# AMP RESEARCH Power Step

MADE IN USA

| APPLICATION | | MODEL YR | AMP Part # |
|---|---|---|---|
| Ram 25-3500 | Mega Cab | 2013-2017 | 77148-01A |

*Note: The application works only on the Mega Cab model Vehicles.*
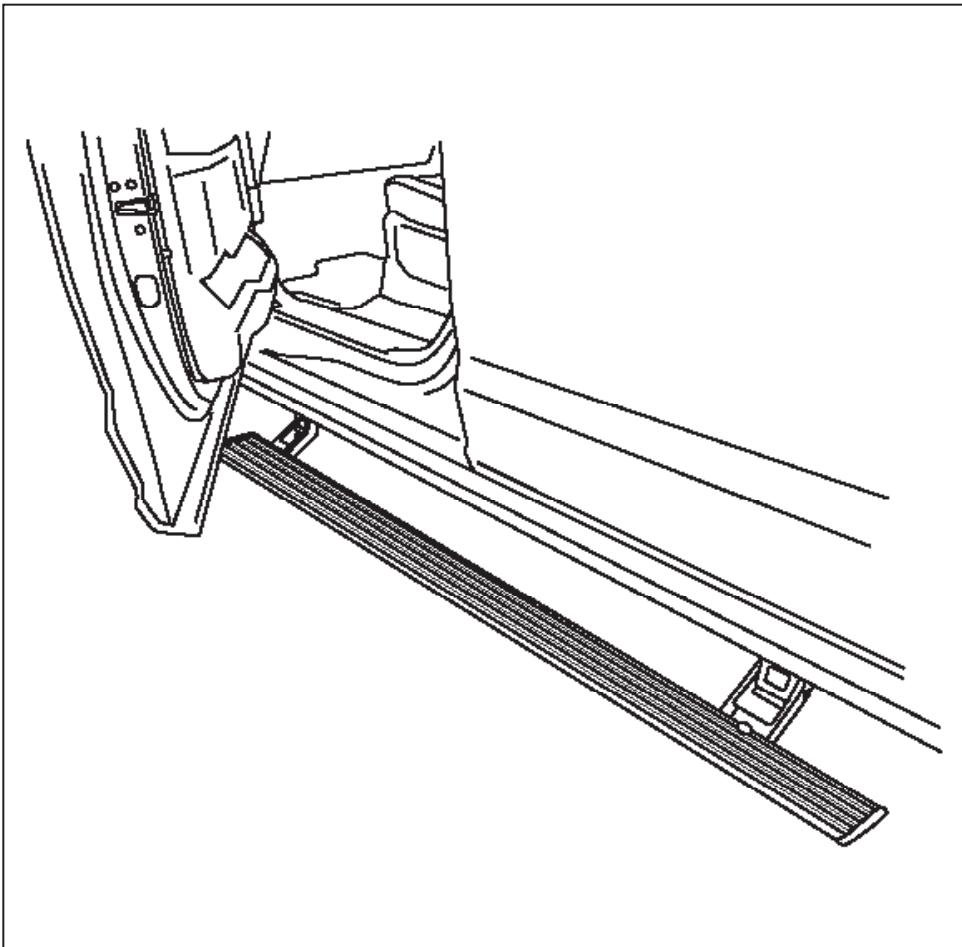


## INSTALLATION TIME
### 3-5 Hours
Professional installation recommended

## SKILL LEVEL
① ② ③ ④

4= Experienced

## TOOLS REQUIRED
❑ Safety goggles
❑ Measuring tape
❑ 10 mm socket
❑ 13 mm socket
❑ 1/2" socket
❑ Ratchet wrench and extension
❑ Wire crimpers
❑ Wire stripper / cutter
❑ 3/16" hex key wrench (allen wrench)
❑ 4mm hex key wrench ( allen wrench )
❑ Electrical tape
❑ Weather proof caulking (silicone sealer)
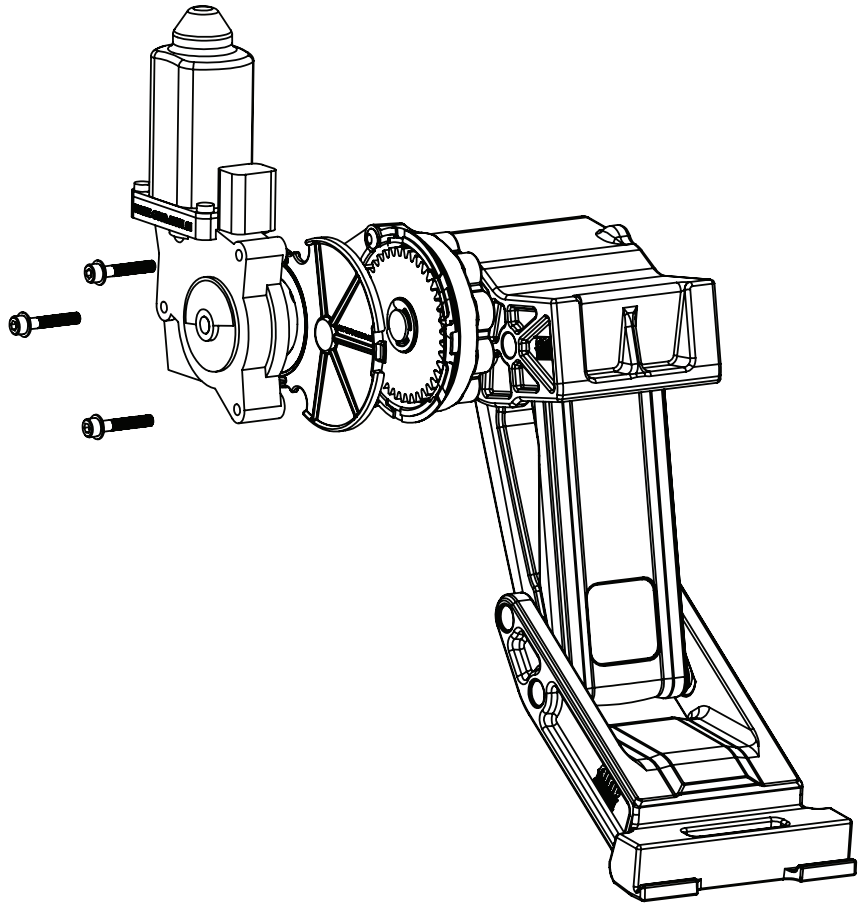❑ Silicone spray

## WARRANTY
**5-Year Limited Warranty**

AMP RESEARCH TECH SUPPORT 1-888-983-2204 (Press 2) Monday - Friday, 6:00 AM - 5:00 PM PST

# INSTALLATION GUIDE
Attaching motor to Linkage assembly.

EXPLODED VIEW

• Motor

• Socket cap screw

• Washer

• Drive Gear Housing Cover

## CAUTION: HANDLE WITH CARE.

To ensure our customers receive all components with full integrity, we pack the motors separate from their linkage assemblies. This requires that the installer position and fasten the motor before continuing with the install. Please follow the instructions below and handle the assembly carefully.

CAUTION: Dropping the assembly or any excessive impact MAY cause damage to the motor.

Instructions:

1. Position the gear cover in place as shown if not already in place.

2. Seat motor into position on the three mounting bosses. This may require an adjustment of the gear by moving the swing arms.

