

# INSTALLATION GUIDE

# AMP RESEARCH Power Step

MADE IN USA

APPLICATION

AMP Part #

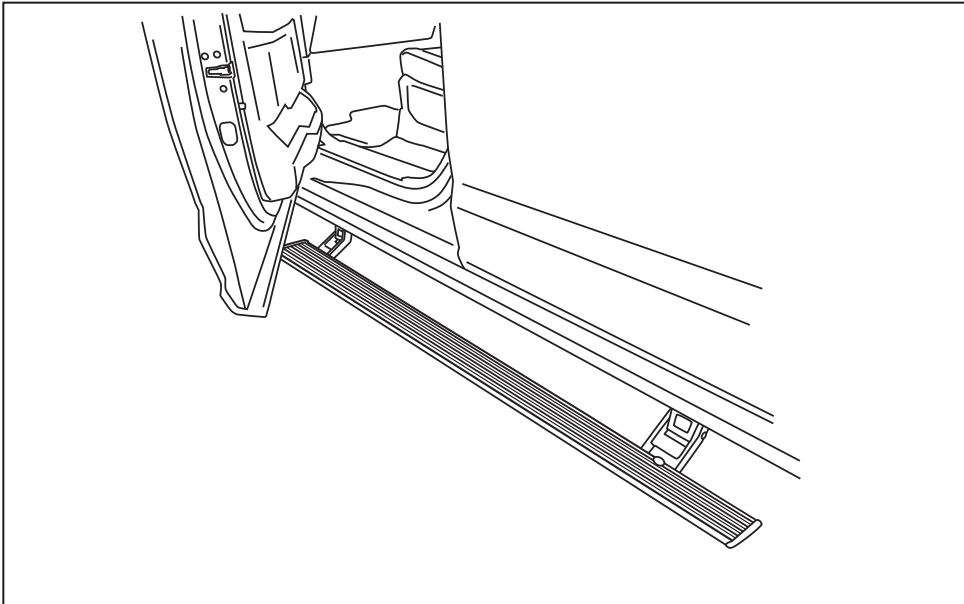
Ram 1500

Crew Cab

2019

77240-01A

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



## INSTALLATION TIME

**3-5 Hours**

Professional installation recommended

## SKILL LEVEL



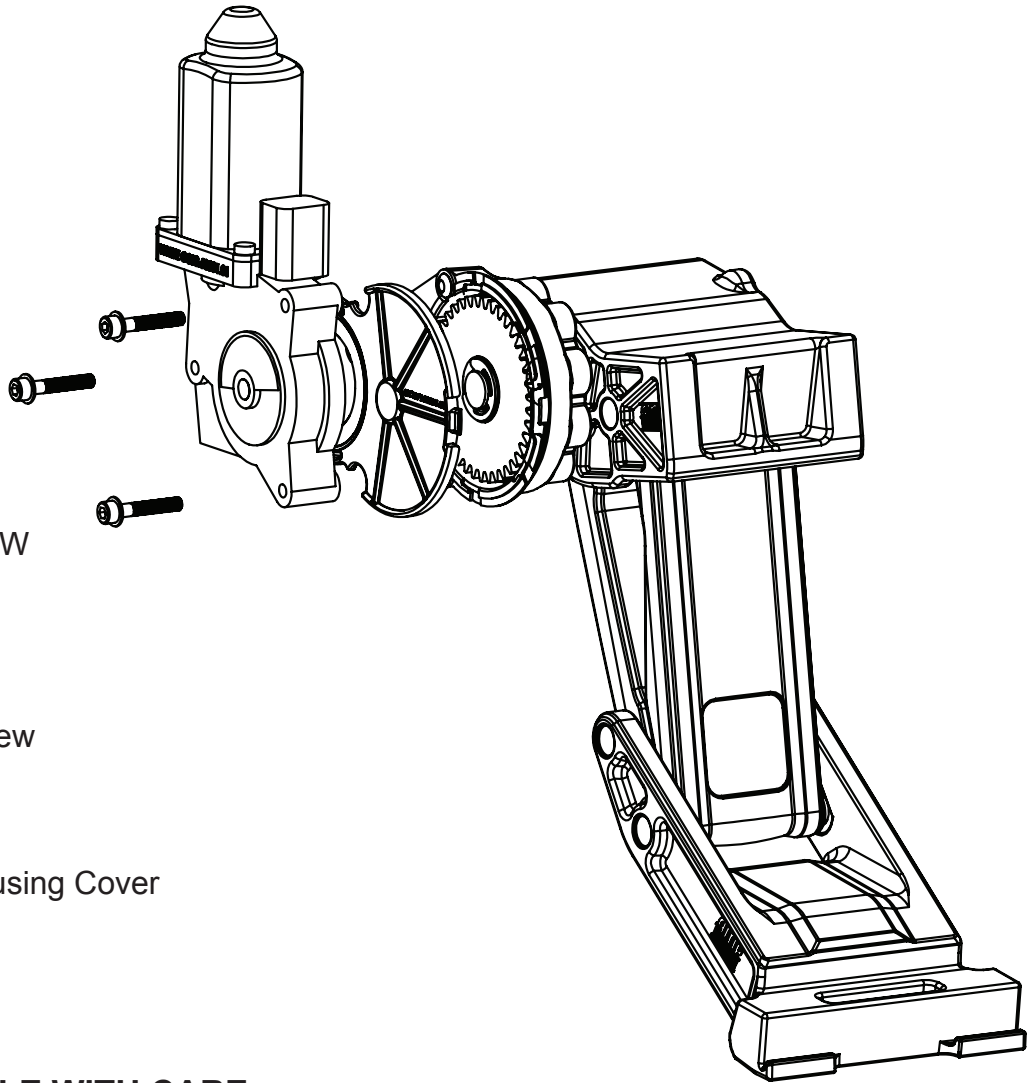
4= Experienced

## 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**



EXPLODED VIEW

- Motor
- Socket cap screw
- Washer
- Drive Gear Housing Cover

**CAUTION: HANDLE WITH CARE.**

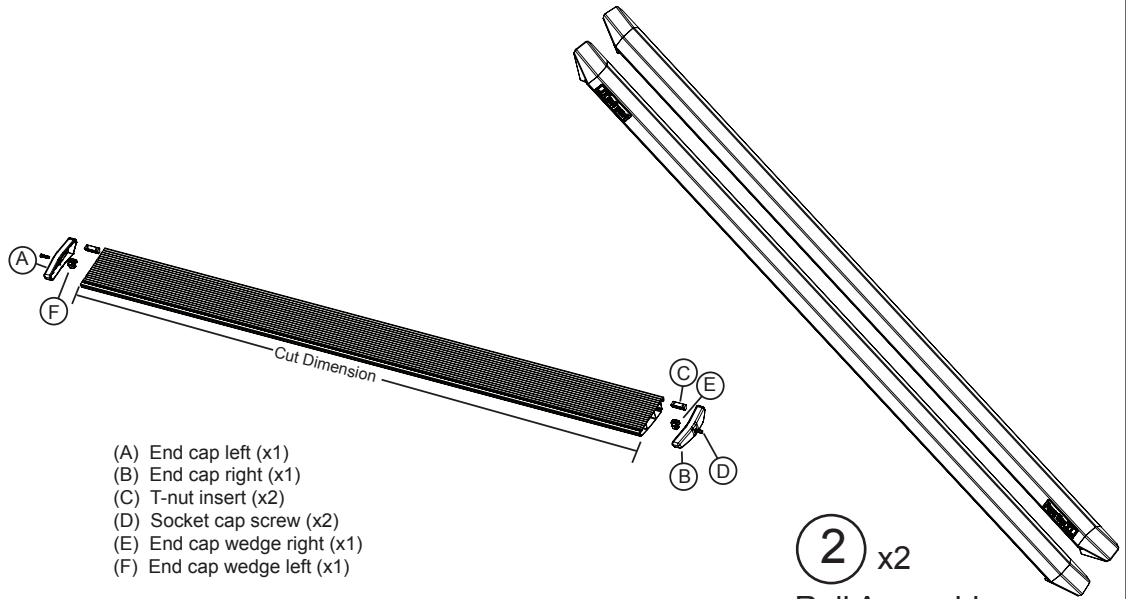
To ensure our customers receive all components with full integrity, we pack the motors separate from their linkage assemblies. This requires that the installer position and fasten the motor before continuing with the install. Please follow the instructions below and handle the assembly carefully.

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

Instructions:

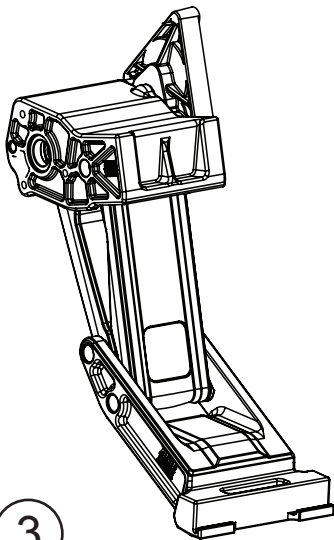
1. Position the gear cover in place as shown if not already in place.
2. Seat motor into position on the three mounting bosses. This may require an adjustment of the gear by moving the swing arms.
3. After seating into place, fasten the motor with the three motor mount screws with 4mm Hex Head. Tighten screws to 36 in-lbs (4N-m). **Do not over torque.**

AMP RESEARCH POWERSTEP™ – Ram Crew Cab

