

# LEXUS NX GAS 22- TOW WIRE HARNESS KIT

Part Number: PT725-78220

## Kit Contents:

Item#	Quantity Req'd	Description
1	1	Converter
2	1	Flat 4-pin wire harness
3	1	Interior wire harness
4	1	Battery wire harness
5	6	Foam tape
6	2	Bolt (M5)
7	2	Nut
8	45	Cable tie-white
9	6	Cable tie-black
10	1	Grey connector

## Hardware Bag Contents

Item#	Quantity Req'd	Description
5-10	62	Foam tape, Bolt (M5), Nut, Cable tie-white, Cable tie-black, Grey connector

## Additional Items

(may be required)

Item#	Quantity Req'd	Description

## Vehicle Service Parts

Item#	Quantity Req'd	Description

## General Applicability







Vehicle body must be above 65°F to apply the adhesive on the converter to the body panel.

## Recommended Sequence of Application

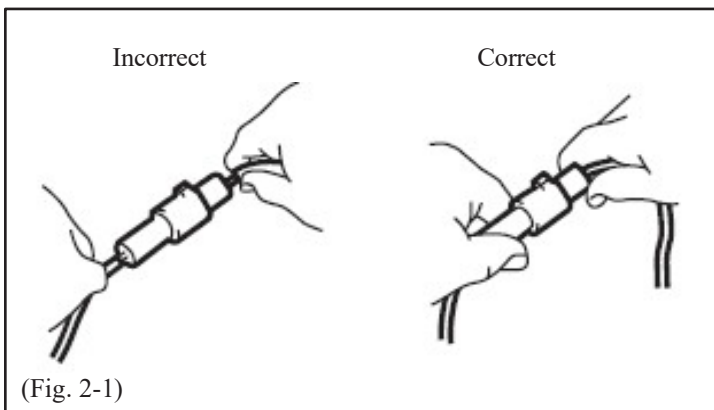
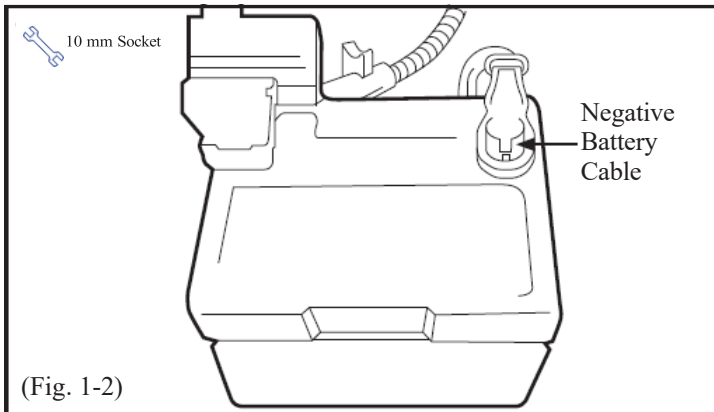
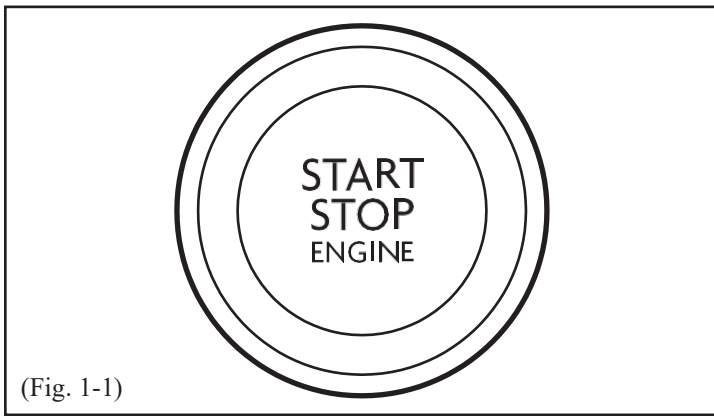
Item#	Description
1	Trailer hitch
2	Trailer wire harness

Personal & Vehicle Protection	Notes
Safety Glasses	
Seat Protectors	
Special Tools	Notes
LED Tester - 4-pin	SST 00002-62195
Installation Tools	Notes
Torque wrench	100 lbf·in
Ratchet	
Sockets	10, 12 and 14 mm
Side cutters	
Trim panel removal tools	
Special Chemicals	Notes
VDC approved cleaner	
Lithium grease	

## Legend

-  **STOP:** Damage to the vehicle may occur. Do not proceed until process has been complied with.
-  **CAUTION:** A process that must be carefully observed in order to reduce the risk of damage to the accessory/ vehicle.
-  **OPERATOR SAFETY:** Use caution to avoid risk of injury.
-  **TOOLS & EQUIPMENT:** Used in Figures. Calls out the specific tools and equipment recommended for the 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.

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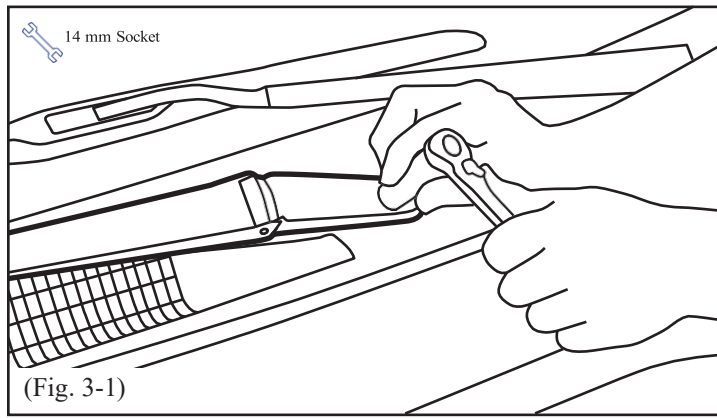
## 1. Supplemental Restraint System (SRS)

- a. Failure to carry out procedures listed below could result in possible deployment of airbag, personal injury, or unnecessary repair to SRS.
- b. Vehicle should be in the ignition off state (Fig. 1-1).
- c. Remove the smart key from the vehicle and open all doors and hatch.
- d. Move driver's seat to a position that allows access to seat belt bolt. Refer to Figure 4-8.
- e. Open the vehicle hood.
- f. Disconnect the negative battery cable (Fig. 1-2).
- g. 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).
- h. 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. When installing the trailer wire harness, make sure it is not cut or perforated by any sharp metal objects.

