

# ROUGH COUNTRY

## SUSPENSION SYSTEMS®

### JEEP JT E-Boards 2020-23

**Thank you for choosing Rough Country for all your vehicle needs.**

Please read instructions before beginning installation. Check the kit hardware against the kit contents shown below. Be sure you have all needed parts and know where they go.

If questions exist, please call us @1-800-222-7023. We will be happy to answer any questions concerning this product. Check all fasteners for proper torque. Check to ensure for adequate clearance between all components. Periodically check all hardware for tightness.

#### **KIT CONTENTS:**

Board Assembly x2  
Front Motor Left x1  
Front Motor Right x1  
Rear Motor Left x1  
Rear Motor Right x1  
Motor Protective Plate L x1  
Motor Protective Plate R x1  
Controller Assembly x1  
LED Lights x4  
Power Board Switch x1  
Wiring Harness

Wired Magnetic Sensors  
Module x2  
Magnet x4

#### **TOOLS NEEDED:**

5mm Allen  
12mm Wrench  
16mm Wrench  
Wire Cutter/Stripper  
Weatherproof Tape  
Drill Motor  
7/16" Drill

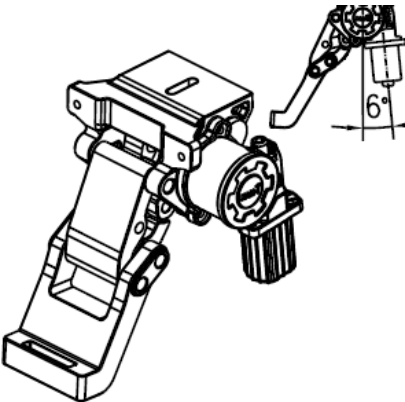
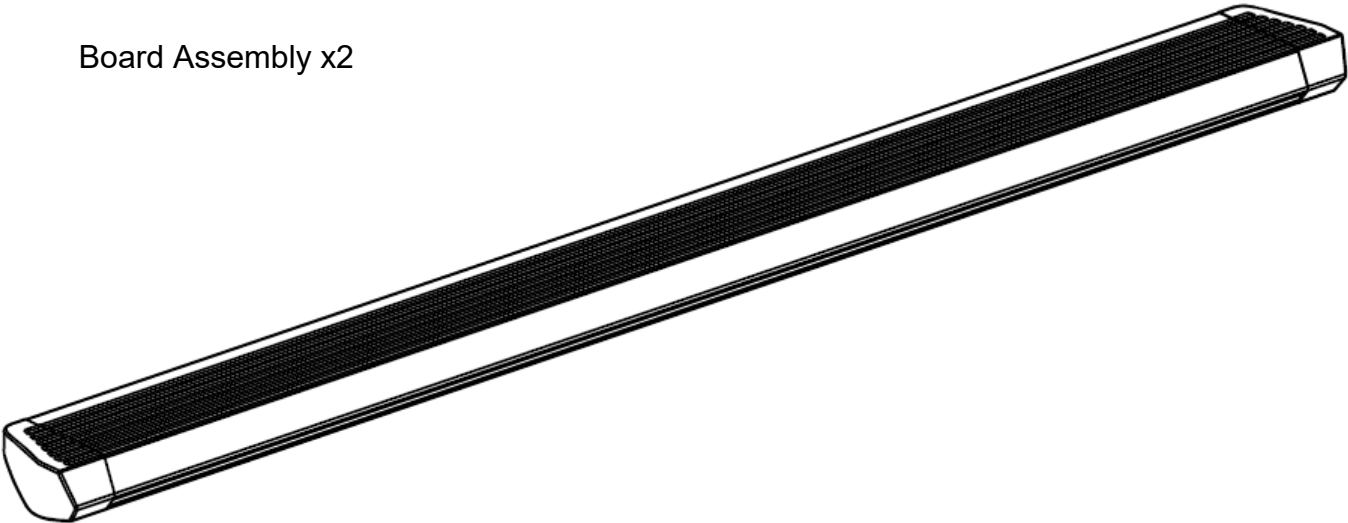
#### **HARDWARE INCLUDED:**

10mm Spring Washer x4  
10mm Flat Washer x4  
8mm Spring Washer x14  
8mm Flat Washer x14  
M6x25mm Socket Cap Screw x8  
M8x25mm Hex Head Bolt x6  
M8x35mm Hex Head Bolt x8  
M10x35 Hex Head bolt x2  
M8 Hex Nut x2  
M10 Hex Nut x2  
M10 Tension Block x2  
Front Mounting Base Plate x2  
Rear Mounting Base Plate x2  
M8 Lock Mounting Block x2  
M10 T-Screw x2  
Wire Tie x25  
Fuse x2