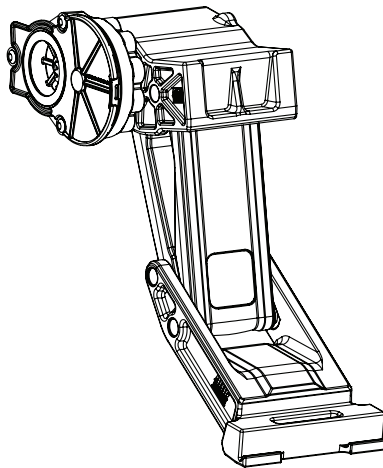


① x2  
Running board assembly

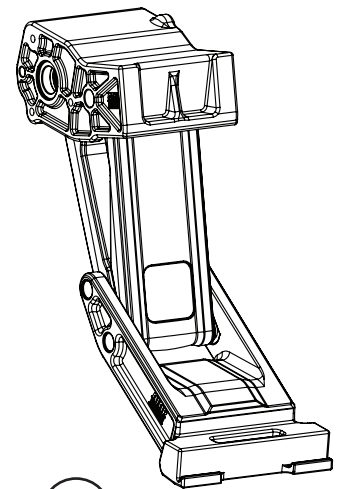
② x2  
Rail Assembly



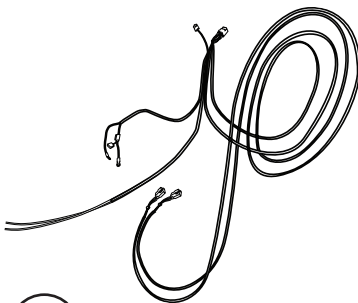
③  
Motor Linkage assembly  
Passenger



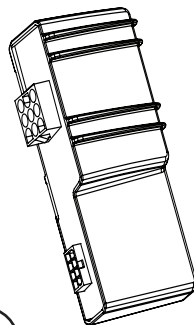
④  
Motor Linkage assembly  
Driver



⑤ x2  
Idler Linkage assembly



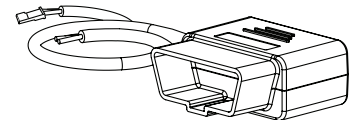
⑥  
Wire harness



⑦  
Controller STA



⑧ x2  
Posi Lock

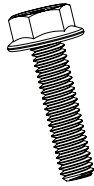


⑨  
OBD II Plug

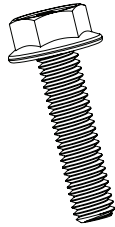
AMP RESEARCH POWERSTEP™ – Ram Crew Cab



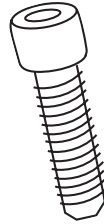
10 x6  
M5 Washer



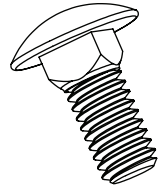
11 x4  
M6 Flange Bolt



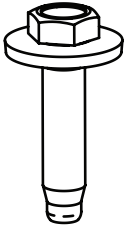
12 x4  
5/16 Flange Bolt



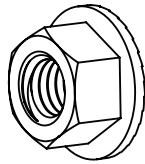
13 x8  
Socket Cap Screw



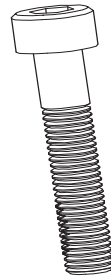
14 x8  
5/16-18  
Carriage Bolt



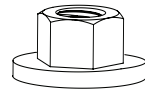
15 x8  
M8 Hex Bolt w  
Conical washer



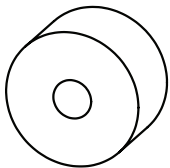
16 x12  
5/16-18  
Flange Nut



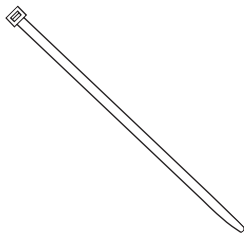
17 x6  
M5 Socket  
Cap Screw



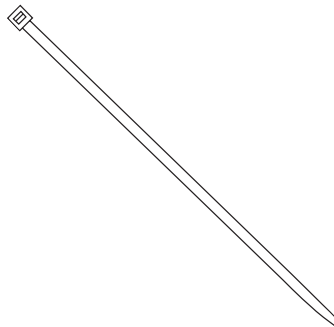
18 x12  
Nut with Conical  
Washer



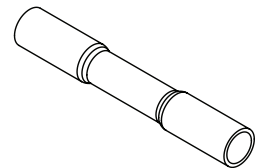
19 x4  
Upper Mount  
Spacer



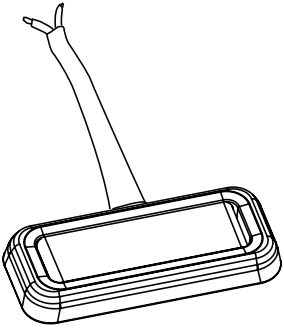
20 x20  
Cable tie (7")



