

Part Number: PT219-48111

Kit Contents

| Item # | Quantity Reqd. | Description |
|--------|----------------|------------------------------------|
| 1 | 1 | Converter |
| 2 | 1 | Flat 4-pin wire harness |
| 3 | 5 | Plastic tie |
| 4 | 1 | Special plastic tie for stud mount |
| 5 | 1 | Packing |
| 6 | 2 | Bolt (M5) |
| 7 | 2 | Nut (M5) |
| 8 | 1 | Nut (M6) |
| 9 | 1 | Fuse (30A) |
| 10 | 1 | Owner's manual |

Hardware Bag Contents

| Item # | Quantity Reqd. | Description |
|--------|----------------|-------------|
| | | |

Additional Items Required for Installation

| Item # | Quantity Reqd. | Description |
|--------|----------------|-------------|
| | | |

Conflicts

| |
|---------------|
| Hybrid Models |
|---------------|

General Applicability

| |
|---|
| All Highlander models except models indicated in conflicts. |
|---|

Recommended Sequence of Application

| Item # | Accessory |
|--------|----------------------|
| 1 | Trailer Hitch |
| 2 | Trailer Wire Harness |

Recommended Tools

| Personal & Vehicle Protection | Notes |
|-------------------------------|-----------------|
| Safety Glasses | |
| Seat Protectors | |
| | |
| Special Tools | Notes |
| L.E.D. Tester – 4-pin | SST 00002-62195 |
| | |
| Installation Tools | Notes |
| Torque Wrench | 100 in-lbf |
| 8mm wrench | |
| Ratchet 3/8" Drive | |
| 6" Extension | |
| 8 & 10mm Socket | |
| Clip Removal Tool | |
| Side Cutters | |
| Needle Nose Pliers | |

Issue: C 06/27/11

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

| | |
|--------------------|-------|
| Panel Removal Tool | |
| | |
| Special Chemicals | Notes |
| | |

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.



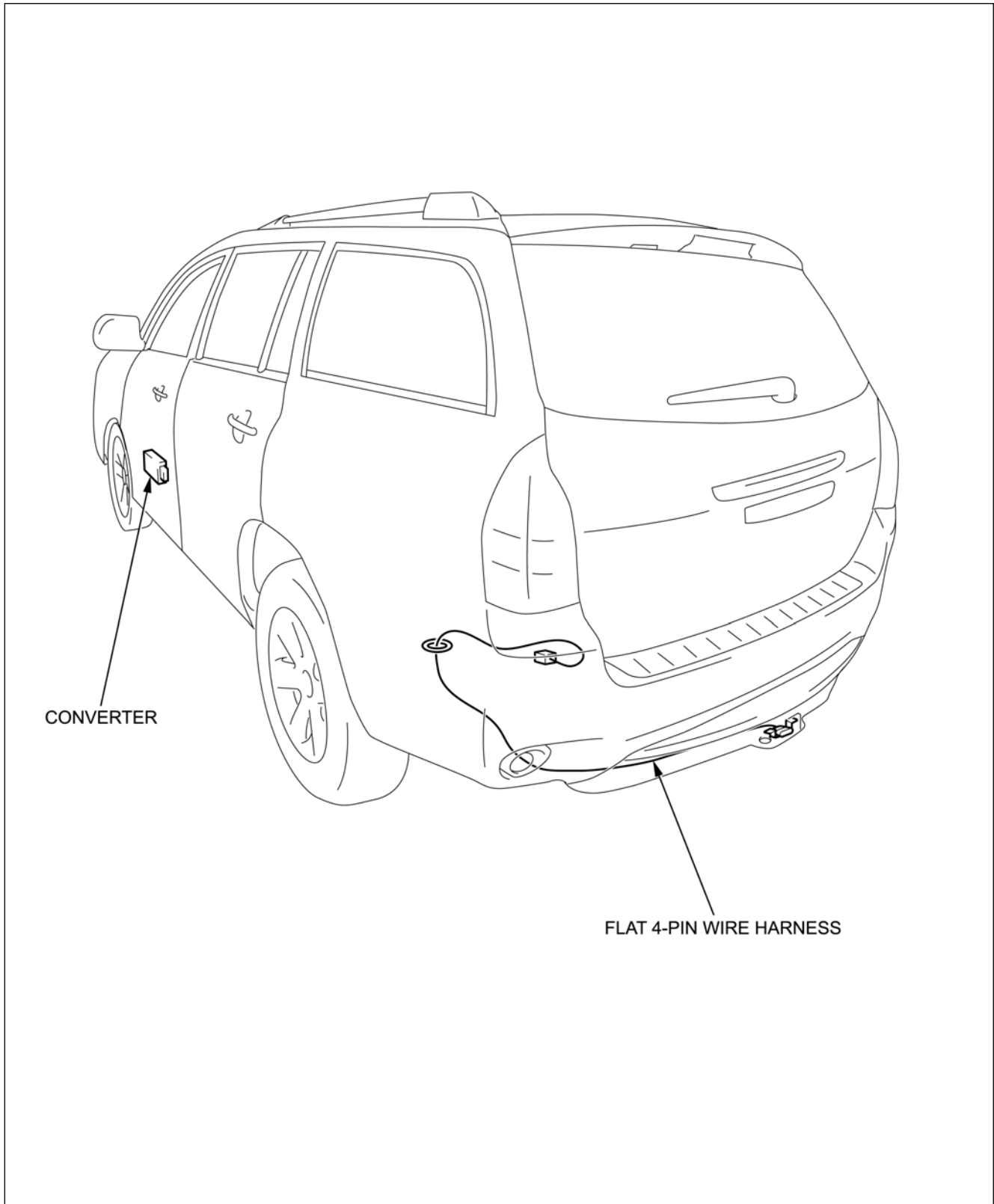
SAFETY TORQUE: This mark indicates that torque is related to safety.

