

INSTALLATION GUIDE

AMP
RESEARCH®

Power Step
MADE IN USA™

XL

APPLICATION

Toyota Tundra CrewMax

MODEL YR

2022-2023

PART

77338-01A

INSTALLATION TIME

3-5 Hours

Professional installation recommended

SKILL LEVEL



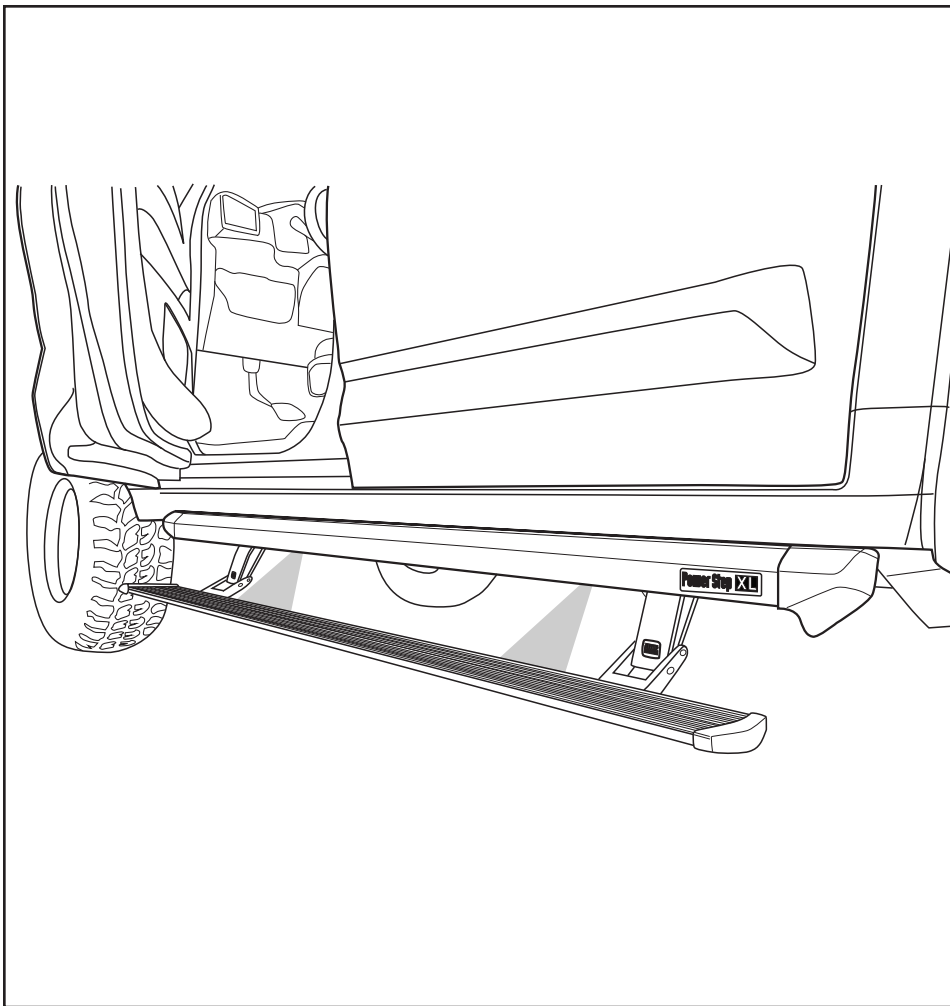
4= Experienced

TOOLS REQUIRED

- ☐ Measuring tape
- ☐ 13 mm socket
- ☐ 10 mm socket
- ☐ Ratchet wrench and extension
- ☐ 13mm end wrench
- ☐ Wire stripper / cutter
- ☐ 3/16" hex key wrench (allen wrench)
- ☐ 5mm hex key wrench (allen wrench)
- ☐ 4mm hex key wrench (allen wrench)
- ☐ Electrical tape

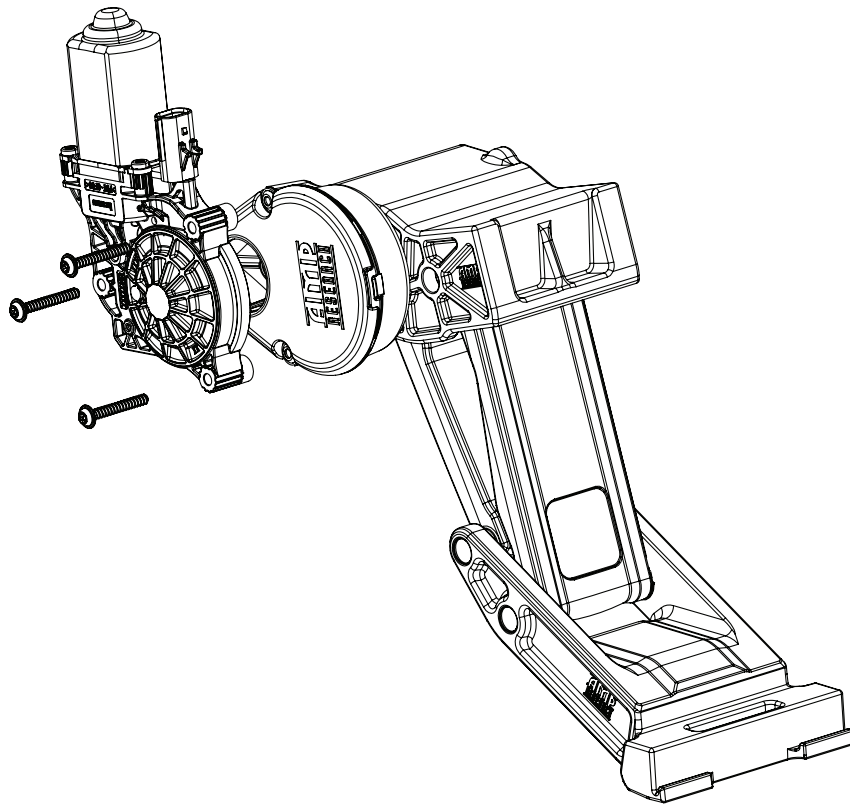
WARRANTY

5-Year Limited Warranty



AMP RESEARCH TECH SUPPORT 1-888-983-2204 (Press 2) Monday - Friday, 7:00 AM - 5:00 PM PST

Invented, engineered and manufactured exclusively by AMP Research in the USA. May be covered by one OR MORE of the following patents: 6,641,158; 6,830,257; 6,834,875; 6,938,909; 7,055,839; 7,380,807; 7,413,204; 7,398,985; 7,584,975; 7,566,064; 7,487,986; 8,157,277; 8,408,571; 9,302,626; 9,561,751; 10,053,017; CA2463717 ©2023 AMP Research. All rights reserved. Printed in USA.