3. After seating into place, fasten the motor with the three motor mount screws with 4mm Hex Head. Tighten screws to 36 in-lbs (4N-m). **Do not over torque.**
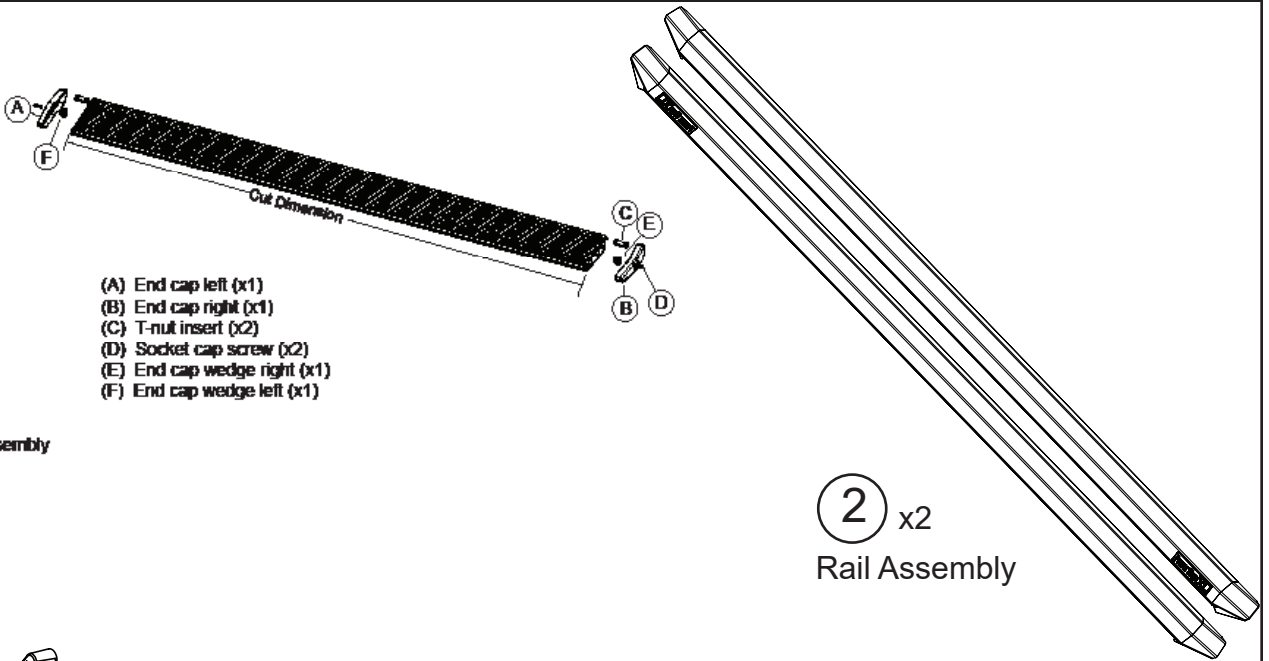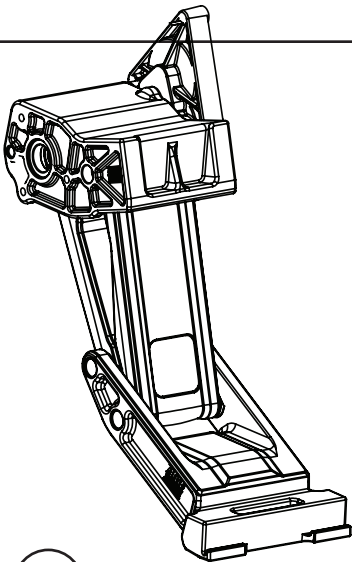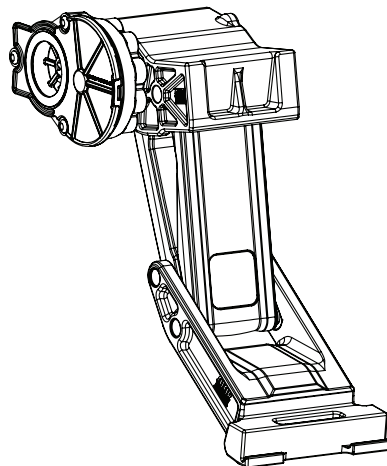
(A) End cap left (x1)
(B) End cap right (x1)
(C) T-nut insert (x2)
(D) Socket cap screw (x2)
(E) End cap wedge right (x1)
(F) End cap wedge left (x1)

Cut Dimension

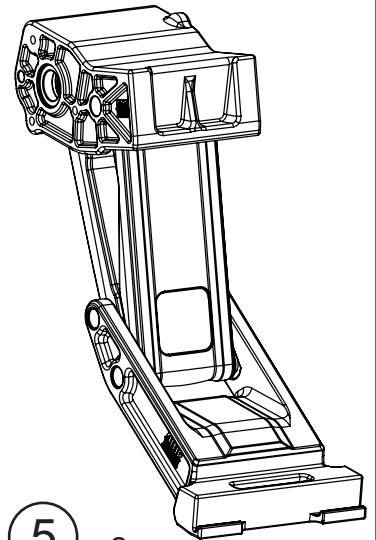**1** x2
Running board assembly

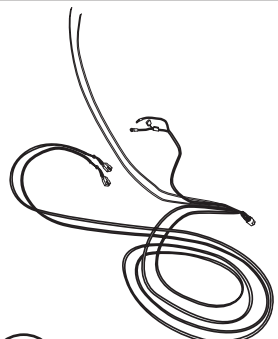**2** x2
Rail Assembly

**3**
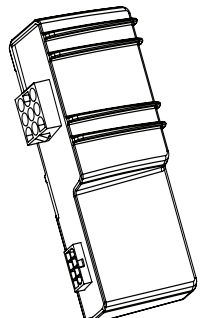Motor Linkage assembly
Driver

**4**
Motor Linkage assembly
Passenger

**5** x2
Idler Linkage assembly
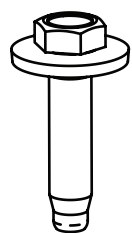
**6**
Wire harness

**7**
Controller STA

**8** x2
Posi-Lock™

**9** x16
M8 Hex Bolt w
Conical washer
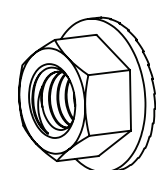
**10** x12
5/16-18
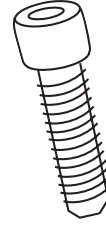Flange Nut
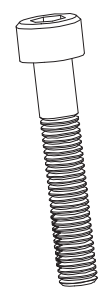
**11** x6
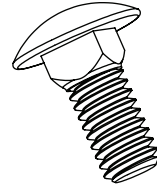M5 Hex Bolt

(12) x6
M5 Washer

(13) x4
M6 Flange Bolt
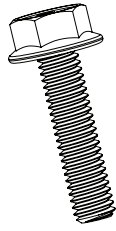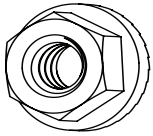
(14) x4
5/16 Flange Bolt

(15) x8
Socket Cap Screw

(16) x8
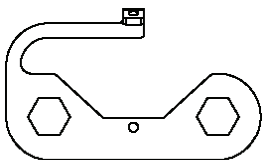5/16-18
Carriage Bolt

(17) x8
1/4-20
Flange nut

(18) x8
Rivet Nut

(19) x8
Button Head Torx
Screw

(20) x8
Washer

(21) x4
Reinforcement Bracket
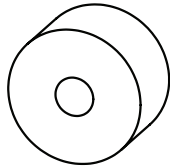
(22) x4
Upper Mount
Spacer