NOTE:

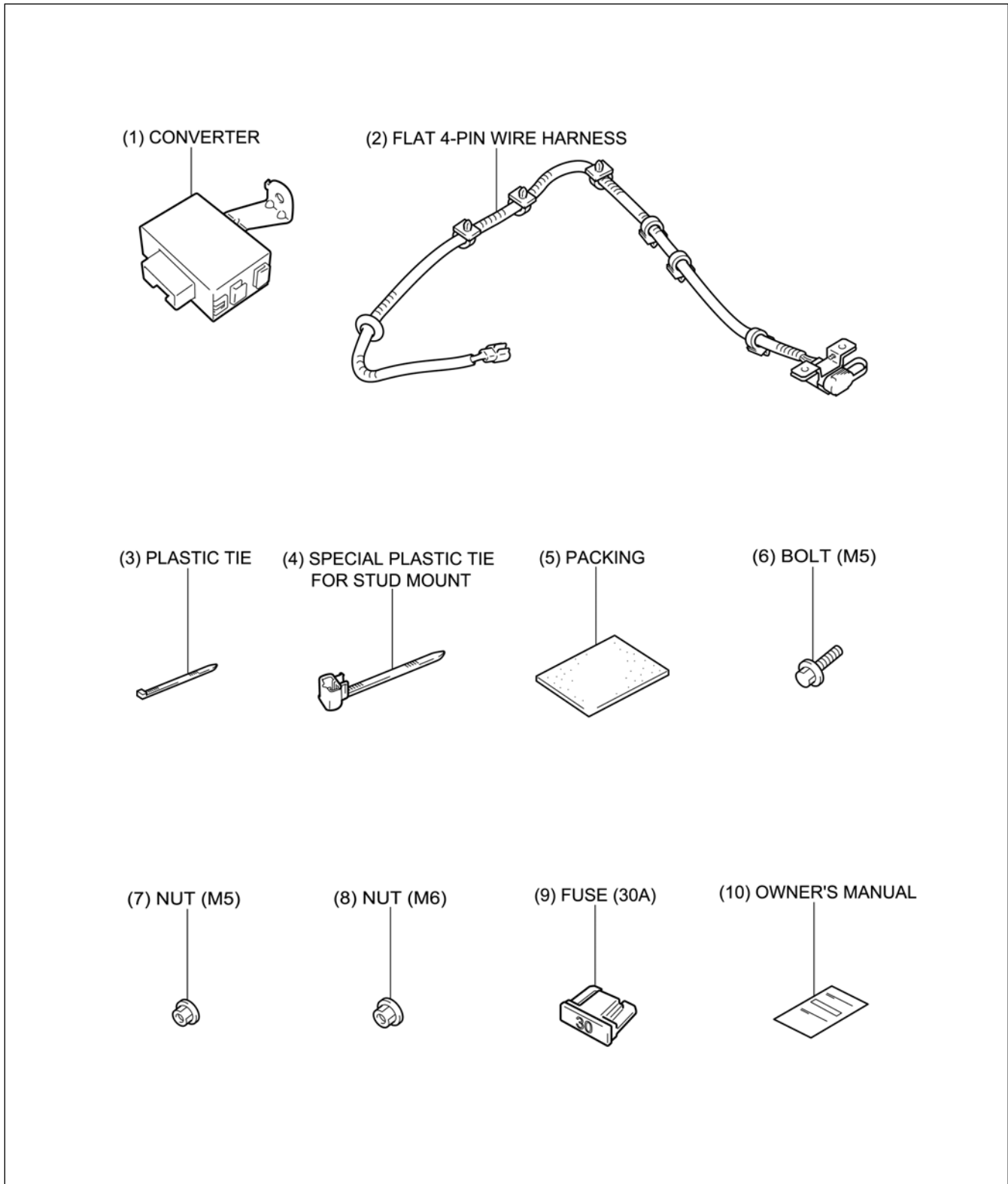
For mode year 2011 Highlander vehicles with VIN ranges listed below, service kit PT219-42110-AA is required to install the wire harness. See the addendum on page 17 for the installation instruction.

| Beginning VIN | Ending VIN |
|-------------------|-------------------|
| 5TDDK3DC4BS024870 | 5TDDK3DC0BS025370 |
| 5TDJK3DC3BS024832 | 5TDJK3DC2BS025258 |
| 5TDKK3DCXBS148942 | 5TDKK3DC0BS151638 |
| 5TDXK3DC7BS148659 | 5TDXK3DCXBS150860 |
| 5TDYK3DC3BS148954 | 5TDYK3DC7BS151324 |
| 5TDZK3DC8BS148940 | 5TDZK3DC2BS151798 |
| 5TDDK3EH4BS083184 | 5TDDK3EH3BS084715 |
| 5TDDK3EH9BS083441 | 5TDDK3EH2BS083992 |
| 5TDBK3EH4BS083306 | 5TDBK3EH8BS084748 |

Installation Layout



Complete Parts List



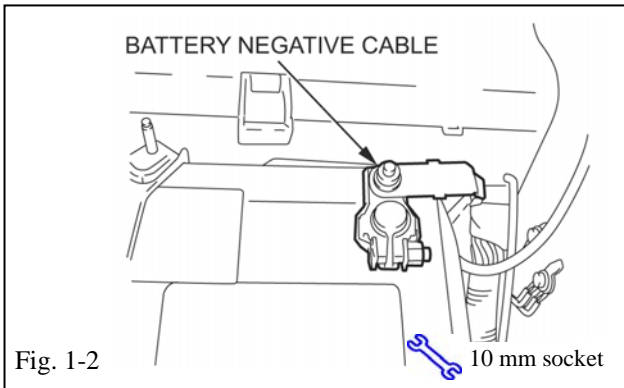
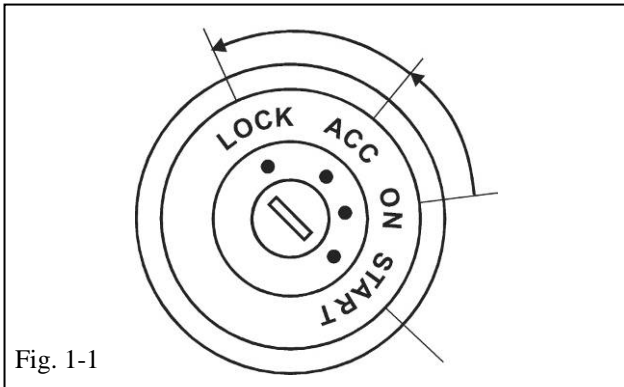
Care must be taken when installing this accessory to ensure that damage does not occur to the vehicle. The installation of this accessory should follow approved guidelines to ensure a quality installation.

These guidelines can be found in the "Accessory Installation Practices" document.

