

# INSTALLATION GUIDE

# AMP RESEARCH Power Step

MADE IN USA

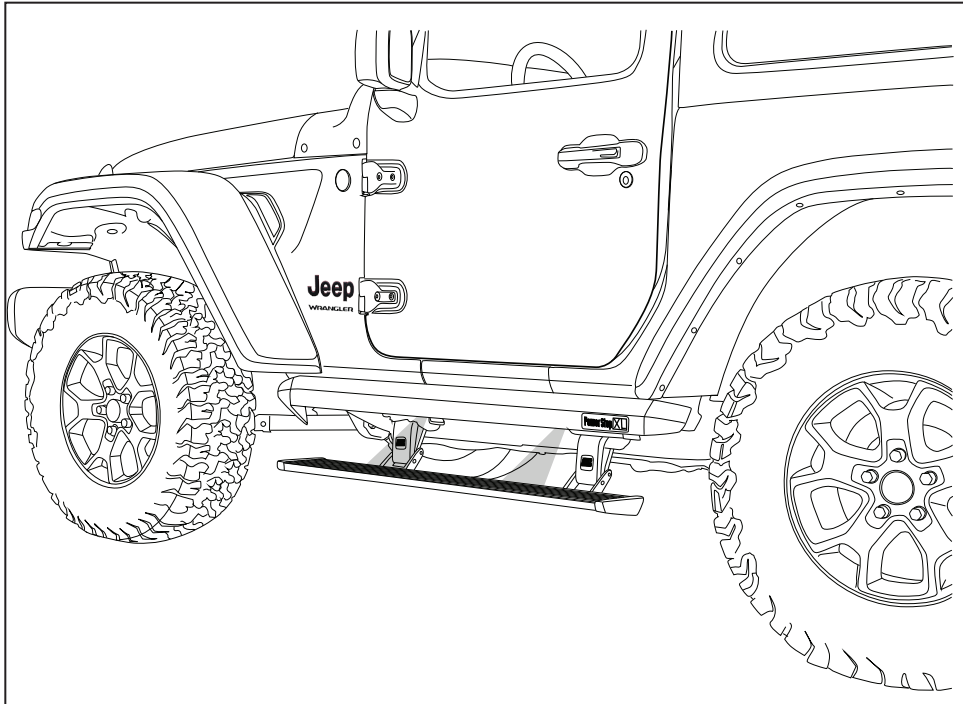
## APPLICATION

Jeep Wrangler JL 2Dr

2018 - 2019

## AMP Part #

77133-01A



## INSTALLATION TIME

**3-5 Hours**

Professional installation recommended

## SKILL LEVEL



4= Experienced

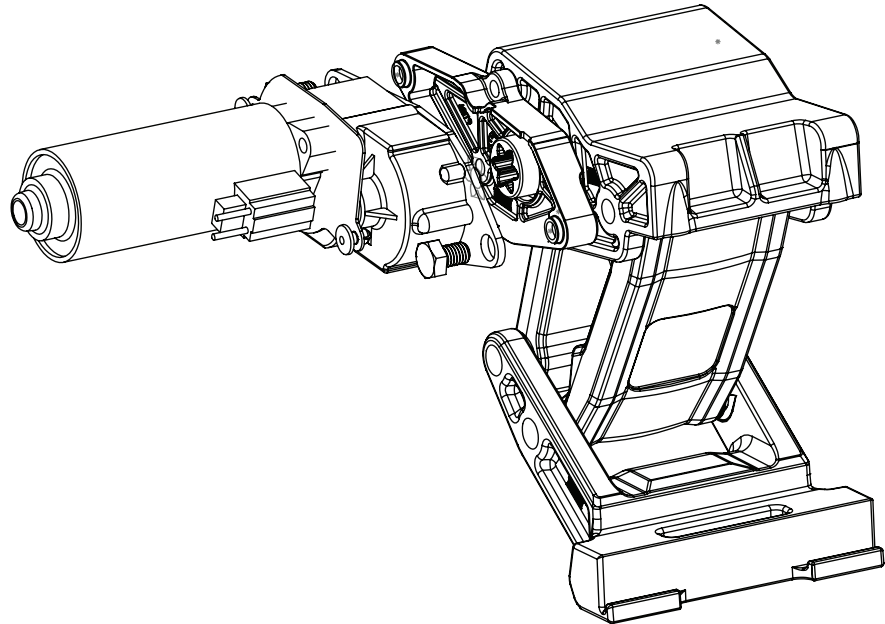
## TOOLS REQUIRED

- 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

Invented, engineered and manufactured exclusively by AMP Research in the USA. May be covered by one of the following patents: 6,641,158; 6,830,257; 6,834,875; 6,938,909; 7,055,839; 7,380,807; 7,398,985; 7,584,975 ©2012 AMP Research. All rights reserved. Printed in USA.

EXPLODED VIEW

- Motor
- Hex Head Bolt



**CAUTION: HANDLE WITH CARE.**

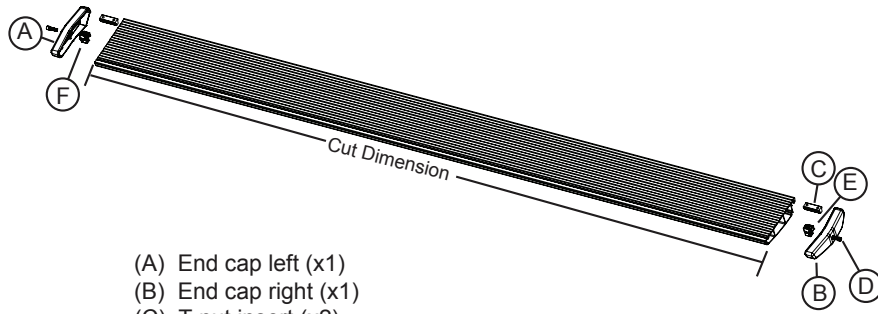
To ensure our customers receive all components with full integrity, we pack the motors separate from their linkage assemblies. This requires that the installer position and fasten the motor before continuing with the install. Please follow the instructions below and handle the assembly carefully.

