

INSTALLATION GUIDE

AMP
RESEARCH®

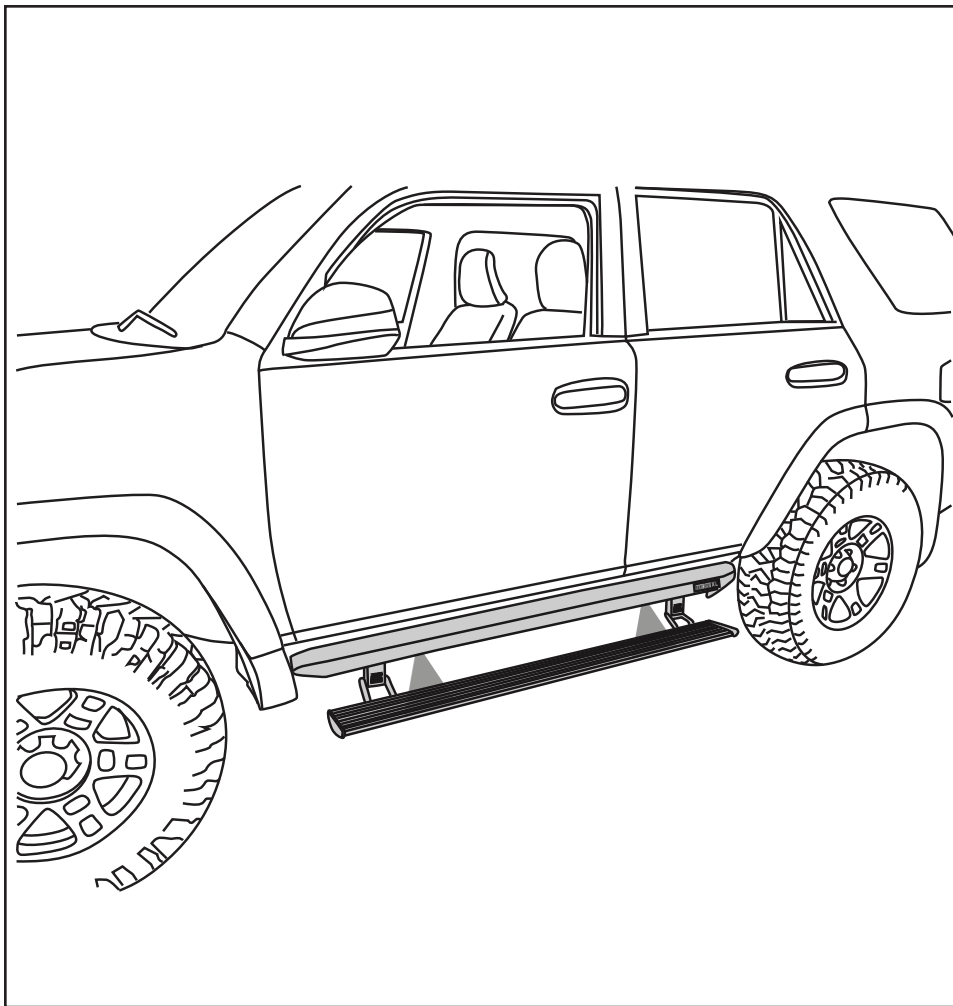
Power Step
MADE IN USA™

XL

APPLICATION
Toyota 4Runner

MODEL YR
2010 - 2021

PART #
77155-01A



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

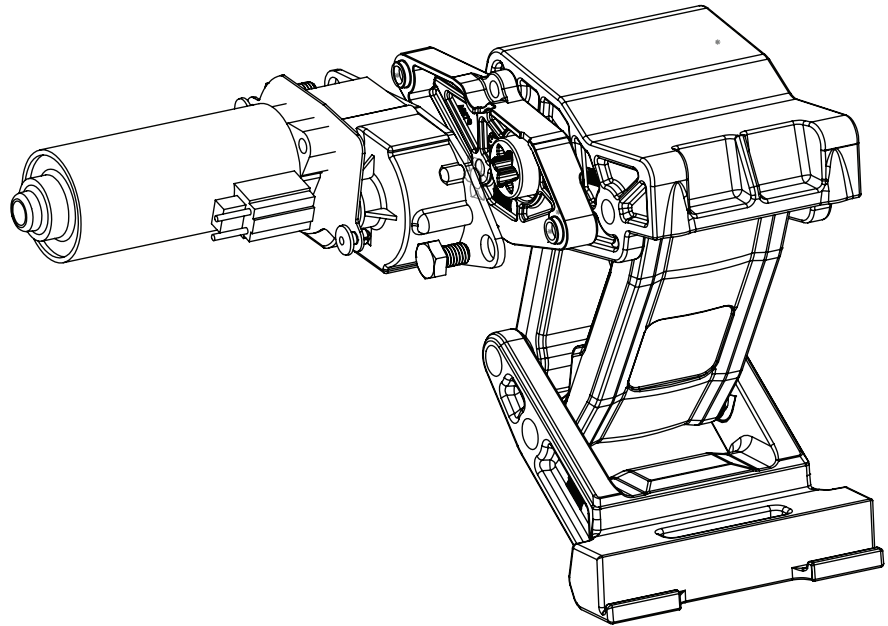
5-Year Limited Warranty

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 ©2012 AMP Research. All rights reserved. Printed in USA.