EXPLODED VIEW

Motor Linkage

Motor Kit

Delta PT screws

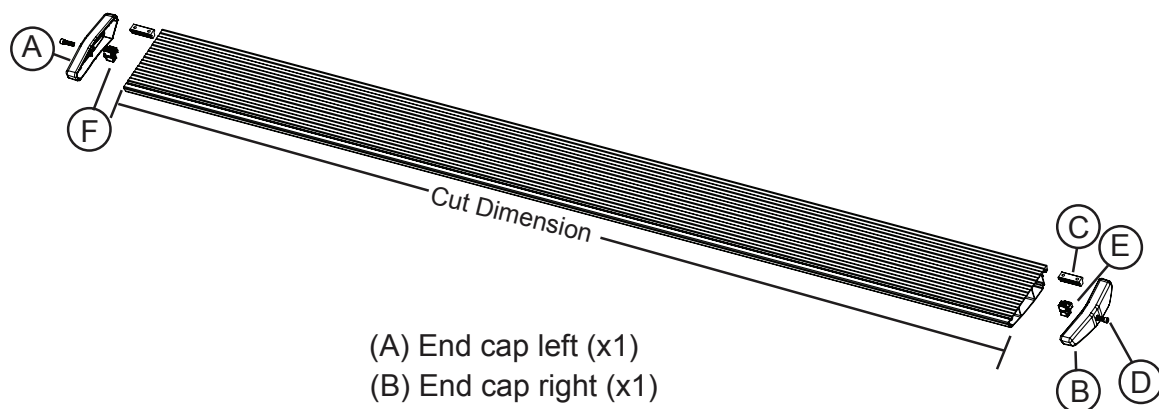
CAUTION: HANDLE WITH CARE.

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)

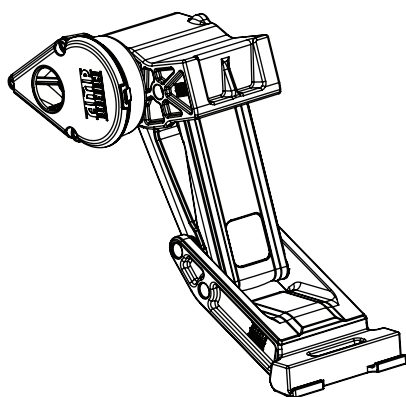
1 x2

Running board assembly



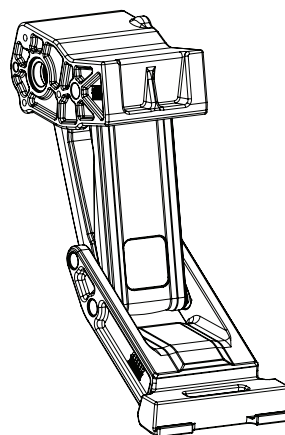
2 x2

Rail Assembly



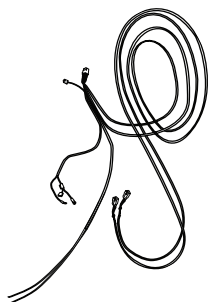
3 x2

Motor linkage assembly



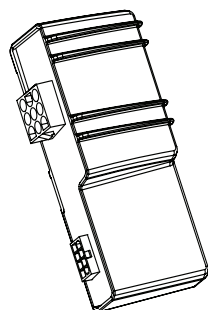
4 x2

Idler linkage assembly



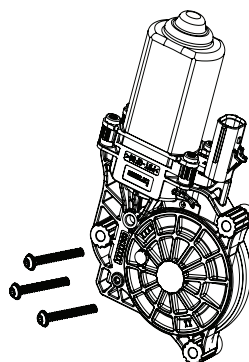
5

Wire harness



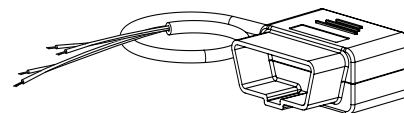
6

Controller STA



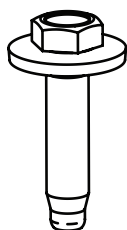
7 x2

Motor Kit



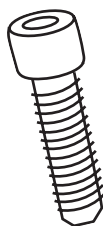
8

OBD II Plug



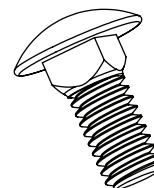
9 x20

M8 Hex Bolt w
Conical washer



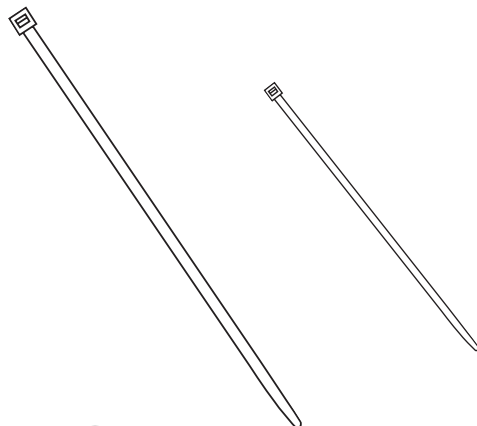
10 x8

Socket Cap Screw



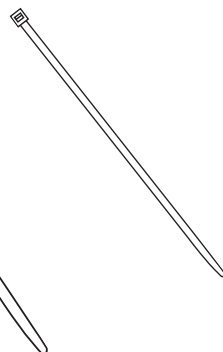
11 x14

5/16-18
Carriage Bolt



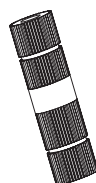
12 x2

Cable tie (11")



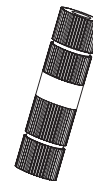
13 x20

Cable tie (7")



14 x2

Posi-Lock™
(Grey)



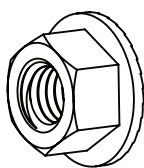
15 x2

Posi-Tap™
(Red/Grey)

