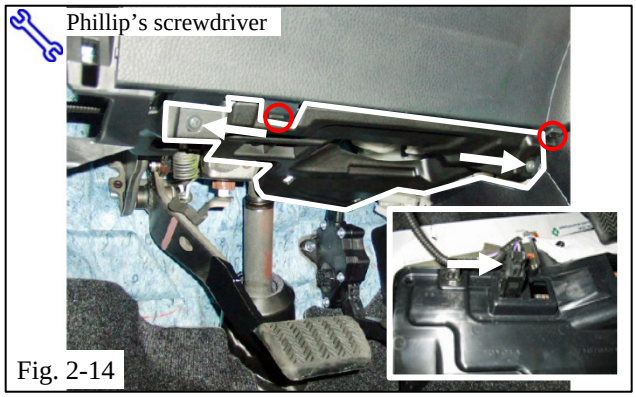


Fig. 2-14

(j) Remove the instrument cluster.

(1) Use a Phillips screwdriver to remove the two (2) screws indicated by arrows (Fig. 2-12).

(2) Pull the instrument cluster partially outward to disengage the two (2) clips indicated by circles (Fig. 2-12).

(3) Disconnect the connectors and remove the instrument cluster (Fig. 2-12 inset).

(k) Remove the driver side lower instrument panel.

(1) Use a nylon panel removal tool to disengage the driver side lower instrument panel in the areas indicated by circles (Fig. 2-13).

(2) Disconnect the connectors and wire harness clip and remove lower instrument panel (Fig. 2-13 inset).

(l) Remove the driver side under instrument panel.

(1) Use a Phillips screwdriver to remove the two (2) screws securing the driver side lower instrument panel indicated by arrows (Fig. 2-14).

(2) Press the two (2) tabs indicated by circles to disengage the panel (Fig. 2-14).

(3) Lower the panel and disconnect the wire clip and connector to remove it (Fig. 2-14 inset).

1. Place unstripped run wire inside run channel.
2. Close side cover until latched. Insert unstriped tap wire completely and check its position in the inspection port.
3. Hold tool perpendicular to the wires and make the connection by driving the u-contact down flush with the top of the plastic insulator.
4. Close hinged top cover until latched.

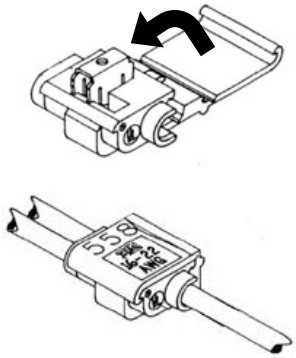


Fig. 3-1

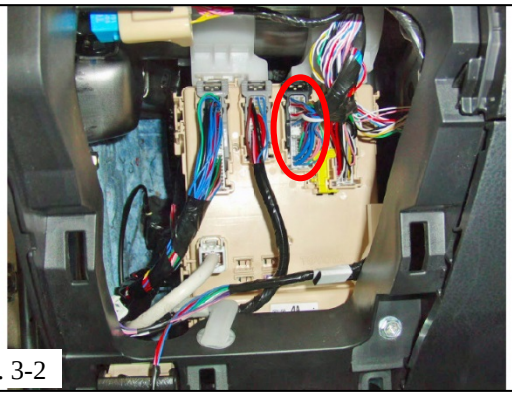


Fig. 3-2

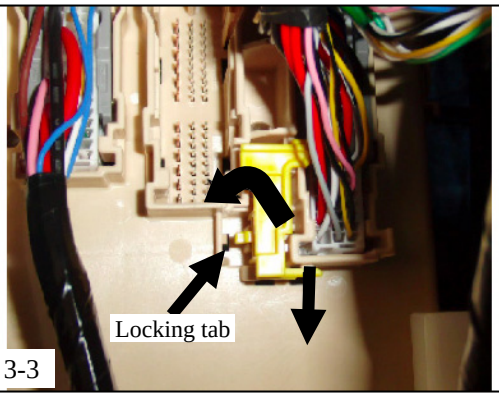


Fig. 3-3

3. Install the Scotchloks.

(a) Review the Scotchlok installation procedure (Fig. 3-1).

(1) Do not strip the wires.

(2) Do not use channel type pliers or similar tools to crimp. The moving parts are designed to move in a parallel-like movement.