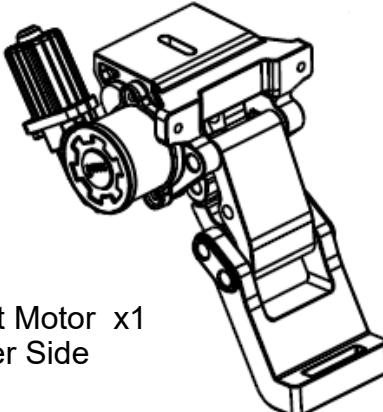


Product Packing List

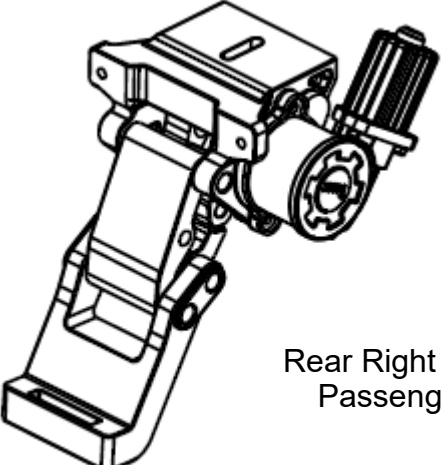
Board Assembly x2



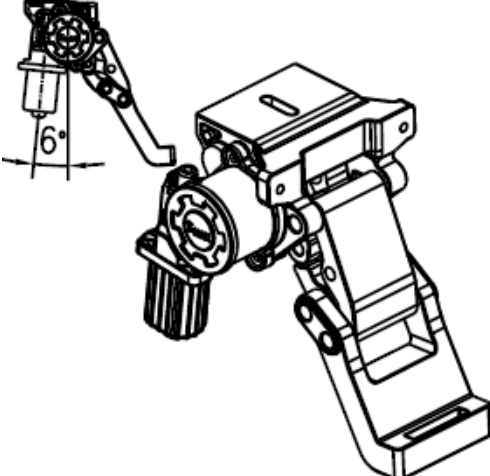
Front Left Motor x1  
Driver Side



Rear Left Motor x1  
Driver Side



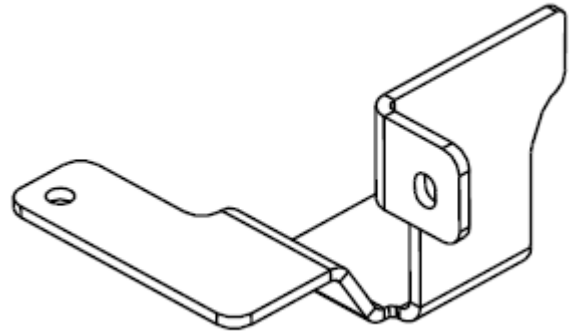
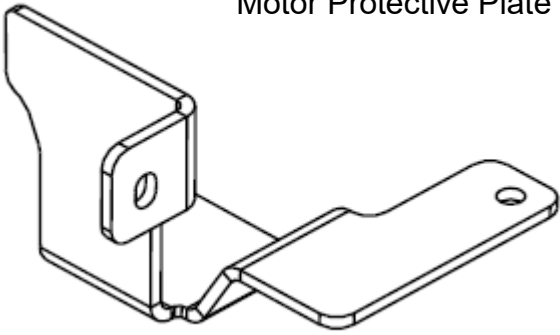
Rear Right Motor x1  
Passenger Side