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

Instructions:

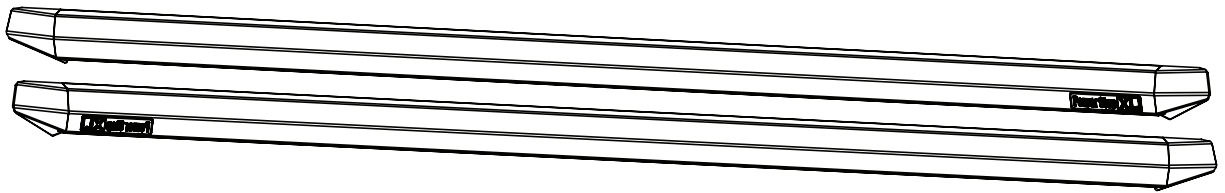
1. Position the gear cover in place as shown if not already in place.
2. Seat motor into position on the three mounting bosses. This may require an adjustment of the gear by moving the swing arms.
3. After seating into place, fasten the motor with the three motor mount screws with 4mm Hex Head. Tighten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

AMP RESEARCH POWERSTEP™ – Jeep Wrangler JL

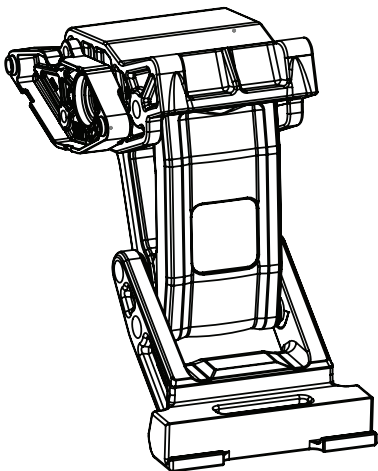


- (A) End cap left (x1)
- (B) End cap right (x1)
- (C) T-nut insert (x2)
- (D) Socket cap screw (x2)
- (E) End cap wedge right (x1)
- (F) End cap wedge left (x1)