EXPLODED VIEW

- Motor
- Hex Head Bolt



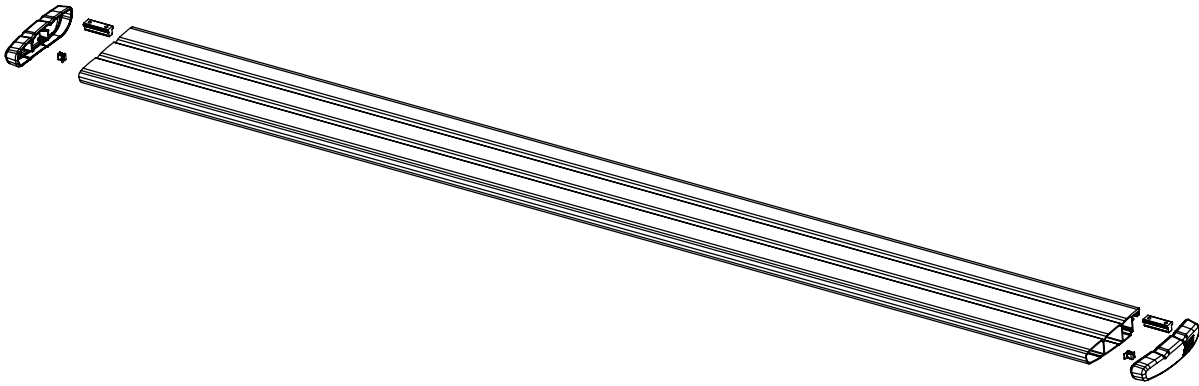
CAUTION: HANDLE WITH CARE.

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:

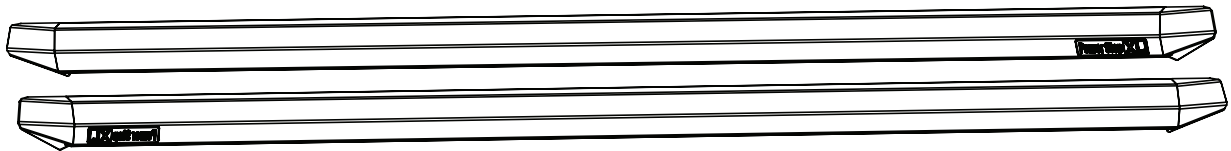
1. Position the gear cover in place as shown if not already in place.
2. Seat motor into position on the three mounting bosses. This may require an adjustment of the gear by moving the swing arms.
3. After seating into place, fasten the motor with the three motor mount screws with 4mm Hex Head. Tighten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



- (A) Endcap left (x1)
- (B) End cap right (x1)
- (C) T-nut insert (x2)
- (D) S-clip (x2)

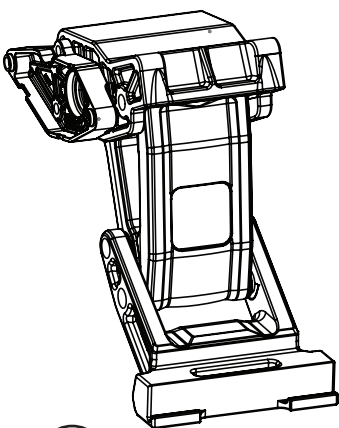
1 x2

Runningboard board assembly



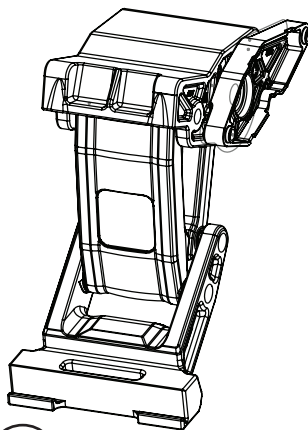
2 x2

Rail Assembly



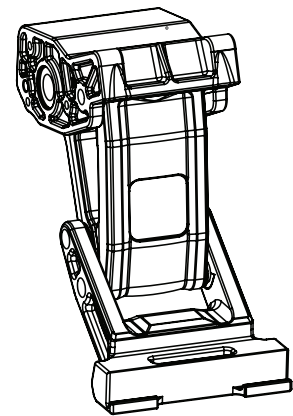
3a

Motor Linkage assembly
Driver



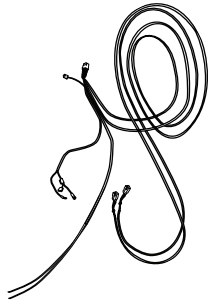
3b

Motor Linkage assembly
Passenger



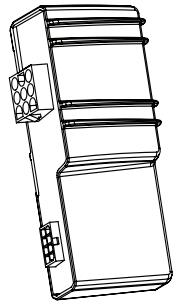
4 x2

Idler linkage assembly



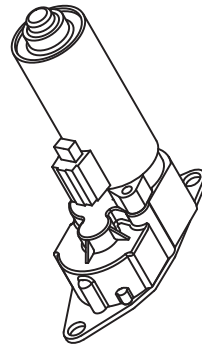
5

Wire harness



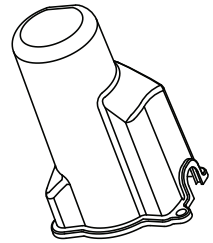
6

Controller STA



7 x2

Motor



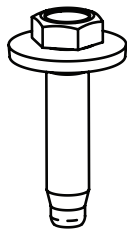
8 x2

Motor Cover



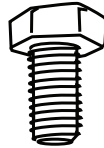
9 x6

Cinch Fastener



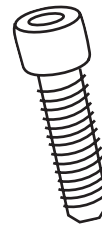
10 x20

M8 Hex Bolt w
Conical washer



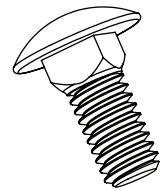
11 x4

M8 Head
Hex Bolt



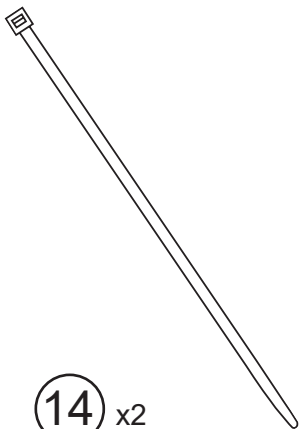
12 x8

Socket Cap
Screw



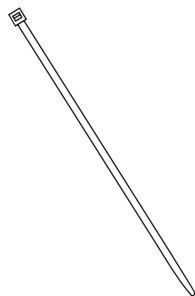
13 x14

5/16-18
Carriage Bolt



14 x2

Cable tie (11")



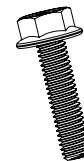
15 x20

Cable tie (7")