(23) x4
Blind Rivet
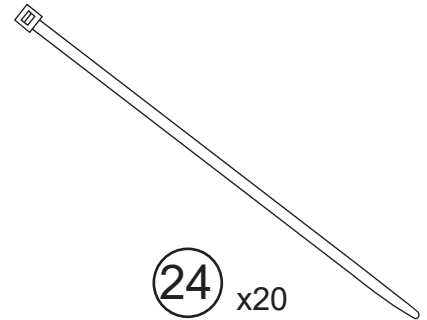
(24) x20
Cable tie (7")
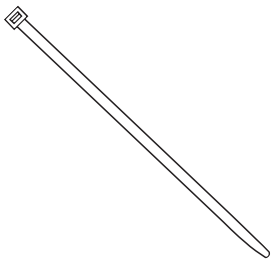
(25) x2
Cable tie (11")
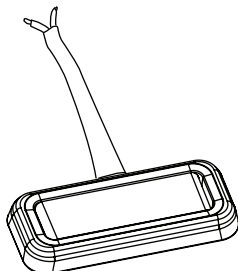
(26) x4
LED Lamp
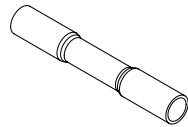
(27) x8
Butt Connector
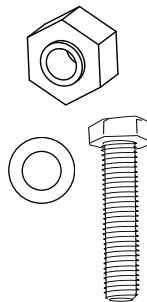
(28)
Rivet Nut Tool
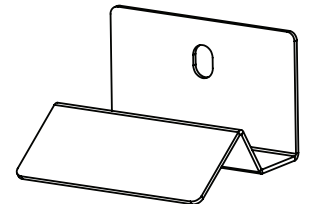
(29) x4
LED Light Bracket
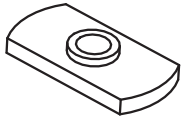
31 x4
Nut Plates

32 x4
Button Head Bolt
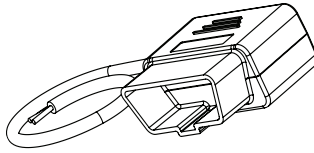
33
OBD II Plug
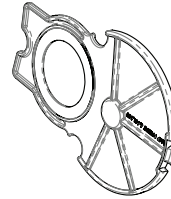
34 x2
Gear Cover
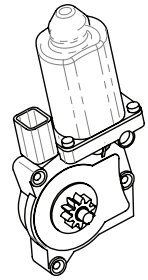
35 x2
Motor
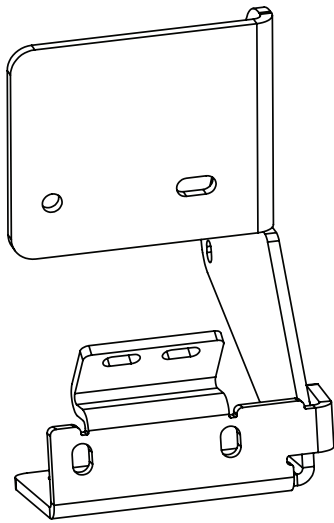
36
Linkage Mounting
Bracket Passenger **(Front)**
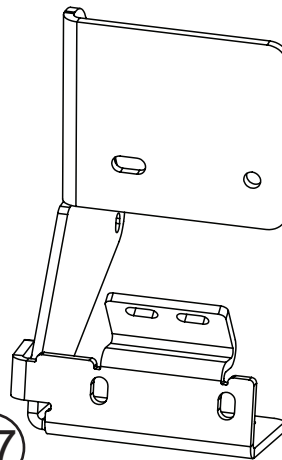
37
Linkage Mounting
Bracket Driver **(Front)**
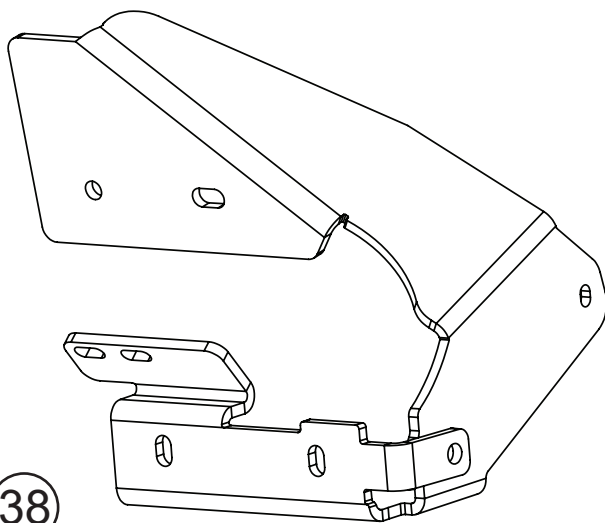
38
Rail Mounting Bracket
Passenger **(Rear)**
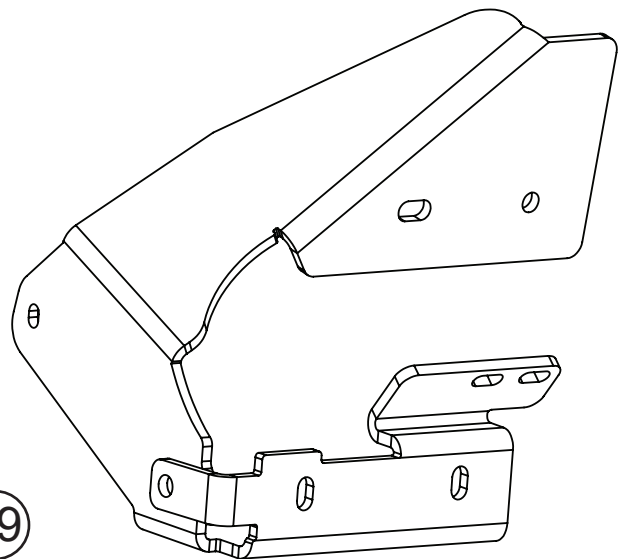
39
Rail Mounting Bracket
Driver **(Rear)**

# HARDWARE MOUNTING OVERVIEW
## (passenger side shown)

Locate forward most and rearward most mounting provisions on inner sill of truck. Remove tape from sill drain hole at both mounting points.

**Note: Some vehciles may have Front welded fastners installed already. Backing plates and rivet nuts are not needed on these locations. Factory Rivet nuts will need to be removed to install backing plates.**

Idler Assembly
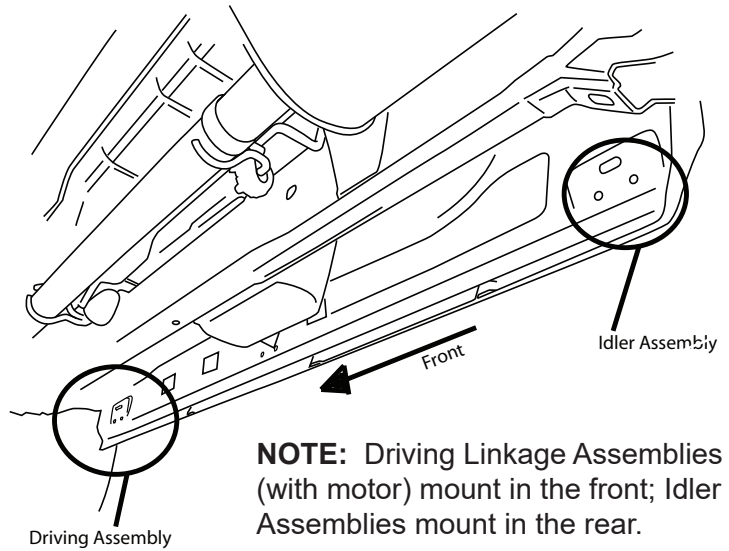
Front

**NOTE:** Driving Linkage Assemblies (with motor) mount in the front; Idler Assemblies mount in the rear.

Driving Assembly

**1**

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Set Reinforcement Plate in place and locate with rivet nuts. Drill hole using an 1/8" drill bit. After drilling apply paint to prevent rusting

Corrosion Protection Paint
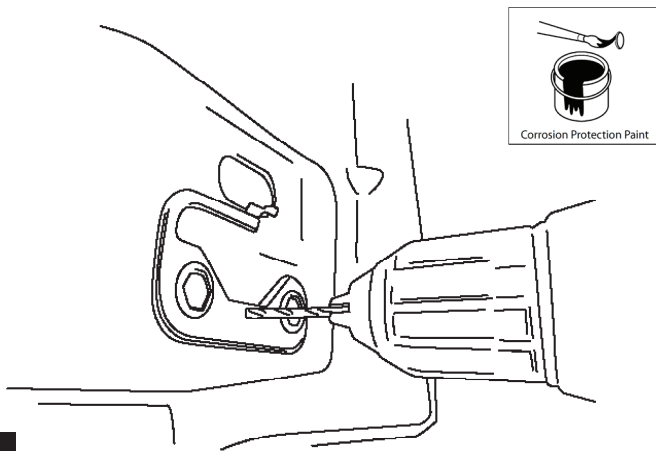
**2**

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Once hole is drilled insert a piece of string or wire through hole in Reinforcement Plate. Set plate into position.