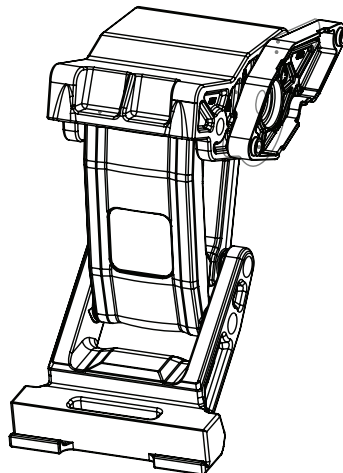
① x2  
Running board assembly



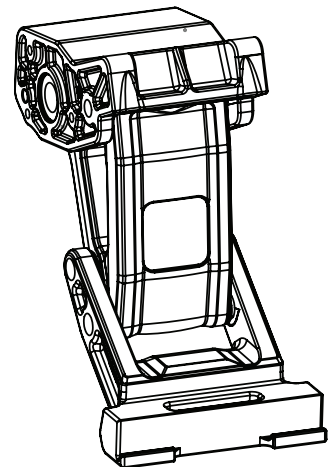
② x2  
Rail Assembly



③  
Motor Linkage assembly  
Driver

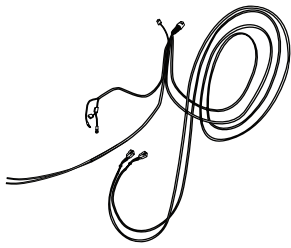


④  
Motor Linkage assembly  
Passenger



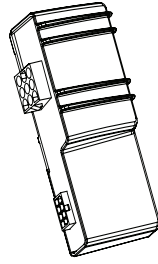
⑤ x2  
Idler Linkage assembly

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6

Wire harness



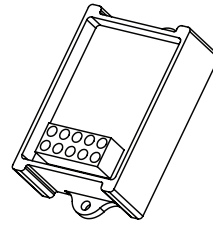
7

Controller STA



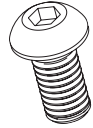
8

x2  
Posi Tap



9

Door Trigger Module



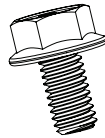
10

x2  
M8 Button Head Bolt



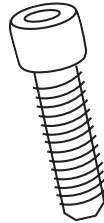
11

x6  
M6 Flange Bolt



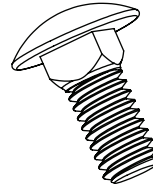
12

x4  
5/16 Flange Bolt



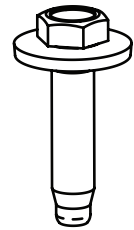
13

x8  
Socket Cap Screw



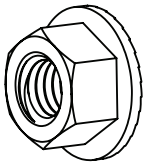
14

x8  
5/16-18 Carriage Bolt



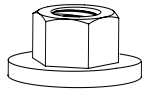
15

x12  
M8 Hex Bolt w Conical washer



16

x12  
5/16-18 Flange Nut



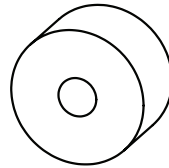
17

x2  
Nut with Conical Washer



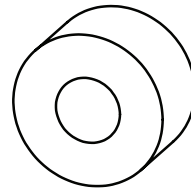
18

x2  
Washer



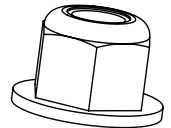
19

x4  
Upper Mount Spacer



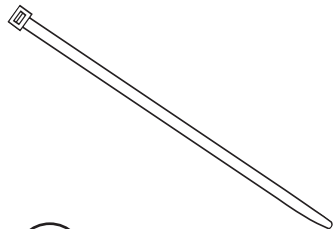
20

x2  
Mount Spacer



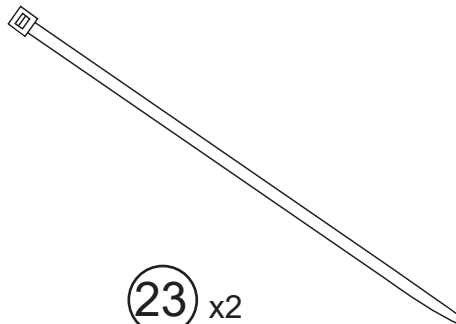
21

x2  
M6 Nut



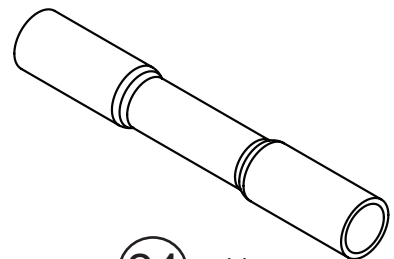
22

x20  
Cable tie (7")



23

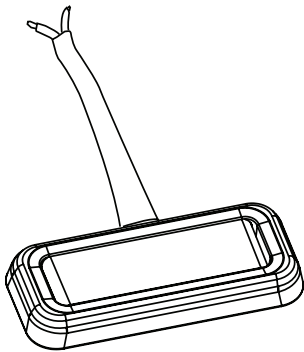
x2  
Cable tie (11")



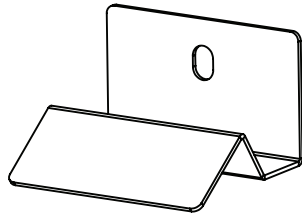
24

x11  
Butt Connector

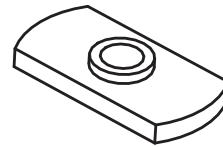
AMP RESEARCH POWERSTEP™ – Jeep Wrangler JL