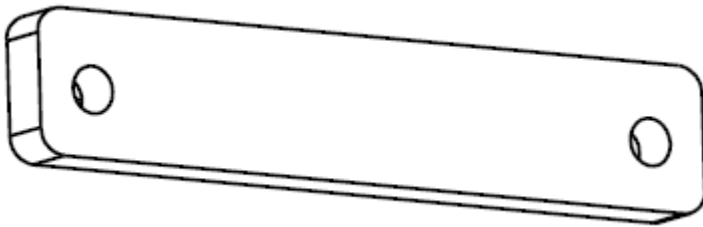
Front Right Motor x1  
Passenger Side



Motor Protective Plate Left x1



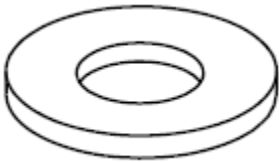
Motor Protective Plate Right x1



Rear Mounting Plate x2



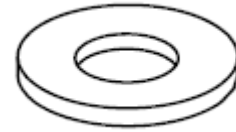
10mm Spring Washer x4



10mm Flat Washer x4



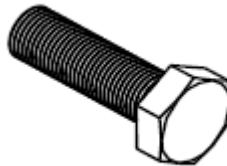
8mm Spring Washer x14



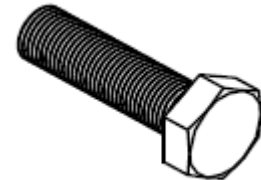
8mm Flat Washer x14



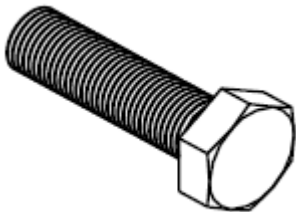
M6x25mm Socket Cap Screw x8



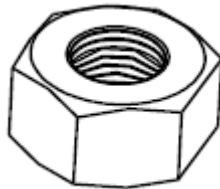
M8x25mm Hex Head Bolt x6



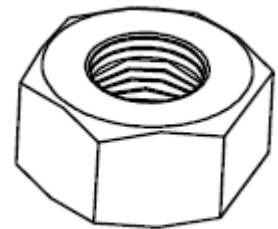
M8x35mm Hex Head Bolt x8



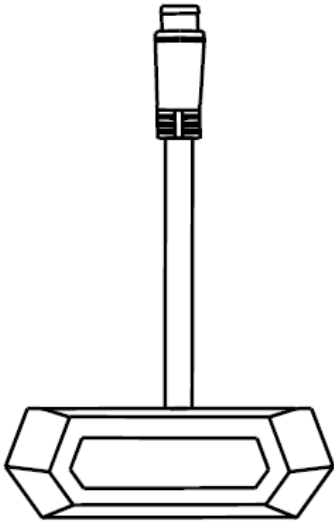
M10x35mm Hex Head Bolt x2



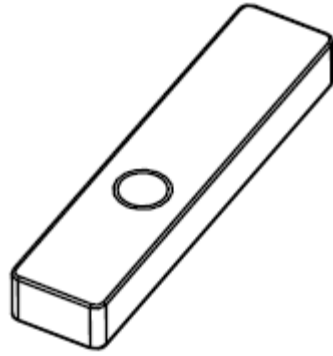
M8 Hex Nut x2



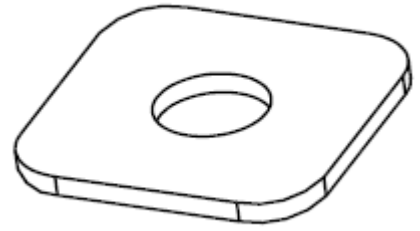
M10 Hex Nut x2



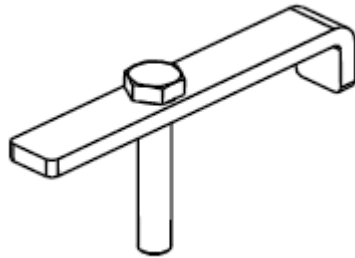
LED Lights x4



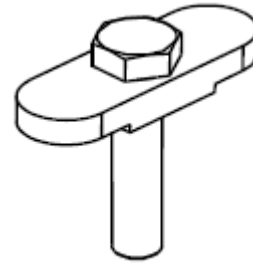
M10 Tension Block x2



Front Mounting Plate x2



M8 Lock Mounting Block x2



M10 T-screw x2



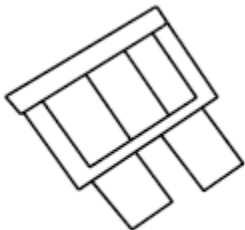
Body Mounted Module x2  
Magnet x4



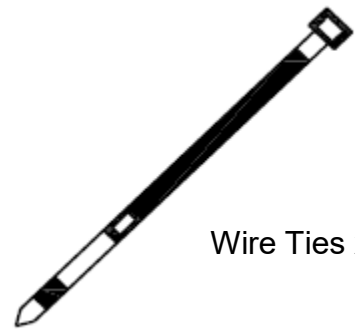
Magnet



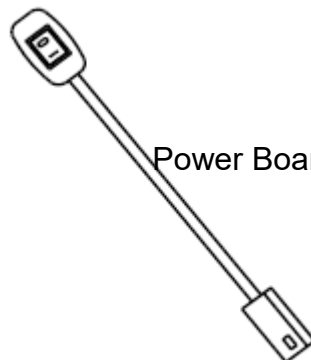
Magnet



Fuse x2

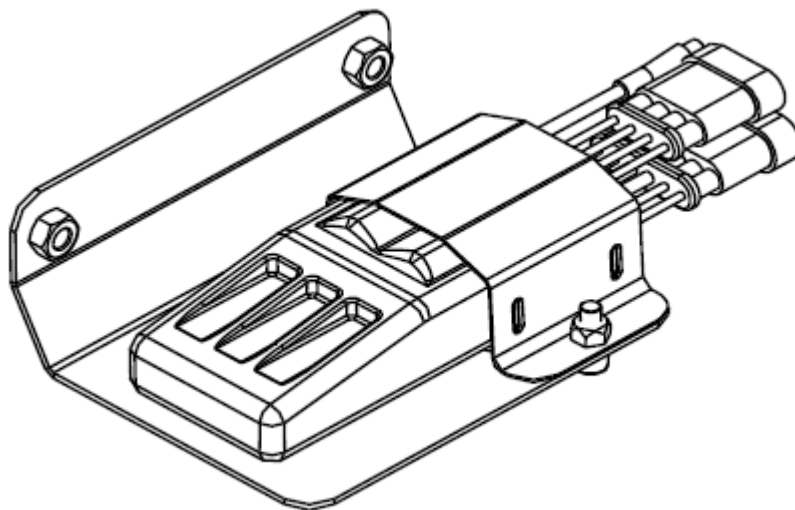


Wire Ties x25

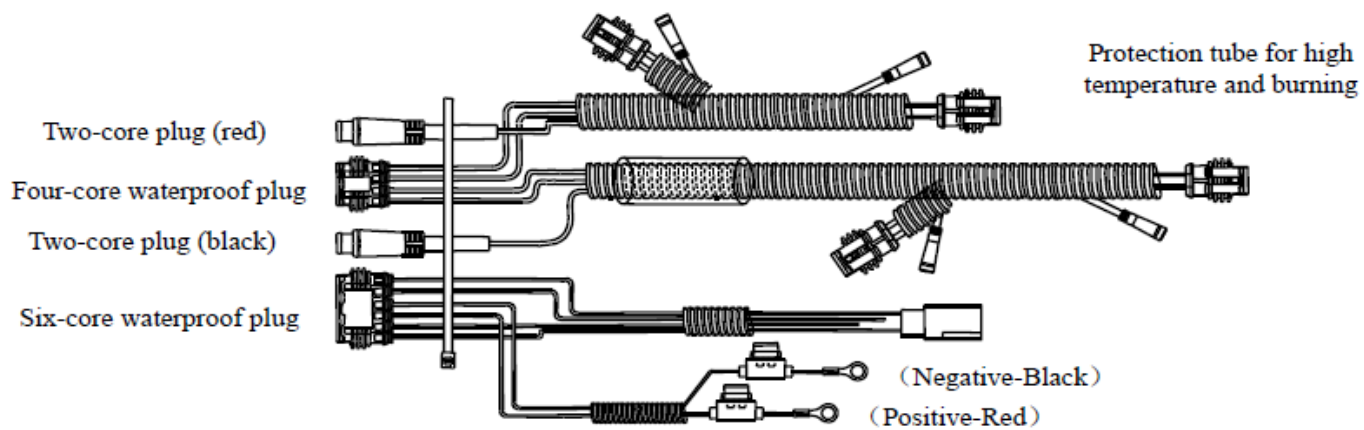


Power Board Switch x1

Controller Assembly x1



Wiring Harness x1



## Installation of the Driver Side Motors and Controller Assembly

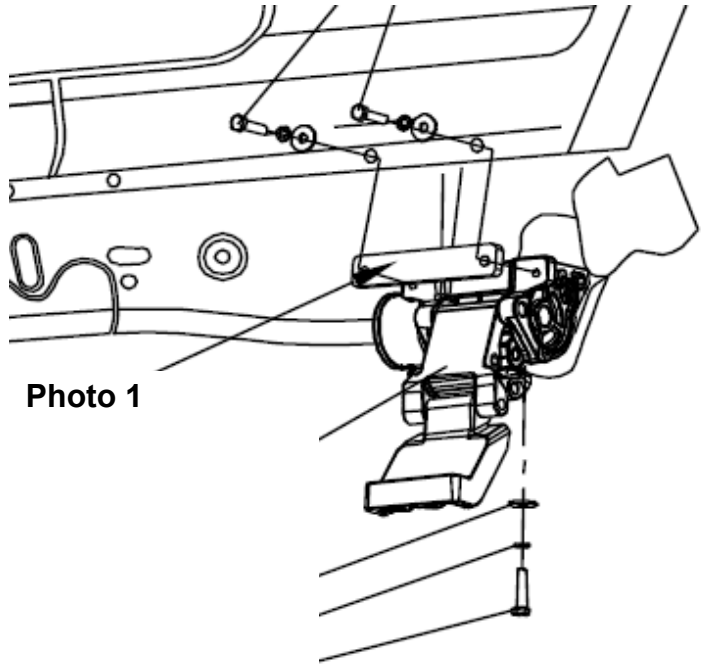


Photo 1

1. Install a supplied rear mounting block between the driver side rear motor and pinch weld. Use two (2) of the supplied M8x35mm hex head bolts, spring washers, and flat washers through the pinch weld of the vehicle with a 13mm wrench. Do not fully tighten at this time. Use a supplied M8x35mm hex head bolt, spring washer, and large diameter 8mm washer to secure the motor through the threaded hole in the vehicle body. Loosely tighten with a 13mm wrench. **See Photo 1.**
2. Insert the M8 lock mounting block on the driver side as shown below for the front step motor. **See Photo 2.**
3. Measure approximately 5" from the second hole in the pinch weld and make a hole in the pinch weld with a 7/16" drill. **See Photo 3.**