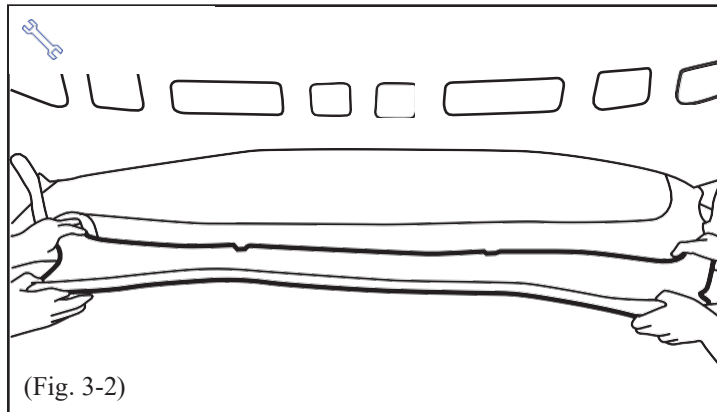
# LEXUS NX GAS 22- TOW WIRE HARNESS KIT



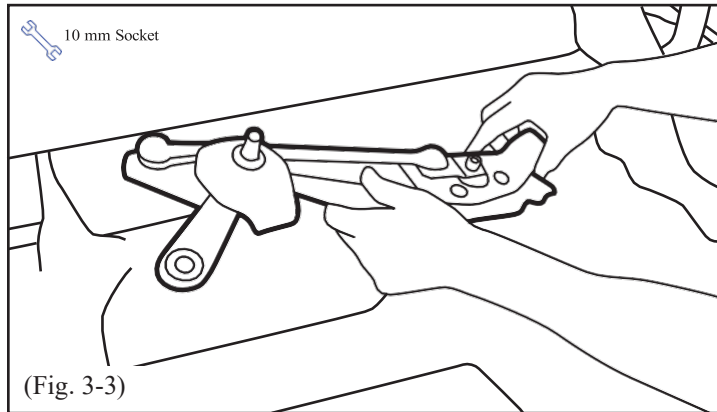
## DISASSEMBLY

### 3. Engine Bay

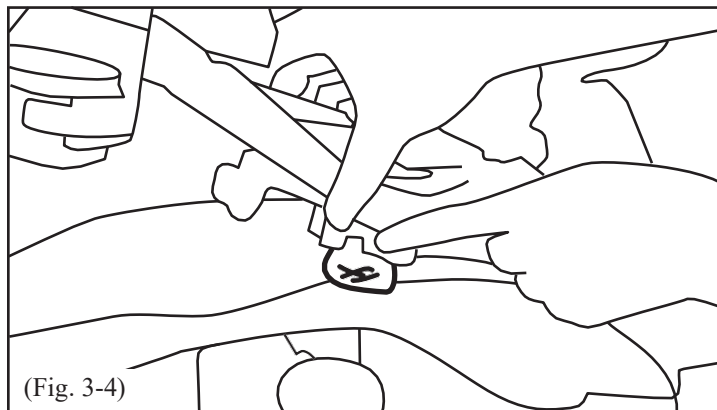
a. Remove both driver and passenger wiper blades arms (Fig. 3-1).



b. Remove windshield cowl and associated snap on clips (Fig. 3-2).

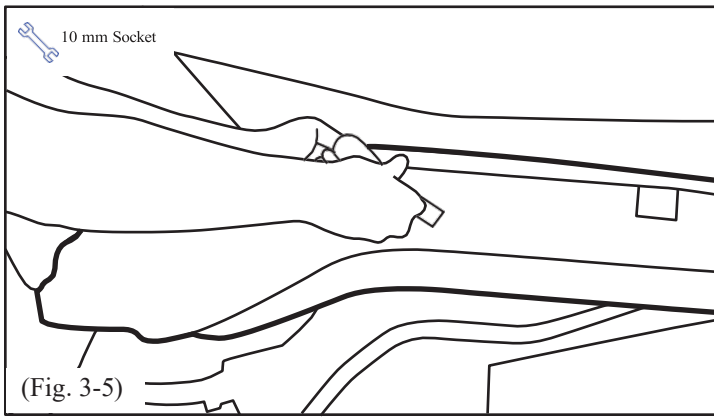


c. Remove wiper assembly (Fig. 3-3).

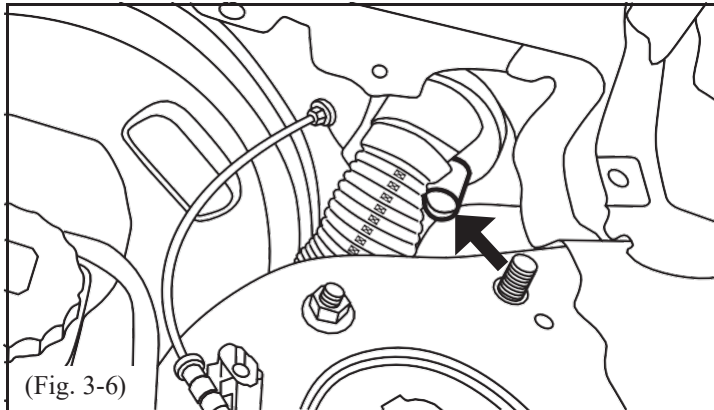


d. Disconnect associated connector with the wiper assembly (Fig. 3-4).

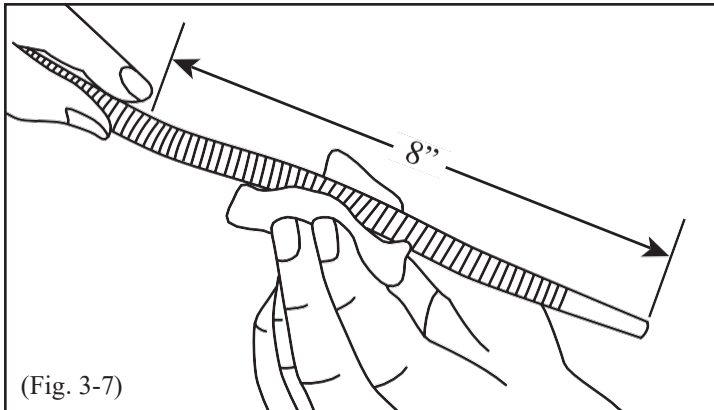
# LEXUS NX GAS 22- TOW WIRE HARNESS KIT



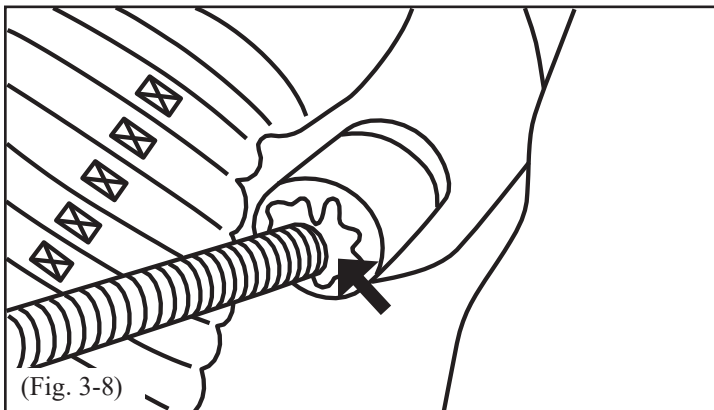
e. Remove metal plate under cowl (Fig. 3-5).



f. Cut off tip accessory nipple on the driver side firewall with side cutter (Fig. 3-6).



g. Apply lithium grease to the battery wire harness, fully coating the first 8" of the harness (Fig. 3-7).