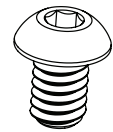
25 x4  
LED Lamp



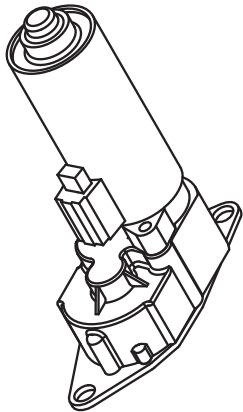
26 x4  
LED Light Bracket



27 x4  
LED Light Bracket



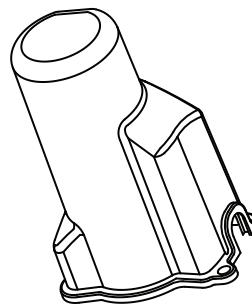
28 x4  
LED Light Bracket



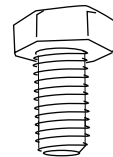
29 x2  
CRH Motor



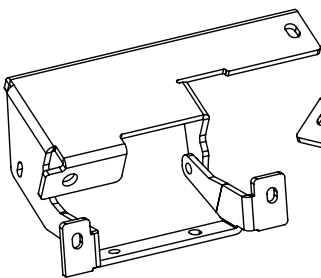
30 x6  
Cinch Fastener



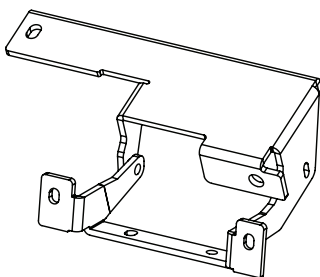
31 x2  
Motor Cover



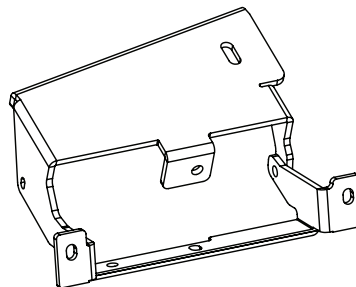
32 x4  
M8 Head Hex Bolt



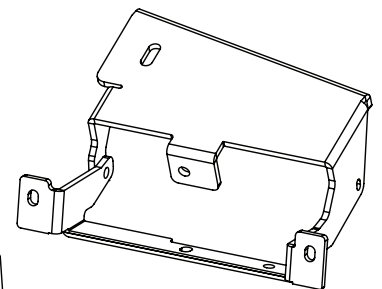
33  
Passenger Front  
mounting bracket



34  
Driver Front  
mounting bracket

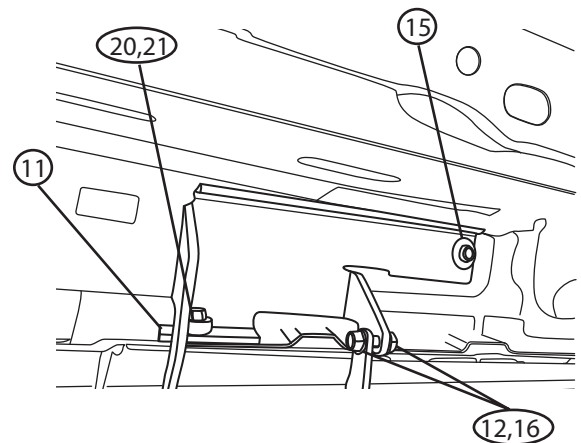


35  
Passenger Rear  
mounting bracket



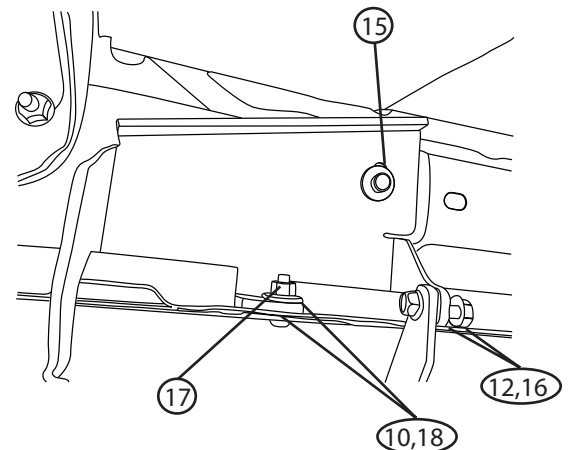
36  
Driver Rear  
mounting bracket

**Front bracket Assembly:** Use Driver side front bracket (34). Remove factory fender bolt using a 10mm socket or wrench. Next set bracket into position slide bracket over existing rivet nut on pinch weld. Insert provided M6 Flange bolt (11) and tighten to 8 ft-lbs. Use provided spacer (20) and M6 Nylock nut (21) assemble over rivet nut and finger tighten. Use provided M8 Conical washer bolt (15) and finger tighten. Tighten M6 nut and M8 Conical washer bolt simultaneously. Torque nut to 8 ft-lbs and conical washer bolt to 16 ft-lbs. Assemble Flange Bolt (12) with nut (16) and torque to 16 ft-lbs.

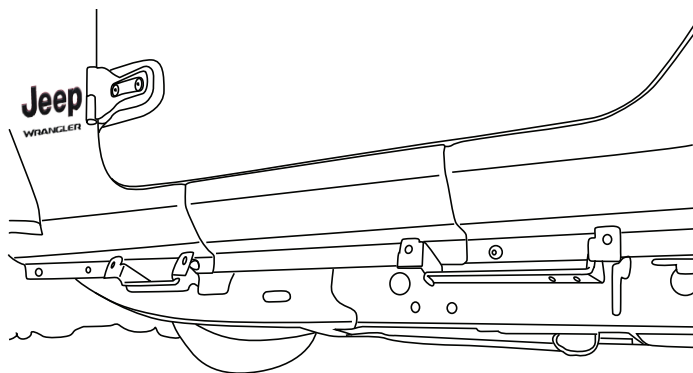


**Driver Front Bracket**

**Rear bracket Assembly:** Use Driver side rear bracket (36). Use provided button head bolt(10) and washer(18) with captive washer nut(15) on pinch weld. Assemble hardware loosely. Next use provided captive washer bolt (15) to attach bracket to underside of body. Torque to 16 ft-lbs. Assemble Flange Bolt (12) with nut (16) and torque to 16 ft-lbs.

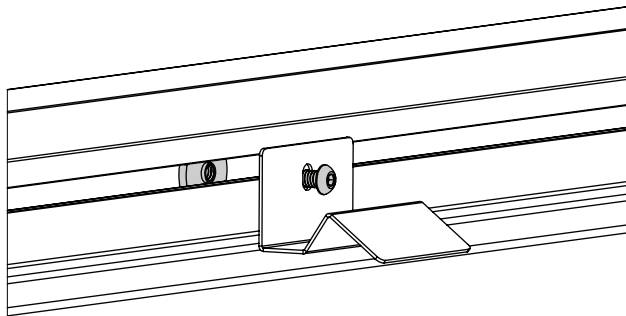


**Driver Rear Bracket**



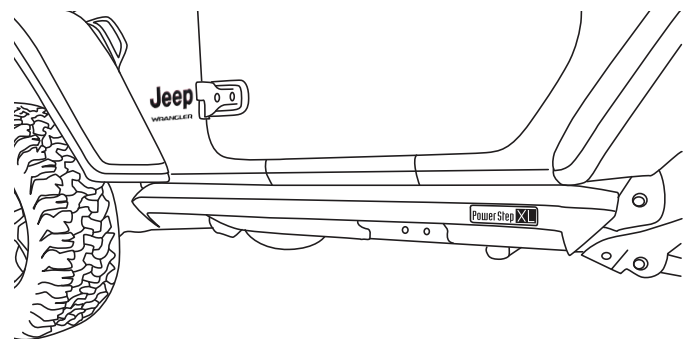
**1 Brackets assembled Driver Side**

Insert Threaded Nut Plate (27) into Rail pocket as shown. Use provided Button Head Screw (28) to attach Light Bracket (26) to rail as shown. Leave loose to allow adjustment in later step.



**3**

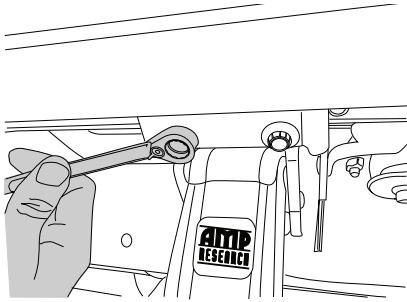
Slide 4 carriage bolts (14) into rail pocket of driver side rail. Adjust bolts and slide over brackets. Use supplied Flange Nuts to attach rail to brackets. Center rail between body rocker and torque 4 flange nuts to 16 Ft-lbs.