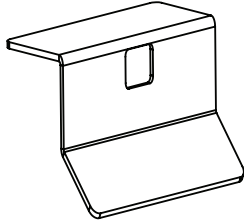
21 x2  
Cable tie (11")



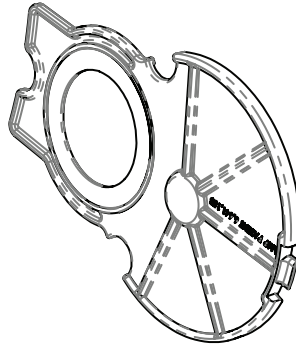
22 x8  
Butt Connector



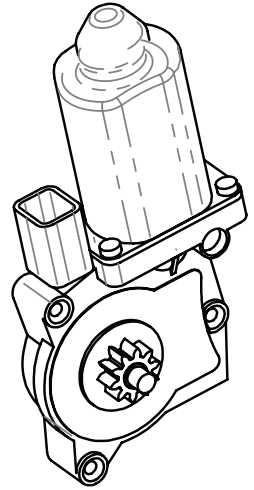
23 x4  
LED Lamp



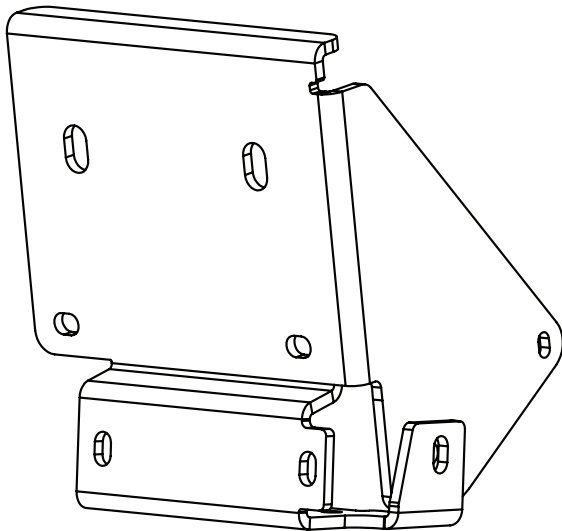
24 x4  
LED Light Bracket



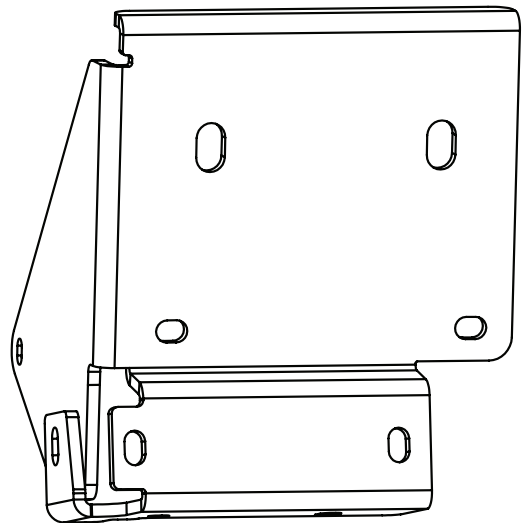
25 x2  
Gear Cover



26 x2  
Motor



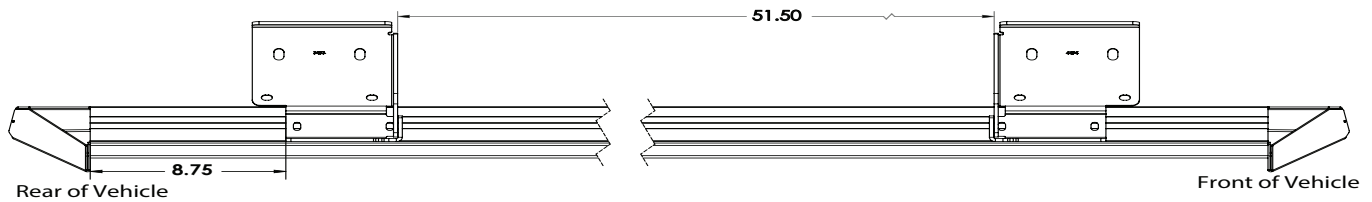
27 x2  
Linkage Mounting  
Bracket Driver



28 x2  
Linkage Mounting  
Bracket Passenger

## AMP RESEARCH POWERSTEP™ – Ram Crew Cab

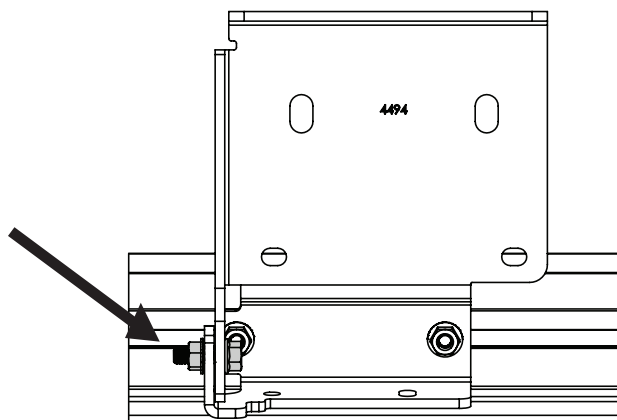
Insert and position Carriage bolts (14) into slot on rail (2). Insert from either end of rail. Using Flange Nuts (16) provided assemble Brackets (27 & 28) onto the rail (2). Next install Flange Bolt (12) and Flange Nut (16) onto bracket tab. Driver side shown. Dimensions shown are for reference. **Do not tighten this will allow for rail adjustment when mounted onto vehicle.**



1

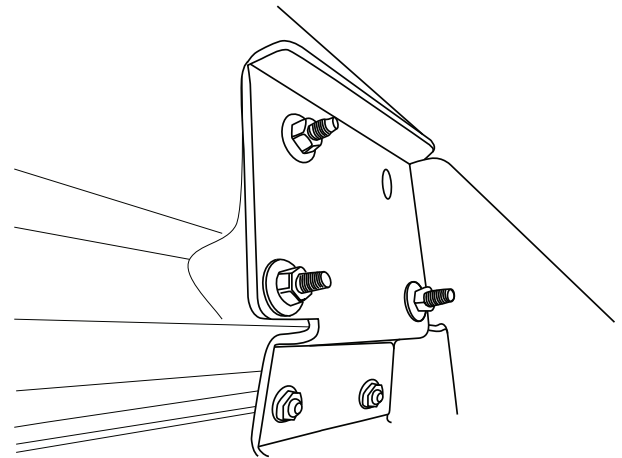
**Note: Badge on rail sits towards the rear of the vehicle!**

Install Flange head bolt (12) and Flange Nut (16) onto bracket tab as shown. Do not torque to allow for future adjustments.