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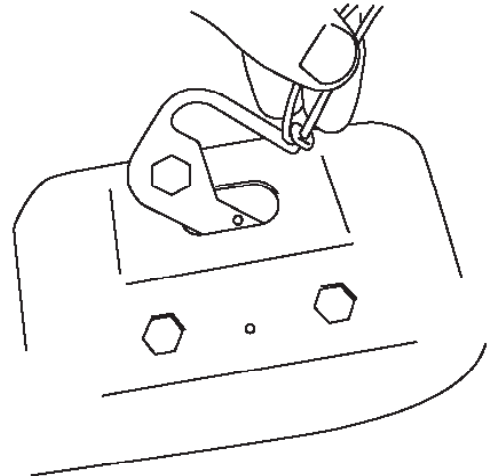
Set rivet nuts into place for alignment. Insert pop rivet through hole in plate and secure in place. Once pop rivet is installed remove string or wire from Reinforcement Plate. **NOTE: Verify plate is pulled flush to the body before securing pop rivet.**
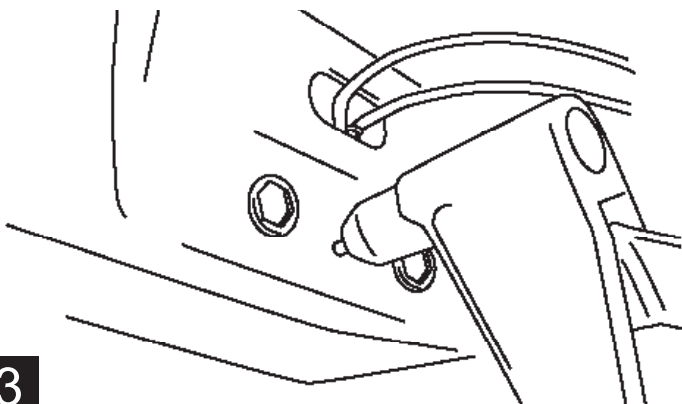
**3**

---

Assemble Hex Bolt (lubricated with soapy water), Washer, Rivet Tool, and Rivet Nut together as shown and place into hex cutouts in sill. An extra Hex Bolt and M8 Washer is supplied to install rivet nuts.

**4**

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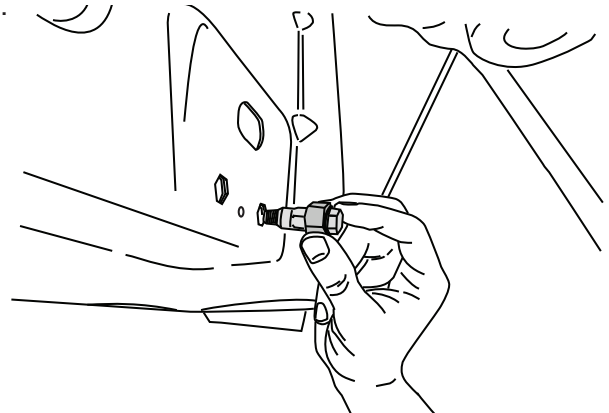
With Rivet Nut Tool held in place with 19mm wrench, tighten Hex Bolt until Rivet Nut deforms and secures itself to the sheet metal (110 in-Lbs. or 4 turns). Remove Hex Bolt and Rivet Nut Tool.  Repeat for each of the four mentioned mounting locations.
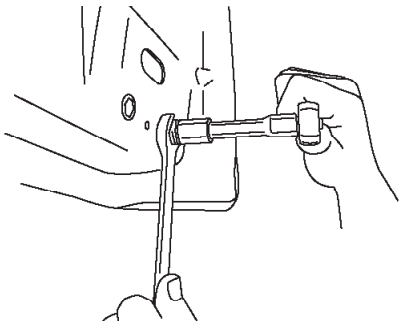


**WARNING:** Rivet Nuts not properly collapsed will not hold securely to sheet metal.

NOTE: Hold Rivet tool with wrench while loosening bolt.

**5**

Once rivet nuts are in place use a screwdriver to push back tab in hole to avoid interference with linkage mount.
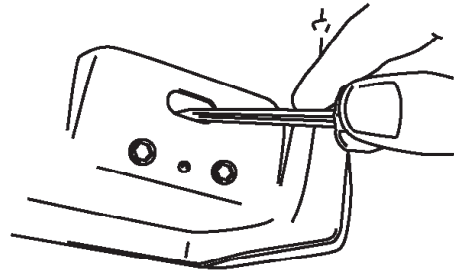


**6**

Install Brackets onto vehicle. On Passenger side install Rear Rail Mounting Bracket (35) and Front Linkage Mounting Bracket (33) using the Hardware provided. 4 Conical washer bolts (9), 4 Button Head Torx (19), washers (20) and Flange Nuts (17). Once bolts are tightened up to vehicle torque Conical washer bolts (9) to 16 ft-lbs and Button head Torx to 6ft-lbs.
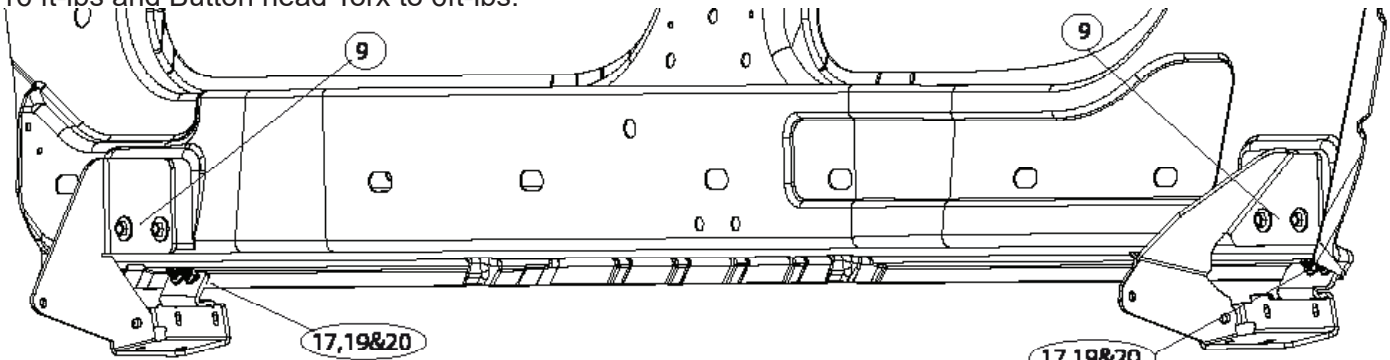