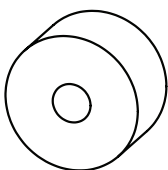


16 x4

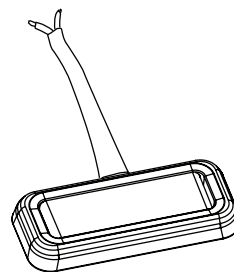
M6 Flange Bolt



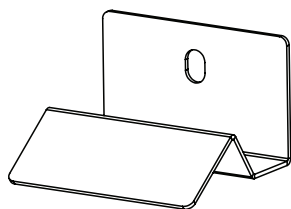
17 x14
5/16-18
Flange Nut



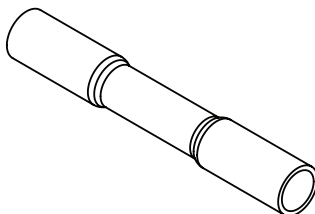
18 x4
Upper Mount
Spacer



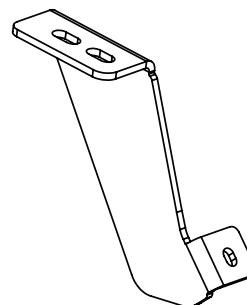
19 x4
LED Lamp



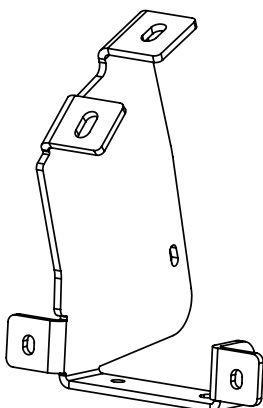
20 x4
LED Light Bracket



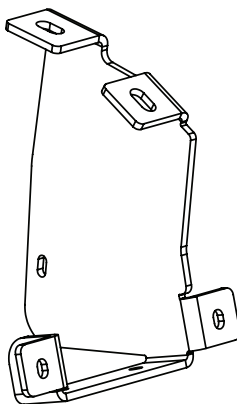
21 x8
Butt Connector



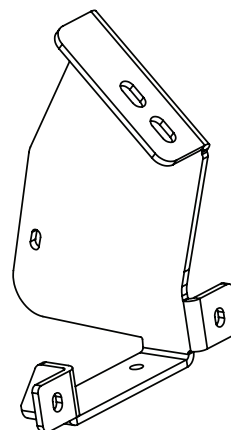
22 x2
Rail Support Bracket



23
Driver Front linkage
mounting bracket



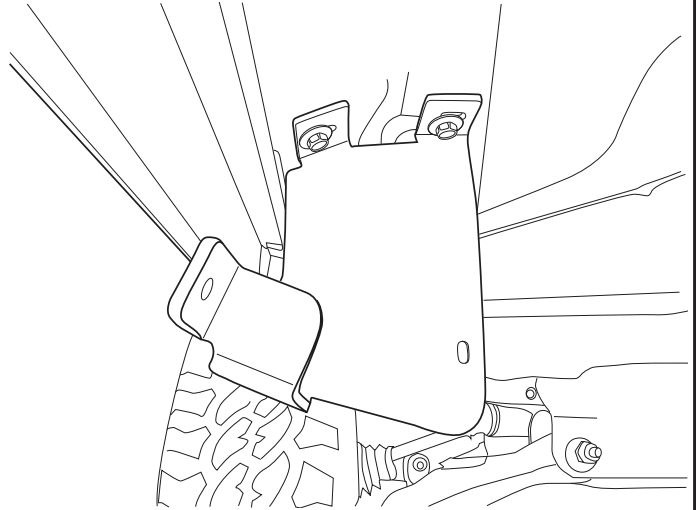
24
Passenger Front Linkage
mounting bracket



25 x2
Driver and Passenger Rear
Linkage mounting bracket

Install Front linkage mounting bracket (23) (part# 4857 Front) using supplied Conical Washer bolts (9). Use first set of mounting holes from front. Do not tighten to allow for adjustment. Take note of bracket orientation.

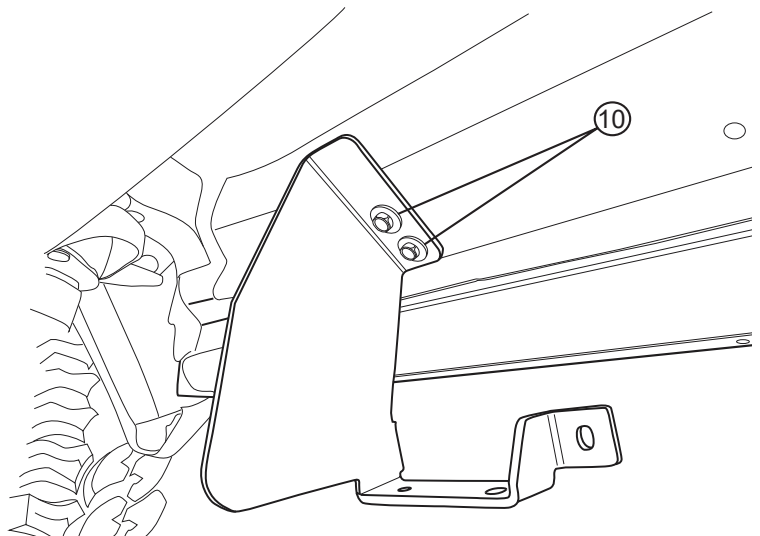
Driver side shown.



1

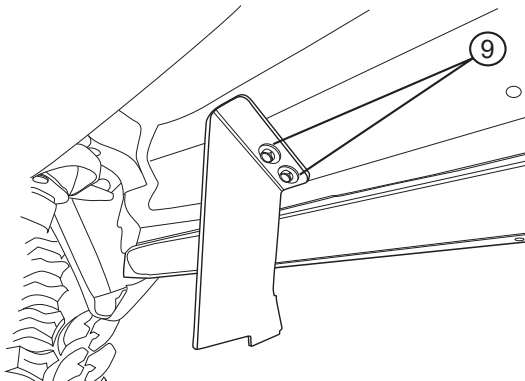
Install Rear linkage mounting bracket (25) (part # 4858 Rear) using supplied Conical Washer bolts (9). Use last set of mounting holes. Do not tighten to allow for adjustment. Take note of bracket orientation.

Driver side shown.



2

Install Rail support bracket (22), part # 4924 using supplied conical washer assembly in middle mounting position on body. Use supplied conical washer bolts (9). Do not tighten to allow for adjustment.



3

Repeat Bracket installation on passenger side.

Note: Front linkage mounting bracket (24). Rear linkage mounting bracket (25). Rail Support bracket (22).

Do not tighten to allow for adjustment.