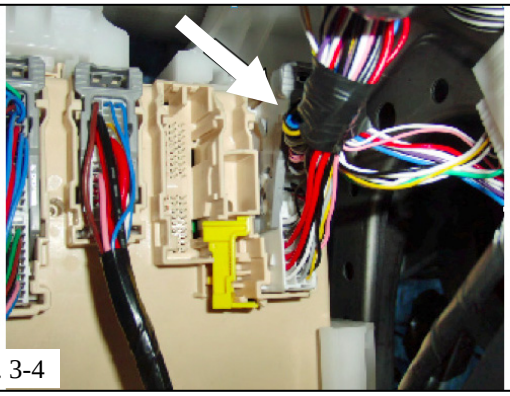
(3) Do not use small pliers or similar tools to crimp.

(b) Locate and disconnect the 48 pin connector on the junction block (Fig. 3-2).

(1) Push down on the locking tab and rotate the connector lock outward.

(2) Remove the connector.

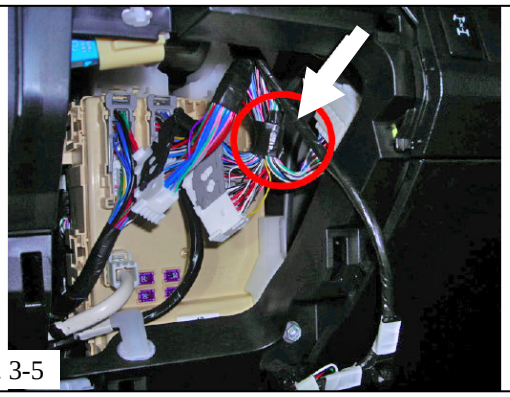
(c) Locate and open the yellow connector lock on the junction block (Fig. 3-3). Pull down on the locking tab and rotate the lock to the left.


Fig. 3-4

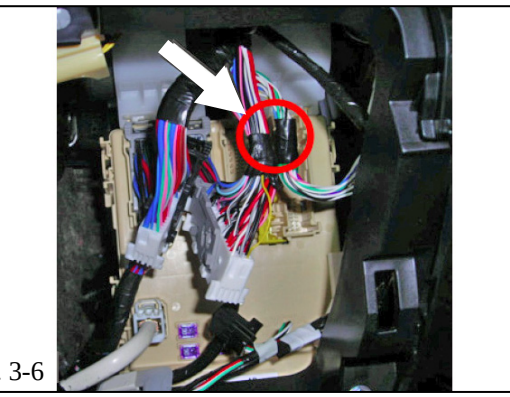
(d) Locate and disconnect the 56 pin connector on the junction block (Fig. 3-4).

(1) Push down on the locking tab and rotate the connector lock outward.

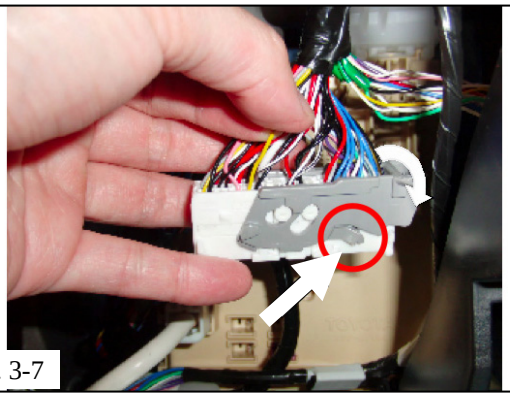
(2) Remove the connector.


Fig. 3-5

(e) Remove the electrical tape holding the two OE wire harnesses together (Fig. 3-5).


Fig. 3-6

(f) Remove the electrical tape above the 56 pin connector to get better access to the wires (Fig. 3-6).


Fig. 3-7

(g) If necessary, rotate the connector lock on the 56 pin connector to get better access to the wires (Fig. 3-7). Lift up on the tab on each side to rotate the connector lock.

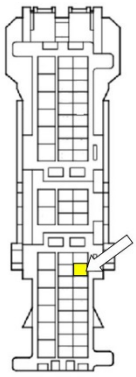
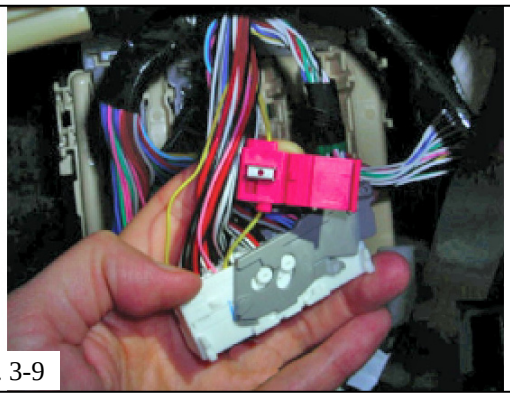