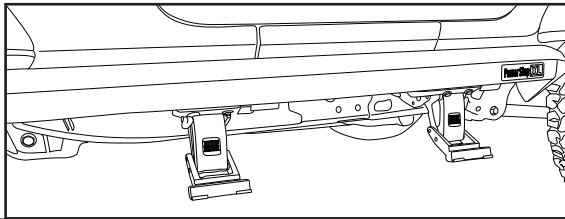
**4**

## AMP RESEARCH POWERSTEP™ – Jeep Wrangler JL

Mount front Idler linkage onto driver side. Thread supplied bolts (15) into linkage. Repeat step for Rear Drive linkage. Do not tighten.

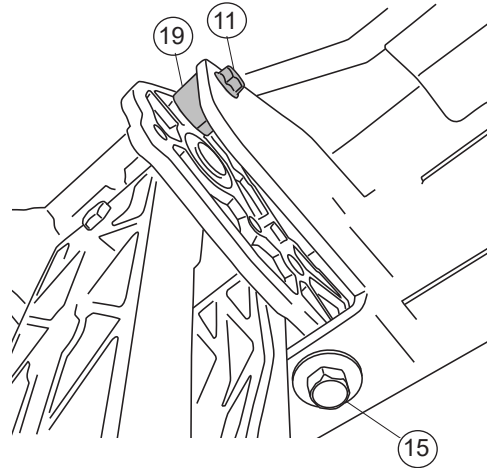


5

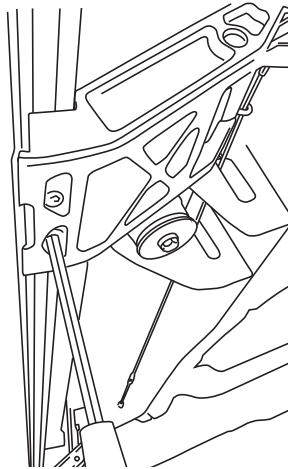


6

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

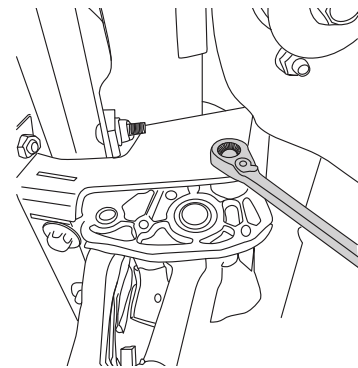


Slide mounting T-nut into position. Center board in rail pocket. Tighten fasteners to 10 ft-lb

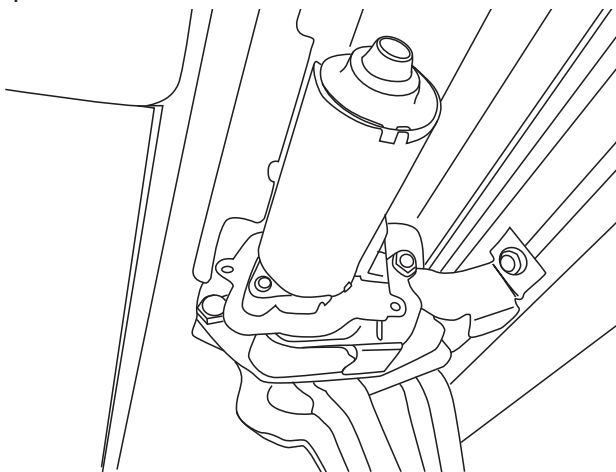


7

Using a 13mm socket Torque linkage bolts 4x (15) from step 3 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.

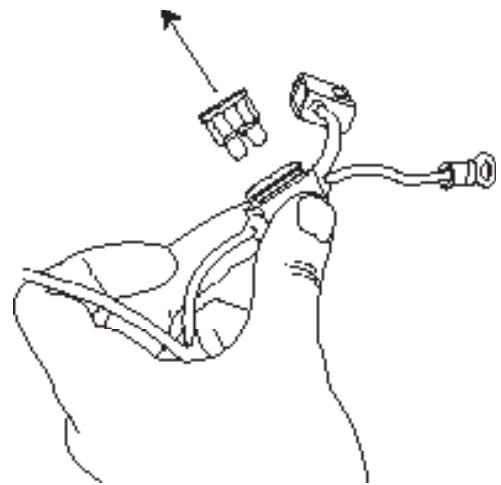


Attach motor to linkage. Using a 13mm wrench Torque to 36 in-Lbs.



8

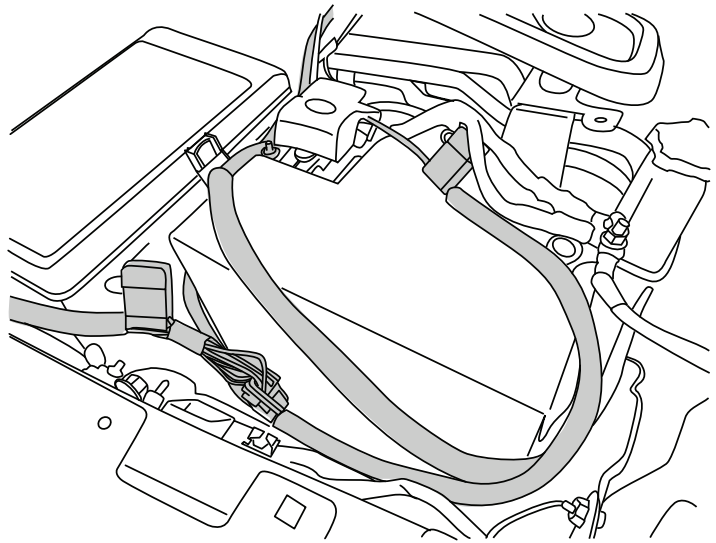
Remove fuses from Power Step Wire Harness.