4

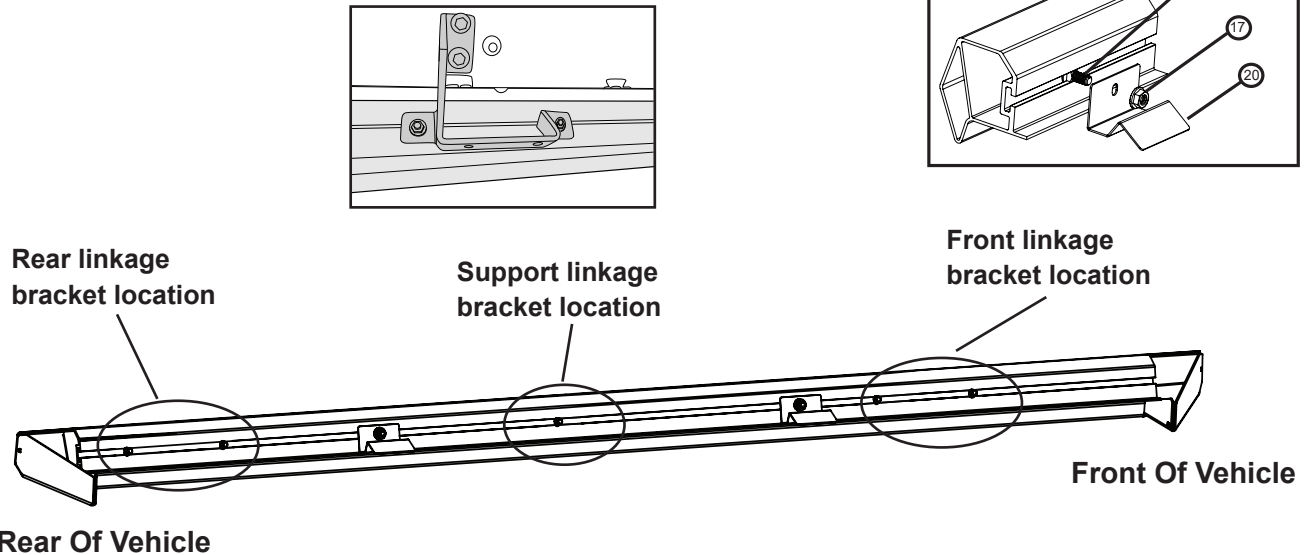
AMP RESEARCH POWERSTEP™ – TOYOTA TUNDRA

Insert carriage bolts (11) into slot of Rail (4). Insert from either end of rail. Add 2 light brackets (20) in positions shown so they will be spaced between front, middle and rear brackets.

Set rail up to vehicle and align brackets to bolts in rail. Hand tighten nuts to allow for rail adjustments the body.

Note: LED light bracket locations on image below.

Do not tighten this will allow for rail adjustment when mounted onto vehicle.

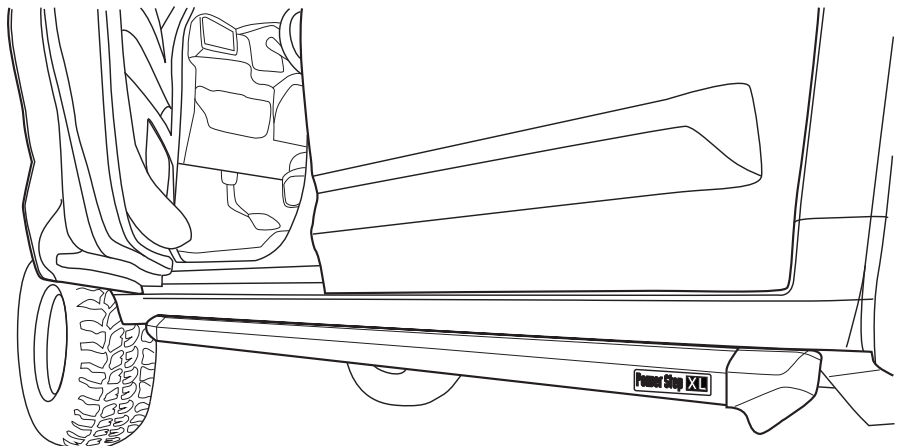
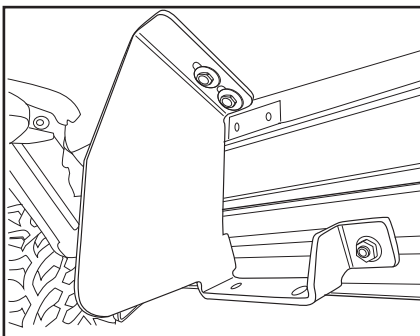


5

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

Line up the rear edge of cab.

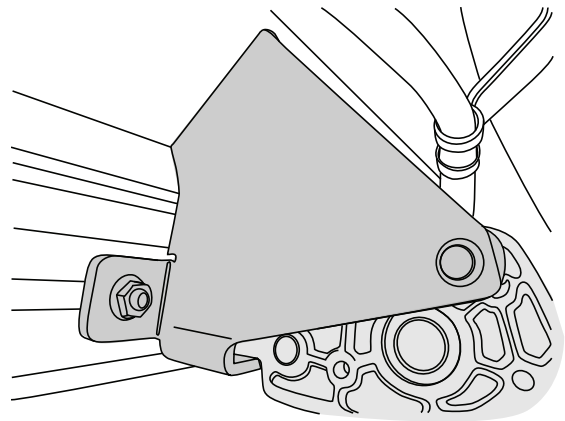
Torque bolts from step 1-3 to 16ft-lbs. Next, torque flange nuts that attach rail to brackets to 16ft-lbs.



6

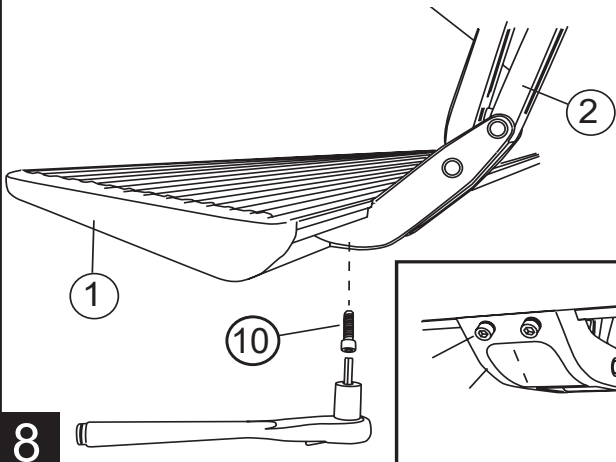
On Driver side mount Front idler linkage and rear driver linkage. Thread supplied Conical washer bolts (8) into linkages. Install provided spacer (18) and M6 flange bolt (16) into upper mount as shown on both Drive and Idler linkages.

Do not tighten.



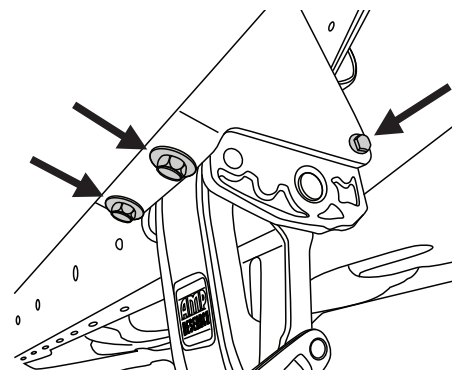
7

Slide mounting T-nut into position. Center Board in rail pocket. Tighten fasteners to 10ft-lb.



8

Using a 13 mm socket torque linkage bolts (9) to 16ft-lbs. Next use a 10mm socket, torque linkage spacer bolt (16) to 8 ft-lbs. Once linkages are tight cycle board to verify steps deploy under own weight and clear rail endcaps.