**7**

Insert and position Carriage bolts (16) into slot on rail (4). Insert from either end of rail. Using Flange Nuts (17) provided assemble rail to Brackets onto the rail. Next install Flange Bolt (14) and Flange Nut (10) onto bracket tab.   Driver side shown. Dimensions shown are for reference. ***Torque flange nuts to 16ft-lbs.***
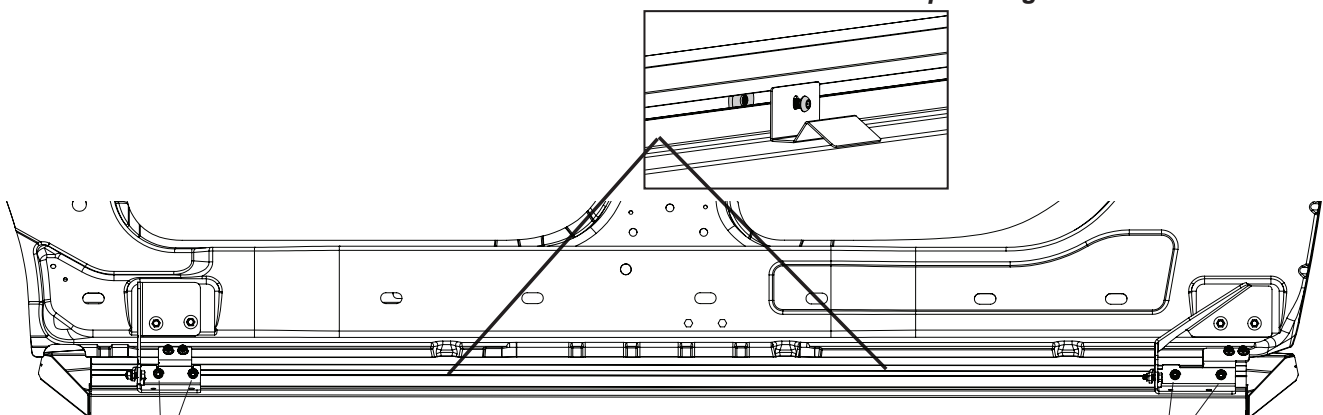


***Note: Badge on rail sits towards the rear of the vehicle!***

16 & 17          16 & 17

**8**

Thread supplied bolts 2x (9) into Front Drive Linkage. Repeat step for Rear Idler Linkage. Do not tighten.
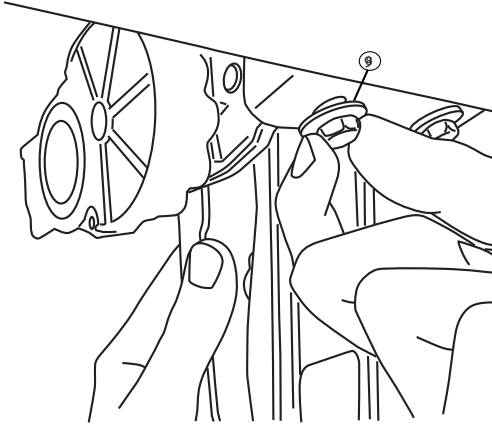


**9**

Install provided spacer (17) and M6 bolt (12) into upper mount as shown on both the Drive and Idler linkages. Do not tighten.
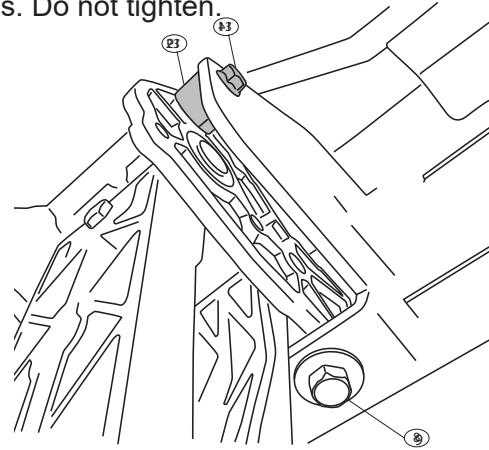


**10**

Slide mounting T-nut into position, Center board in rail pocket. Tighten fasteners to 10 ft-lbs.
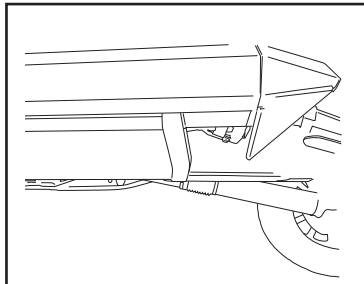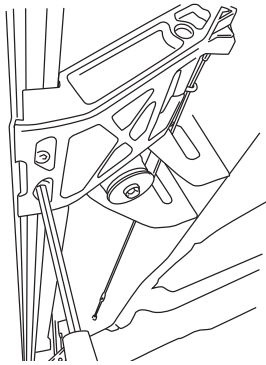


**11**

Using a 13mm socket Torque linkage bolts 4x (9) from step 3 to 16 ft-lbs. Next use a 10mm socket, torque linkage spacer bolt 2x (13) from step 6 to 8 ft-lbs. Once linkages are tight cycle board to verify steps deploy under own weight.
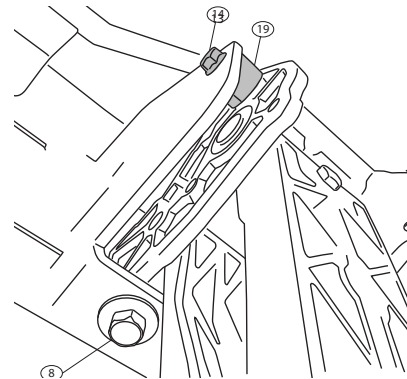


**12**

Once linkages are tightened to the bracket tighten bracket tab Flange bolt (14) and Nut (17). Torque to 16 ft-Lbs.
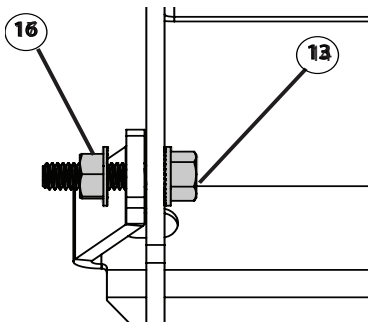


**13**

Attach motor to linkage. Using a 4mm hex Torque to 36 in-Lbs.



**14**
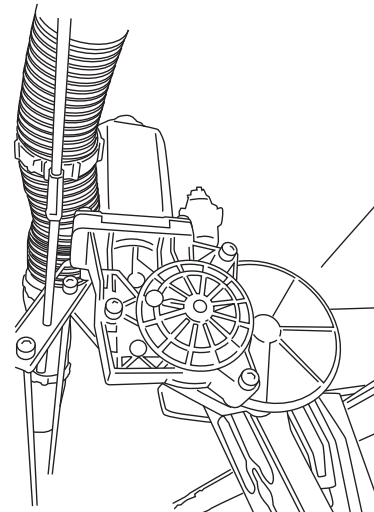
Prepare large tie-wraps for mounting Power Step Controller. Loosely loop tie-wraps around large bundle of wires behind battery in engine compartment.
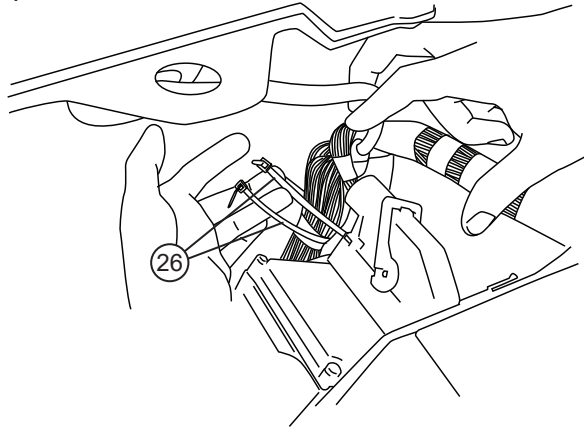