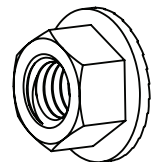
16 x4

Posi-Tap™



17 x4

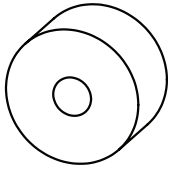
M6 Flange Bolt



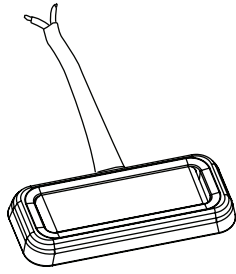
18 x14

5/16-18
Flange Nut

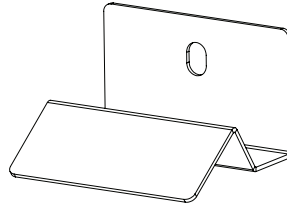
AMP RESEARCH POWERSTEP™ – TOYOTA 4Runner



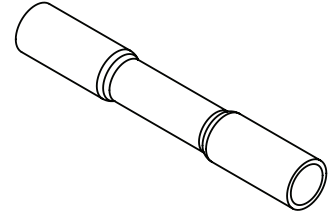
19 x4
Upper Mount
Spacer



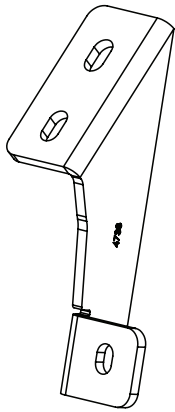
20 x4
LED Lamp



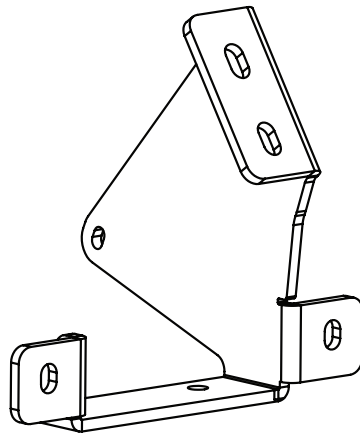
21 x4
LED Light Bracket



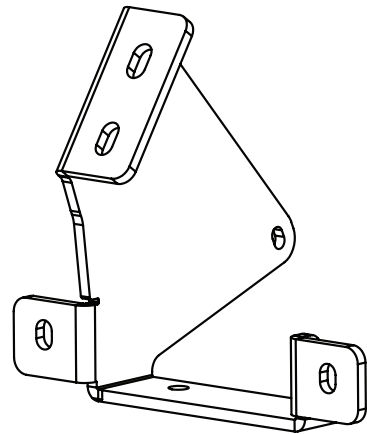
22 x8
Butt Connector



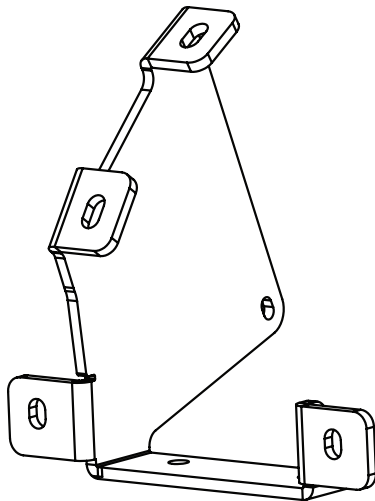
23 x2
Rail Support
Bracket # 4738



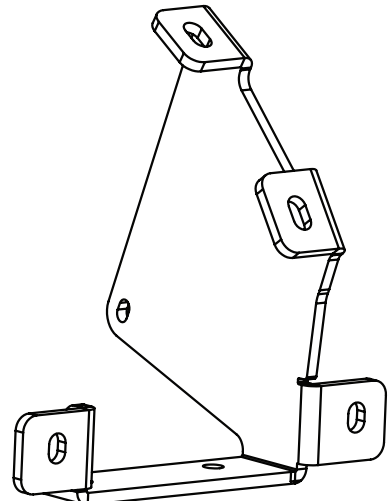
24
Rear driver mounting
bracket #4737-11



25
Rear passenger mounting
bracket #4737-12



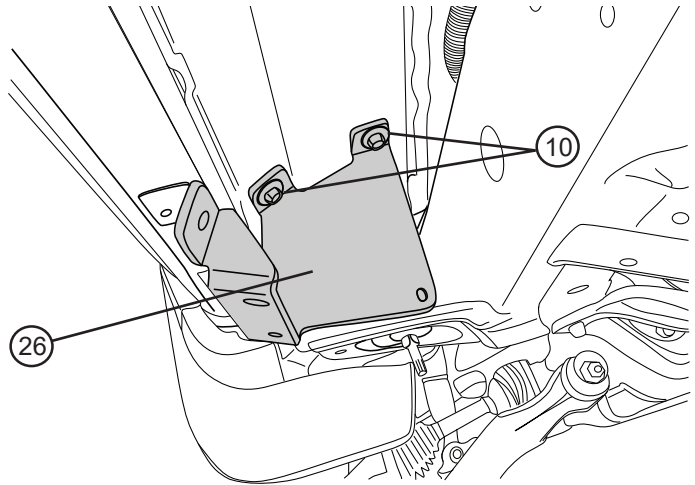
26
Front driver mounting
bracket # 4736-11



27
Front passenger mounting
bracket #4736-12

Install Front linkage mounting bracket using supplied Conical Washer bolts (#10). Use first set of mounting holes from front. Do not tighten to allow for adjustment. Take note of bracket orientation.