The Accessory Installation Practices document covers such items as:

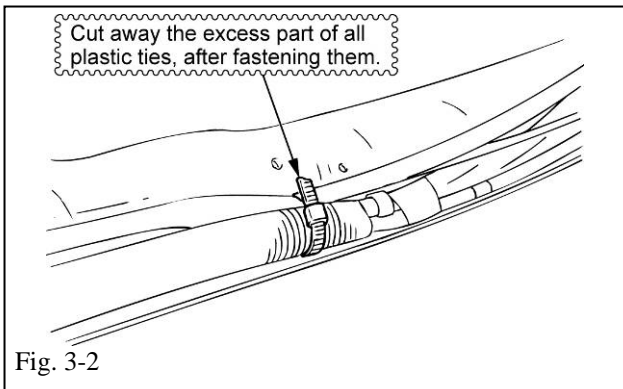
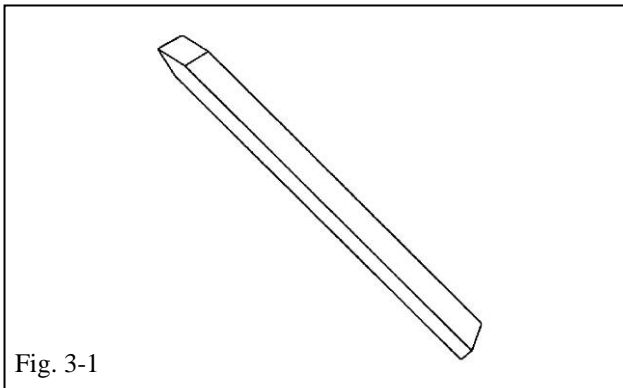
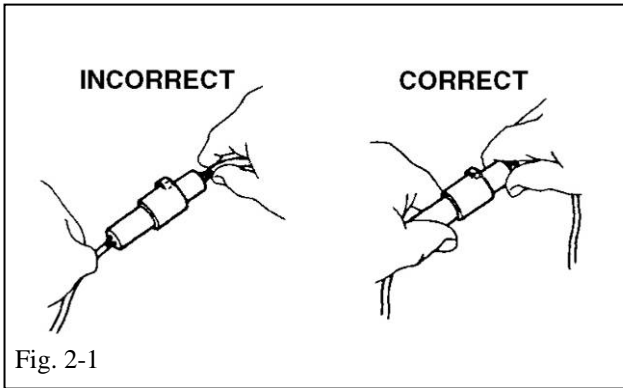
- Vehicle Protection (use of covers and blankets, cleaning chemicals, etc.).
- Safety (eye protection, rechecking torque procedure, etc.).
- Vehicle Disassembly/Reassembly (panel removal, part storage, etc.).
- Electrical Component Disassembly/Reassembly (battery disconnection, connector removal, etc.).

Please see your Toyota dealer for a copy of the "Accessory Installation Practices" document.



1. Supplemental Restraint System (SRS)

- STOP** (a) Failure to carry out procedures listed below could result in possible deployment of airbag, personal injury, or unnecessary repairs to SRS.
- (b) Turn the key switch to the LOCK position. (Fig. 1-1)
- (c) Remove the key from the ignition switch.
- (d) Disconnect the negative battery cable. (Fig. 1-2)
- STOP** (e) Never use a voltmeter to troubleshoot any of the harnesses or connectors to the SRS. Accidentally probing the connectors to the SRS can lead to deployment of the airbag. (Fig. 1-3)
- (f) SRS wire harness loom/cover is bright yellow in color.

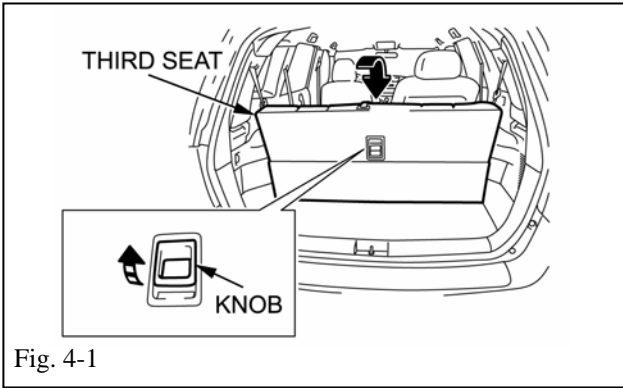


2. Wiring Precautions

- (a) DO NOT pull on vehicle wires and/or wire harness. To uncouple electrical connectors, pull only on the connector. (Fig. 2-1)
- (b) Use nylon ties and adhesive foam strips to secure the vehicle harness and the trailer wire harness.
- (c) Ensure that all wires are properly insulated from ground.
- (d) When installing the trailer wire harness, make sure it is not cut or perforated by any sharp metal objects.

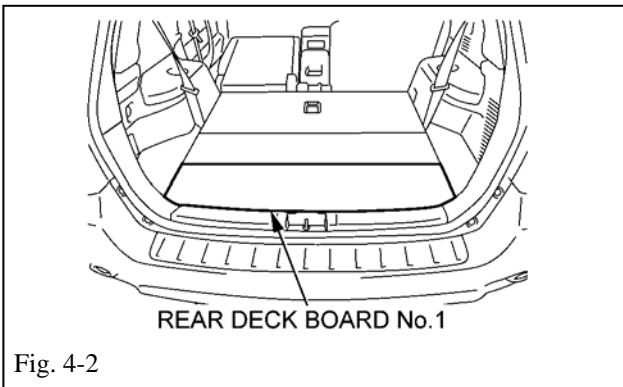
3. General Practices and Procedures

- (a) Before starting installation, refer to the supplemental restraint system procedures in Section 1 above.
- (b) Take care not to scratch any part of the vehicle. Bind the tips of tools (clip remover, slot screw driver, etc.) with vinyl tape to prevent damage to any part of the car, or use a nylon removal tool (resin based prying tool). (Fig. 3-1)
- (c) Use a small parts container to store removed bolts and tapping screws so that they can be reassembled correctly.
- (d) Ensure that seat/floor protectors are in position.
- (e) After fastening plastic ties, clip away all the excess of the ties using diagonal pliers. (Fig. 3-2)