**15**

Insert controller into tie-wrap loops and cinch down securely. The tie-wraps should cinch down into channels on controller surface.
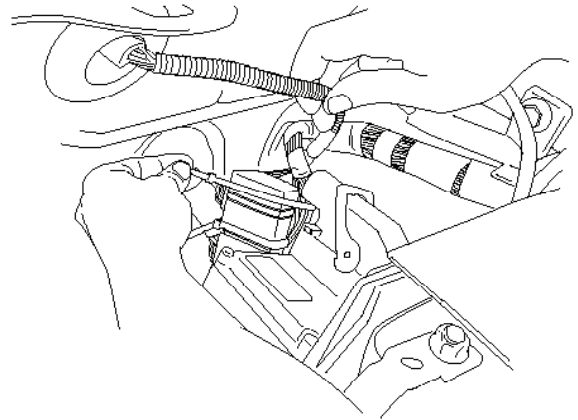


**16**

**Remove fuse from Power Step Wire Harness.**
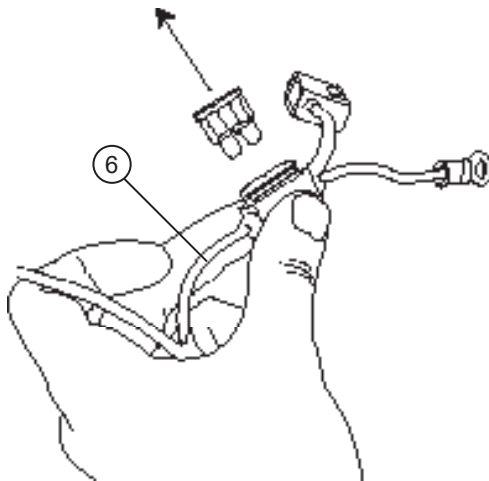


**17**

Connect power leads from Controller, Red to positive battery terminal and Black to the vehicle body ground as shown.
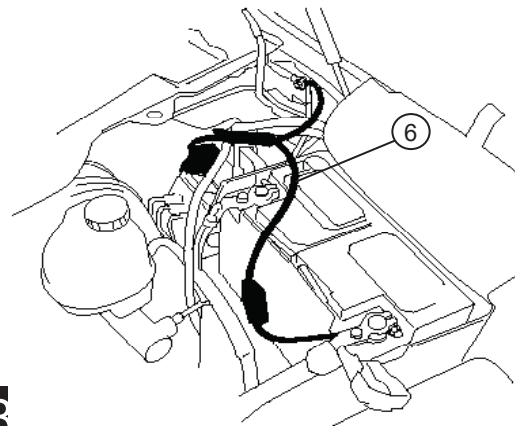


**18**

Locate large rubber wire boot on driver side firewall as shown below. Slice small opening as shown below to run trigger wires through.
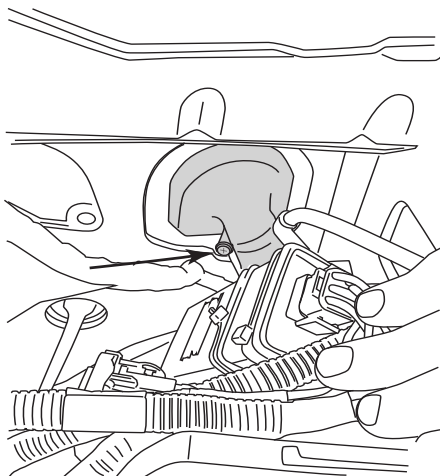


**19**

Tape leading end of wires together and push through rubber boot to cabin side of the firewall. Silicon lubricant may be used for ease of passage. The trigger wires will come out just above and to the left of the brake pedal.



**20**
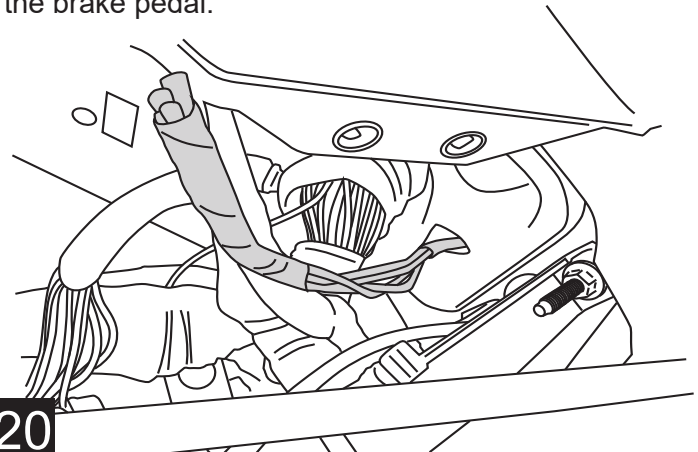
Route the two Wire Harness legs down over the wheel wells toward Motor Linkages, long leg across to the passenger side. Secure harness with tie wraps.

4
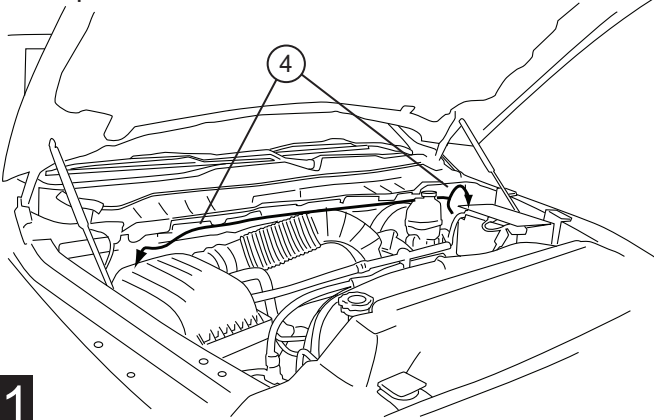
**21**

Connect harness to motor. Secure harness with tie wraps.
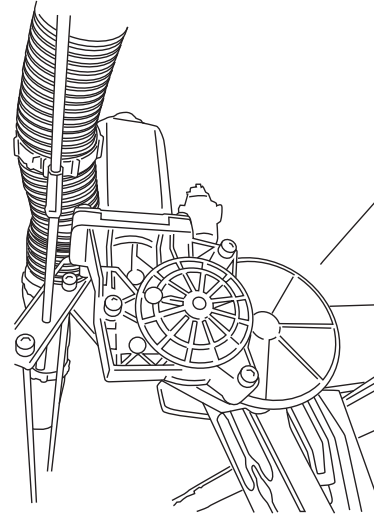
**22**

Affix LED light to bracket on rail. Mount front light rearward of front linkage and mount rear light just forward of rear linkage.
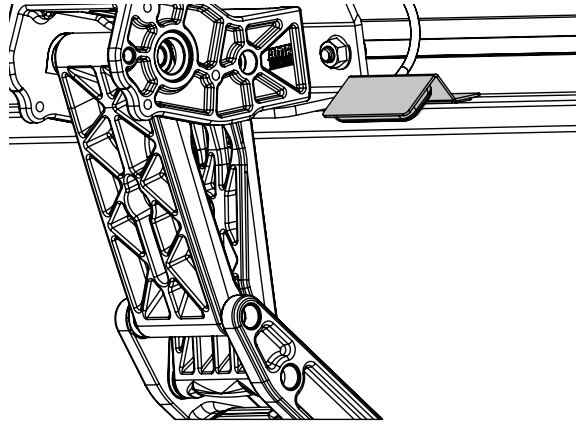
**23**