Fig. 3-8

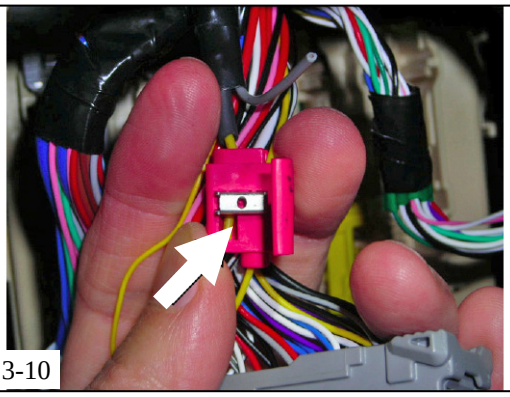
(h) Locate the yellow wire, pin **49**, on the 56 pin connector (Fig. 3-8).


Fig. 3-9

(i) Position the Scotchlok on the yellow wire about one inch from the connector end (Fig. 3-9).

(1) The Scotchlok should be oriented such that the inspection port is located at the bottom left.

(2) Close the side of the Scotchlok to keep the wire from coming out.


Fig. 3-10

(j) Insert the yellow wire from the interior light wire harness so that it appears in the inspection window (Fig. 3-10).

(k) Secure the wires with pliers by pressing down on the metal tab.

⚠ **CAUTION:** Do not pinch nearby wires when pressing in on the tab.

(l) Snap the Scotchlok cover closed.

(m) Apply a piece of foam tape around the Scotchlok.

(n) Locate the grey wire, pin 35 on the 56 pin connector (Fig. 3-11).

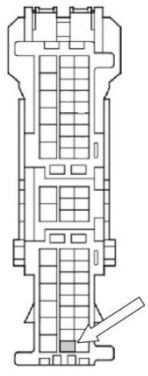
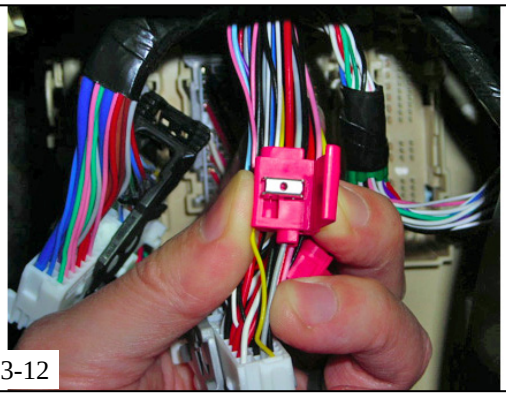
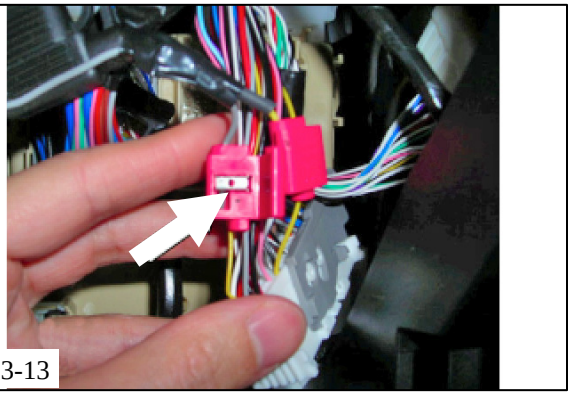


Fig. 3-11


Fig. 3-12

(o) Position the Scotchlok on the grey wire about one inch from the connector end (Fig. 3-12).

(p) Close the side of the Scotchlok to keep the wire from coming out.


Fig. 3-13

(q) Insert the grey wire from the interior light wire harness so that it appears in the inspection window (Fig. 3-13).

(r) Secure the wires with pliers by pressing down on the metal tab.

CAUTION: Do not pinch nearby wires when pressing in on the tab.

(s) Snap the Scotchlok cover closed.