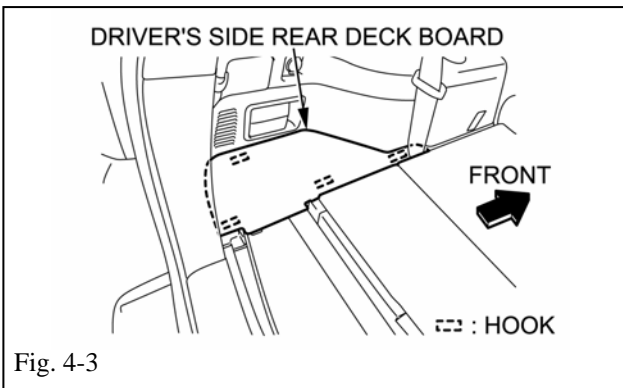


4. Installing the Wire Harness

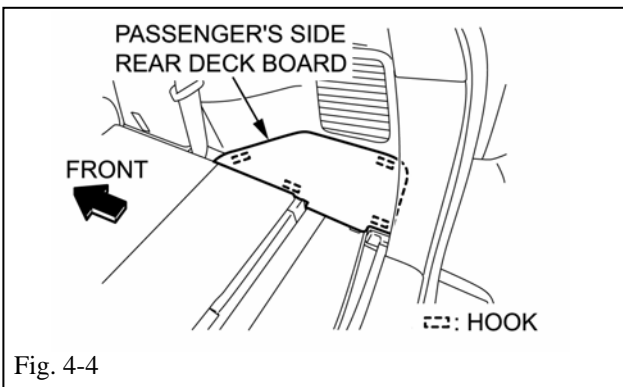
- (a) For vehicles with third seat, move the third seat forward as shown. (Fig. 4-1)



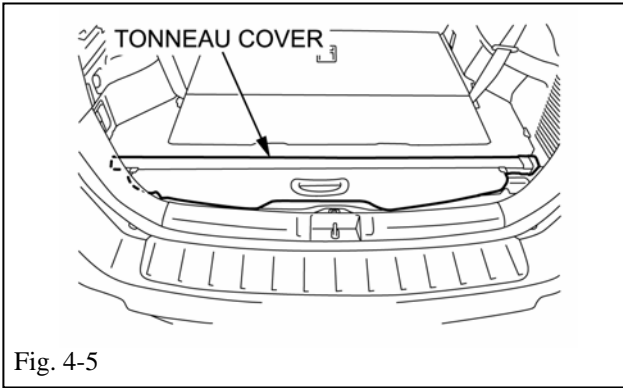
- (b) Remove rear deck board No.1. (Fig. 4-2)



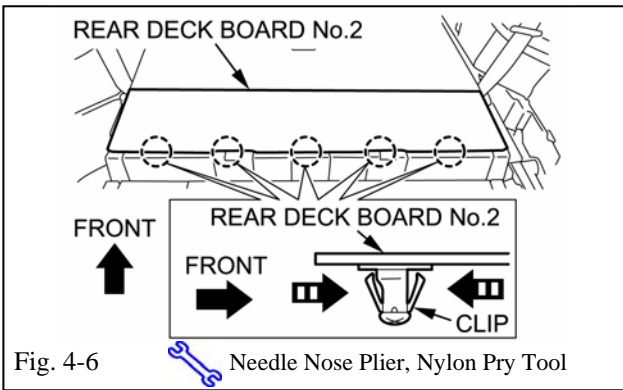
- (c) Remove driver's side rear deck board. (Fig.4-3)



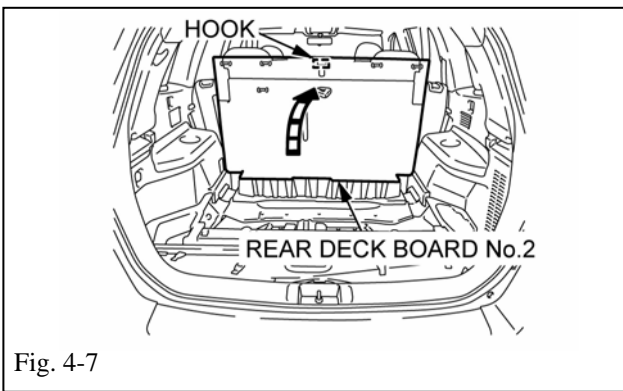
- (d) Remove passenger's side rear deck board. (Fig.4-4)



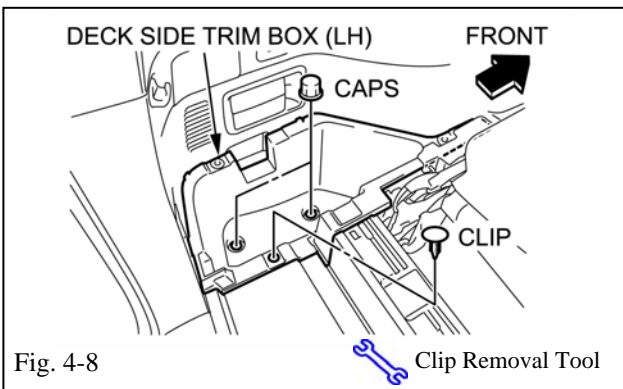
- (e) Remove tonneau cover if equipped. (Fig. 4-5)



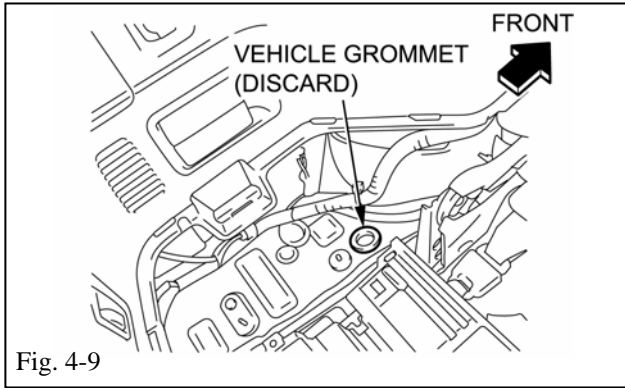
- (f) For vehicles with third seat, remove rear deck board No.2. (Fig. 4-6)



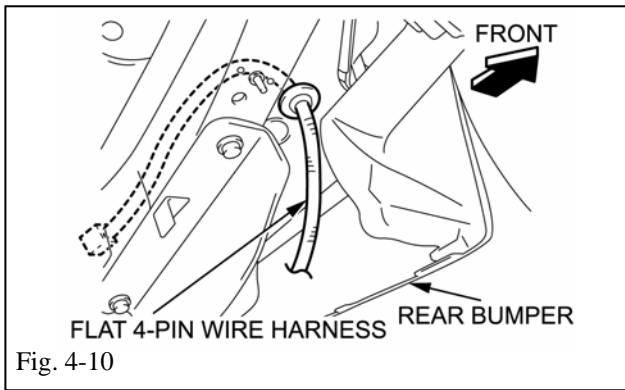
- (g) For vehicles without third seat, remove rear deck board No.2. (Fig. 4-7)