Using supplied butt connectors, connect the lamp wires. Red to Red, Black to Black. Once Crimped use heat gun to shrink tube. Close and wrap conduit with electrical tape. Secure all loose wires with cable ties. Pull lamp wires upward to avoid any wire snagging.
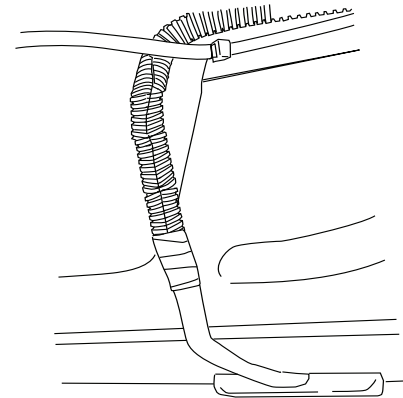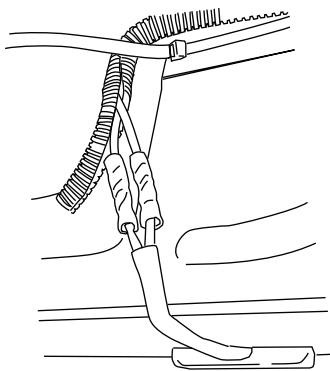
**24**

**OBD II install:** Use Supplied Posi Twist connectors to attach the Plug and Play Module to the Harness. Attach matching colors on the harness to the wires on the module. Plug in module to OBD II port on the vehicle. Secure harness with supplied tie wraps.
*Note: If the OBD II pass thru harness (76404-01A) was purchased see install sheet supplied in packaging. The pass through harness allows for an open port for other accessories. See next page for a brief description.*
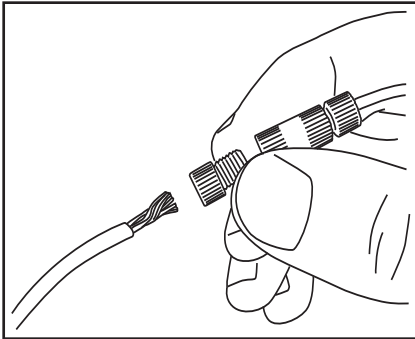
OBD II Connector located below steering column.
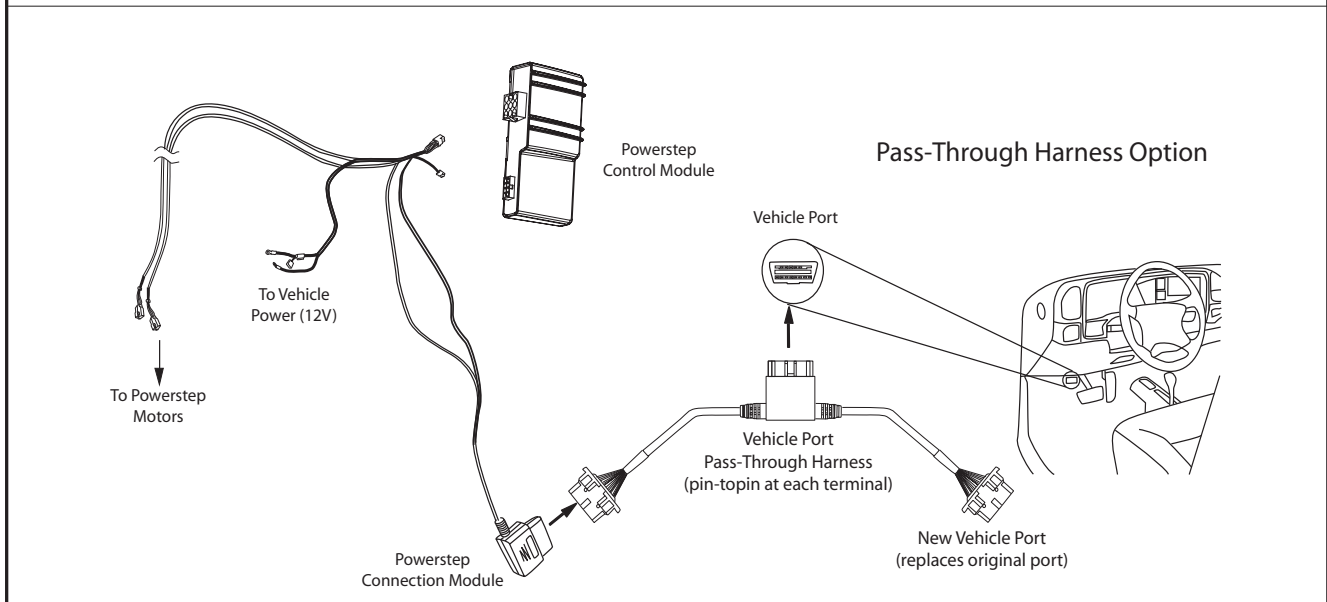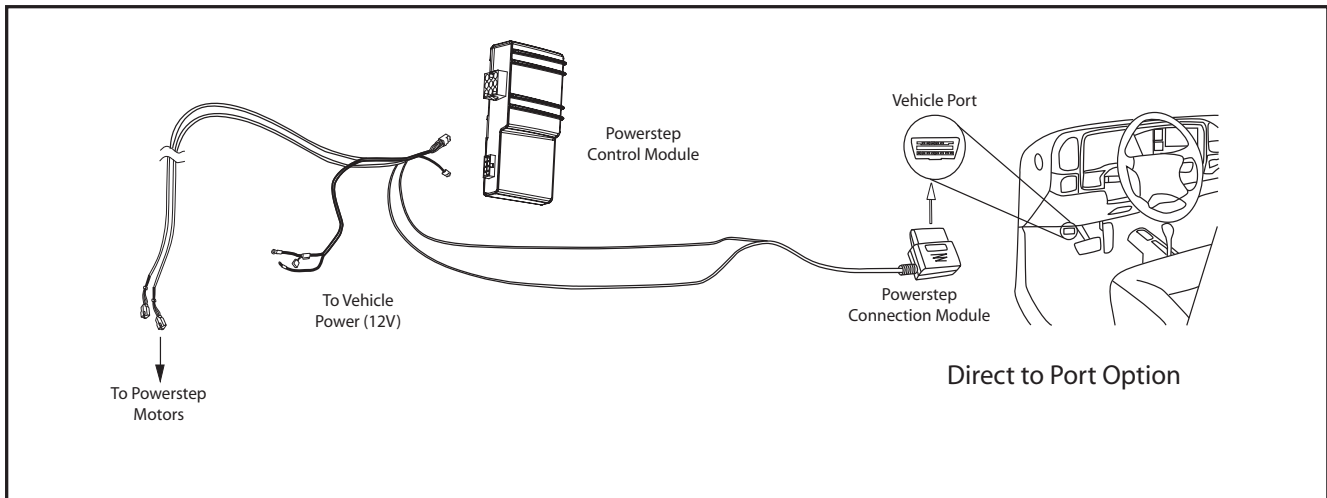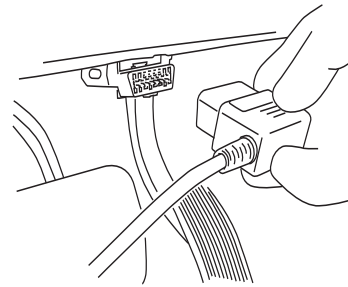
Vehicle Port

Powerstep Control Module

To Vehicle Power (12V)

To Powerstep Motors

Powerstep Connection Module

Direct to Port Option

Powerstep Control Module

Pass-Through Harness Option

Vehicle Port

To Vehicle Power (12V)