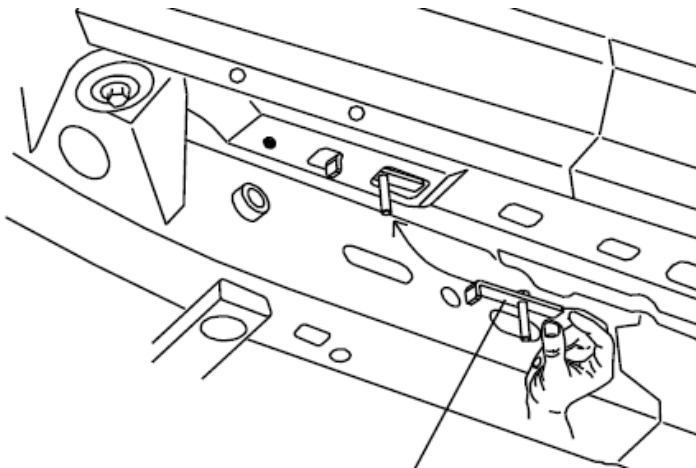


Photo 2

**Note:** View is of the driver side frame

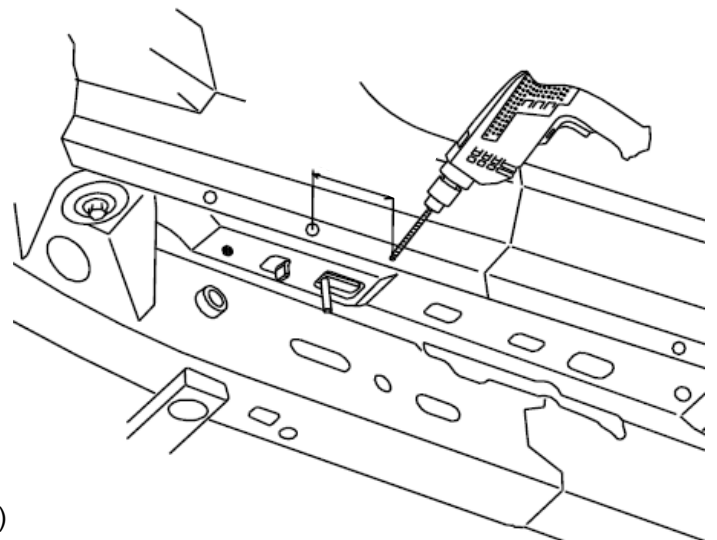


Photo 3

- Position the front driver side motor by loosely installing a supplied M8x25mm hex head bolt, spring washer, and flat washer into the left hole of the front driver motor by hand. Align the right hole of the motor with the previously drilled hole. **NOTE:** Remove metal as needed if the holes do not align. When the right hole is aligned, install an M8x25mm hex head bolt, spring washer, flat washer and front mounting plate (between motor and pinch weld). Thread an M8 hex nut, spring washer and flat washer on the previously installed lock mounting block. Loosely tighten with a 13mm wrench. **See Photo 4.**

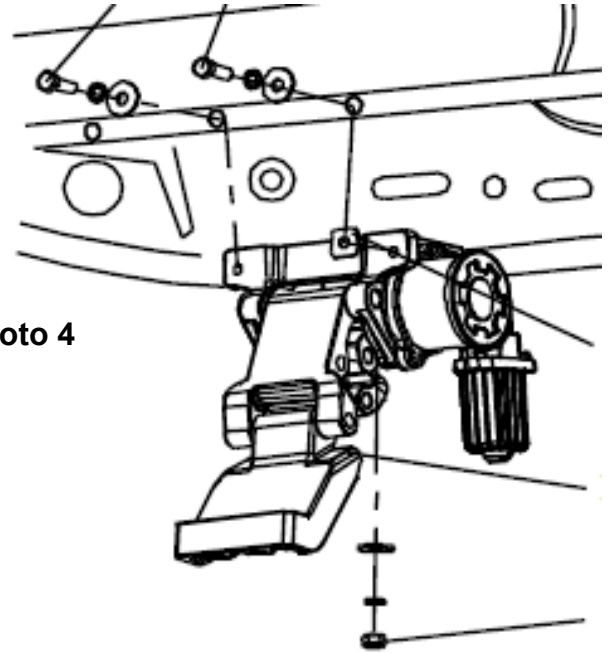


Photo 4

- Insert the supplied M10 tension block in the slot underneath the front driver motor. Insert the M10 T-screw into the corresponding slot in the frame of the vehicle. Position the front left motor protective plate with the previously installed hardware. Tighten with a 16mm wrench. **See Photo 5.**
- Repeat Steps 1-5 for passenger side of vehicle.