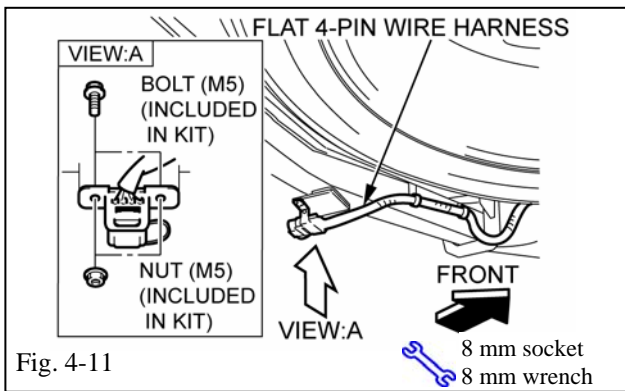
- (h) Remove deck side trim box (LH) after removing two plastic caps and one clip. (Fig. 4-8)



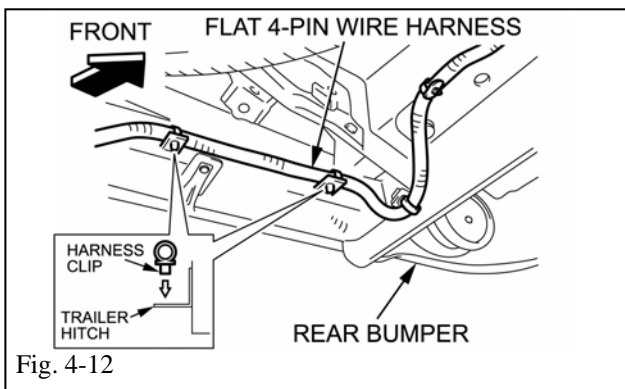
- (i) Remove vehicle floor grommet and discard. (Fig.4-9)



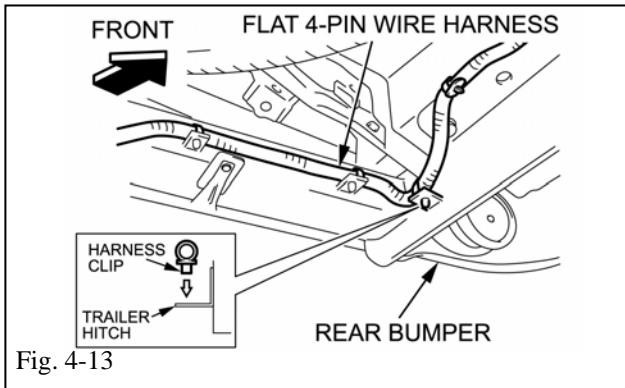
- (j) Pass the flat 4-pin wire harness through the vehicle hole and secure the flat 4-pin wire harness grommet to the vehicle hole. (Fig. 4-10)



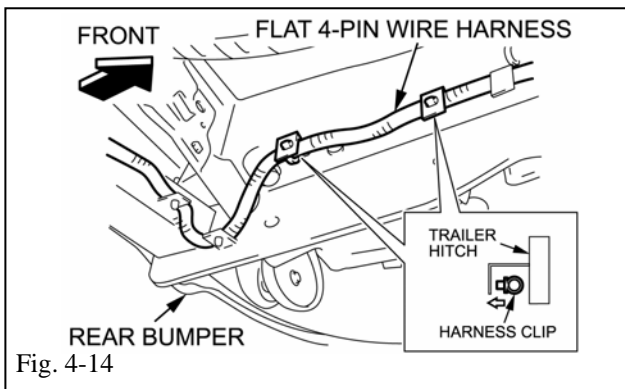
- (k) Secure the flat 4-pin wire harness to the trailer hitch mounting bracket using two (2) bolts (M5) and two (2) nuts (M5) (included in kit). (Fig. 4-11)
Specified tightening torque:
3.9 N·m (35 inch pounds)



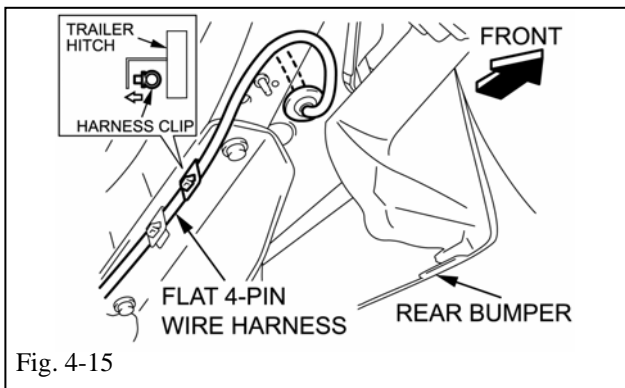
- (l) Secure the flat 4-pin wire harness with two (2) clips to the trailer hitch. (Fig. 4-12)



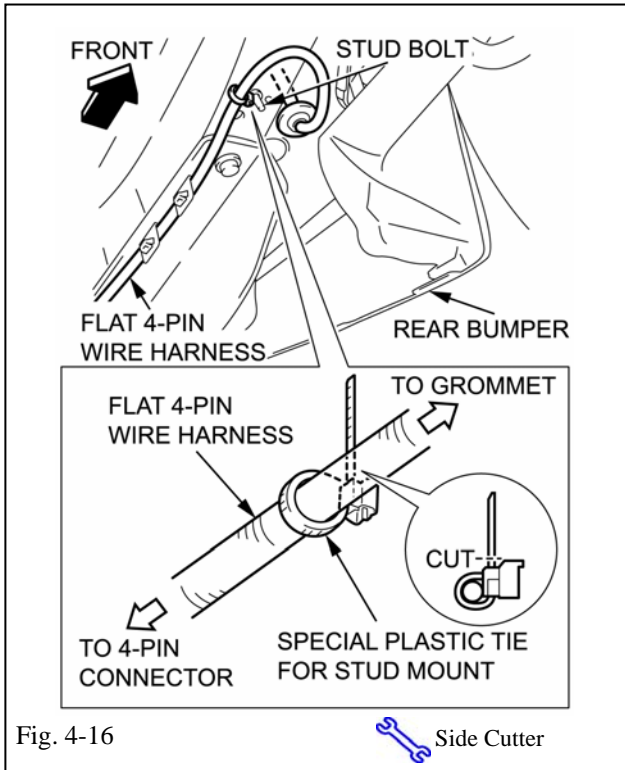
- (m) Secure the flat 4-pin wire harness with one (1) clip to the trailer hitch. (Fig. 4-13)