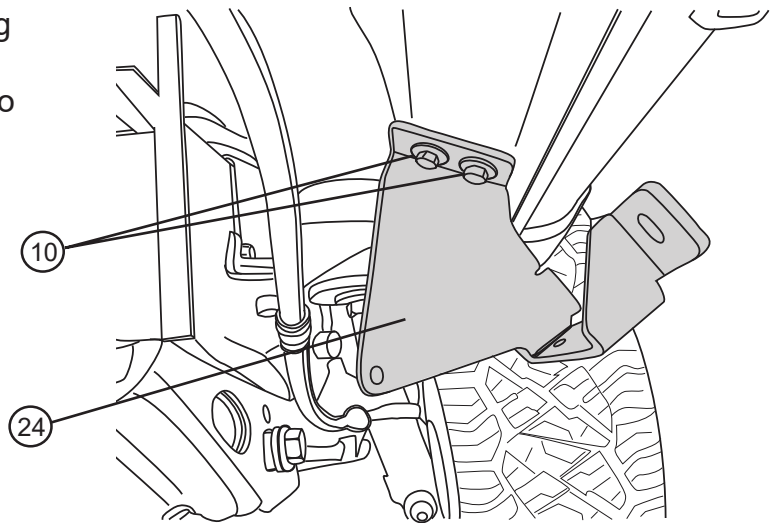
Driver side shown.



1

Install Rear linkage mounting bracket using supplied Conical Washer bolts (#10). Use last set of mounting holes. Do not tighten to allow for adjustment. Take note of bracket orientation.

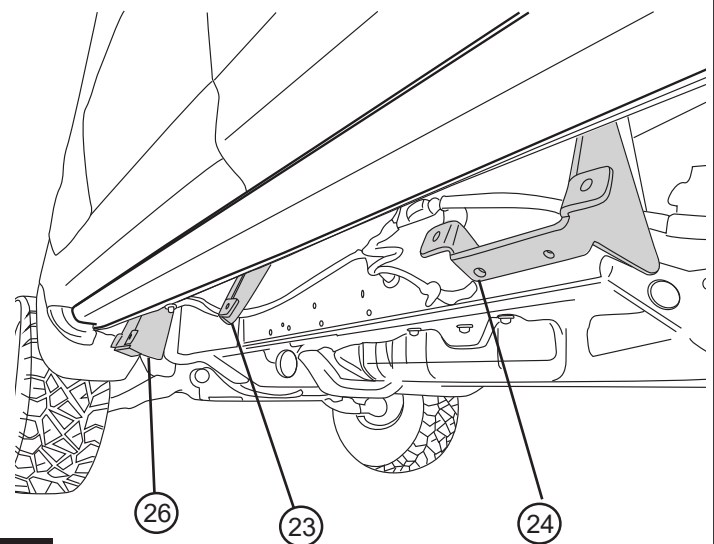
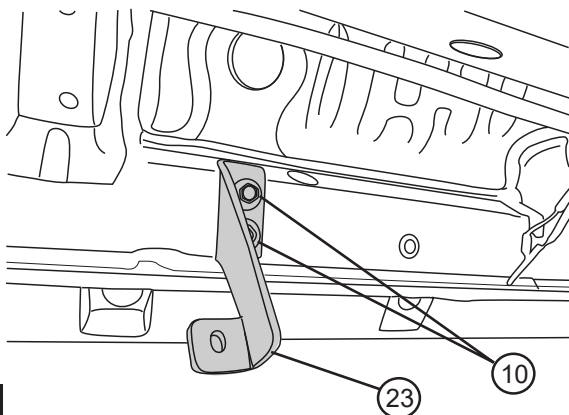
Driver side shown.



2

Install Rail support bracket using supplied conical washer assembly in middle mounting position on body. Use supplied conical washer bolts (#10). Do not tighten to allow for adjustment.

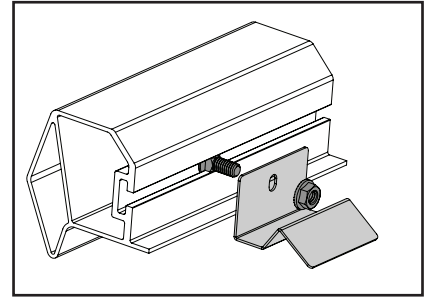
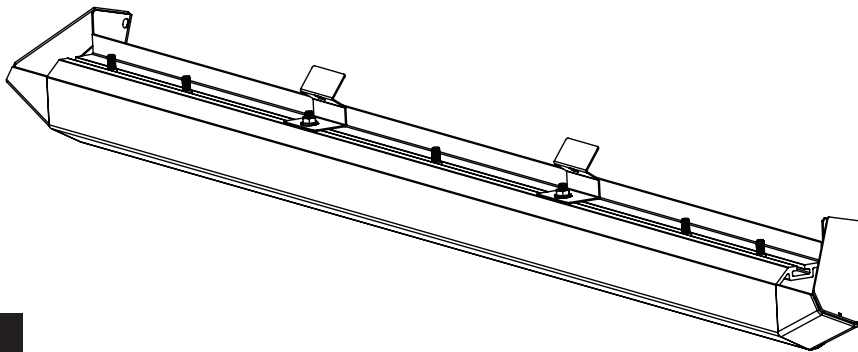
Driver Side Shown.



3

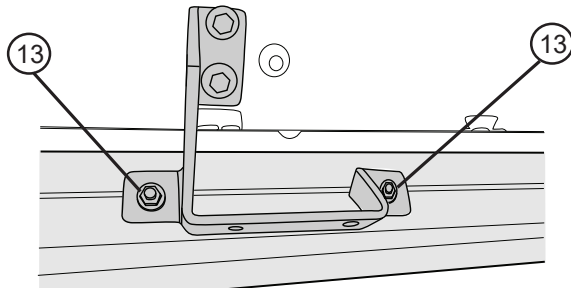
4

Install 7 Carriage Bolts (#13) into rail. Light brackets will need to go rearward of Front linkage bracket and forward of Rear linkage bracket. Leave loose to allow for adjustment.