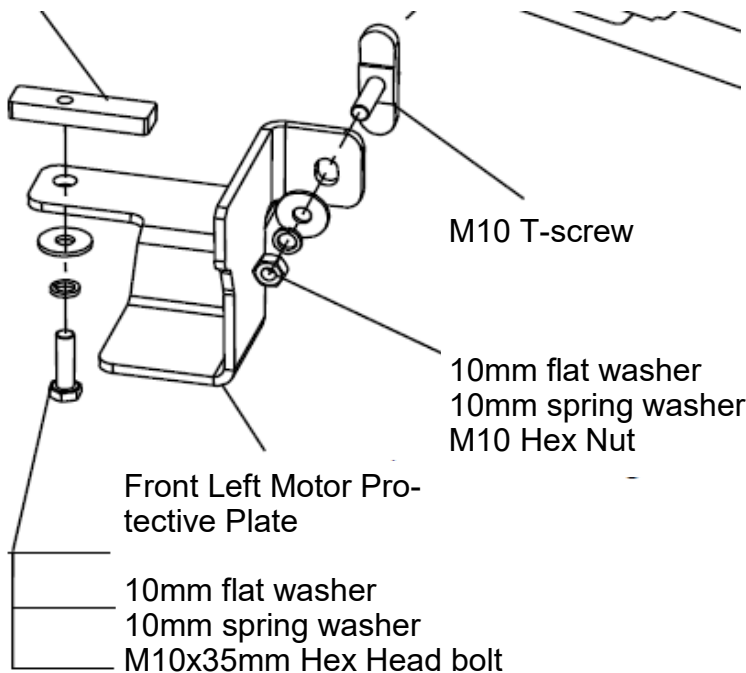
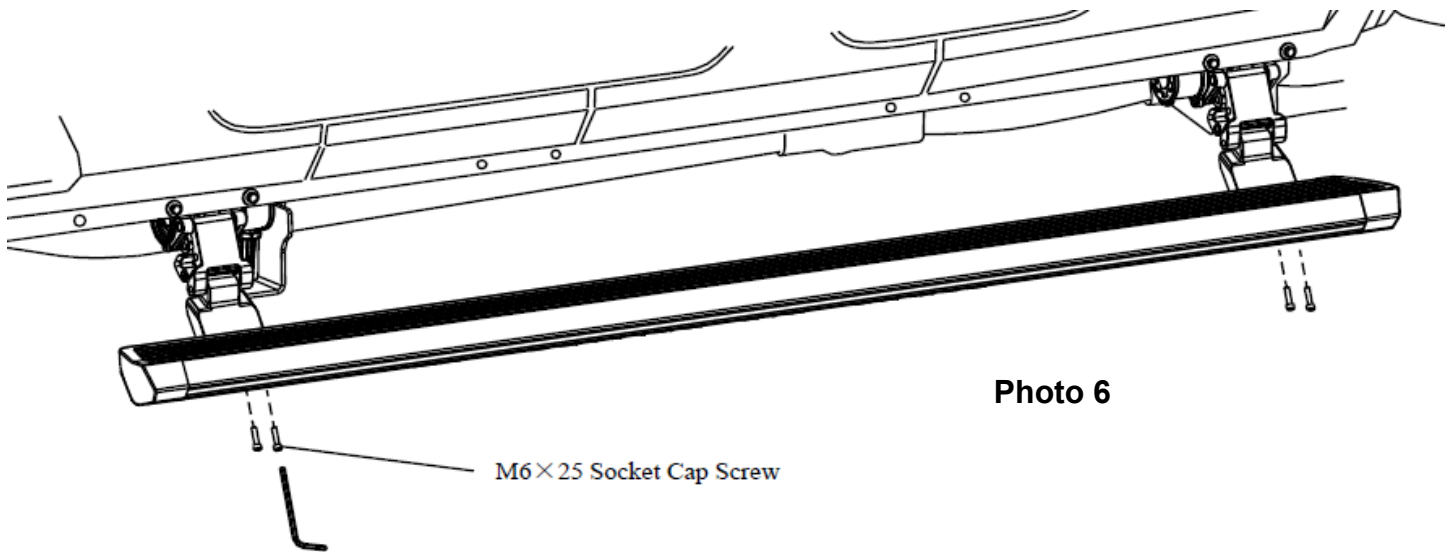


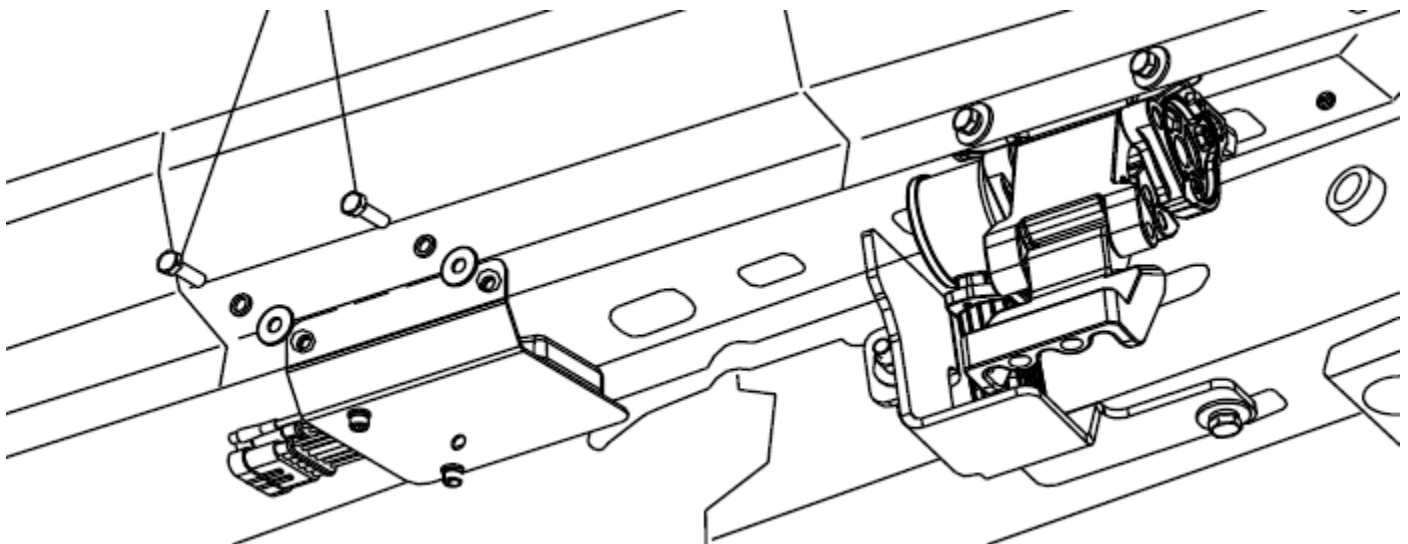
Photo 5



7. Use four (4) of the supplied M6x25mm socket cap screws to attach the board assembly to the driver side motors. Tighten with a 5mm Allen wrench. **See Photo 6.**
8. Repeat Step 7 for passenger side.



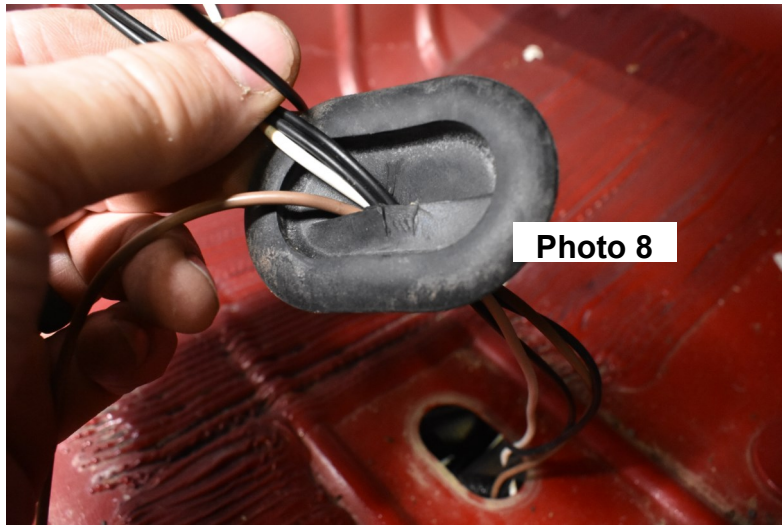
9. Install the controller assembly on the passenger side of the vehicle with two (2) of the supplied M8x25mm hex head bolts, spring washers, and flat washers. Mounting location is the middle set of holes on the pinch weld. Tighten with a 13mm wrench. **See Photo 7.**