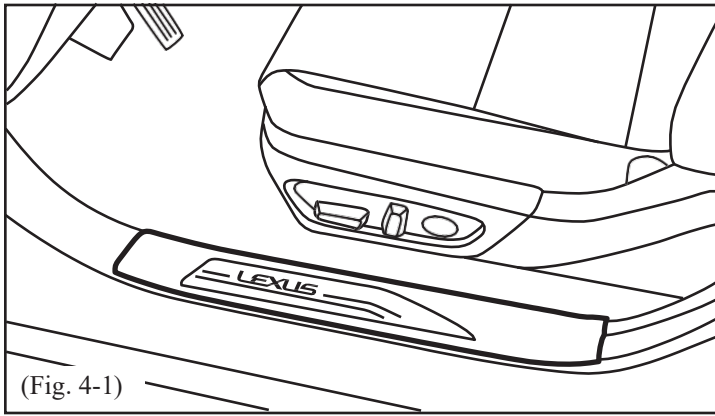


h. Apply grease inside of grommet.

i. Insert battery wire harness through the grommet (Fig. 3-8).

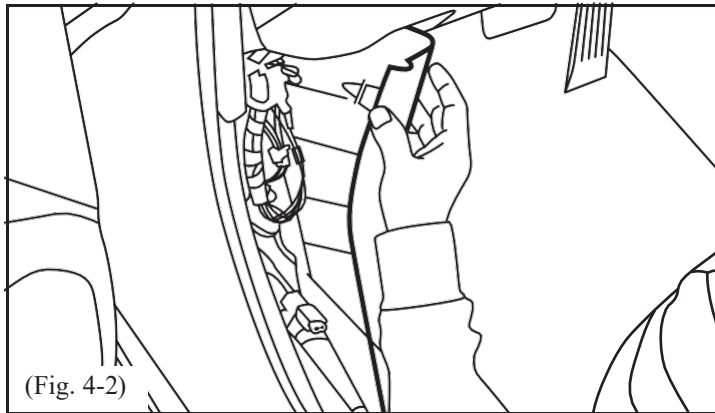
**⚠ Caution: Use gentle force during insertion to prevent damage to the terminal and seal.**

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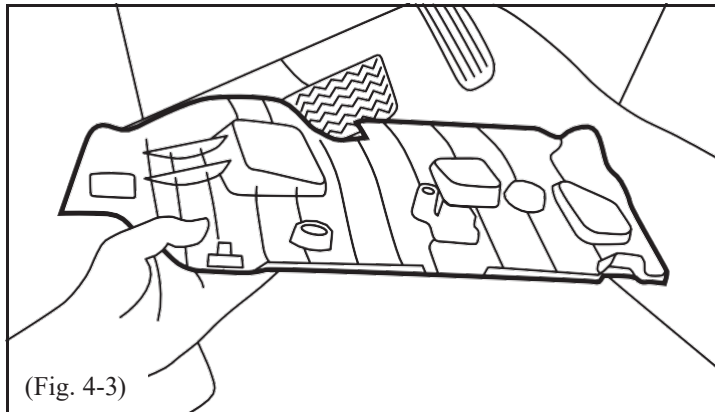


## 4. Interior

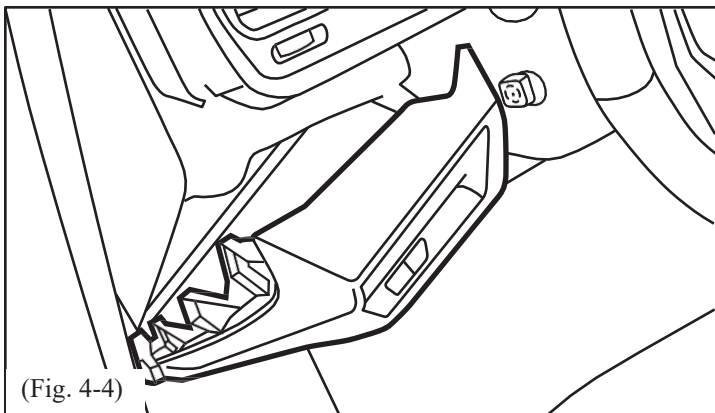
a. Remove driver side door sill (Fig. 4-1).



b. Remove side trim to expose wires (Fig. 4-2).

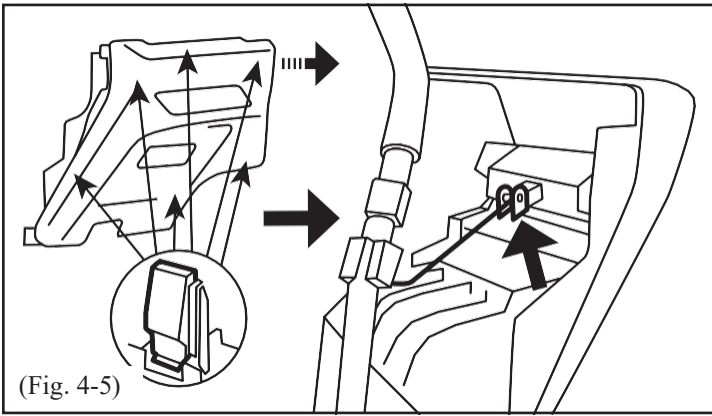


c. Remove lower panel below steering wheel (Fig. 4-3).

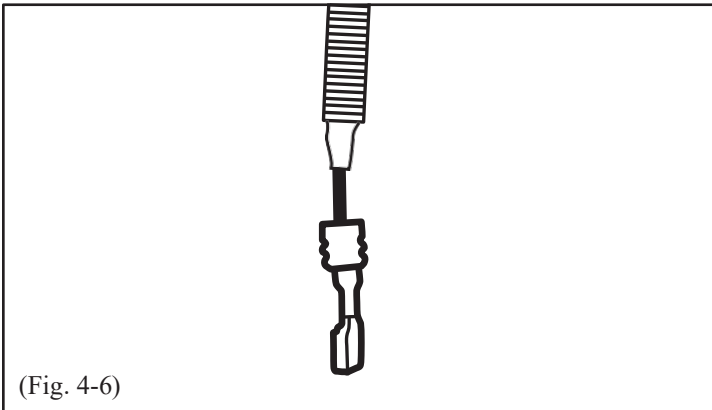


d. Detach lower instrument panel, sub assembly (Fig. 4-4).

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- e. Remove lower instrument panel sub-assembly. Disconnect hook lock control lever (Fig. 4-5).