To Powerstep Motors

Vehicle Port Pass-Through Harness (pin-topin at each terminal)

Powerstep Connection Module

New Vehicle Port (replaces original port)

**25**

Check that all doors activate the Power Step and the LED Lights work when doors open and close.  Reinstall any remaining trim panels.
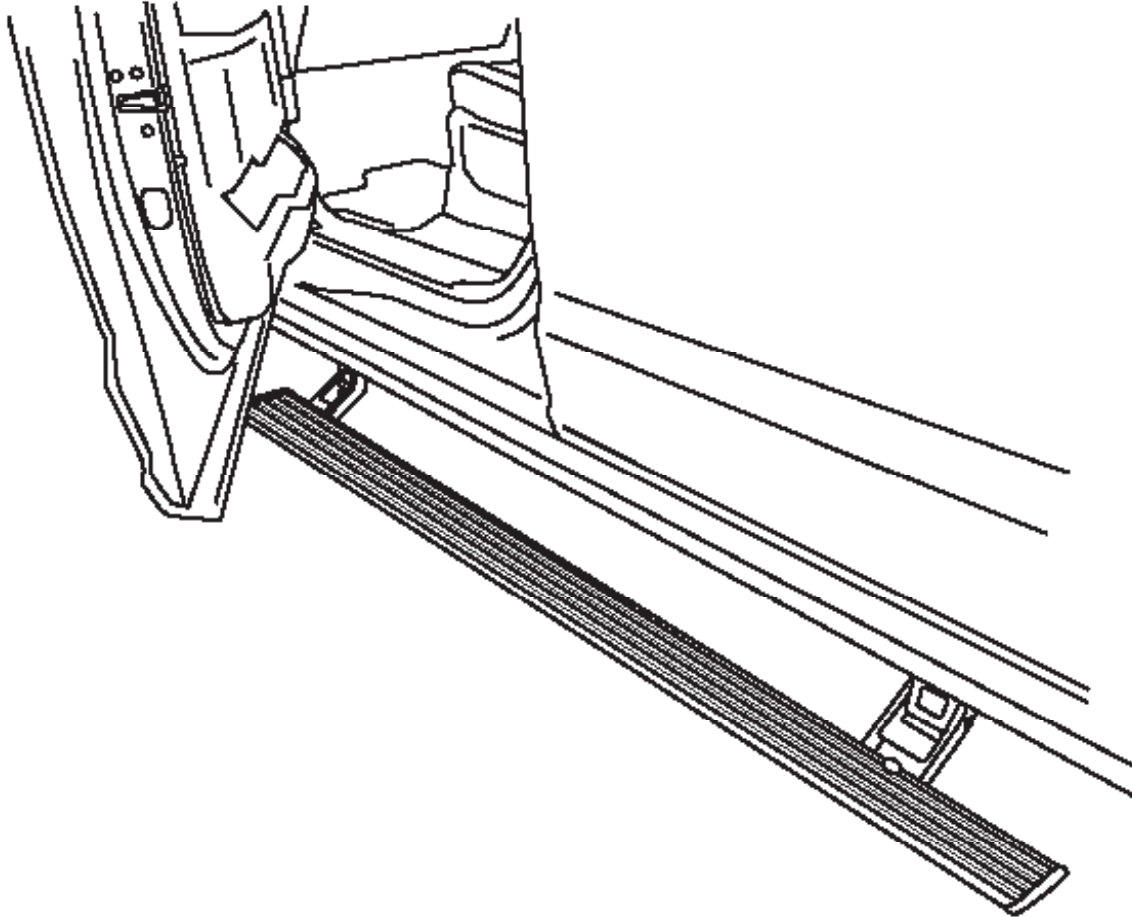


**FINAL SYSTEM CHECK**
Check that all doors activate the PowerStep and the LED lights work when doors open and close.
**NORMAL OPERATION:** When the doors open, PowerStep automatically deploys from under the vehicle. When the doors are closed, PowerStep will automatically return to the stowed/retracted position. ***Note that there is a 2-second delay before the PowerStep returns to the stowed/retracted position.***

**CORRECT OPERATION OF LIGHTS:** All four lamps will illuminate upon opening any door of vehicle. Lamps will stay on until restowing of both Power Steps or until 5 minutes has expired with the doors open. When the lights timeout after 5 minutes, they can be reillumintated by closing and  opening any door of vehicle.

**26**

# AMP RESEARCH PowerStep ™

**Congratulations on your purchase of the genuine AMP Research PowerStep! Here's what you should know...**

**POWER-DEPLOYABLE RUNNING BOARDS OPERATION:** AMP Research PowerStep running boards automatically move when the doors are opened to assist entering and exiting the vehicle.
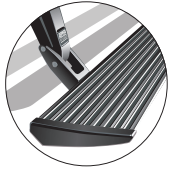
**Automatic power deploy:**
The running boards will extend down and out when the doors are opened.

**Automatic power stow:**
The running boards will return to the stowed position when the doors are closed. There will be a 2-second delay before the running boards move to the stowed position.

**Automatic stop:**
If an object is in the way of the moving running board, the running board will automatically stop.
To reset, clear any obstruction, then simply open and close the door to resume normal operation.

**Manually set in the deployed (OUT) position for access to the roof:**
The running boards can be manually set in the deployed position by firmly holding the step down with your foot while at the same time closing the door. To resume normal operation, open and close the door.

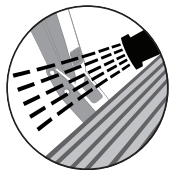**Maintenance:** In adverse conditions, debris such as mud, dirt, and salt may become trapped in the running board mechanism, possibly leading to unwanted noise. If this occurs, manually set the running boards to the deployed position and flush the front and rear hinge arms with a high-pressure car wash wand. Avoid spraying the motors directly. After washing, apply silicone spray lubricant to the hinge pivot pins. Do not apply silicone, wax or protectants like Armor All® to the running board stepping surface.

**Caution!** Keep hands away when the running board is in motion.

## 5-YEAR LIMITED WARRANTY

AMP RESEARCH warrants this product to be free from defects in material and workmanship for FIVE (5) YEARS FROM DATE OF PURCHASE, provided there has been normal use and proper maintenance. This warranty applies to the original purchaser only. All remedies under this warranty are limited to the repair replacement of the product itself, or the repair or replacement of any component part thereof, found by the factory to be defective within the time period specified. The decision to repair or replace is wholly within the discretion of the manufacturer.

This warranty specifically excludes labor. If you have a warranty claim, first you must call our factory at the number below for instructions. You must retain proof of purchase and submit a copy with any items returned for warranty work. Upon completion of warranty work, if any, we will return the repaired or replaced item or items to you freight prepaid. Damage to our products caused by accidents, fire, vandalism, negligence, misinstallation, misuse, Acts of God, or by defective parts not manufactured by us, is not covered under this warranty.

ANY IMPLIED WARRANTIES OF MERCHANTABILITY AND/OR FITNESS FOR A PARTICULAR PURPOSE CREATED HEREBY ARE LIMITED IN DURATION TO THE SAME DURATION AND SCOPE AS THE EXPRESS WRITTEN WARRANTY. OUR COMPANY SHALL NOT BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGE.

Some states do not allow limitations on how long an implied warranty lasts, or the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights, and you may also have other rights that vary from state to state.

**FOR WARRANTY ISSUES WITH THIS PRODUCT PLEASE CALL AMP RESEARCH CUSTOMER SERVICE 1-888-983-2204**

## WARNING

Be sure to read and precisely follow the provided instructions when installing this product. Failure to do so could place the vehicle occupants in a potentially dangerous situation. After installing or reinstalling, re-check to insure that the product is properly installed.