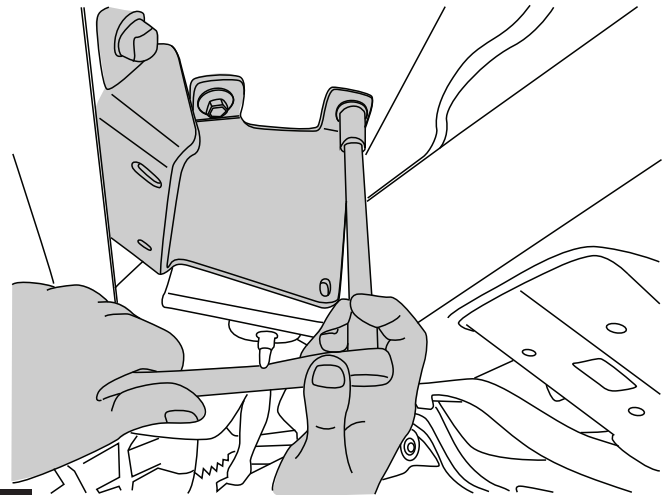
5

Align bolts (#13) with bracket and use supplied Flange nuts (#18) to attach Rail to brackets. Do not tighten to allow for adjustment.



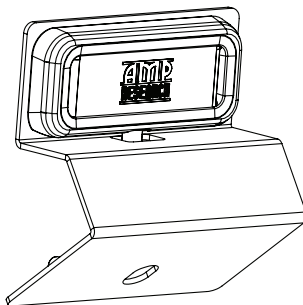
6

Torque bolts from step 1-3 to 16ft-lbs.



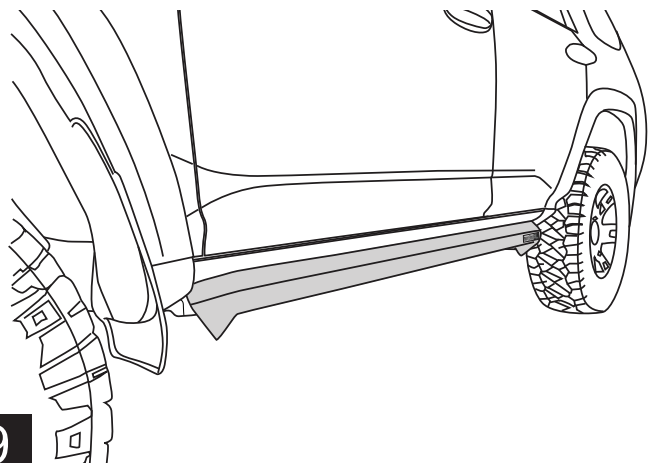
7

Affix LED lamp (#20) to Light bracket (#21) on rail.



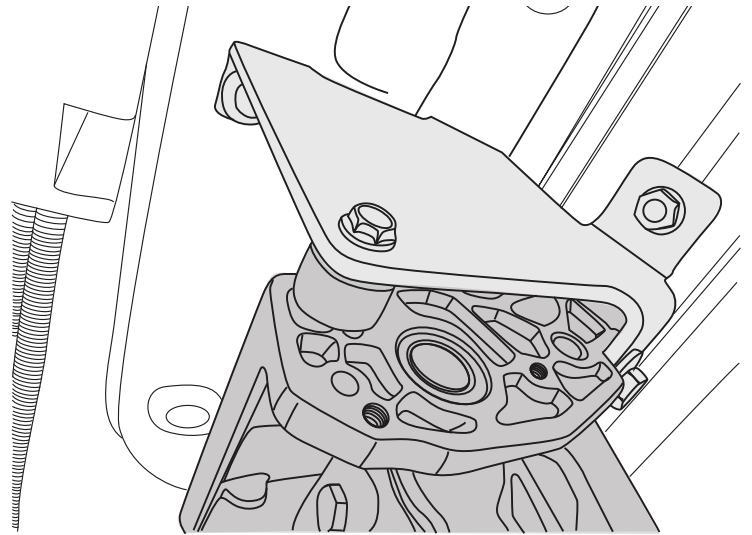
8

Slide rail into position as shown. Torque flange nuts that attach rail to brackets to 16ft-lbs.



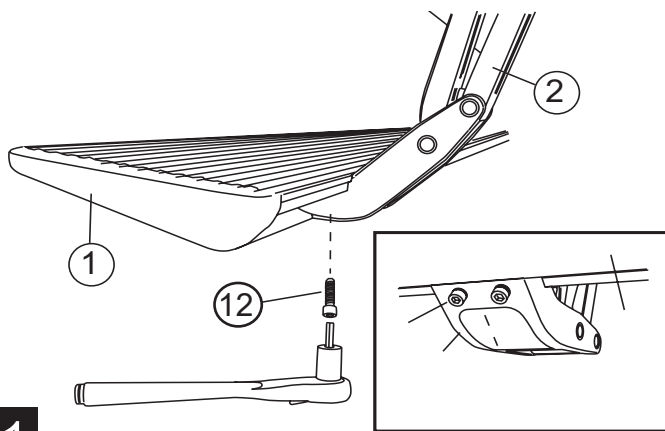
9

On Driver side mount Front drive linkage (3a) and rear idler linkage (4). Repeat on passenger side (using Front passenger drive linkage (3b)). Thread supplied Conical washer bolts (#10) into linkages. Install provided spacer (#19) and M6 flange bolt (#17) into upper mount as shown on both Drive and Idler linkages. Do not tighten.

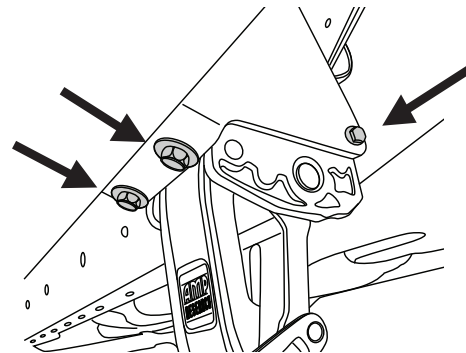


10

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



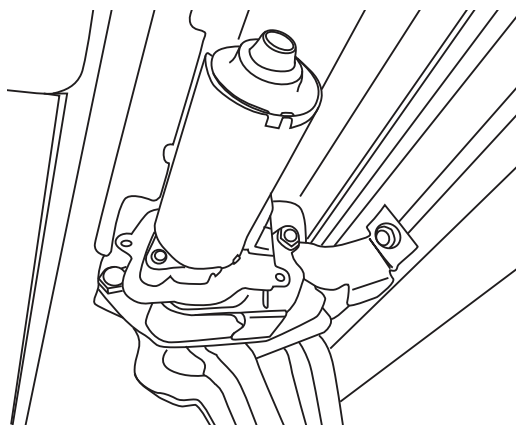
Using a 13 mm socket torque linkage bolts to 16ft-lbs. Next use a 10mm socket torque linkage spacer bolt (#19) to 8 ft-lbs. Once linkages are tight cycle board to verify steps deploy under own weight and clear rail endcaps.