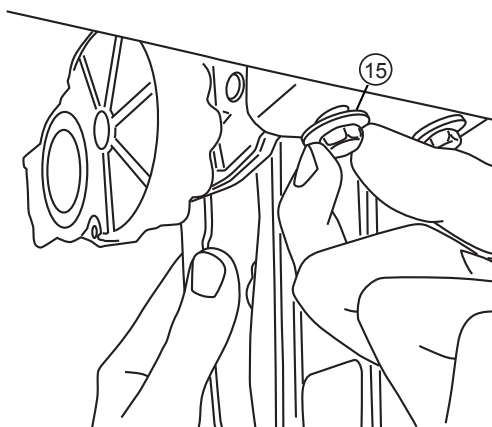
2

Set rail up into position. Starting with the rear bracket work towards the front bracket. Slide Brackets over captive studs and use provided Nuts 6x (18). Snug to body and torque to 16 ft-lbs



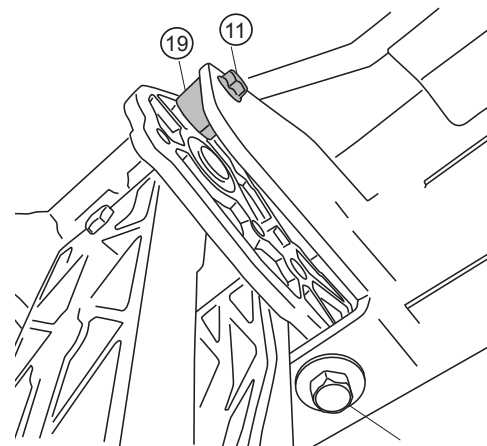
3

Thread supplied bolts 2x (15) into Front Drive Linkage. Repeat step for Rear Idler Linkage. Do not tighten.



4

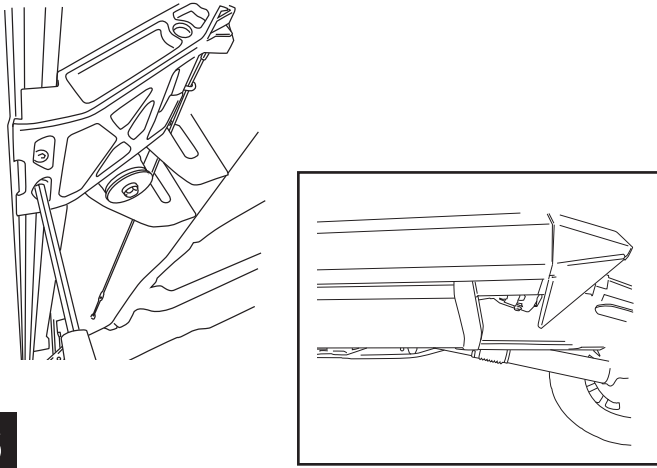
Install provided spacer (19) and M6 bolt (11) into upper mount as shown on both the Drive and Idler linkages. Do not tighten.



5

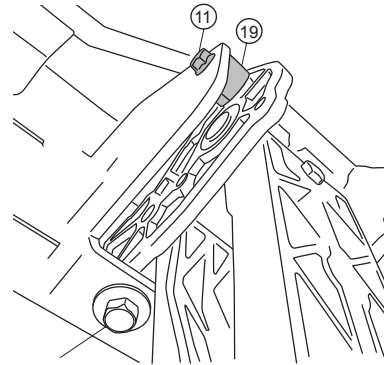
## AMP RESEARCH POWERSTEP™ – Ram Crew Cab

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



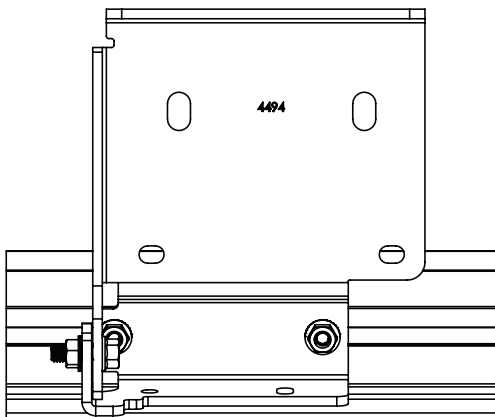
6

Using a 13mm socket, torque linkage bolts 4x (15) from step 4 to 16 ft-lbs. Next use a 10mm socket, torque linkage spacer bolt 2x (11) from step 6 to 8 ft-lbs. Once linkages are tight cycle board to verify steps deploy under own weight.



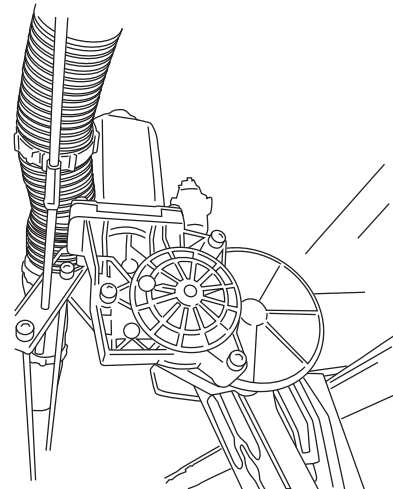
7

Once linkages are tightened to the bracket tighten bracket tab Flange bolt (12) and Nut (16). Torque to 16 ft-Lbs.



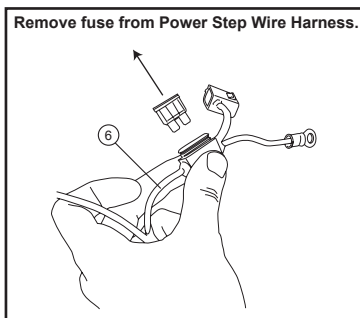
8

Attach motor to linkage. See page 2 for torque specs.