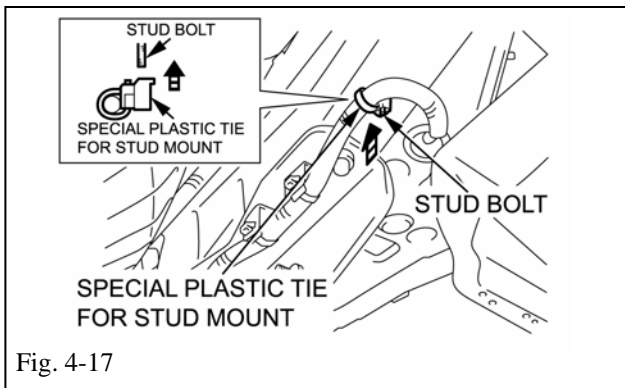
- (n) Secure the flat 4-pin wire harness with two (2) clips to the trailer hitch. (Fig. 4-14)



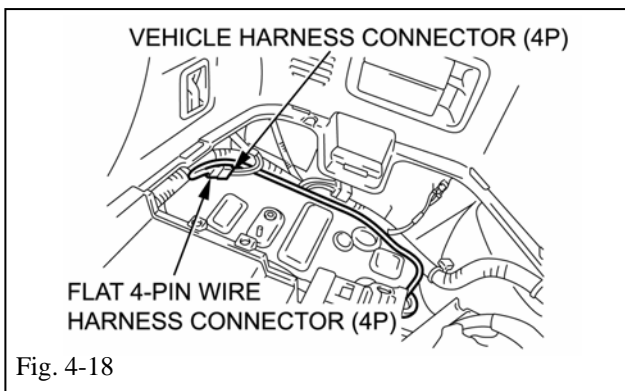
- (o) Secure the flat 4-pin wire harness with one (1) clip to the trailer hitch. (Fig. 4-15)



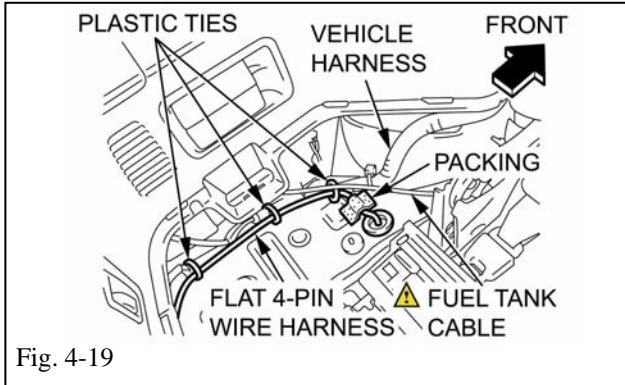
- (p) Confirm the location on the 4-pin wire harness where special plastic tie for stud mount (supplied in kit) can be secured to the underbody stud bolt. Secure it to the flat 4-pin wire. (Fig.4-16)
- (q) Cut off remainder of special plastic tie for stud mount. (Fig.4-16)



- (r) Secure special plastic tie for stud mount to the underbody stud bolt. (Fig.4-17)



- (s) Route the flat 4-pin wire harness along the vehicle harness in the vehicle rear cargo area as shown. (Fig. 4-18)
- (t) Connect the flat 4-pin wire harness connector (4P) to the vehicle harness connector (4P). (Fig. 4-18)

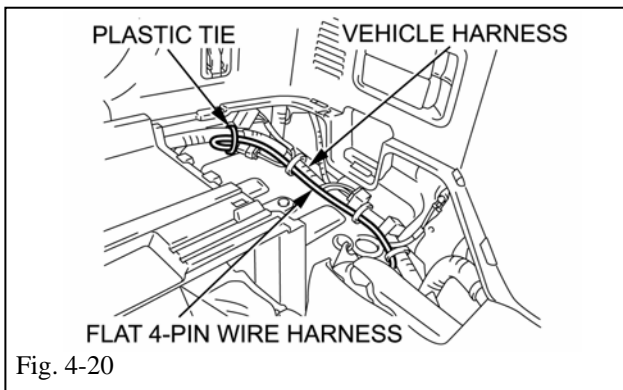


- (u) Secure the flat 4-pin wire harness to the vehicle floor with one (1) packing as shown. (Fig. 4-19)

CAUTION: Remove dirt, dust, and oil stain from the packing installation location.

- (v) Secure the flat 4-pin wire harness to the vehicle harness using three (3) plastic ties. (Fig. 4-19)

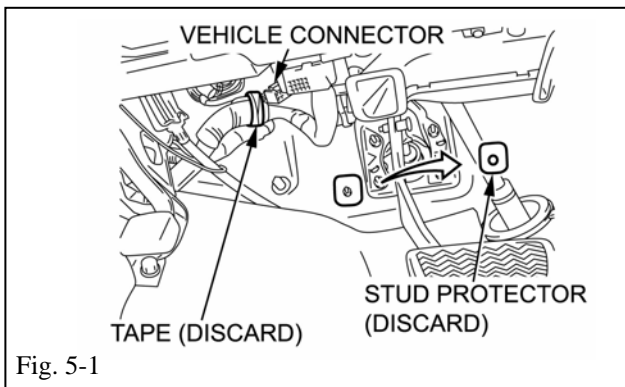
CAUTION: Do not secure the flat 4-pin wire harness to the fuel tank cable with the plastic tie.