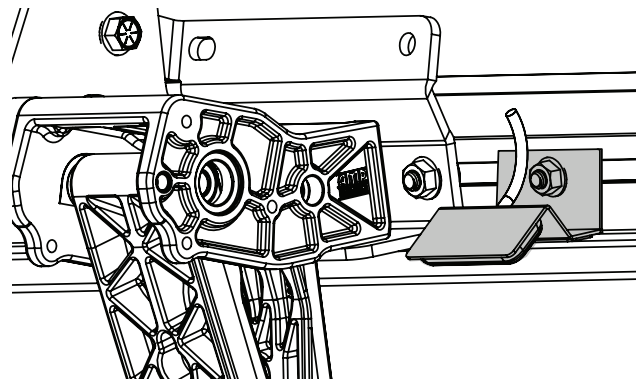
11

12

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



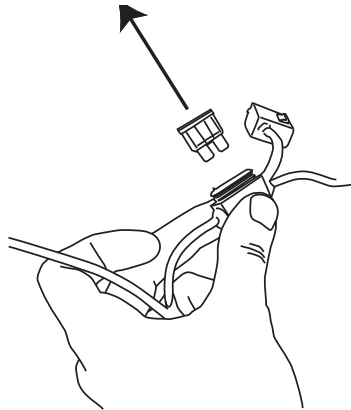
Slide bracket that was installed in step 8 into desired position on rail and tighten using 5/32" Allen key.



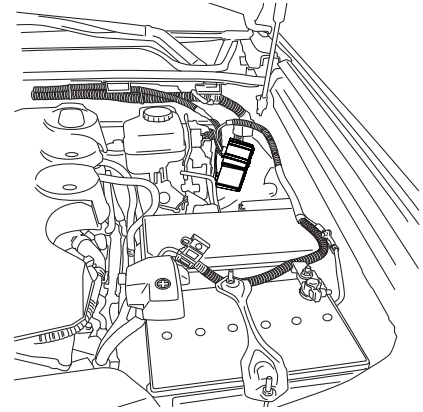
13

14

Remove fuse.



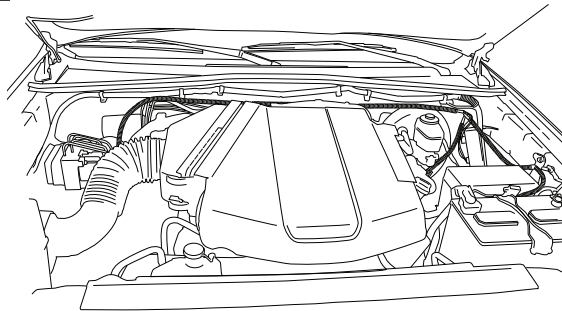
Secure controller to factory wire loom using supplied 11" wire ties. Connect Red fused wire to stud on battery positive terminal. Connect Black wire to ground on inner fender panel.



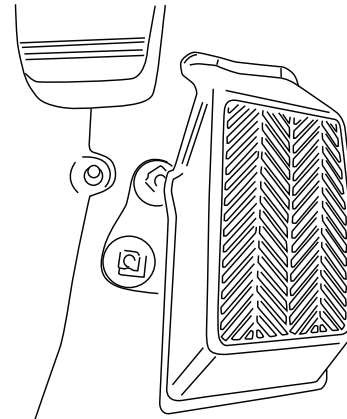
15

16

Run wire harness as shown outside the frame rails on both sides. Avoid hot, sharp or moving parts! Secure with 7" wire ties.



Pry left foot rest loose at driver side kick panel.

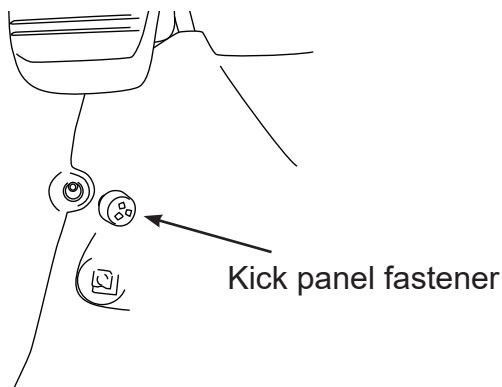


Note: Run loom with Green/Yellow and Pink/Black Trigger wires down drivers side of vehicle.

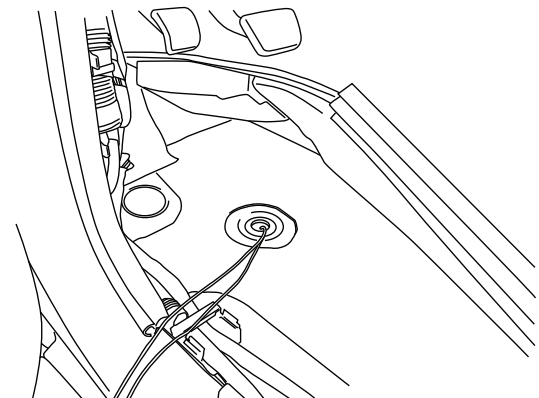
17

18

Pry up front door sill plates and remove kick panel fasteners and panels on driver and passenger side.