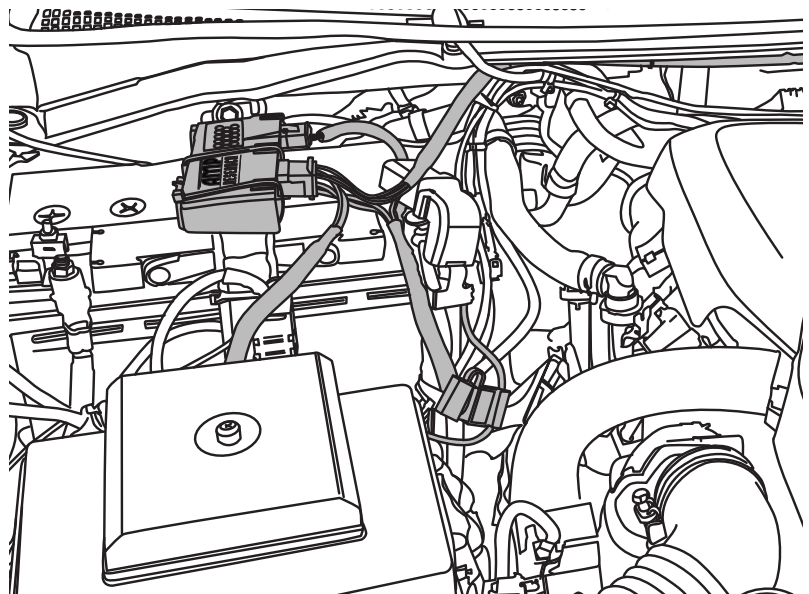
9

Remove power fuse.

Connect wire harness (5) to controller (6) and secure locking clip.

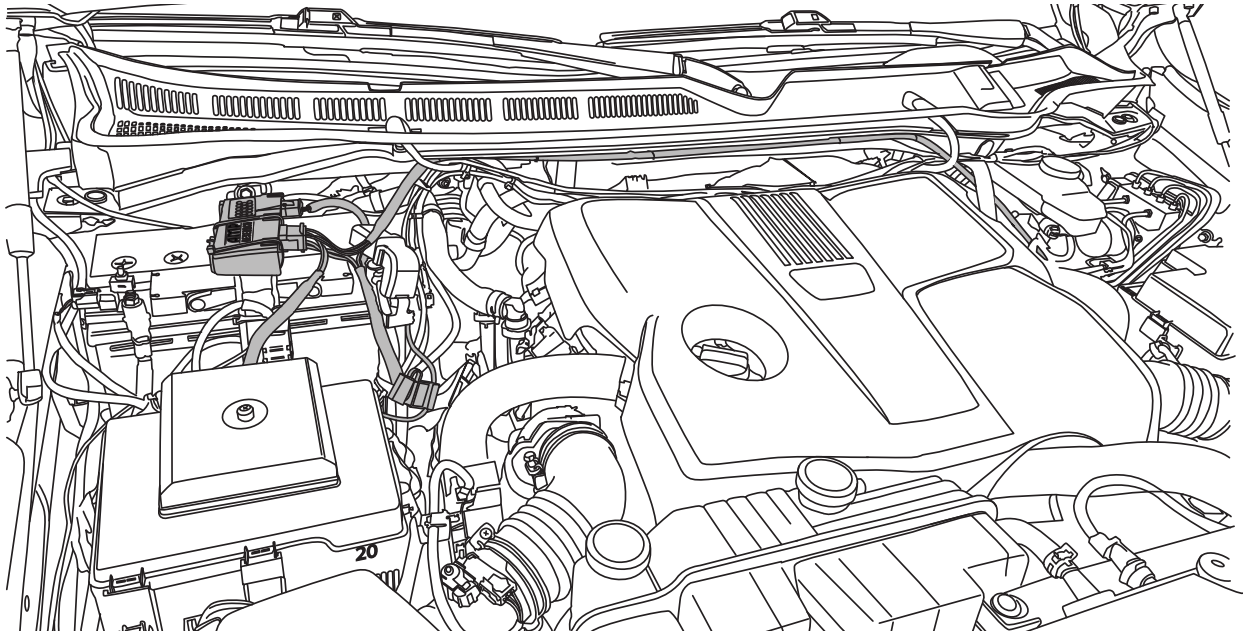
Connect red power lead to positive battery terminal and black ground lead to grounding lug on fender apron.

Use supplied 11" zip ties (12) to attach controller to battery bracket.



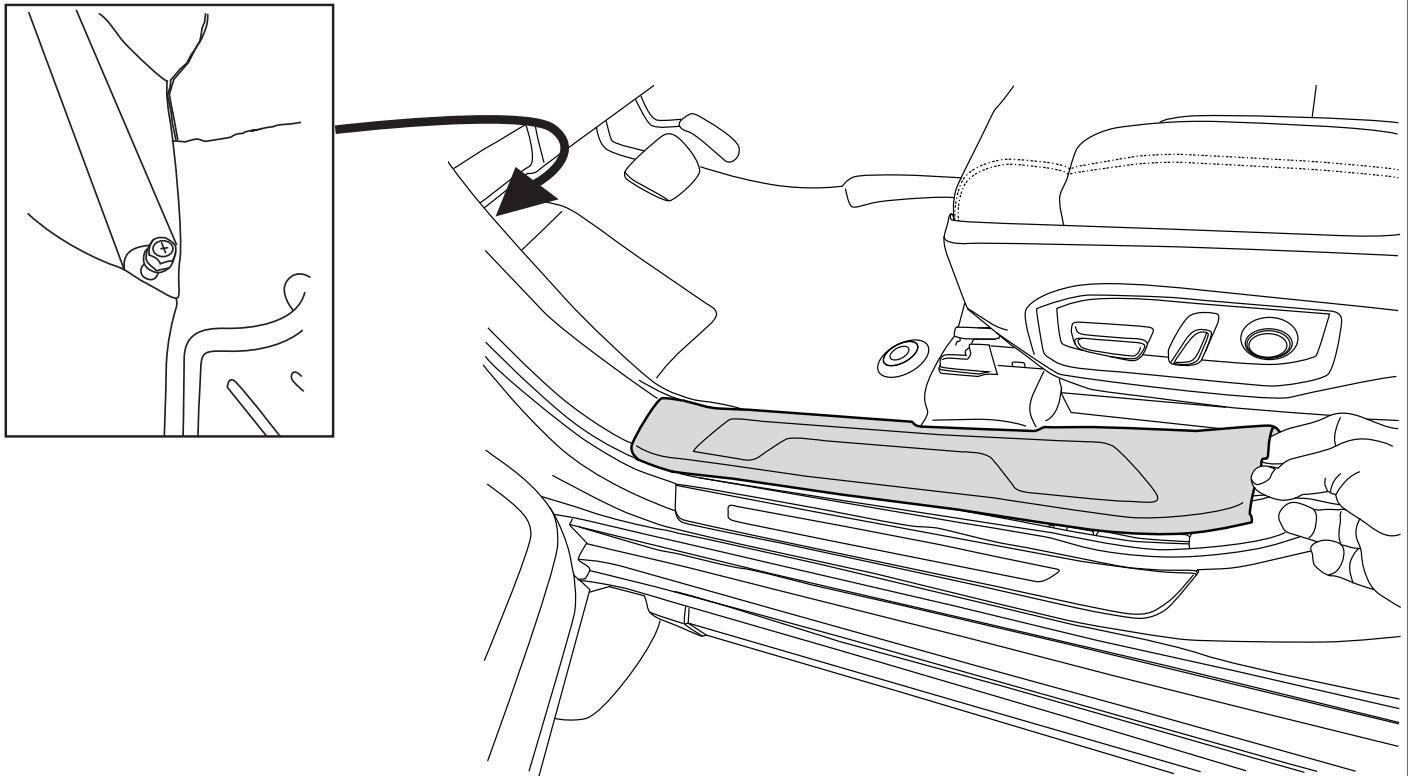
10

Route longest leg of wire harness across fire wall to driver side and under vehicle outside of frame rail. Route shorter leg of wire harness down passenger side fender well and under vehicle outside of frame rail. Use supplied 7" zip ties (13) where needed to secure harness.