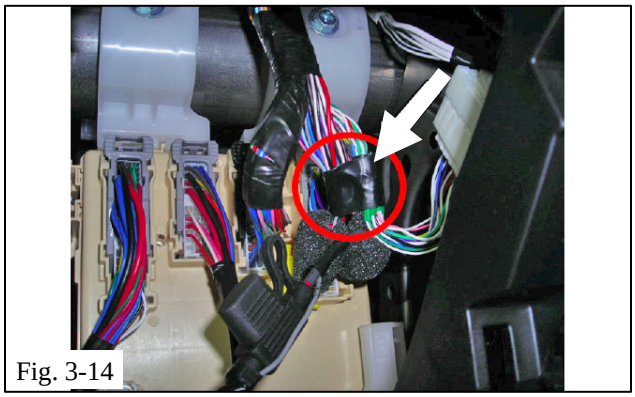
(t) Apply a piece of foam tape around the Scotchlok.

(u) If the 56 pin connector lock was rotated closed to get better access to the wires, rotate the connector lock open.

(v) Reconnect the 56 pin connector to the junction block. Make sure the connector locks into place.

(w) Rotate the yellow connector lock to the right into the locked position. Make sure the connector locks into place.

(x) Reconnect the 48 pin connector to the junction block. Make sure the connector locks into place.


Fig. 3-14

(y) Reapply electrical tape to hold the two OE harnesses together (Fig. 3-14).

4. Route the Wire Harness.

(a) Review the overall layout of the interior light harness. Arrows indicate cable tie attachment points (Fig. 4-1).

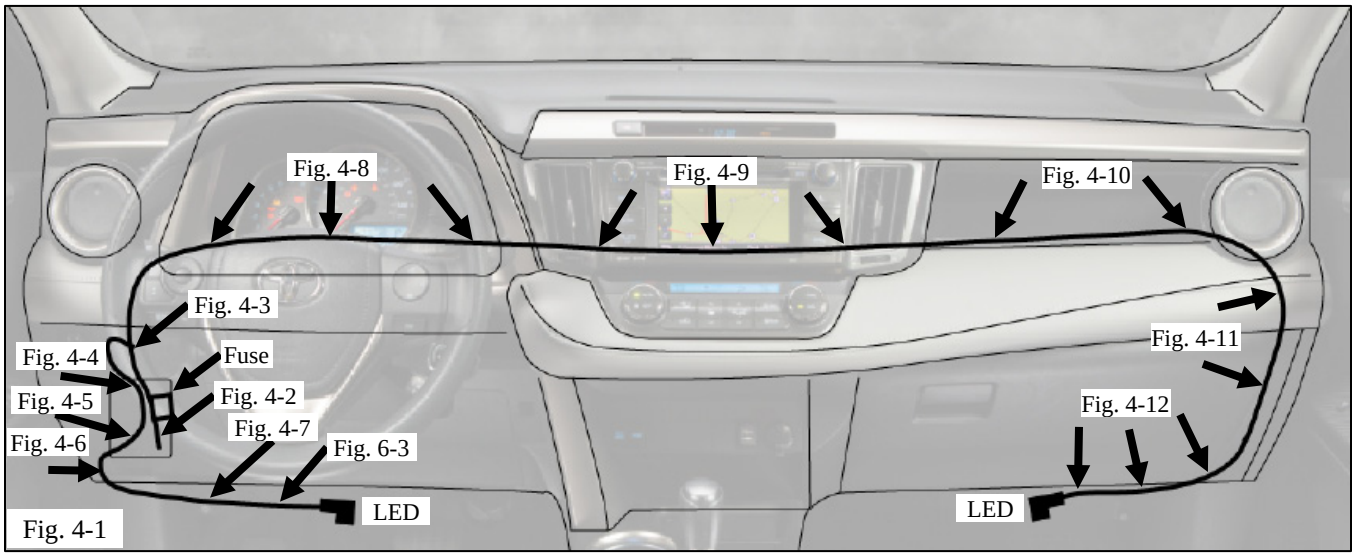


Fig. 4-1

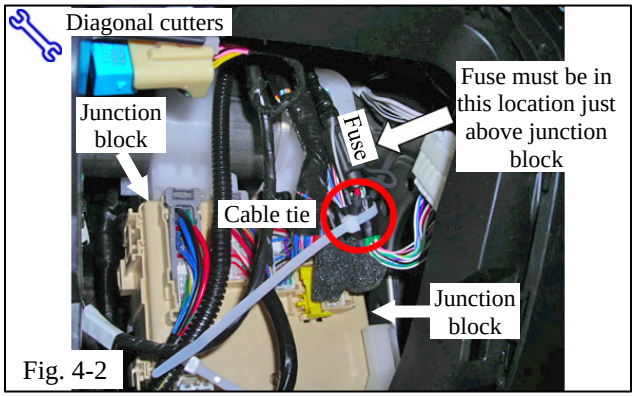


Fig. 4-2

(b) Before securing the cable tie, position the fuse as indicated (Fig. 4-2).