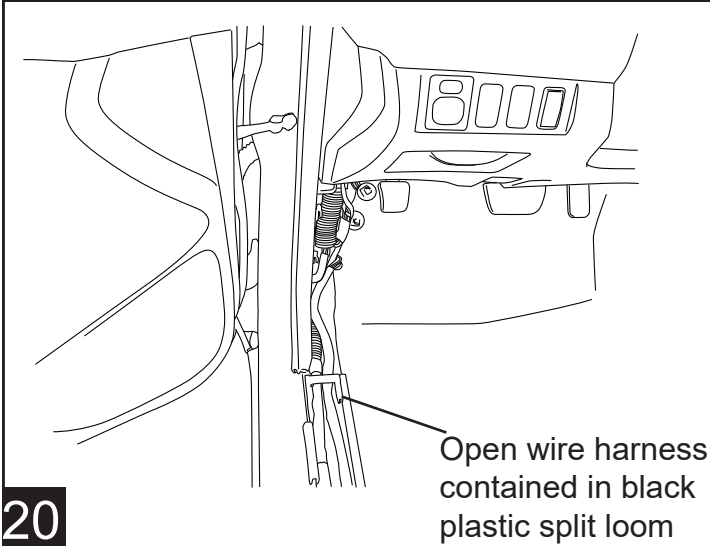


Pull up carpet and locate rubber grommet. Slice the grommet and pass trigger wires from under the vehicle and into the cab.

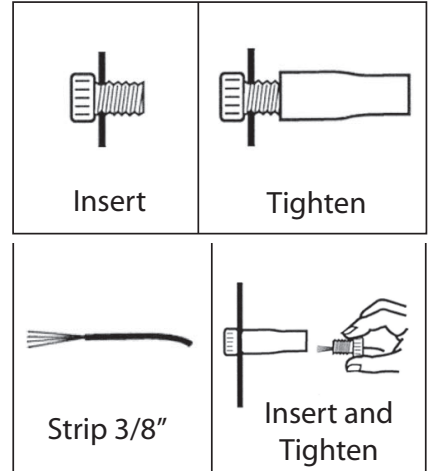


19

19



Posi-Tap™ instructions



20

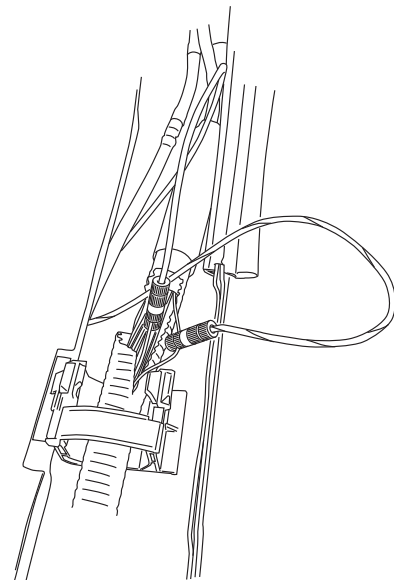
21

Drivers Side Front: Connect Red Trigger Wire to Red factory Door Ajar signal wire (12 volt negative with door open) using supplied Posi-Tap.
 Drivers Side Rear: Connect Purple Trigger Wire to Purple factory Door Ajar signal wire using supplied Posi-Tap.



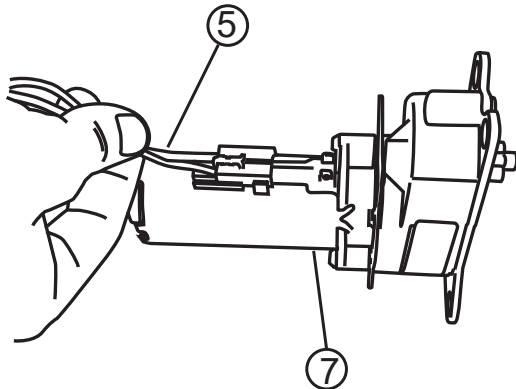
22

Passenger Side Front: Connect Black Trigger Wire to Black factory Door Ajar signal wire (12 volt negative with door open) using supplied Posi-Tap.
 Passenger Side Rear: Connect Red Trigger Wire to Red factory Door Ajar signal wire using supplied Posi-Tap.

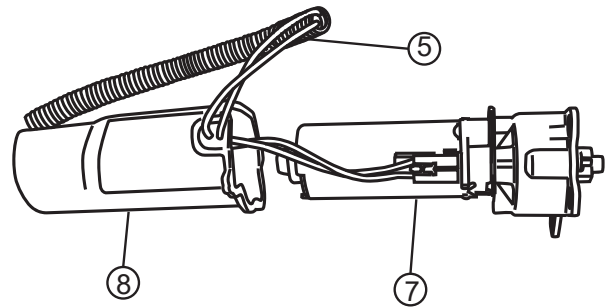


23

Insert plug from wire harness onto motor.



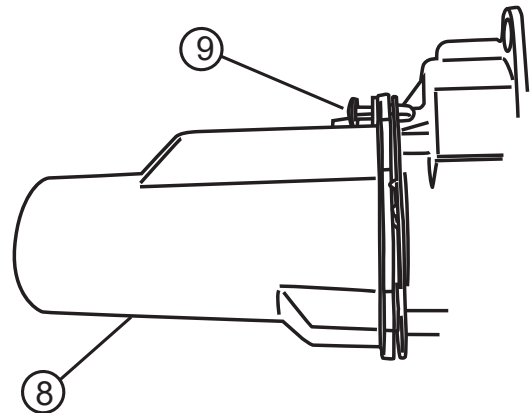
Slide rubber grommet on wire harness into slot of motor cover. Install motor cover onto motor.



24

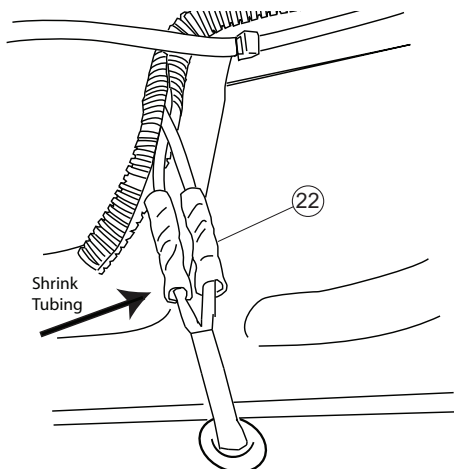
25

Partially separate the plastic rivet from the pin by bending the pin back and forth. Slide motor cover over motor and insert plastic push pin rivets in mounting holes of motor cover. Drive pin flush with rivet head. Use pliers to ease installation.