9

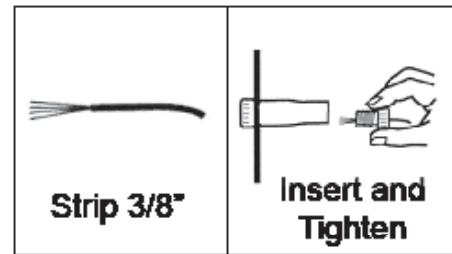
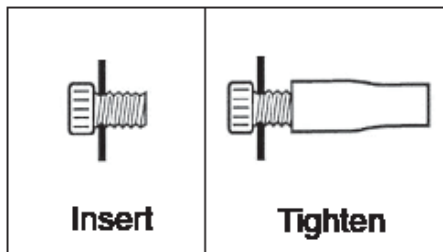
## AMP RESEARCH POWERSTEP™ – Jeep Wrangler JL

Prepare large tie-wraps for mounting Power Step Controller. Loosely loop tie-wraps around large bundle of wires behind battery in engine compartment. Insert controller into tie-wrap loops and cinch down securely. The tie-wraps should cinch down into channels on controller surface. Connect power leads from Controller, Red to positive battery terminal and Black to the vehicle body ground as shown.



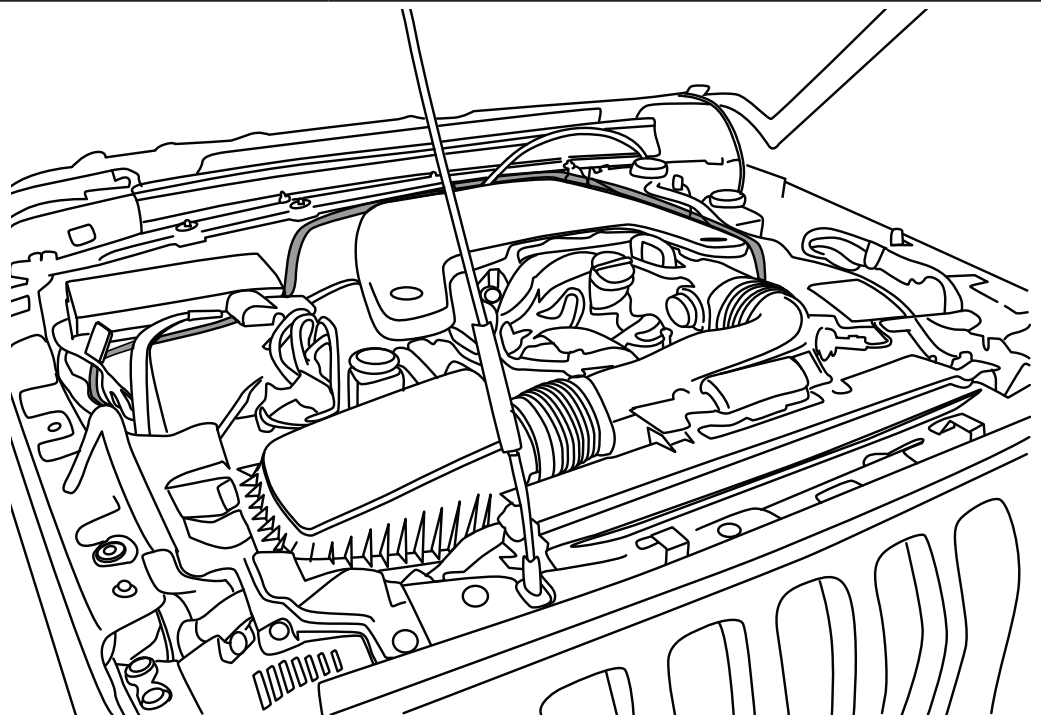
10

Splice Power Step trigger wires into the Door Ajar wires with provided Posi-Tap™ splicers. The Power Step trigger wires color coordinate with the factory Door Ajar wires. Follow the steps below to correctly splice wires.



11

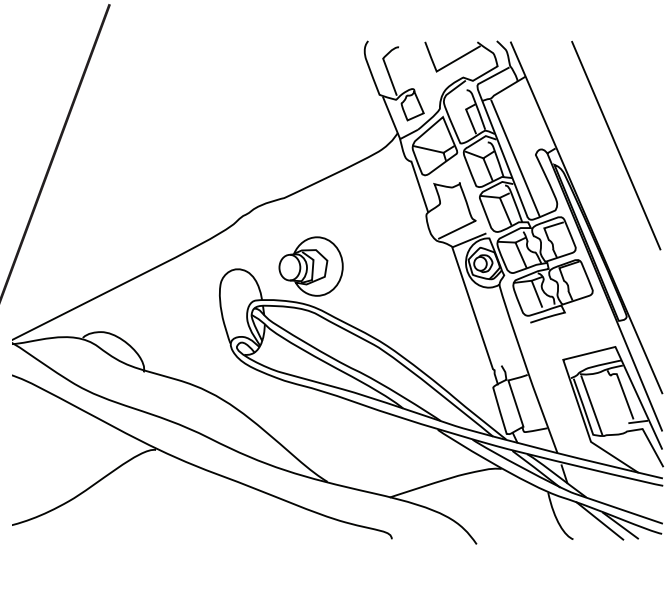
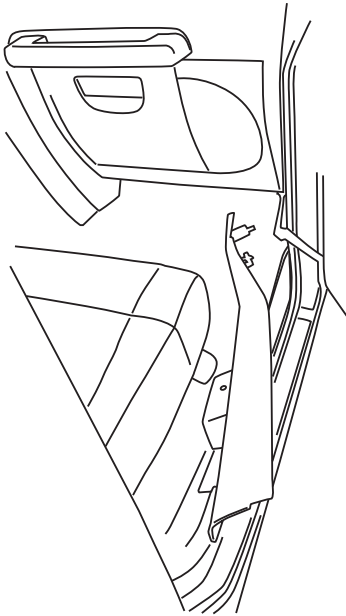
Route the two Wire Harness legs down over the wheel wells toward Motor Linkages, long leg across to the driver side. Secure harness with tie wraps.