⚠ **NOTE:** Make sure the fuse is located as shown for the correct interior light harness layout.

(c) Route the interior light harness upward along the OE harness toward the upper instrument panel and secure it to the OE harness with one (1) cable tie (Fig. 4-2). Trim the excess cable tie.

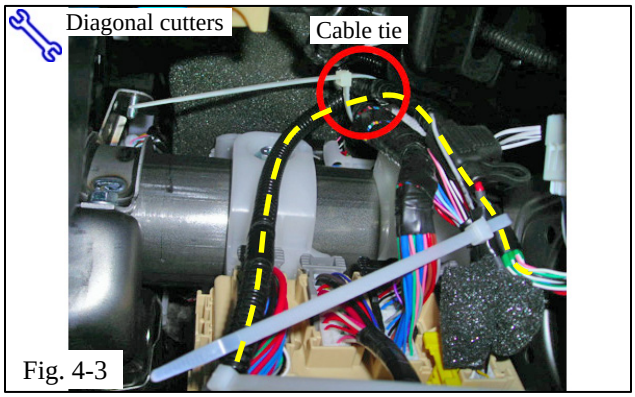


Fig. 4-3

(d) Secure the interior light harness to the OE harness with one (1) cable tie above the metal bar (Fig. 4-3). The cable tie should sit below the Y portion of the interior light harness.

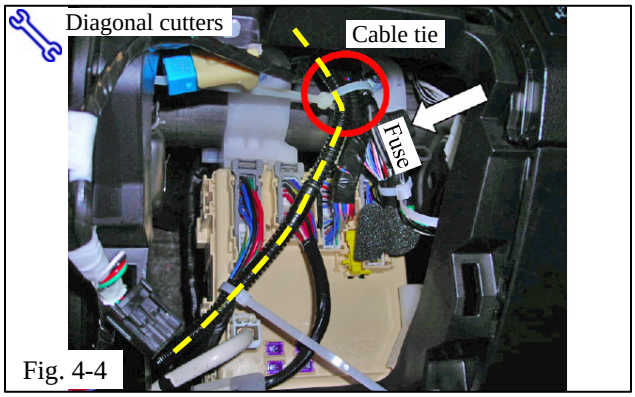


Fig. 4-4

(e) Route the driver side harness, shorter length, back down toward the junction block and secure the driver side harness to the OE harness and the interior light harness just above the fuse (Fig. 4-4). Trim the excess cable tie.

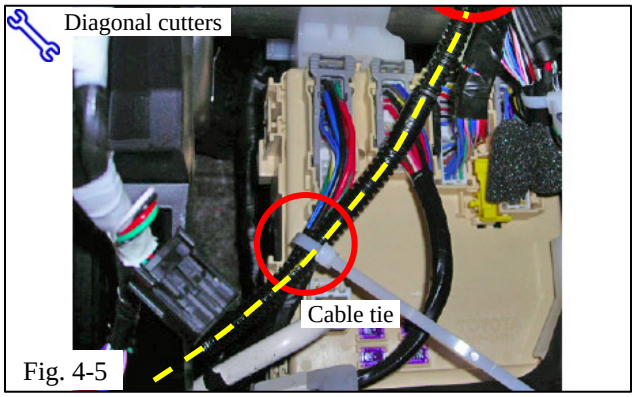


Fig. 4-5

(f) Route the driver side harness towards the fuse box to the bottom left side of the junction block and secure with one (1) cable tie to the OE harness (Fig. 4-5). Trim the excess cable tie.

(g) Route the driver side harness along the OE harness so that it goes to the left of and behind the junction block.

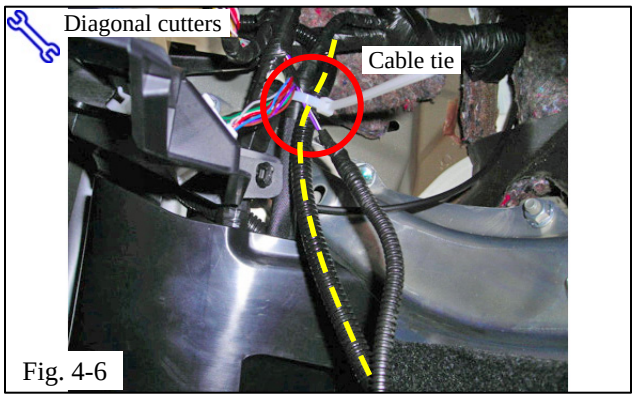


Fig. 4-6

(h) Secure the interior light harness to the OE harness with one (1) cable tie (Fig. 4-6). Trim the excess cable tie.