- f. Gently pull battery wire harness from the interior grommet exit point down to the footwell or about 12 inches. Ensure there is sufficient harness to route from the battery to the engine bay grommet.

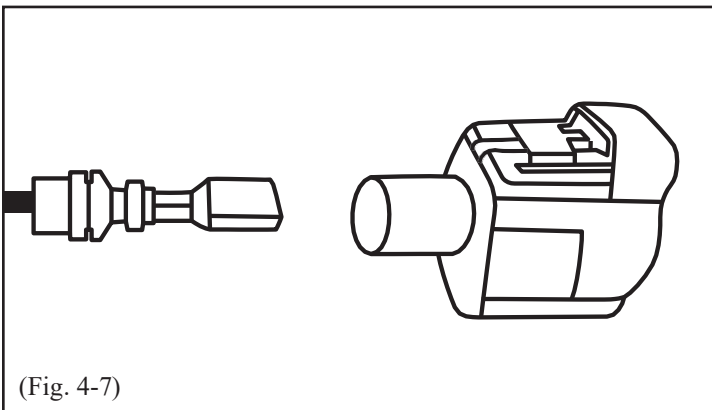
- g. Remove the colored tape and protective tube to expose the terminal and seal (Fig. 4-6).

**⚠ Caution: Inspect terminal and seal for damage.**

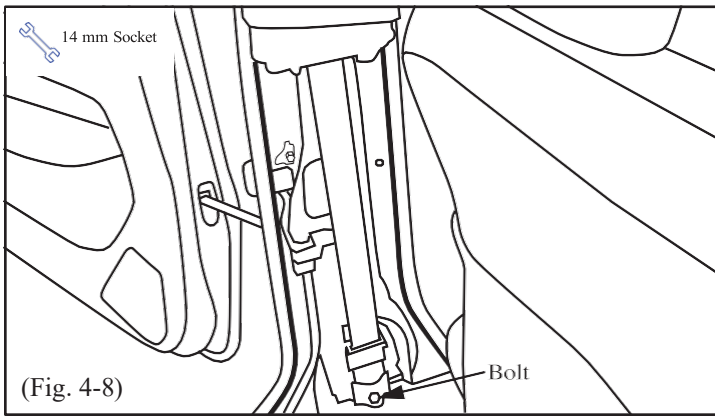
**⚠ Caution: Ensure no grease is on the terminal.**

- h. Insert battery terminal into plastic connector (Fig. 4-7).


**⚠ Caution: Ensure terminal is locked into connector.**



# LEXUS NX GAS 22- TOW WIRE HARNESS KIT

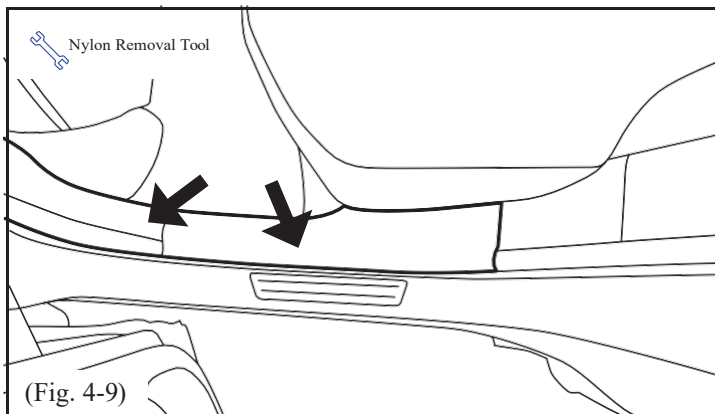


i. Remove seatbelt bolt.

 Torque: 42 Nm (428 kgf cm, 31 ft lbf)

j. Remove B-pillar panel

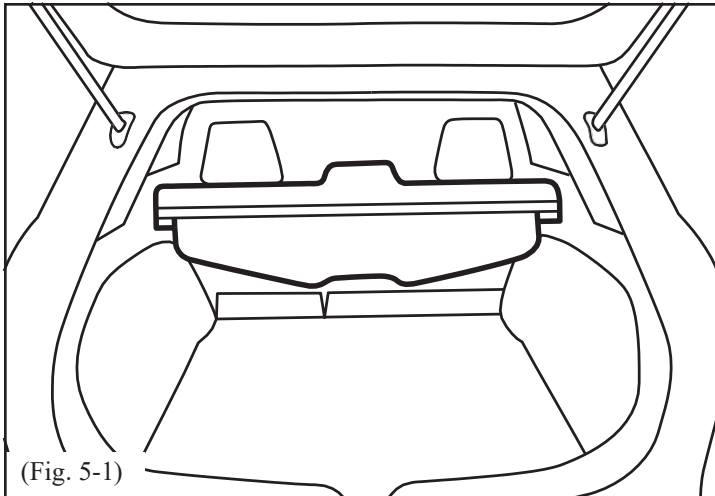
(Fig. 4-8).



k. Remove rear driver side door sill (Fig. 4-9).

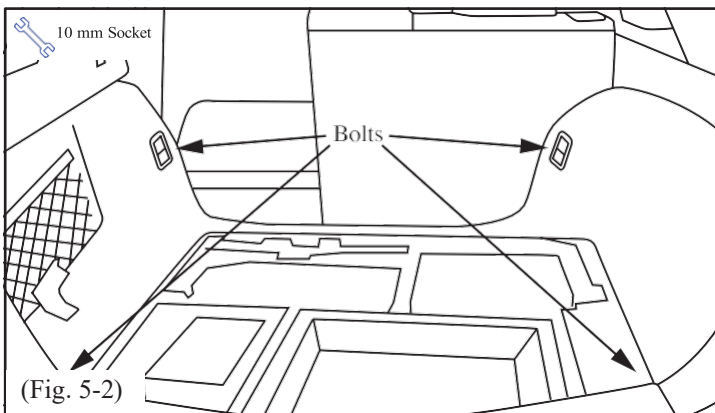
l. Remove door weather-seal.

m. Remove rear qtr trim panel.



## 5. Rear Cargo Area

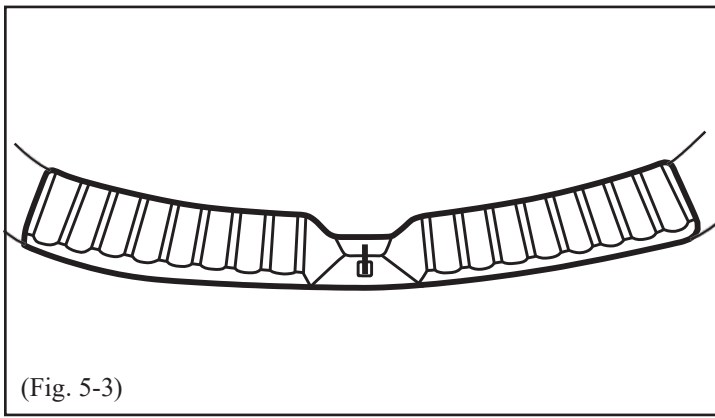
a. Remove tonneau cover and deck board (Fig. 5-1).