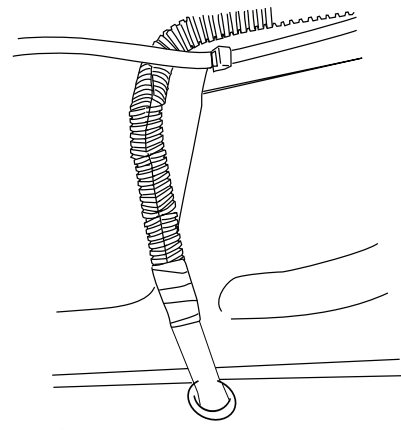


26

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



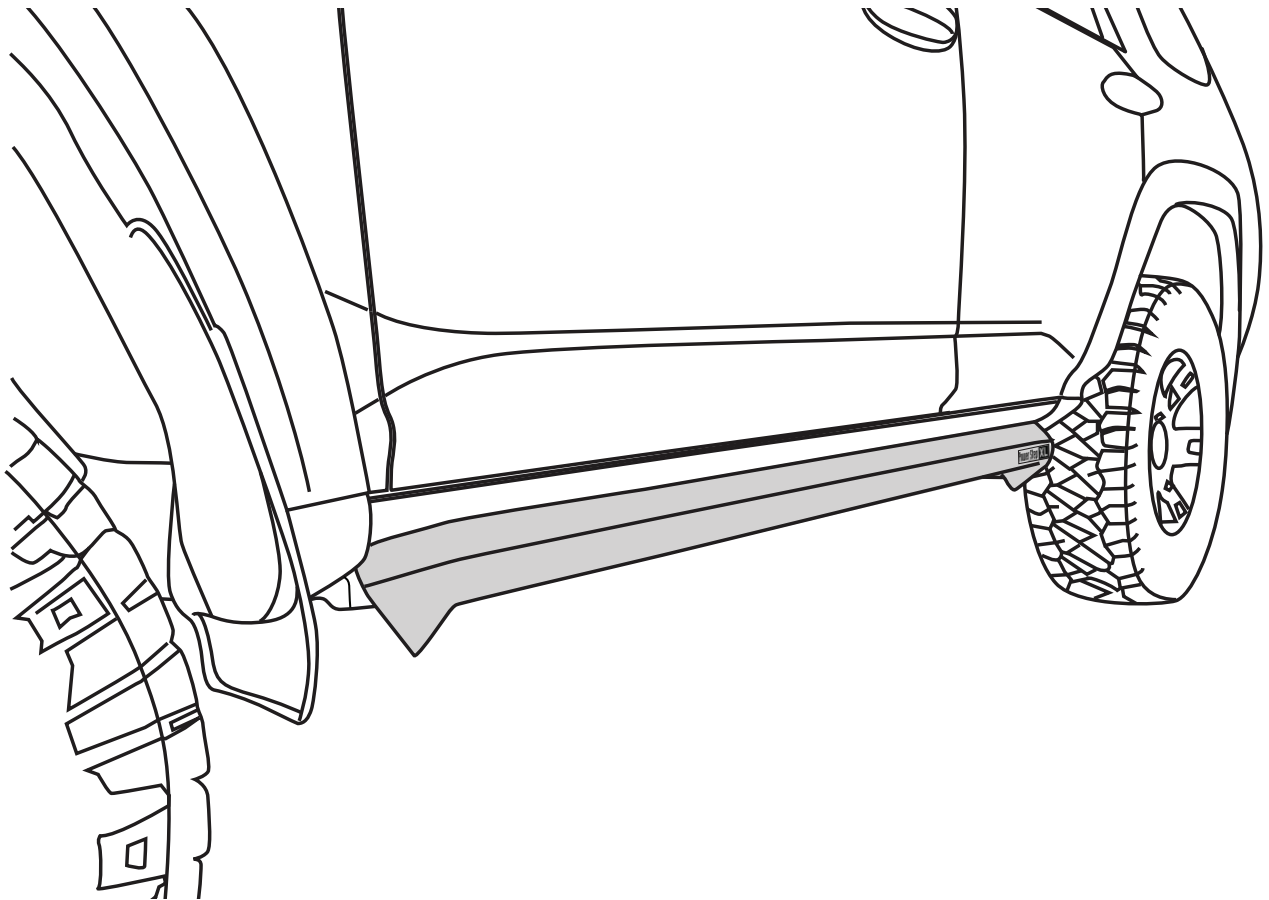
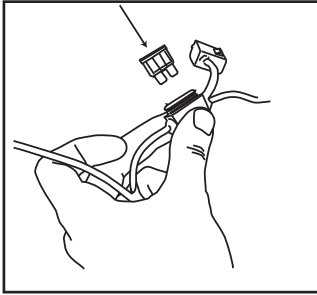
Close and wrap with conduit and electrical tape. Secure all loose wires with cable ties, with lamp wires pulled upward to avoid any wire snagging.



27

28

Reinstall fuse. 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.

AMP **RESEARCH** **PowerStep**™

AMERICAN DESIGNED, ENGINEERED AND MANUFACTURED.

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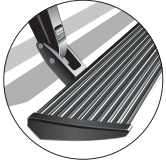
- Ensure we have your purchase receipt and product info in our system which is required for warranty
- Faster and easier access to customer service and tech support in the unlikely event you need warranty or product support
- Registration helps us keep you up to date on product information and offers

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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.

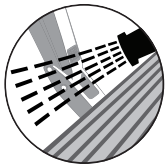
Automatic stop:

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 or 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.



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