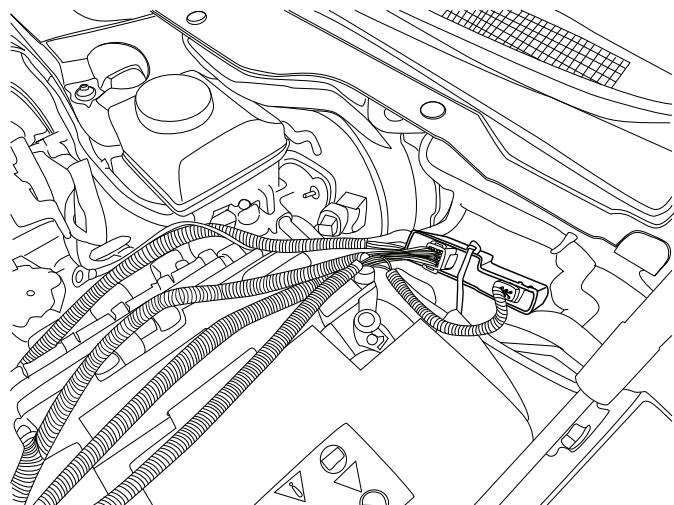


9

Attach wire harness to controller (make sure connector locking tabs fully engage). Mount controller with the two 11" tie wraps to factory conduit, just rearward of battery.

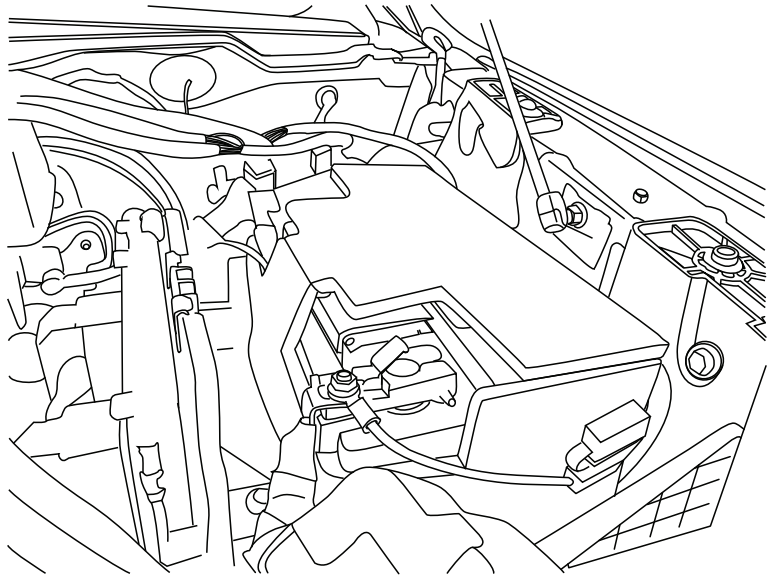


10



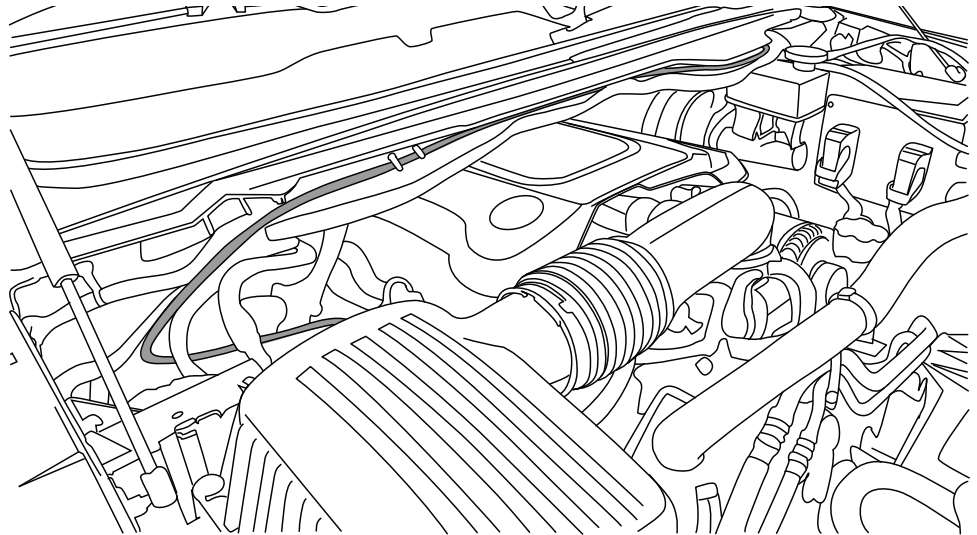
Connect red and black power leads to battery. Red lead goes to positive.

Secure with cable ties.



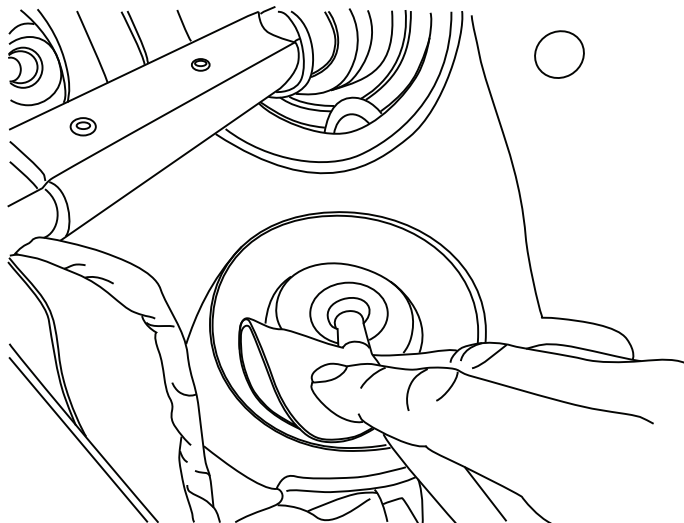
11

Route shorter leg of harness down Driver-side wheel well and longer leg of harness across firewall and down along passenger side wheel well. Attach wire harness with supplied 7" cable ties (20).



12

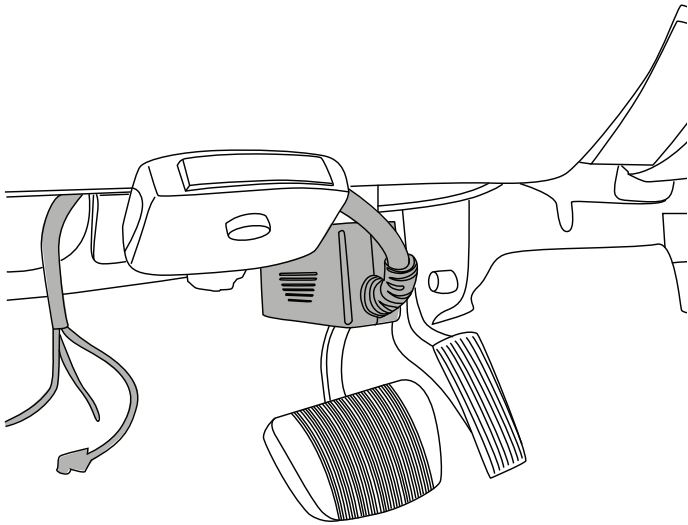
Locate rubber boot below steering column. Poke hole to fish trigger wires thru.