⚠ **NOTE:** Make sure the interior light harness follows the dotted line and does not contact any sharp edges.

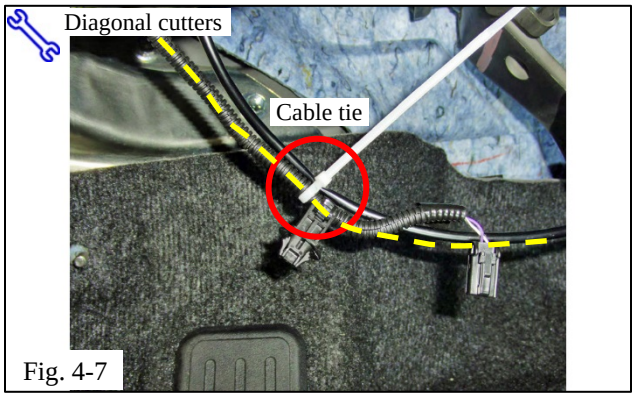


Fig. 4-7

(i) Secure the interior light harness to the OE harness with one (1) cable tie (Fig. 4-7). Trim the excess cable tie.

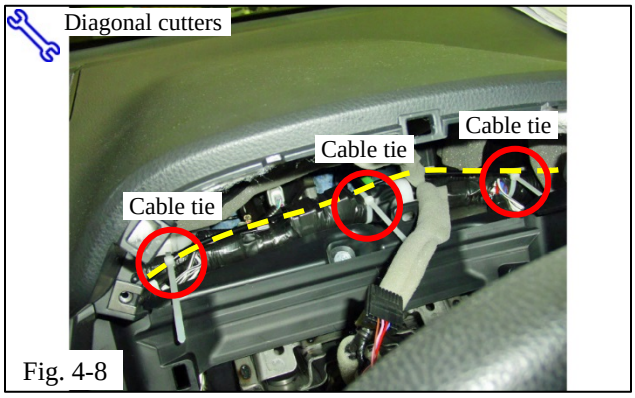


Fig. 4-8

(j) Route the passenger side harness along the OE harness towards the combination meter opening (Fig. 4-8).

⚠ **NOTE:** Make sure the harness routes above the combination meter harness.

(k) Secure the harness with three (3) cable ties (Fig. 4-8). Trim the excess cable tie.

⚠ **NOTE:** Make sure the harness follows the dotted line and does not contact any sharp edges.

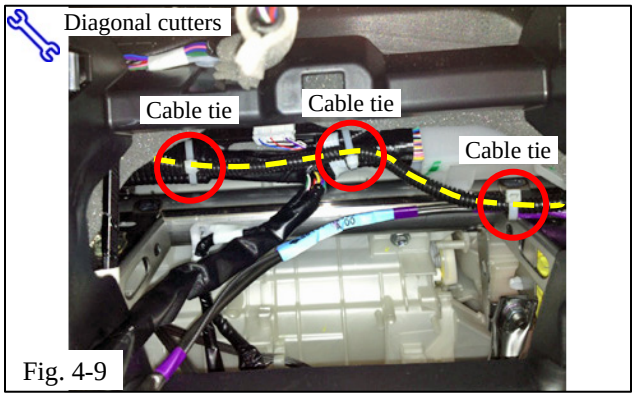


Fig. 4-9

(l) Route the passenger side harness along the OE harness towards the radio opening. Continue to route the harness towards the bottom portion of the passenger side of air duct (Fig. 4-9).

(m) Secure the interior light harness to the OE harness with three (3) cable ties (Fig. 4-9). Trim the excess cable tie.

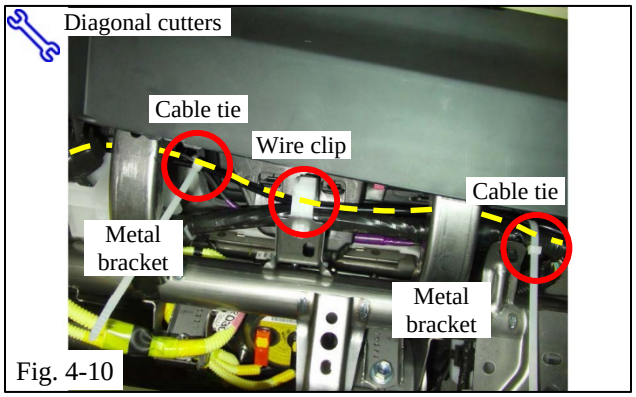


Fig. 4-10

(n) Route the passenger side harness along the OE harness towards the passenger side (Fig. 4-10).