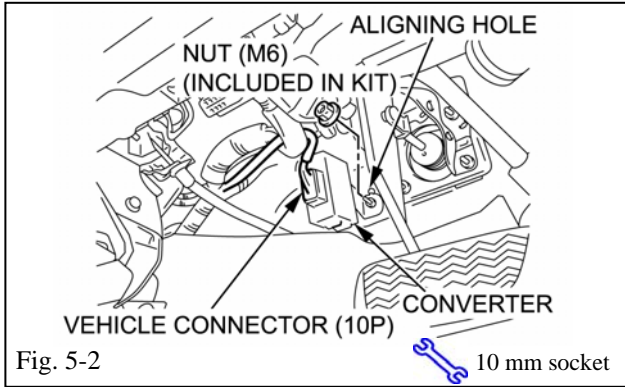
- (w) Secure the flat 4-pin wire harness to the vehicle harness using one (1) plastic tie. (Fig. 4-20)

CAUTION: The connector should be clamped at the position away from floor as much as possible.

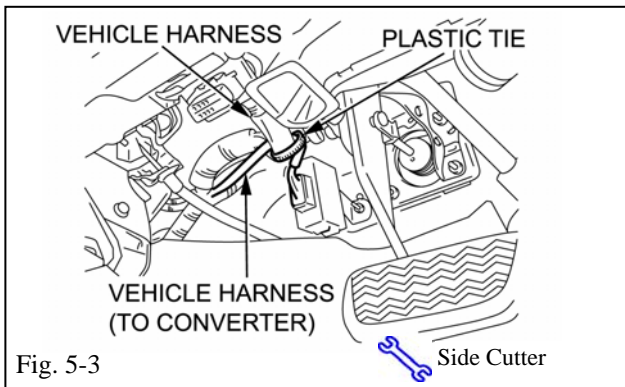
5. Installing the Converter



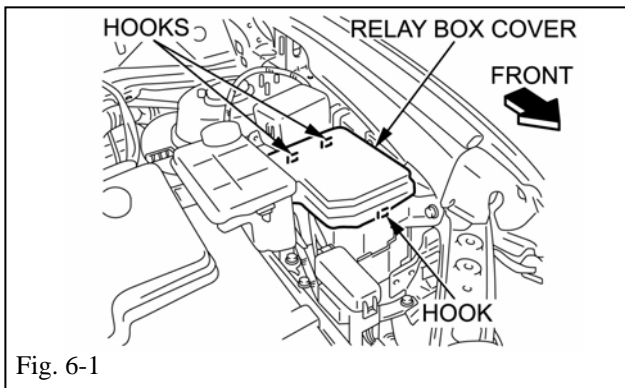
- (a) Locate and remove the tape for securing the vehicle connector (10P) in the driver side dash area and discard the tape. (Fig. 5-1)
- (b) Remove the stud protector and discard. (Fig. 5-1)



- (c) Place the converter bracket hook into the aligning hole and secure the bracket with the nut (M6) (included in kit). (Fig. 5-2) Specified tightening torque: 5.5 N·m (49 inch pounds)
- (d) Connect vehicle connector (10P) to the converter (10P). (Fig. 5-2)

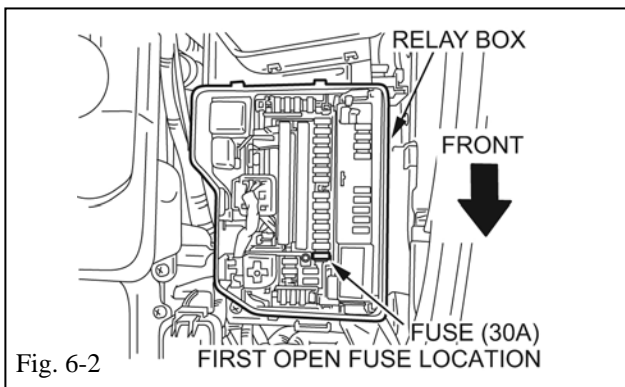


- (e) Secure the vehicle harness (to converter) to the vehicle harness with one (1) plastic tie. (Fig. 5-3)



6. Installing the Fuse

- (a) Remove relay box cover in the engine room. (Fig. 6-1)



- (b) Install the fuse (30A) (included in kit) to the position as shown. (Fig. 6-2)

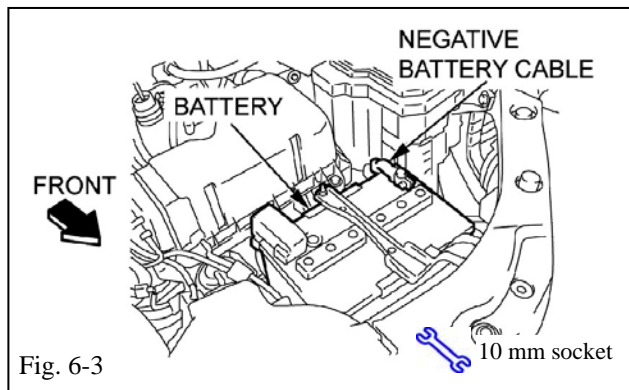


Fig. 6-3

- (c) Put Owner's Manual into the glove box.
- (d) Reconnect the vehicle's negative battery cable as shown or to original factory orientation. (Fig. 6-3)
 - (1) Torque nut to :
4.1 N·m (36 in-lbf)
(Fig. 6-3)
 - (2) Be careful not to touch the positive battery cable.(Fig. 6-3)
- (e) Reinstallation
 - (1) Reinstall all temporarily removed parts.
 - (2) Reconnect all connectors.
- (f) Function check.
 - (1) Perform functional verification.

TOYOTA HIGHLANDER 2011 - TRAILER WIRE HARNESS

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

Check:

Look For:

Accessory Function Checks

- Faults in the wiring harness installation.
- Converter mounting.



- Wire harness.
- Plastic tie locations.
- Negative battery cable nut torque

- Converter bracket mounting nut torque

- Flat 4-pin bracket mounting bolt torque

- Correct routing of the wire harness.
- Pushing or pulling of the converter by any outside force.
- Pinching of the wire harness.
- Positioning of the plastic tie locations.
- Nut torque should be:
4.1 N-m (3.9 – 4.3 N-m)
36 in-lbf (34 – 38 in-lbf)
- Nut torque should be:
5.5 N-m (4.0 – 7.0 N-m)
49 in-lbf (35 – 62 in-lbf)
- Bolt torque should be:
3.9 N-m (3.7 – 4.1 N-m)
35 in-lbf (33 – 37 in-lbf)

Vehicle Function Checks

- Removed parts.
With the Special Service Tool(SST) (Part Number 00002-62195) attached to the trailer sub wire harness plug and with the engine running, perform the following steps:
 -  **CAUTION:** Be sure the exhaust gas is completely ventilated.
 -  **CAUTION:** Be sure the vehicle is in “Park” and that the parking brake is applied.
- Turn on headlamps.
- Turn on left turn signal.
- Turn on right turn signal.