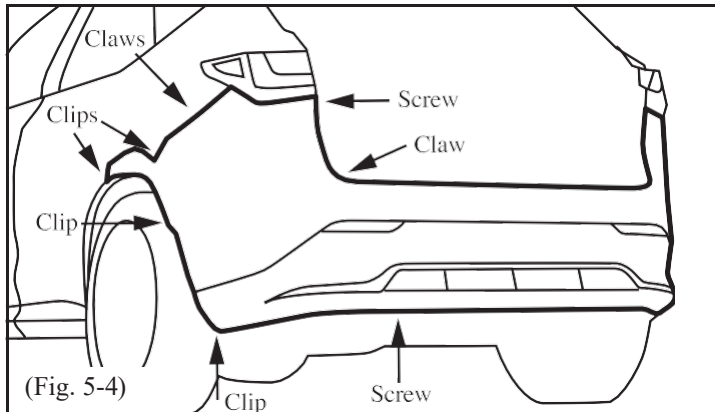
b. Remove four (4) 10mm bolts and side panels (Fig. 5-2).

c. Remove the under floor items.

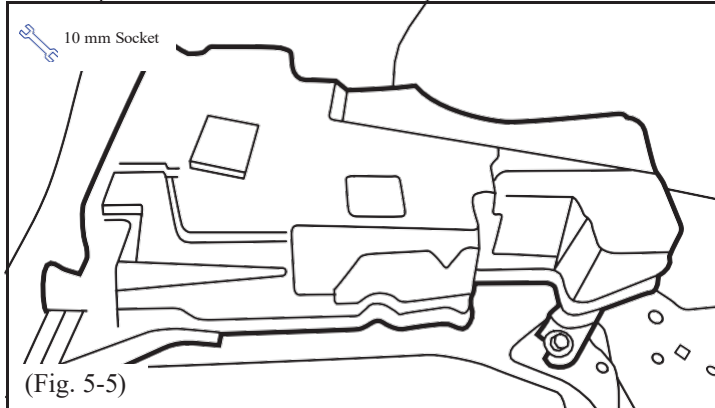
# LEXUS NX GAS 22- TOW WIRE HARNESS KIT



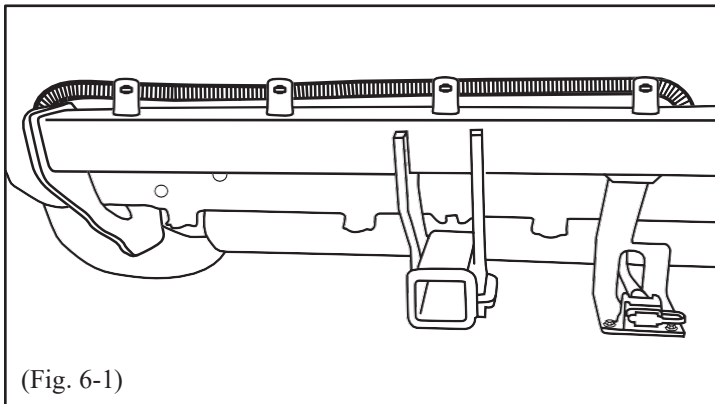
d. Remove cargo sill plate (Fig. 5-3).



e. Remove the rear bumper cover by removing the driver and passenger side clips, claws and screws, as shown (Fig. 5-4).



f. Remove driver side subwoofer if equipped to expose the exterior grommet (Fig. 5-5).



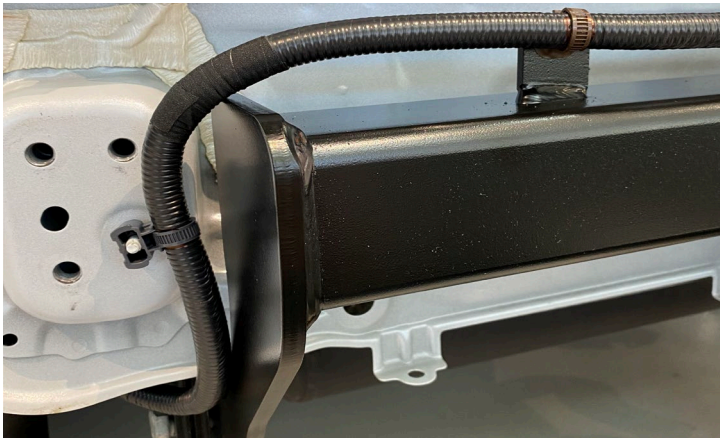
## 6. Install Exterior Wire Harness Cable

- a. Route exterior harness along the hitch with attachment points.
- b. Secure 4 PIN connector to mounting plate with included M5 bolt and nuts.

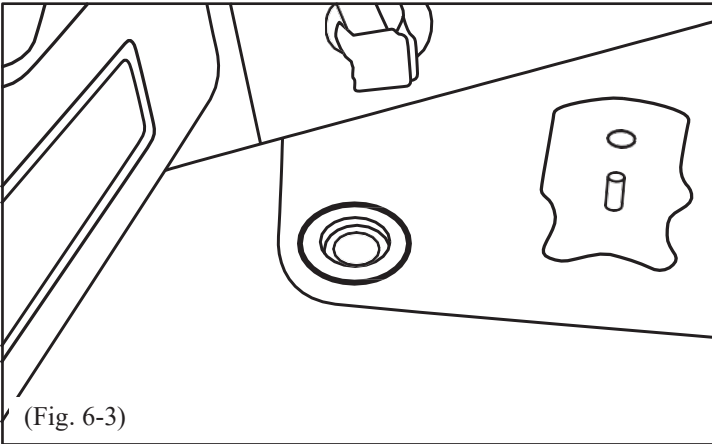
(Fig. 6-1)



# LEXUS NX GAS 22- TOW WIRE HARNESS KIT

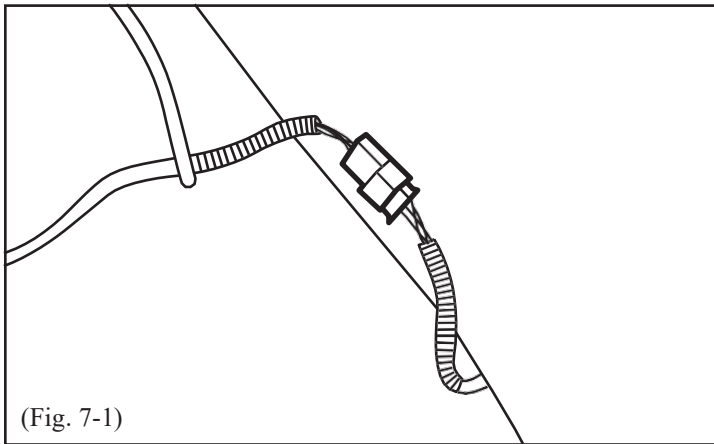


- c. Route exterior harness along the driver side hitch and clip onto the attachment point (Fig. 6-2).