12

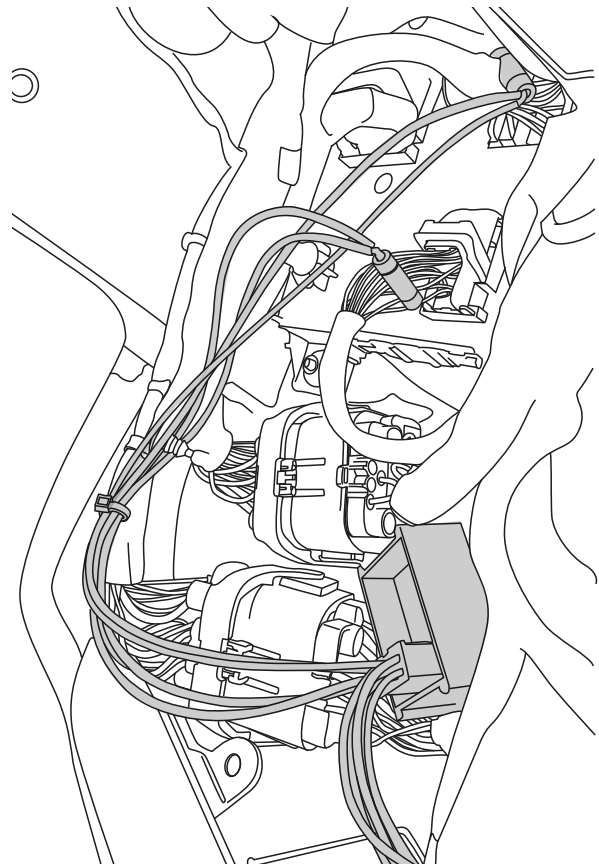


Remove sill plate cover. Remove grommet under floor and route trigger wires and power wire thru grommet.



13

Mount door trigger module to wire harness in kick panel area. Using a 10mm socket remove ground lug and connect ground to body. Using supplied butt connectors connect red wire on harness to red wire (Pin1) on module. Next connect Purple with black stripe wire on harness to purple with black stripe from module (pin 6). Lastly connect Purple from harness to purple on module (Pin 7). See next step for trigger wire assembly.



| Description        | Wire Color | Pin locations |    | Wire Color | Description           |
|--------------------|------------|---------------|----|------------|-----------------------|
| Positive Supply    | Red        | 1             | 6  | PRP/BLK    | Driver Side Output    |
| Ground             | BLK        | 2             | 7  | PRP        | Passenger Side Output |
| Driver Front Input | PRP        | 3             | 8  | WHT        | Passenger Front Input |
| Driver Rear Input  | GRY        | 4             | 9  | YEL        | Passenger Rear Input  |
| Not Used           | -          | 5             | 10 | -          | Not Used              |

**NOTE: Bundle Pin 3 & 4 wires and Pin 8&9 wire together in posi tap since rear doors are not present. Failure to do so will result in incomplete door signals.**

14

## AMP RESEARCH POWERSTEP™ – Jeep Wrangler JL

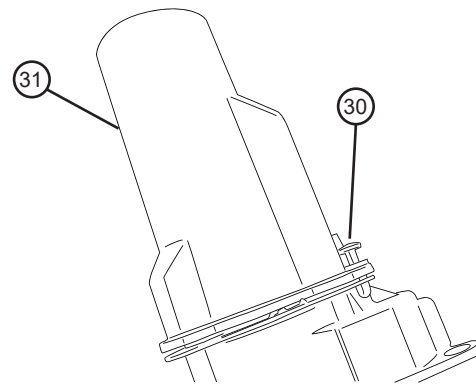
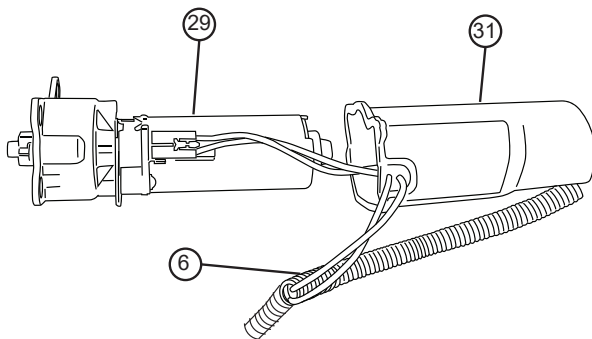
Locate the white connector panel against passenger side kick panel area. Locate three connectors as shown below and connect powerstep trigger wires as indicated in the chart. Match pin locations called out in previous step.

| Door Ajar Wire | Vehicle Wire Color/ Stripe Color | Pin location on Door Trigger Module | Connector color |
|----------------|----------------------------------|-------------------------------------|-----------------|
| Driver Front   | Violet                           | 3                                   | White           |
| Pass. Front    | Violet/White                     | 8                                   | Blue            |

**Note: Plug reassembly is critical. Lever Arm of plug must be rotated completely locked in the open position to engage properly!**

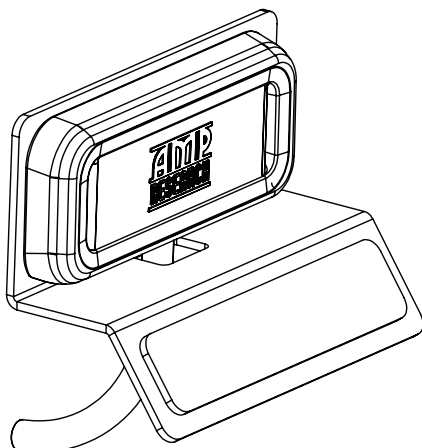
**15**

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. Repeat step on passenger side.