- Scratches or other damage.

- Marker and tail lights on both SST and vehicle are lit.
- Left turn lights on both SST and vehicle are flashing.
- Right turn lights on both SST and vehicle are flashing.

TOYOTA HIGHLANDER 2011 - TRAILER WIRE HARNESS

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

Check:

- Apply foot brake.
- Turn on left turn signal and apply foot brake.
- Turn on right turn signal and apply foot brake.
- Turn on hazard lights switch.
- With hazard lights switch on, apply the foot brake.
- Turn off the hazard lights switch, apply the foot brake.

The following checks are to be performed with the ignition switch off and the engine stopped.

- Turn on headlamps.
- Apply foot brake.
- Turn on left turn signal.
- Turn on right turn signal.
- Turn on left turn signal and apply foot brake
- Turn on right turn signal and apply foot brake.
- With hazard lights switch on, apply foot brake.
- Turn off the hazard light switch, apply foot brake.

Look For:

- Stop lights on both SST and vehicle are lit.
- Left turn lights are flashing and right stop lights are lit on both SST and vehicle.
- Right turn lights are flashing and left stop lights are lit on both SST and vehicle.
- All turn signal lights are flashing on both SST and vehicle.
- Both stop lights on the vehicle are lit, both turn/stop lights on the SST and the turn lights on the vehicle are flashing.
- Both turn/stop lights on the SST and the stop lights on the vehicle are lit.

- Marker and tail lights on both SST and vehicle are lit.
- Stop lights on both SST and vehicle are lit.
- Left turn lights are not lit on both SST and vehicle.
- Right turn lights are not lit on both SST and vehicle.
- Both stop lights are lit and not flashing on both SST and vehicle.
- Both stop lights are lit and not flashing on both SST and vehicle.
- All turn signal lights are flashing on both SST and vehicle.
- Both stop lights on the vehicle and the turn/stop lights on the SST are lit, but not flashing.

Part Number: PT219-42110-AA

This service kit is for RAV4. The Highlander will use 1 clip and 1 wire tie from this service kit. Save the remaining parts for any future vehicles. Vehicles in the affected VIN range may be missing a stud bolt on the vehicle.

Kit Contents

| Item # | Quantity Req'd. | Description |
|--------|-----------------|------------------------|
| 1 | 2 | Surface Cleaner |
| 2 | 5 | Plastic Tie |
| 3 | 5 | Clips, Self Adhesive |
| 4 | 1 | Supplement Instruction |


Recommended Tools


| Personal & Vehicle Protection | Notes |
|-------------------------------|-------|
| Safety Glasses | |
| | |


Recommended Sequence of Application


| Item # | Accessory |
|--------|----------------------|
| 1 | Trailer Hitch |
| 2 | Trailer Wire Harness |
| 3 | RAV4 Service Kit |
| | |


Legend


 **STOP:** Damage to the vehicle may occur. Do not proceed until process has been complied with.

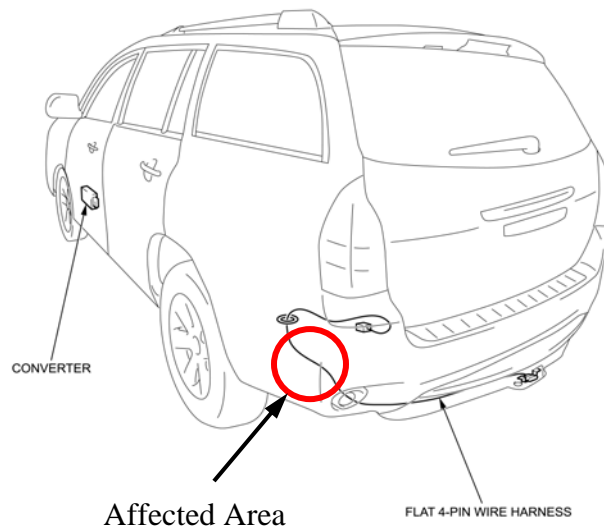
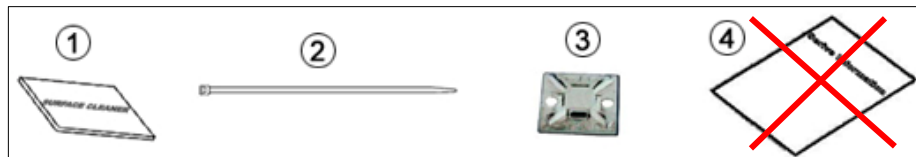
 **OPERATOR SAFETY:** Use caution to avoid risk of injury.

 **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.

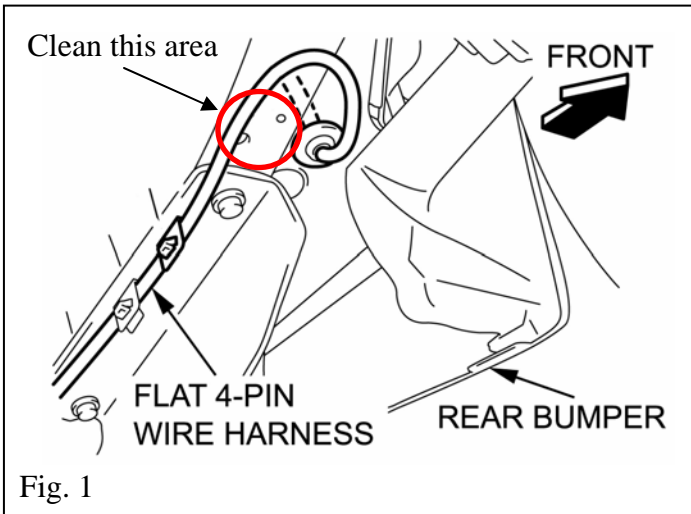
 **TOOLS & EQUIPMENT:** Used in Figures calls out the specific tools and equipment recommended for this process.

 **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.



Use the following steps in place of Step 4 (p) to 4 (r) on page 10 for those vehicles affected in the VIN range missing the stud bolt.



1. Use the provided surface cleaner to clean the body surface as shown. (Fig. 1)
2. Attach 1 self adhesive clips to the body at the location shown, route the plastic tie through the self adhesive clip and secure the wire harness to the clip. Clip excess material. (Fig. 2)