13

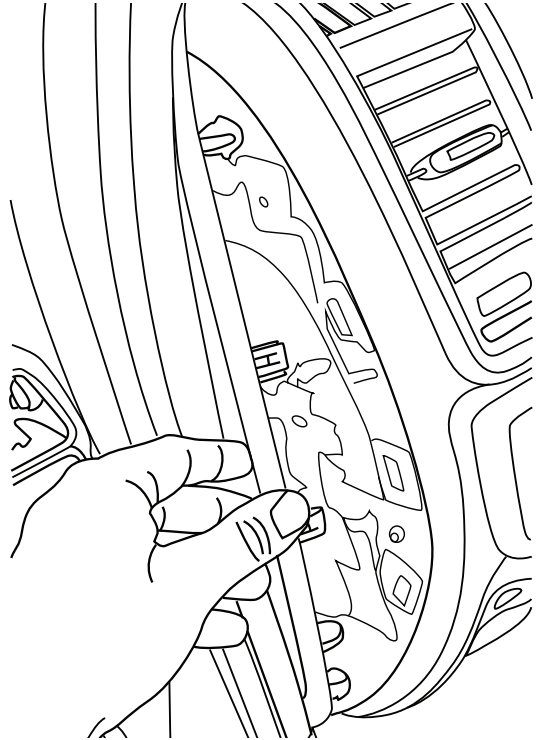


Plug OBD (9) to port, tuck wires up and away to prevent snagging when entering and exiting the vehicle.



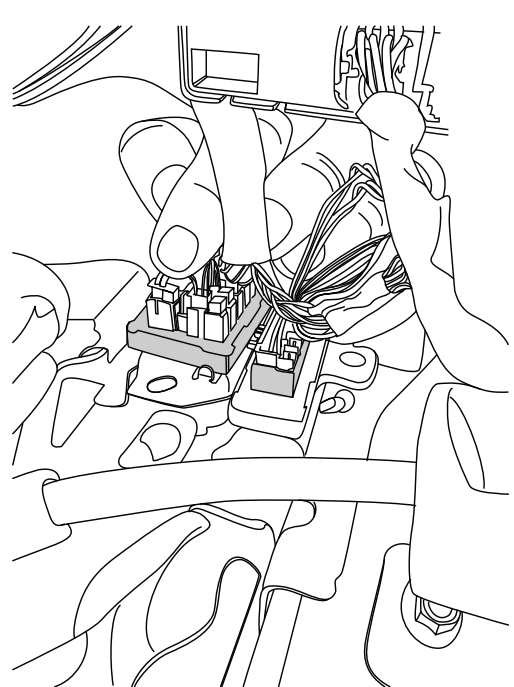
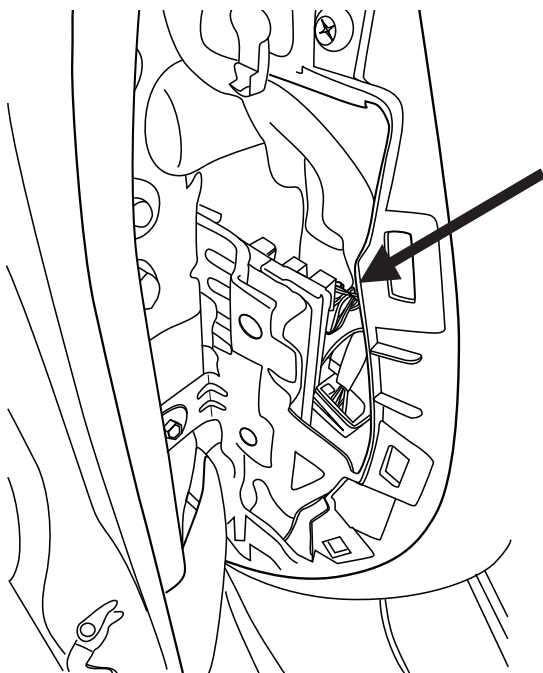
14

Locate side access cover of dash and remove to gain better access to 2 pin plug for OBD harness installation.



15

Locate green plug. And plug 2 pin connector from module into this port.