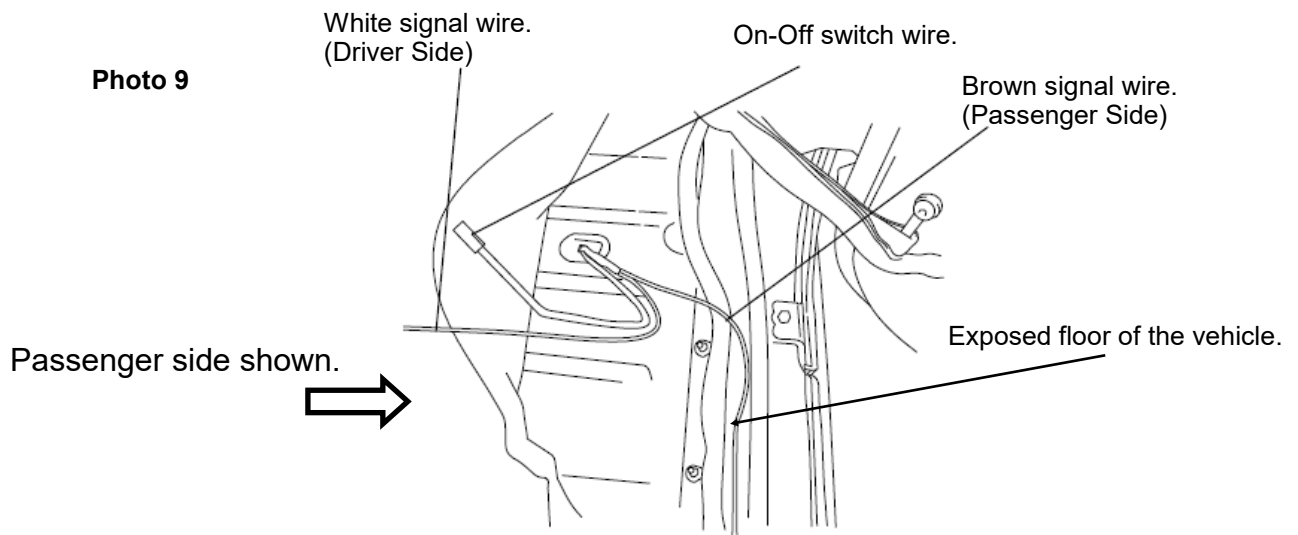
**Photo 7**



10. Remove the kick panel and the scuff plate on the passenger side of the vehicle.
11. Lift the carpet to expose the rubber grommet on the passenger side. Feed the brown signal wire, white signal wire, and On/Off switch wires through the rubber grommet. **See Photo 8.**



12. Install the supplied wiring harness' Brown, White and On-Off switch wire through the grommet in the drain plug under the floor of the vehicle to the inside of the cab. **See Photo 9. NOTE:** Apply waterproof tape to the wiring harness and the drain plug once the wiring harness has been fully installed.



13. Mount the On-Off switch. Clean the area of installation and remove the covering on the double sided tape and apply it to the dash. Switch shown on the upper dash. **See Photo 10.**

14. Connect the On-Off switch to the wiring harness installed in the floor of the cab. Leave switch in the On position, this will keep the motors in the extended position as installed to the vehicle when power is connected. Secure the On-Off switch wiring harness behind the dash to the drain plug under the carpet.

**NOTE:** Normal function of the On-Off switch once power has been connected to the positive and negative fused links on the battery. (On) the steps will extend for use and entering the vehicle. Steps will retract when both doors per side are closed connecting the magnet to the module. (Off) the steps will retract to the body of the vehicle even when the doors are open and the magnet is away from the module.

**NOTE:** Secure the On-Off Switch wiring harness from the dash to the drain plug under carpet.

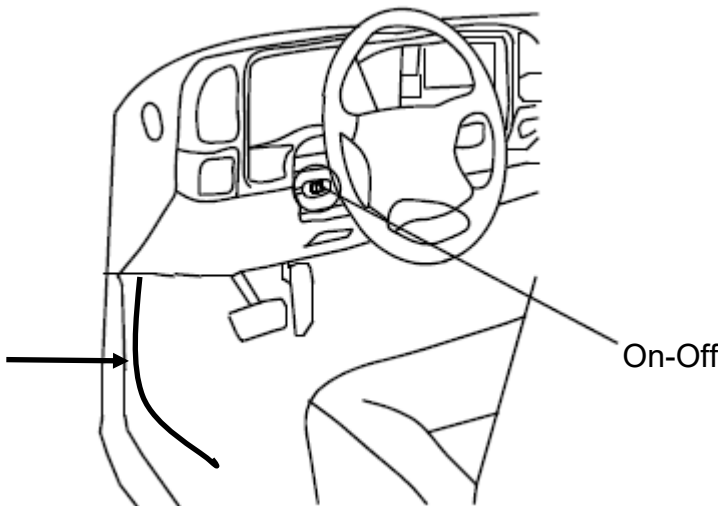
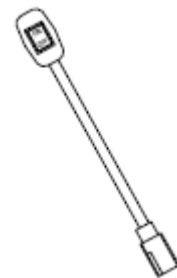
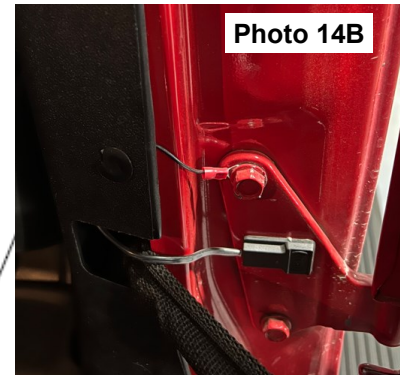
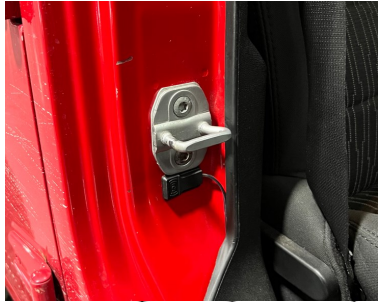


Photo 13



15. Remove the interior trim panel on the passenger side of the vehicle (*If interior trim is equipped with air bag, use caution*). Connect the brown signal wire from the wiring harness to terminal (A) on the module. Connect module wire (B) to the vehicle ground. Remove the double sided tape backing and place the front module (C) in a secure location to the inside of the door jamb. **See Photo 14A.** Remove the cover off of the double sided tape and place the rear module (C) in a secure location to the inside of the door jamb. **See Photo 14B.**
16. Follow step 14 and install the driver side module using the brown wire from the supplied wiring harness. *Photos 14A and 14B are shown from the passenger side of the vehicle.*
- NOTE:** The magnets will be installed in a later step after the power has been connected.