(1) Open the white clip. Route the harness through the white wire clip and close the clip.

⚠ (2) The harness must be routed above the metal bracket.

⚠ (3) Make sure the harness follows the dotted line and does not contact any sharp edges.

(o) Secure the interior light harness to the OE harness with two (2) cable ties (Fig. 4-10). Trim the excess cable tie.

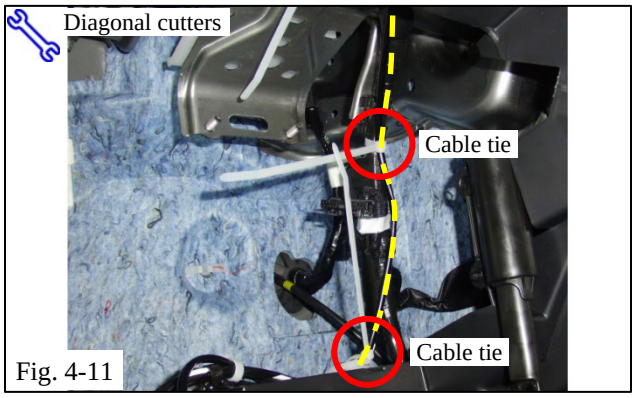


Fig. 4-11

(p) Route the harness downward along the OE harness (Fig. 4-11).

(q) Secure the interior light harness to the OE harness with two (2) cable ties. Trim the excess cable tie.

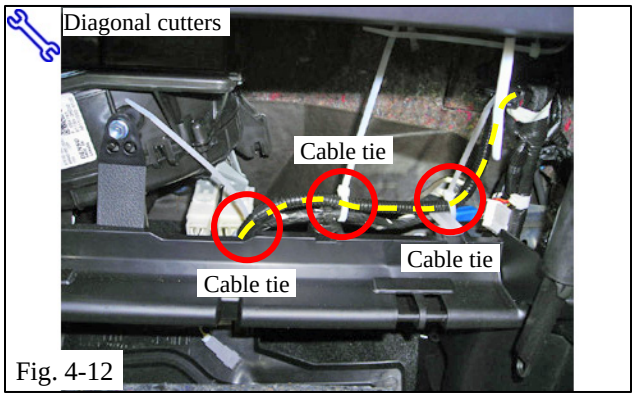


Fig. 4-12

(r) Route the harness along the OE harness (Fig. 4-12).

(s) Secure the interior light harness to the OE harness with three (3) cable ties. Trim the excess cable tie.

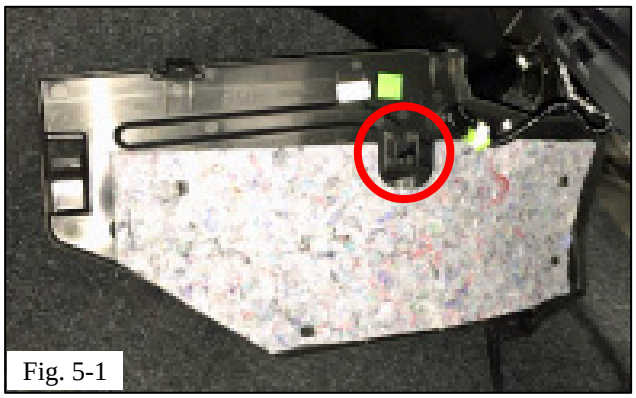

Fig. 5-1


Fig. 5-2

5. Install the Passenger Side LED Light.

(a) Orient the passenger side instrument panel under panel as shown (Fig. 5-1).

(b) Locate the mounting hole indicated by the circle (Fig. 5-1).

(c) Use an approved cleaner to clean the panel surface around the hole.

(d) Position the LED module onto the panel (Fig. 5-2).

⚠ **NOTE:** Use an infrared temperature gun to verify the working temperature is between 60°F - 110°F (16°C -43°C) for correct adhesion.

(e) Remove the backing from the adhesive strip (Fig. 5-2 inset)

(f) Firmly press the LED module into place. The head of the module should snap into the hole.

(g) Reinstall the passenger side panel.