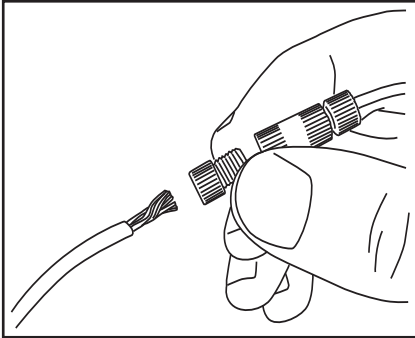
16

**Note:** It's best to reach from both sides when installing 2 pin plug. Any open port on green plug can be used.

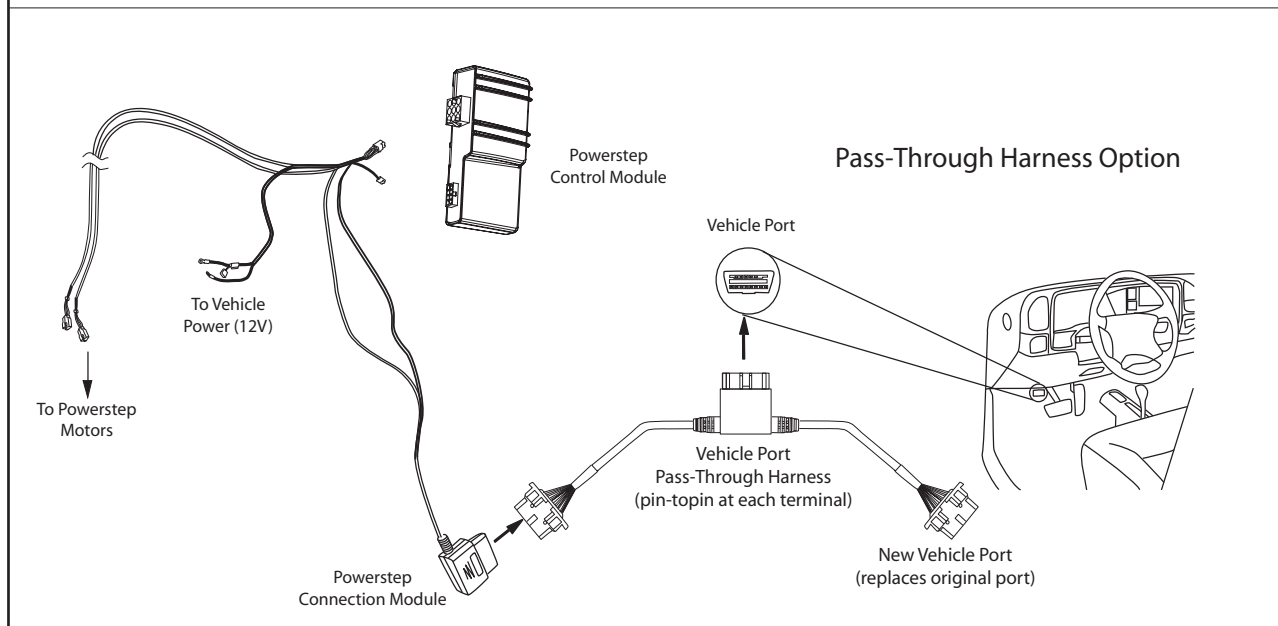
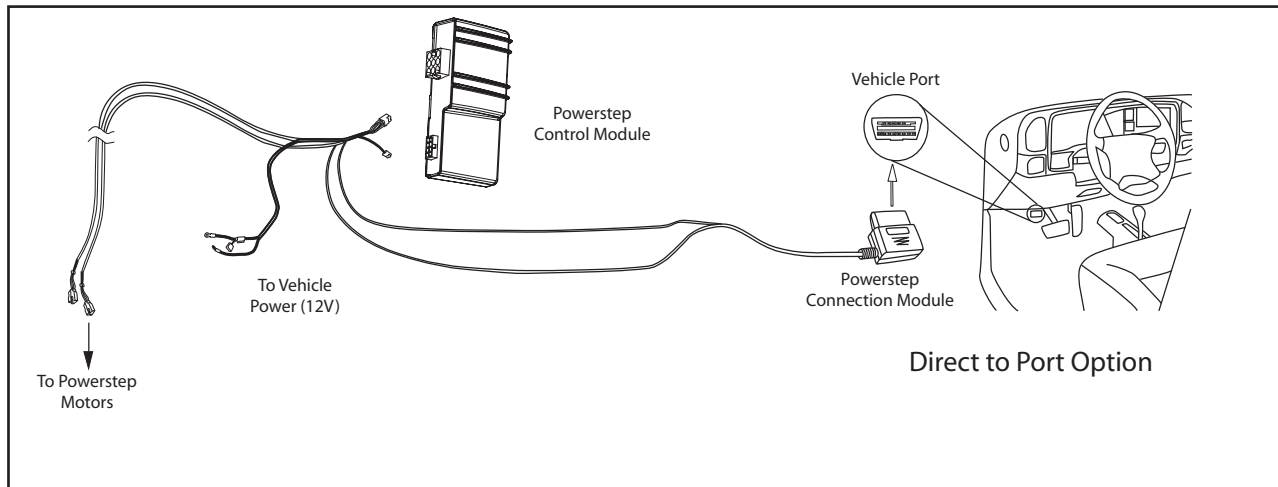
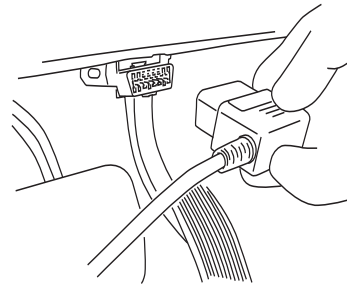
# AMP RESEARCH POWERSTEP™ – Ram Crew Cab

**OBD II install:** Use Supplied Posi Lock 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.

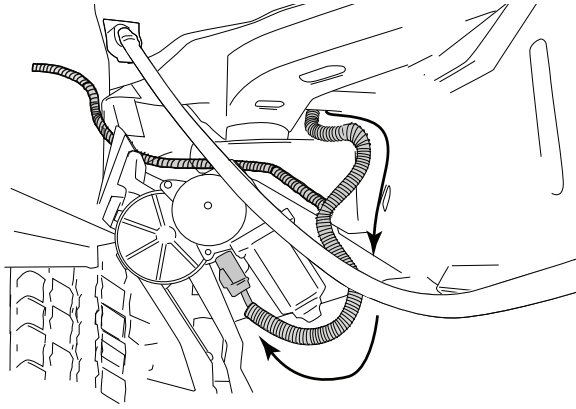


OBD II Connector located below steering column.



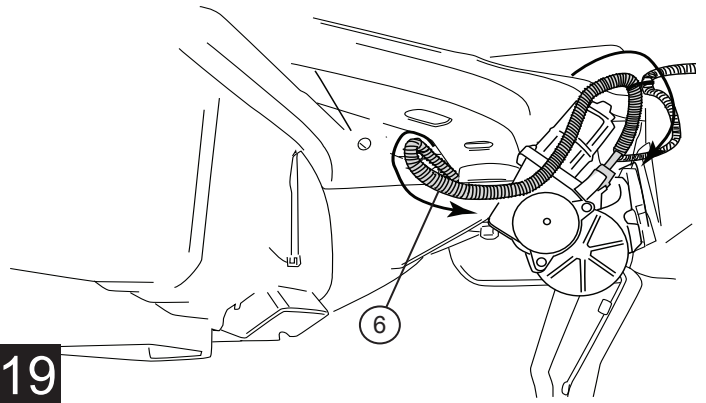
## AMP RESEARCH POWERSTEP™ – Ram Crew Cab

On driver side, run Wire Harness leg down and along underside of the vehicle floor and frame to front Drive Linkage. Connect harness to motor and secure harness with tie wraps. Route remainder of wire harness towards rear linkage assembly for LED lights



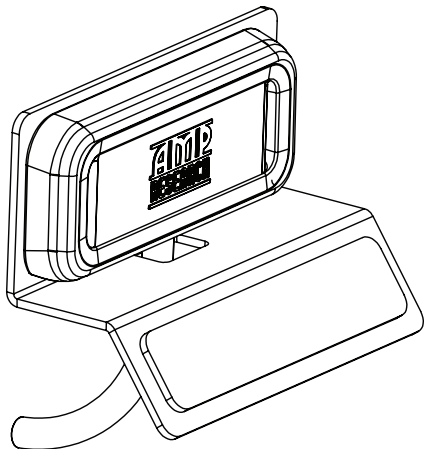
18

On Passenger Side, run Wire Harness leg down and along underside of the vehicle floor and frame to front Drive Linkage. Connect harness to motor and secure harness with tie wraps. Route remainder of wire harness towards rear linkage assembly for LED lights



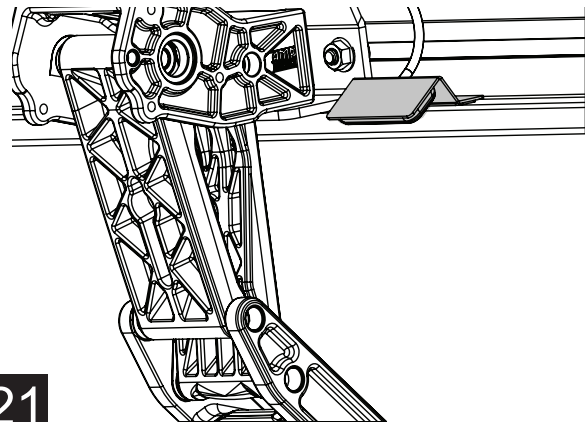
19

Affix LED lamp (23) to LED Bracket (24) as shown..