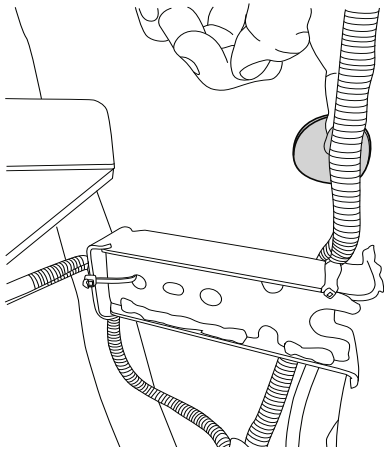
11

Remove driver front sill plate and kick panel. Pull up carpet. Locate rubber grommets under carpet in floorboards.



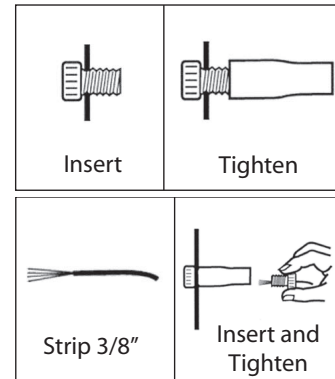
12

Cut a slit in the rubber grommet and pass the trigger wires up through grommet under carpet on the driver side.



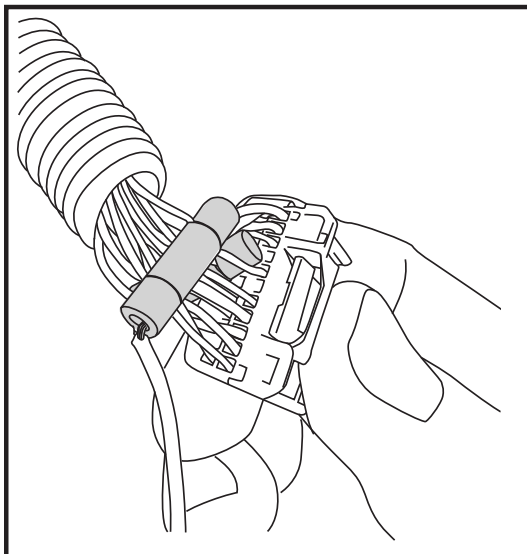
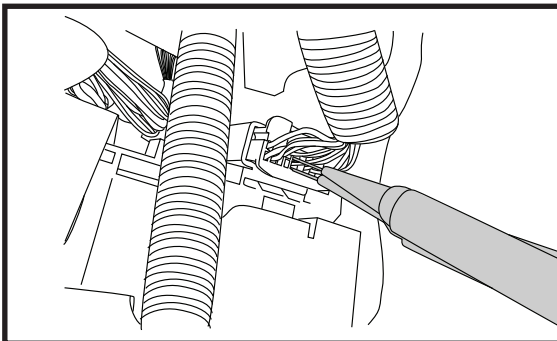
13