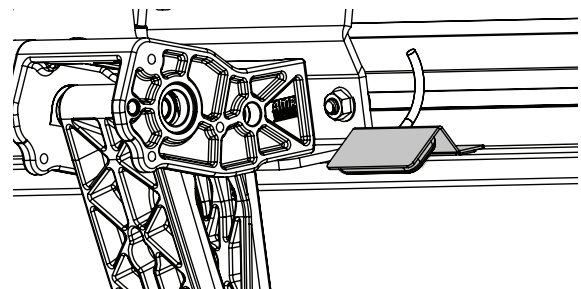


**16**

Affix LED lamp (25) to LED Bracket (26) as shown.



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

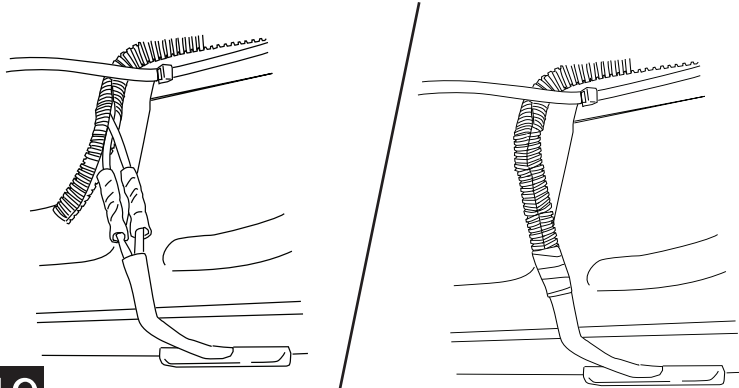


**17**

**18**

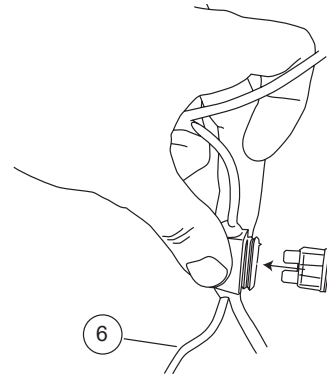
## AMP RESEARCH POWERSTEP™ – Jeep Wrangler JL

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.



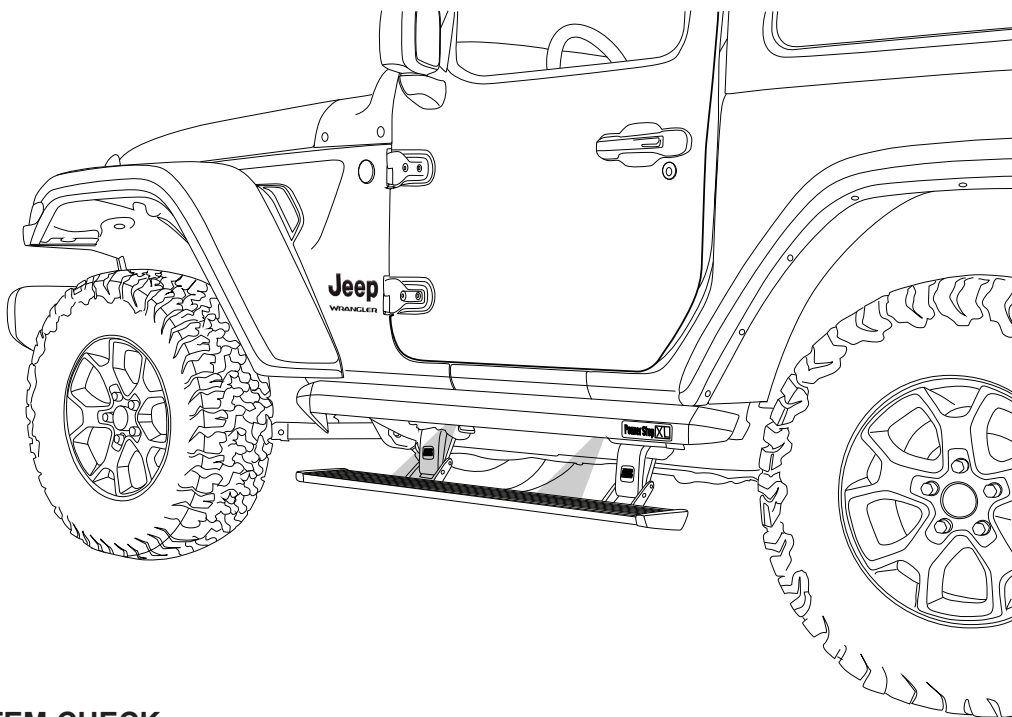
19

Reinstall Fuses from Powerstep Wire Harness.



20

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.

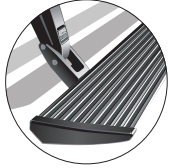
21



# 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.

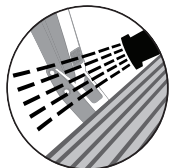
**Automatic stop:**

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.