Photo 14A



Front Passenger Door Module (C)

Rear Passenger Door Module (C)

Interior trim on the Pass. Side shown removed.

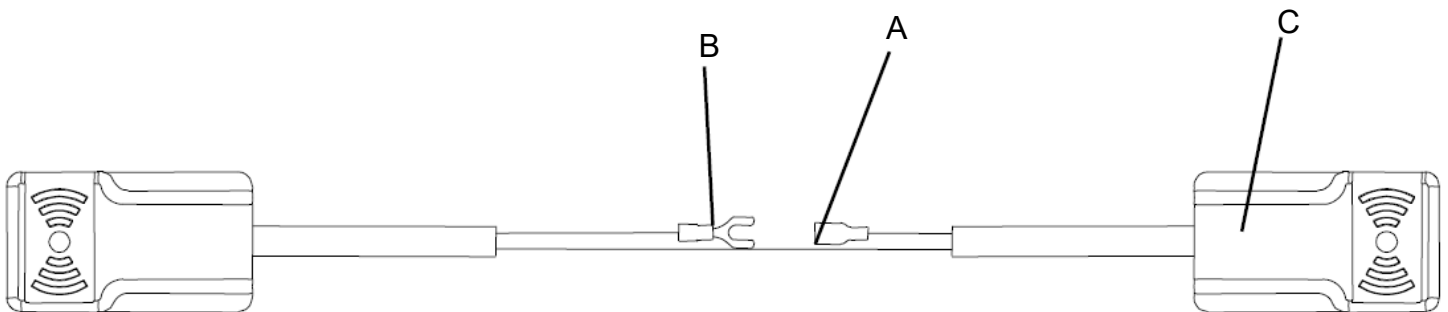
(B) Module Ground Terminal.

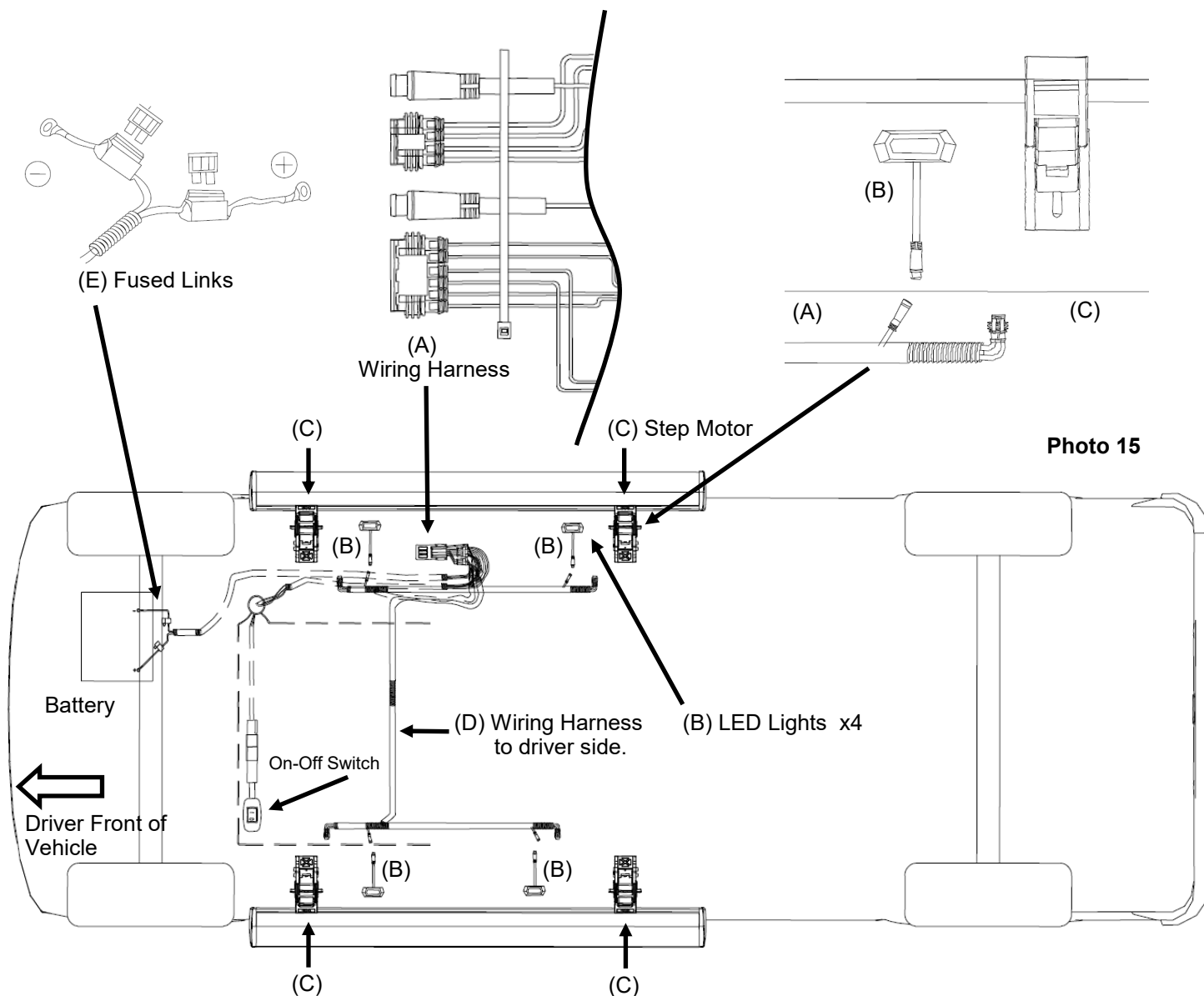
Seat Belt

Ground bolt (Negative)