Posi-Tap™ instructions

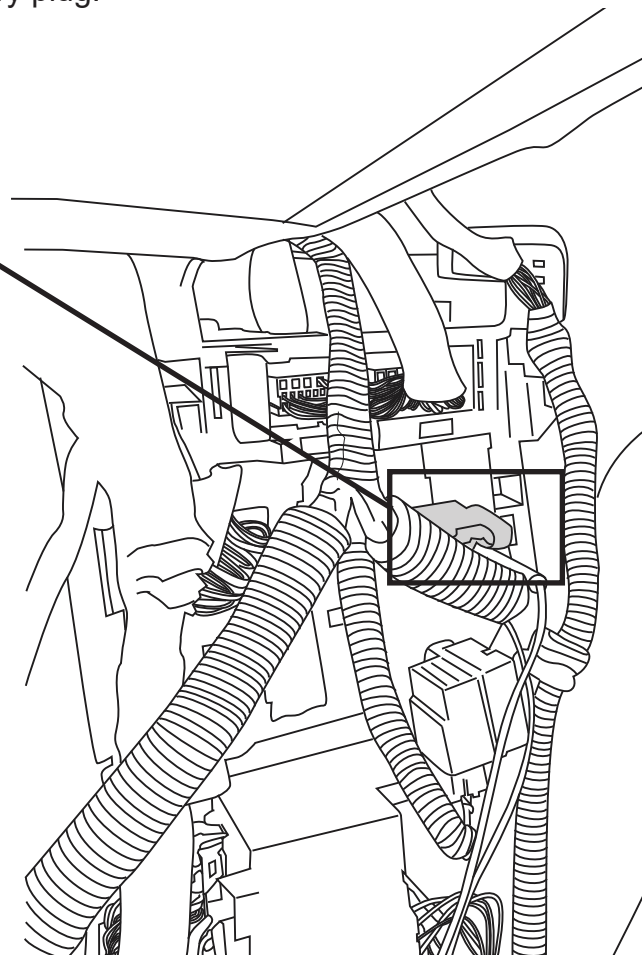


14

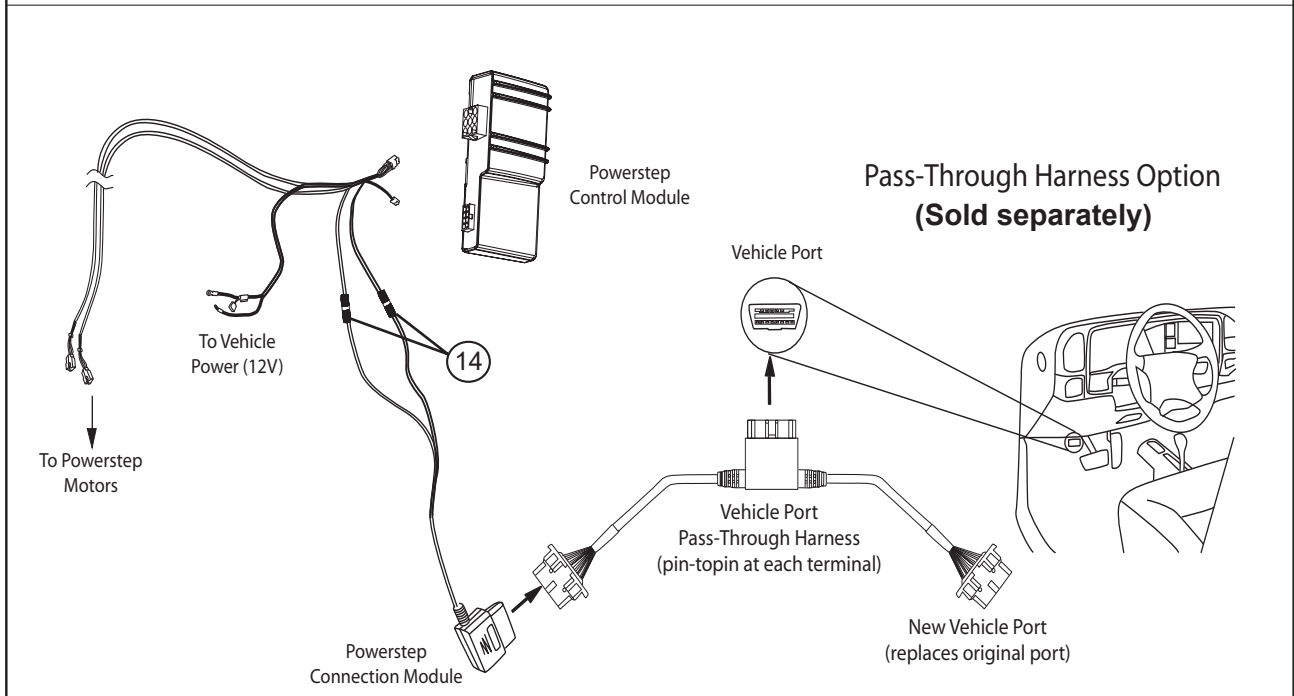
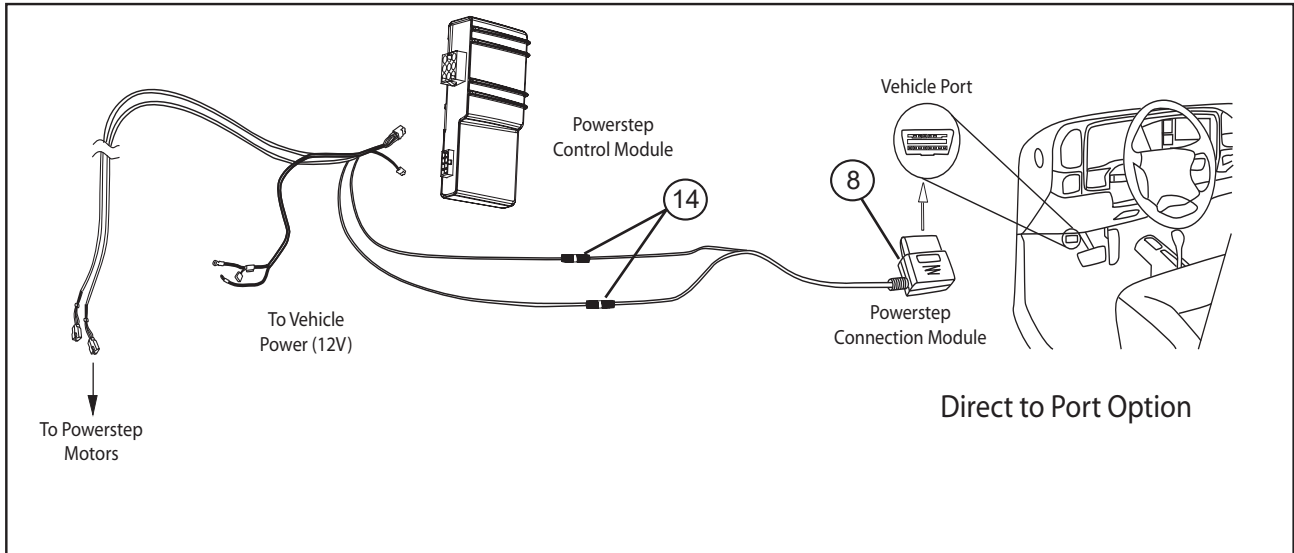
Locate white plug in driver kick panel area. Disconnect battery to avoid a Check Engine Light. Once battery is disconnected unplug plug to gain access. Locate the white and blue wire as shown in the plug. Using supplied posi-taps™ (15) connect the blue wire on the DSM to the white wire on the factory plug. Next, connect the white wire on the DSM module (8) to the blue wire on the factory plug. Reconnect white factory plug.



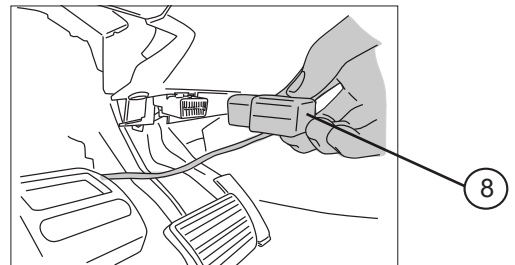
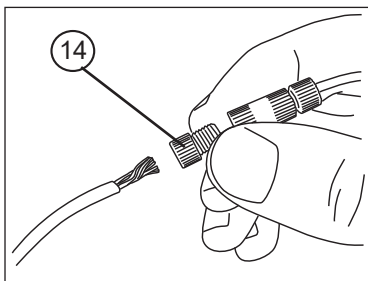
15