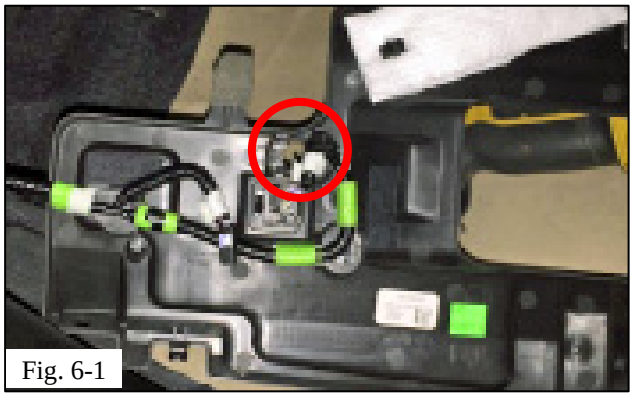

Fig. 6-1


Fig. 6-2

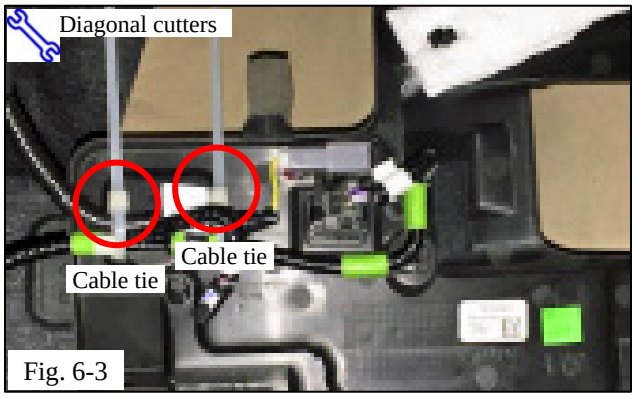


Fig. 6-3

6. Install the Driver Side LED Light.

(a) Orient the driver side instrument panel under panel as shown (Fig. 6-1).

(b) Locate the mounting hole indicated by the circle (Fig. 6-1).

(c) Use an approved cleaner to clean the panel surface around the hole.

(d) Position the LED module onto the panel (Fig. 6-2).

⚠ **NOTE:** Use an infrared temperature gun to verify the working temperature is between 60°F - 110°F (16°C -43°C) for correct adhesion.

(e) Remove the backing from the adhesive strip (Fig. 6-2 inset)

(f) Firmly press the LED module into place. The head of the module should snap into the hole.

(g) Secure the interior light harness to the OE harness near the connector with two (2) cable ties (Fig. 6-3).

(h) Reinstall the driver side instrument panel under panel.

(i) Secure the front clips.

(j) Fasten the two (2) screws in front.

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7. Reassemble the Vehicle.

(a) Reinstall the driver side instrument panel lower panel. Reconnect all connectors.

(b) Reinstall the instrument cluster. Reconnect all connectors.

(c) Reinstall the instrument cluster bezel.

(d) Reinstall the upper steering wheel cover.

(e) Reinstall the audio head unit.

(1) Reconnect all connectors.

(2) Install the four (4) bolts.

(3) Engage the four (4) clips.

(f) Reinstall hazard switch/clock panel. Reconnect all connectors.

(g) Reinstall the air vents.

(h) Reinstall the upper trim.

(i) Reinstall the glove box.

(1) Engage the bottom claws.

(2) Reconnect the damper.

(3) Close the glove box.

(j) Reconnect the negative battery terminal and torque it to 48 in-lbs (5.4N-m).

CAUTION: Do not touch the positive terminal with any tool.

Torque: 48 in-lbs (5.4N-m)

Checklist - these points **MUST** be checked to ensure a quality installation.

Check:	Look For:
Accessory Function Checks	
☐ Open the door	Floor lights should turn on
☐ Close the door	Floor lights should turn off
Vehicle Function Checks	
☐ Hazard switch/clock ☐ Audio unit ☐ Power outside mirrors ☐ Combination meter gauges, light & illumination ☐ Stop lamps ☐ Tail lamps ☐ Turn signals ☐ Fog lights (if equipped) ☐ BSM switch ☐ Dome lamps ☐ Key illumination ☐ Windshield wipers ☐ Power door locks ☐ Power windows ☐ Horn ☐ Power outlet ☐ Security ☐ TRAC switch	All vehicle functions should operate normally
Vehicle Appearance Check	
☐ After accessory installation and removal of protective cover(s), perform a visual inspection.	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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