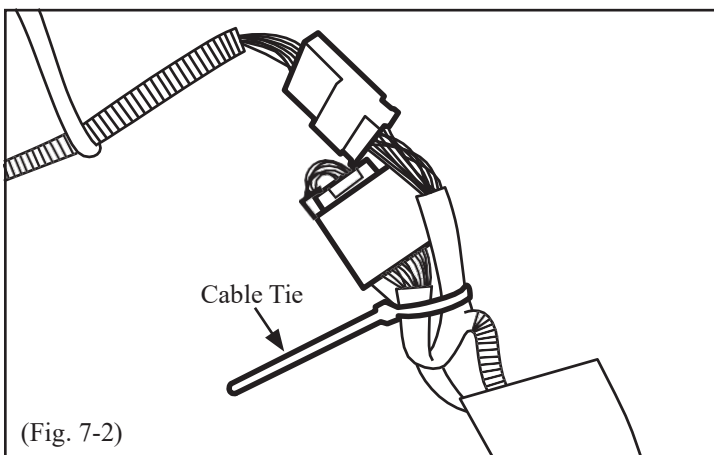


- d. Remove existing vehicle grommet from inside the vehicle.
  - e. Route exterior wire harness through the grommet in the floor pan.
  - f. Connect exterior harness to interior harness.
- (Fig. 6-3)

## 7. CARGO AREA WIRE HARNESS INSTALLATION

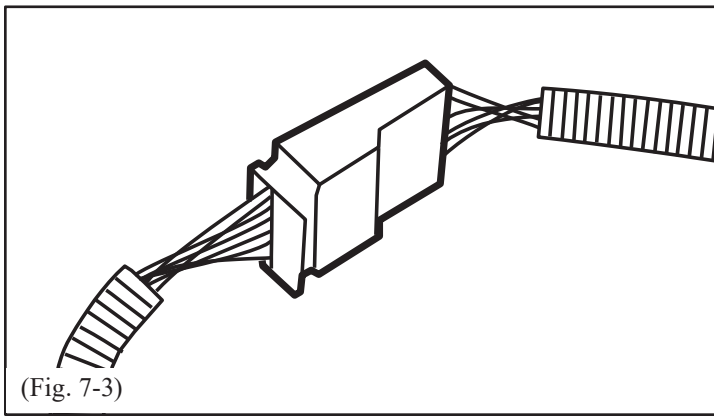


- a. Disconnect the passenger side combination lamp (Fig. 7-1).

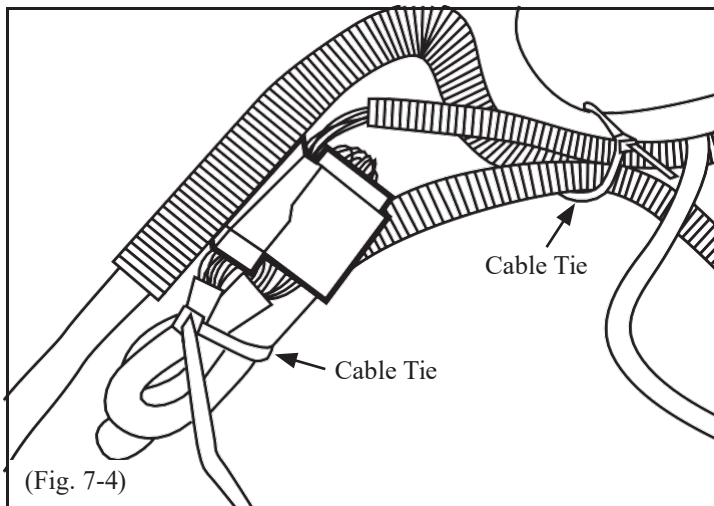


- b. Connect the 'Y' wire harness to male and female connectors. Add cable tie-white as shown (Fig. 7-2).

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c. Disconnect the driver side combination lamp connectors (Fig. 7-3).



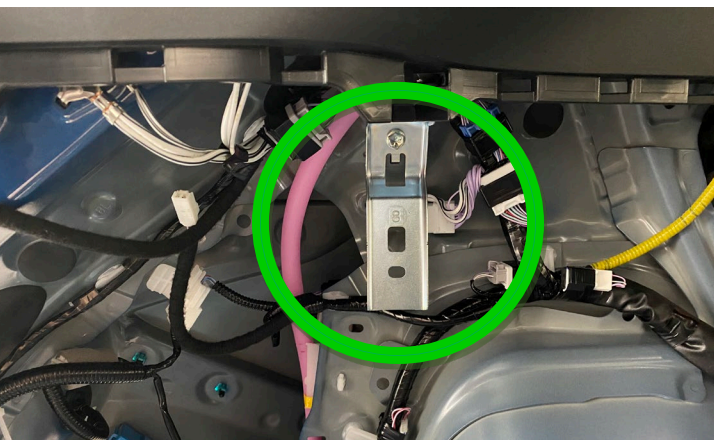
d. Connect the 'Y' wire harness to male and female connectors. Add cable ties-white as shown (Fig. 7-4).



e. Clean area of the interior rear body panel, above the driver-side rear vent, with VDC approved cleaner.

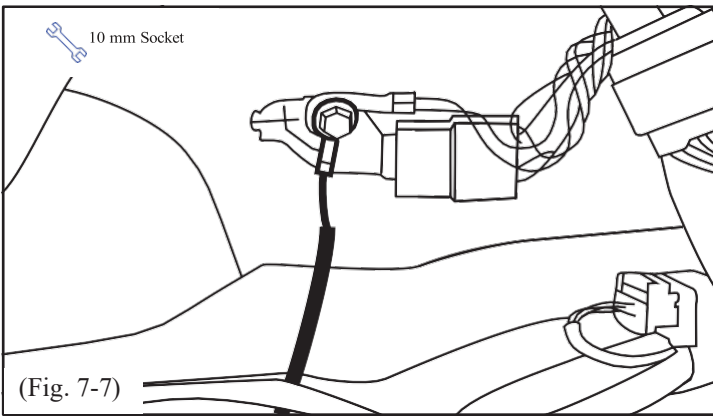
f. Connect the wire harness to the converter and remove the backing from the butyl tape on the back of the converter.

g. Affix the converter to the cleaned area of the interior body panel, above the rear vent (Fig. 7-5).