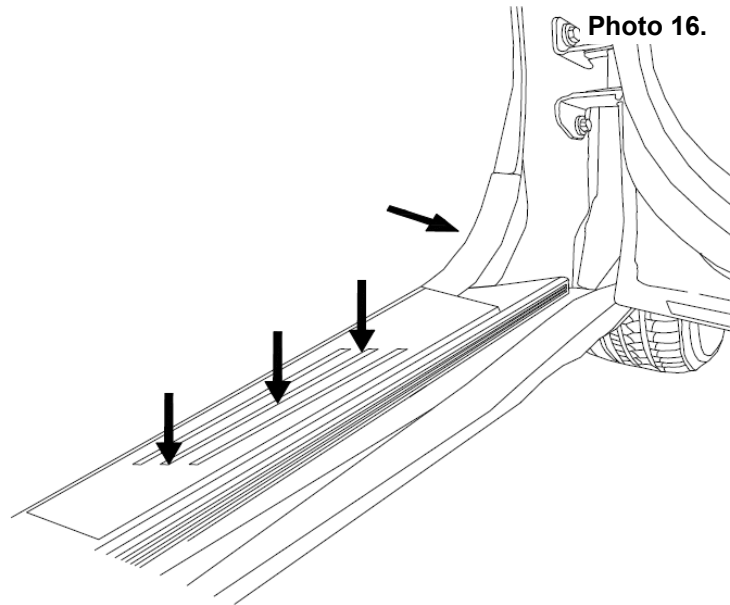
(A) Module Female Connector

Brown signal wire from controller has male connector





17. (A) Connect the 4 plugs of the wiring harness to the controller assembly mounted to the body of the vehicle on the passenger side. **See Photo 15.**
18. (B) Mount the (4) LED Lights. Clean the surface of the pinch weld under the center of each door on the driver and passenger side of the vehicle. Remove the double sided tape backing and apply to the pinch weld.
19. (A) Route the wiring harness along the frame of the passenger side.
20. (C) Connect the step motor labeled to the corresponding wiring harness (Driver Side) Front Left Motor and Rear Left Motor.
21. (B) Connect the LED light plugs on the driver side.
22. (D) Route the wiring harness across the frame to the driver side of the vehicle.
23. (C) Connect the step motor labeled to the corresponding wiring harness (Passengers Side) Front Right Motor and Rear Right Motor.
24. (B) Connect the LED light plugs on the passenger side.
25. (E) Route the fused link harness along the passenger side frame up to the battery box, secure the wiring harness with the supplied wire ties away from heat or moving parts. Connect the fused links to the Positive and Negative side of the battery.



26. Adjust the carpet into place and re-install the B-pillar trim, kick panel and the scuff plate on the driver and passenger side of the vehicle. **See Photo 16.**
27. Using the (On-Off) switch cycle the steps (2-3 Times) leave them in the down position. The switch will be in the (On) position.
28. At this time, tighten the rear M8 motor bracket bolt's using a 13mm socket to 45ft/lbs and the front pinch weld mount M6 bolts using a 8mm socket to 23ft/lbs.
29. Tighten the step to the motor bracket using a 5mm Allen to 14ft/lbs.
30. Place the magnet on the vehicle door aligned with the module. (Shown on the passenger side) for aluminum door vehicles this can be done with painter's tape to test and ensure it will work correctly. **See Photos 17 and 18. NOTE:** 2D models only have two magnets. On 4D models, the thicker magnet goes on the rear door.
31. Ensure the On-Off switch is in the ON position. Now test the front and rear doors on the right and left side of the vehicle. If each one works correctly, the magnets are in line with the module. Mark the magnets position on each of the 4 doors, remove the covering from the double sided tape and stick the magnet to the door in the marked position.

**NOTE:** The On-Off switch will remain in the On position for normal use. We recommend the switch be in the Off position in icy or off roading conditions to prevent binding or damage to the step board, motor or motor bracket.



Photo 17

Magnet Placed on the passenger front door.

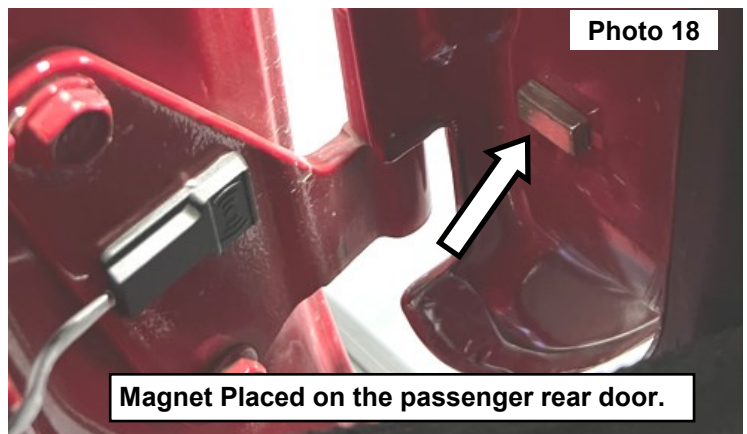


Photo 18

Magnet Placed on the passenger rear door.

## Troubleshooting Guide

Steps not working.

- On/Off Switch in On position
- Check for proper Power and Ground connections to battery
- Check Fuses in the Positive and Negative wires to the battery
- Check Ground connection on Pass and Driver side at B-Pillar
- Check all plugs and connections to ensure they are seated properly and making a good connection

Steps work with On/Off Switch but not with doors opening and closing.

- Check Module to Magnet alignment on doors
- Use a magnet to position over module

Steps drop when door is closed and retract when door is opened.

- Motors will operate in reverse polarity. Check the fused links on the battery for Positive and Negative connection

### Torque Specs:

Size	Grade 5	Grade 8	Size	Class 8.8	Class 10.9
5/16"	15 ft/lbs	20ft/lbs	6MM	5ft/lbs	9ft/lbs
3/8"	30 ft/lbs	35ft/lbs	8MM	18ft/lbs	23ft/lbs
7/16"	45 ft/lbs	60ft/lbs	10MM	32ft/lbs	45ft/lbs
1/2"	65 ft/lbs	90ft/lbs	12MM	55ft/lbs	75ft/lbs
9/16"	95 ft/lbs	130ft/lbs	14MM	85ft/lbs	120ft/lbs
5/8"	135ft/lbs	175ft/lbs	16MM	130ft/lbs	165ft/lbs
3/4"	185ft/lbs	280ft/lbs	18MM	170ft/lbs	240ft/lbs

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