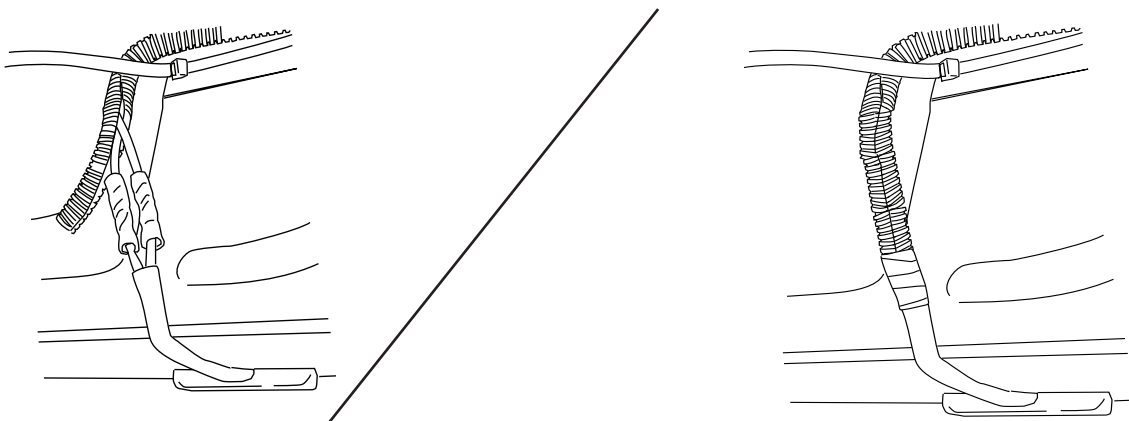
20

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



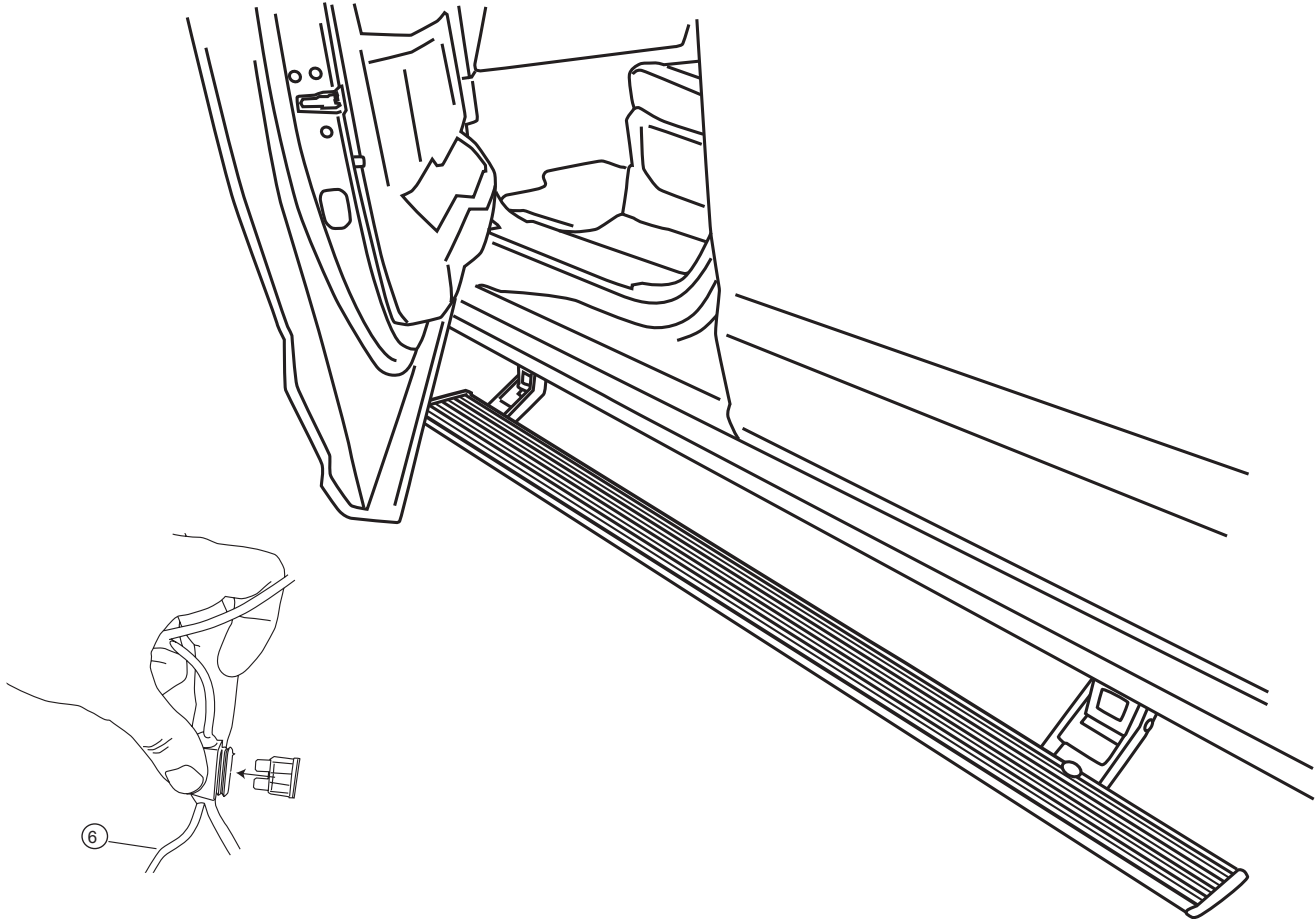
21

Using supplied butt connectors (22) 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.



22

Reinstall Fuse and 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 reilluminated by closing and opening any door of vehicle.



# 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.

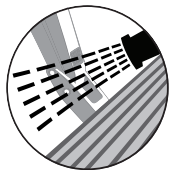
**Automatic stop:**

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.