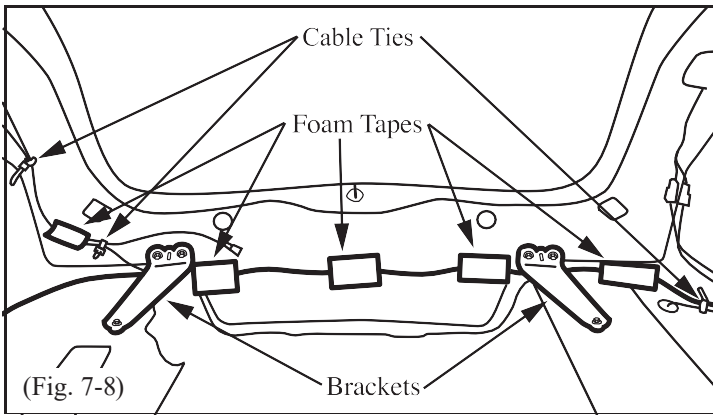


h. Remove the driver-side rear trim/panel support bracket to access ground point (Fig. 7-6).

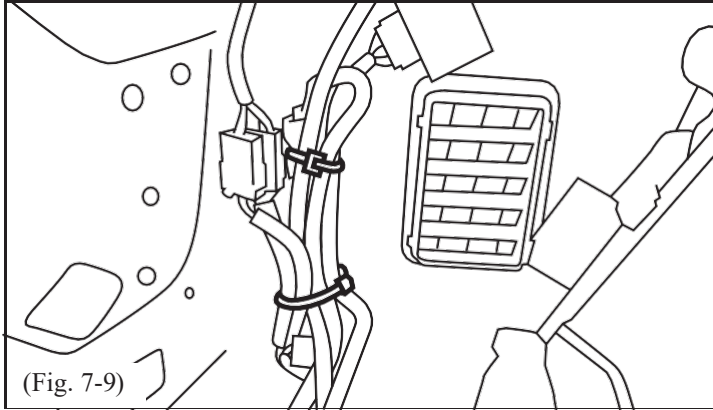
# LEXUS NX GAS 22- TOW WIRE HARNESS KIT



- i. Connect the ground terminal to the existing 10 mm ground bolt (Fig. 7-7).
- j. Restore the trim/panel support bracket.

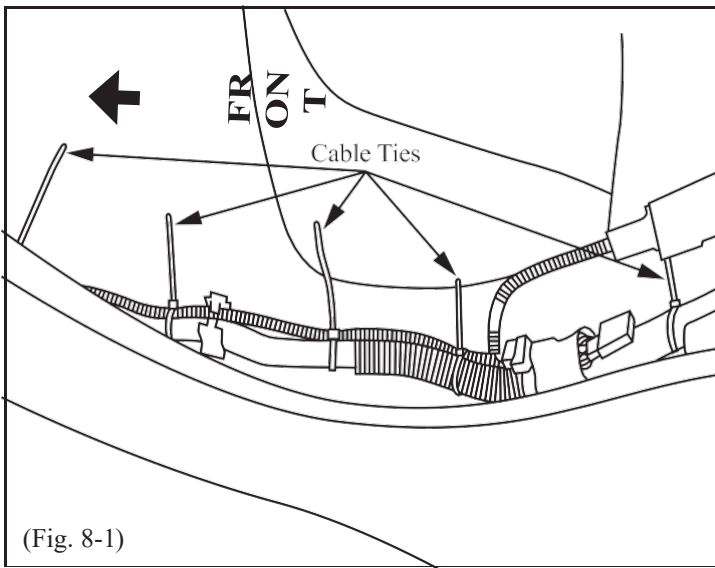


- k. Install cable ties-white and foam tapes as shown (Fig. 7-8). Cargo bay view is from the inside looking out towards the rear.



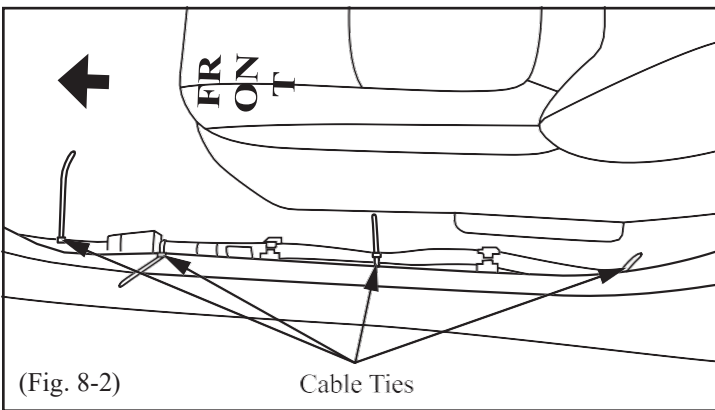
- l. Bundle and zip tie harnesses as shown (Fig. 7-9).

# LEXUS NX GAS 22- TOW WIRE HARNESS KIT

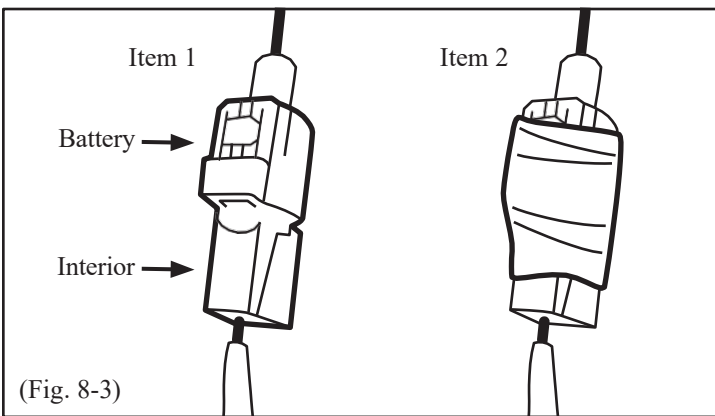


## 8. Interior

- a. At driver side rear passenger door sill location , route interior harness along existing OE harness and install five (5) cable ties-white as shown. Cable ties need to be 8” apart (Fig. 8-1).



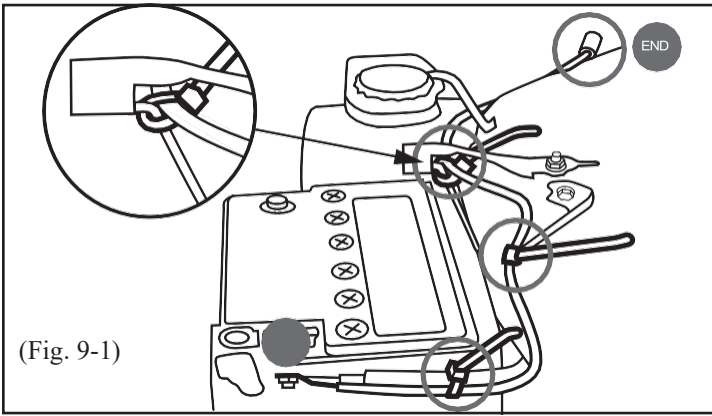
- b. At driver side door sill location, route the interior harness along the existing OE harness and install four (4) cable ties-white as shown (Fig. 8-2).