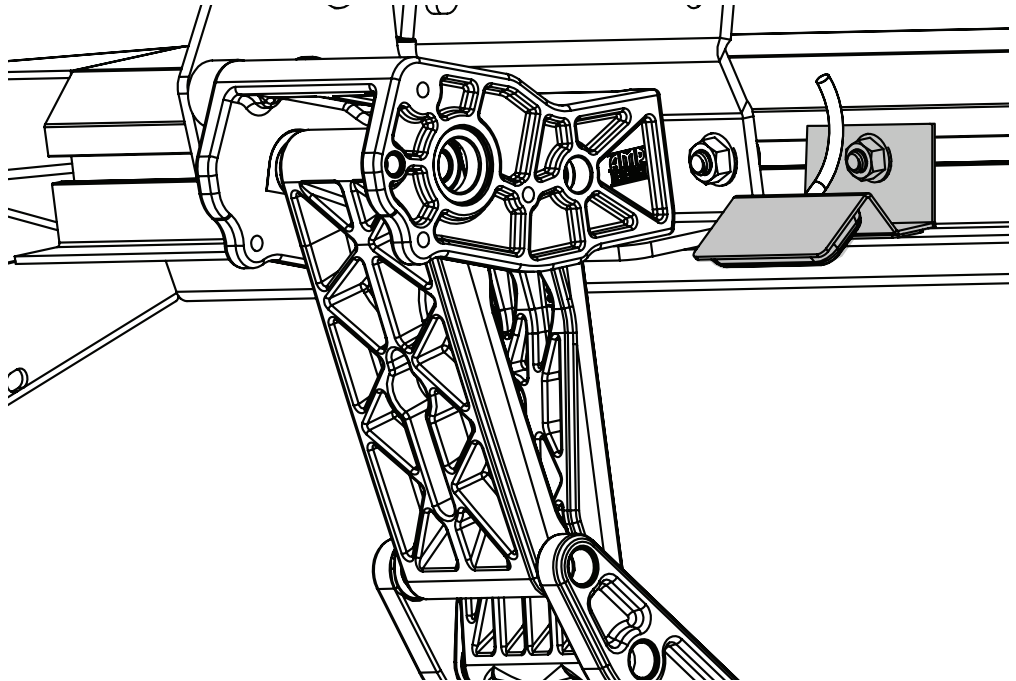
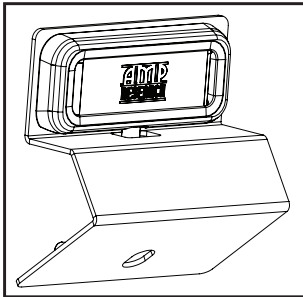
OBD II install: Use Supplied Posi-lock™ (14) connectors to attach the Plug and Play Module to the Harness. Attach matching colors on the harness to the wires on the module. Plug in module (8) to OBD II port on the vehicle. Secure harness with supplied tie wraps (13). *Note: If the OBD II pass thru harness (76405-01A) was purchased see install sheet supplied in packaging. The pass through harness allows for an open port for other accessories. See below for images with brief descriptions.*



Plug in module to OBD port on the vehicle.

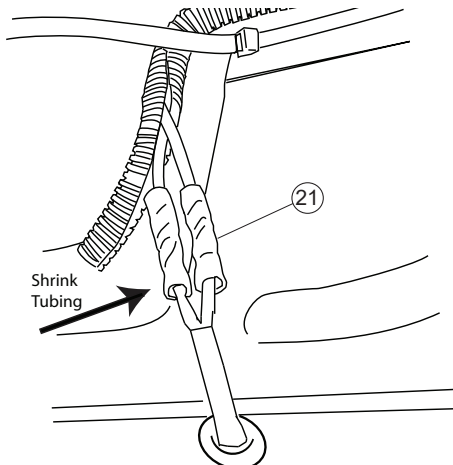


Affix LED Lamps (19) to Light Brackets (20) that are on rail. Slide brackets into desired position and tighten using 5/32" Allen key.

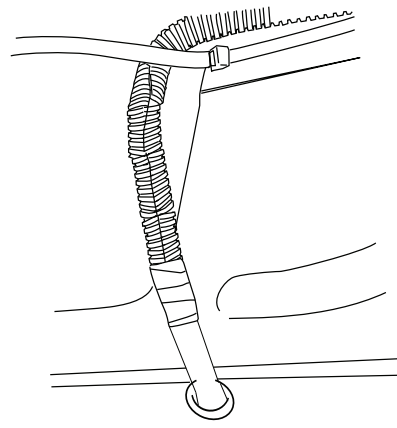


17

Using supplied butt connectors, connect the lamp wires. Red to Red, Black to Black. Once Crimped use heat gun to shrink tube.



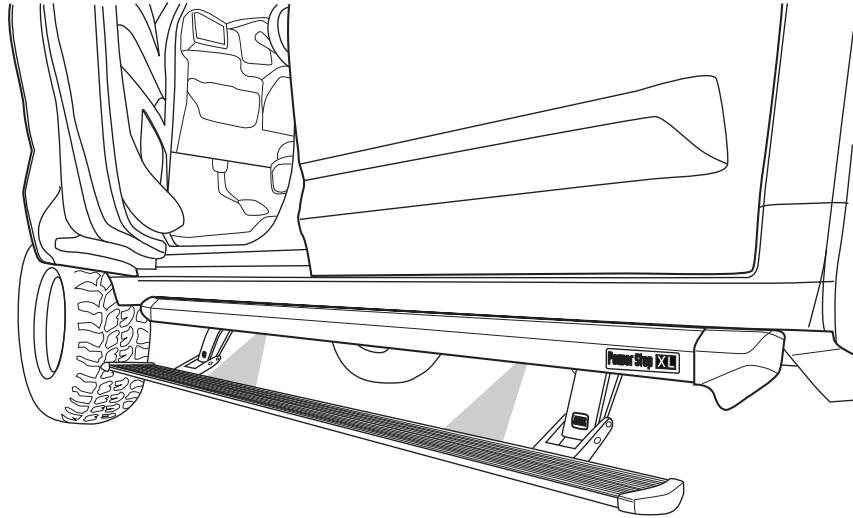
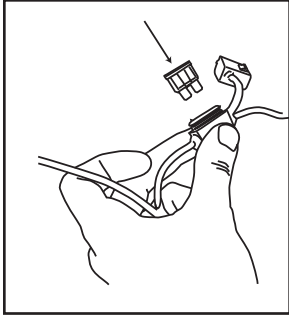
Close and wrap with conduit and electrical tape. Secure all loose wires with cable ties, with lamp wires pulled upward to avoid any wire snagging.



18

19

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



SYSTEM CHECK

Check that all doors activate the PowerStep and the LED lights work when doors open and close.

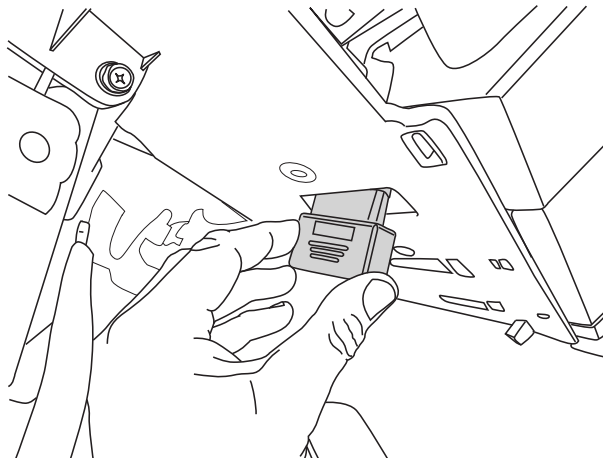
NORMAL OPERATION: When the doors open, PowerStep automatically deploys from under the vehicle. When the doors are closed, PowerStep will automatically return to the stowed/retracted position. **Note that there is a 2-second delay before the PowerStep returns to the stowed/retracted position.**

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.

20

Because the factory plug was removed a key cycle is required to activate the DSM module.

Started the vehicle then shut off the vehicle. Next plug in the DSM module (8), open and close door. The steps should deploy.



21



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Rev 01.05.21

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.

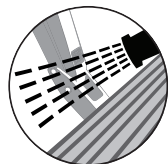
Automatic stop:

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 TECH SUPPORT 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.



The material that your product is made from can be recycled. Please also consider recycling the packaging that your product came in.