- c. Connect the interior to the battery harness and secure.
- d. Apply foam tape over gray connectors.
- e. Secure accessory wire harness to vehicle harness with cable tie-white.

(Fig. 8-3)

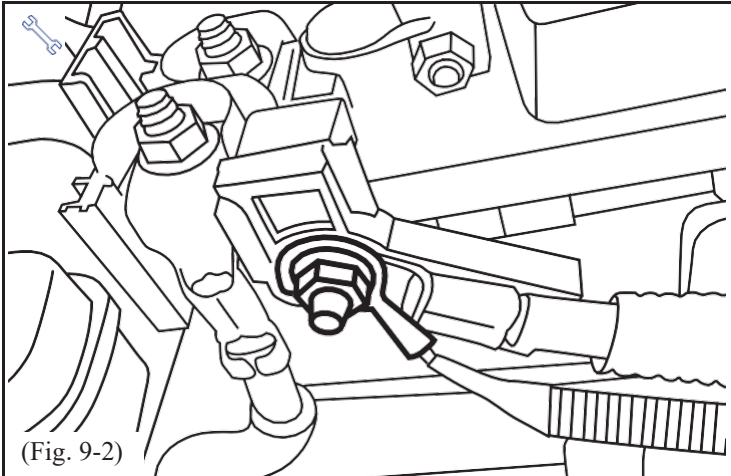
# LEXUS NX GAS 22- TOW WIRE HARNESS KIT



## 9. Connect The Battery Wire Harness

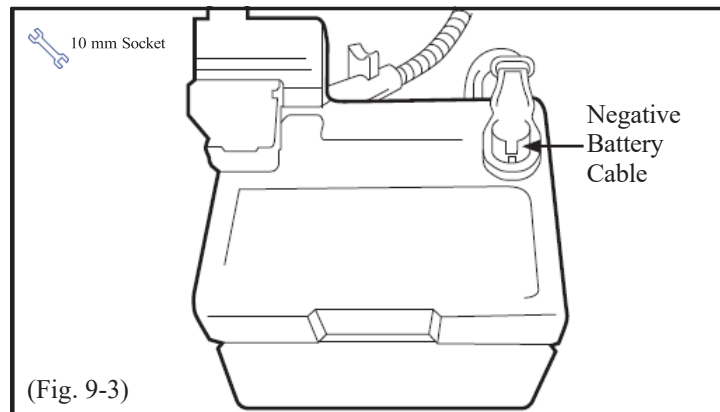
- a. Route the harness inside engine bay and secure with cable ties-black as shown (Fig. 9-1).

**⚠ Caution: Use only cable ties-black for engine bay routing.**



- b. Connect the harness to the positive battery terminal as shown (Fig. 9-2).

**⚠ Torque: 5.0 Nm (51 kgf cm 44 in lbf)**



- c. Reconnect the vehicle's negative battery cable to original factory orientation (Fig 9-3).

**⚠ Torque: 5.4 Nm (48 lbf in)**

**+** Do not touch the positive battery terminal with any tool when replacing the cable.

## 10. Reinstallation


- a. Perform function check first.
- b. Reinstall all temporarily removed panels and parts.
- c. Ensure all bolts are reinstalled to their respective torque specifications.





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## Accessory Function Checks

### Major Action Item


1	Faults in the wiring harness installation.	Correct routing of the wire harness.
2	Converter mounting.	Pushing or pulling of the converter by any outside force.
3	Wire harness.	Pinching of the wire harness.
4	Plastic tie locations.	Positioning of the plastic tie locations.
5	Negative battery cable nut torque.	Nut torque should be: 5.4 N·m (48 lbf·in)  Do not touch the positive battery terminal with any tool when replacing the cable.
6	Flat 4-pin bracket mounting bolt torque.	Nut torque should be: 3.9 N·m (35 lbf·in)

## Vehicle Function Check

	Check:	Look For:
	<p>Connect the Special Service Tool (SST) (Part Number 00002-62195) to the trailer sub-wire harness plug.</p> <p>Perform the following steps with the engine running:</p> <p> <b>CAUTION:</b> Be sure the vehicle is in "Park" and that the parking brake is applied.</p> <p> <b>CAUTION:</b> Be sure the exhaust gas is completely ventilated.</p>	
<input type="checkbox"/>	Turn on headlamps.	Marker and tail lights on both SST and vehicle are lit.
<input type="checkbox"/>	Turn on left turn signal.	Left turn lights on both SST and vehicle are flashing.
<input type="checkbox"/>	Turn on right turn signal.	Right turn lights on both SST and vehicle are flashing.
<input type="checkbox"/>	Apply foot brake.	Stop lights on both SST and vehicle are lit.
<input type="checkbox"/>	Turn on left turn signal and apply foot brake.	Left turn lights are flashing and right stop lights are lit on both SST and vehicle.
<input type="checkbox"/>	Turn on right turn signal and apply foot brake.	Right turn lights are flashing and left stop lights are lit on both SST and vehicle.
<input type="checkbox"/>	With hazard lights switch on, apply foot brake.	All turn signal lights are flashing on both SST and vehicle.

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

<input type="checkbox"/>	Turn off the hazard light switch, apply foot brake.	Both turn/stop lights on the SST and the stop lights on the vehicle are lit.
<b>PPO ONLY</b>		
	Install the short pin, then perform the following checks with the ignition switch off and the engine stopped.   <b>CAUTION: Do not start the engine.</b>	
<input type="checkbox"/>	Turn on headlamps.	Marker and tail lights on both SST and vehicle are lit.
<input type="checkbox"/>	Turn on left turn signal.	Left turn lights are not lit on both SST and vehicle.
<input type="checkbox"/>	Turn on right turn signal.	Right turn lights are not lit on both SST and vehicle.
<input type="checkbox"/>	Turn on left turn signal and apply foot brake.	Both stop lights are lit and not flashing on both SST and vehicle.
<input type="checkbox"/>	Turn on right turn signal and apply foot brake.	Both stop lights are lit and not flashing on both SST and vehicle.
<input type="checkbox"/>	Apply foot brake.	Both stop lights on the vehicle and the turn/stop lights on the SST are lit, but not flashing.
<input type="checkbox"/>	With hazard lights switch on, apply foot brake.	All turn signal lights are flashing on both SST and vehicle.
<input type="checkbox"/>		

## Vehicle Appearance Check

<input type="checkbox"/>	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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# LEXUS NX GAS 22- TOW WIRE HARNESS KIT

## Basic Electrical Wiring Diagram

