

# ROUGH COUNTRY

ESR71520

## 15-25 Ford 150 / 17-25 250 Crew Cab Power Step Kit

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 question 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.



**RC**  
ROUGH COUNTRY

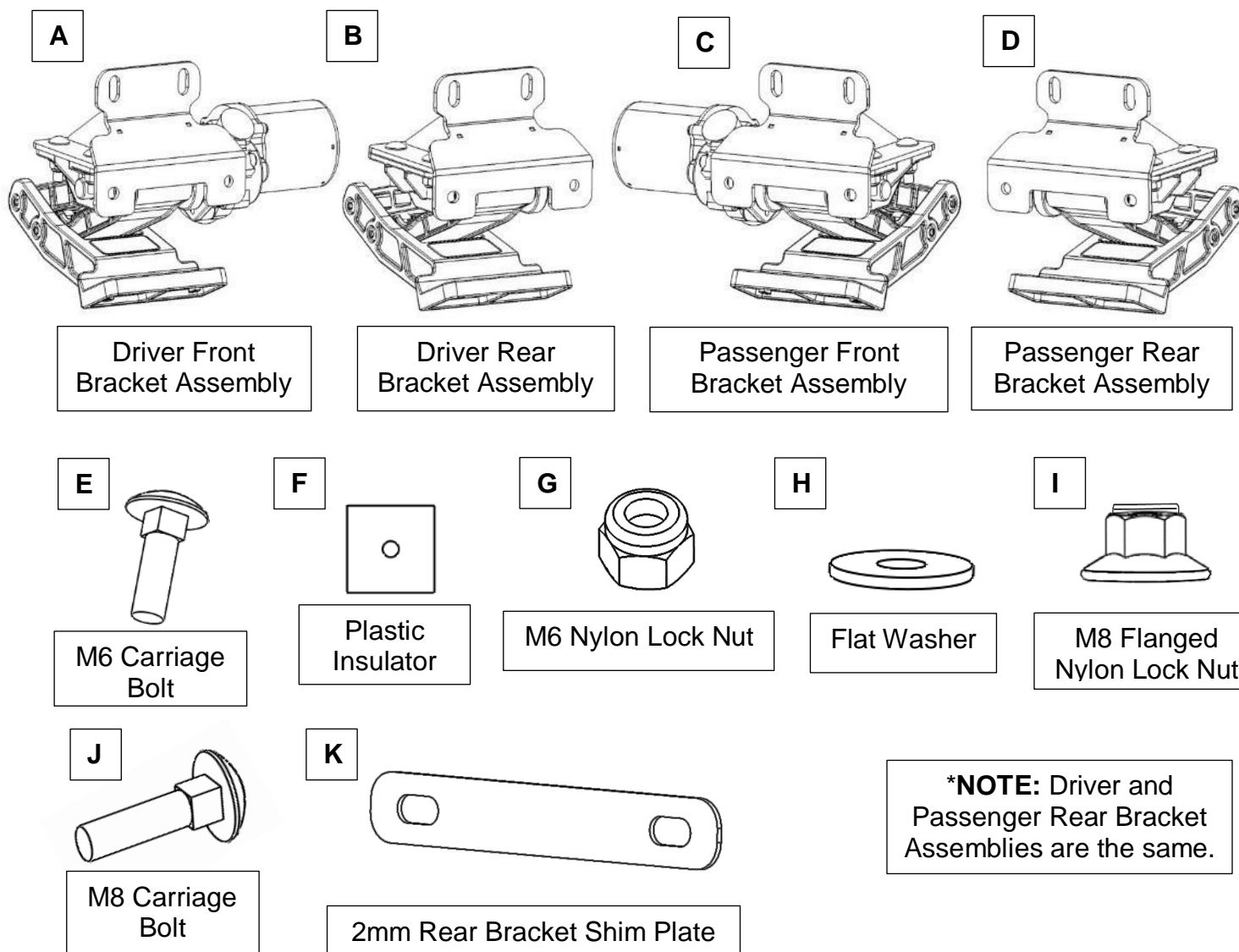
# INSTALLATION INSTRUCTIONS

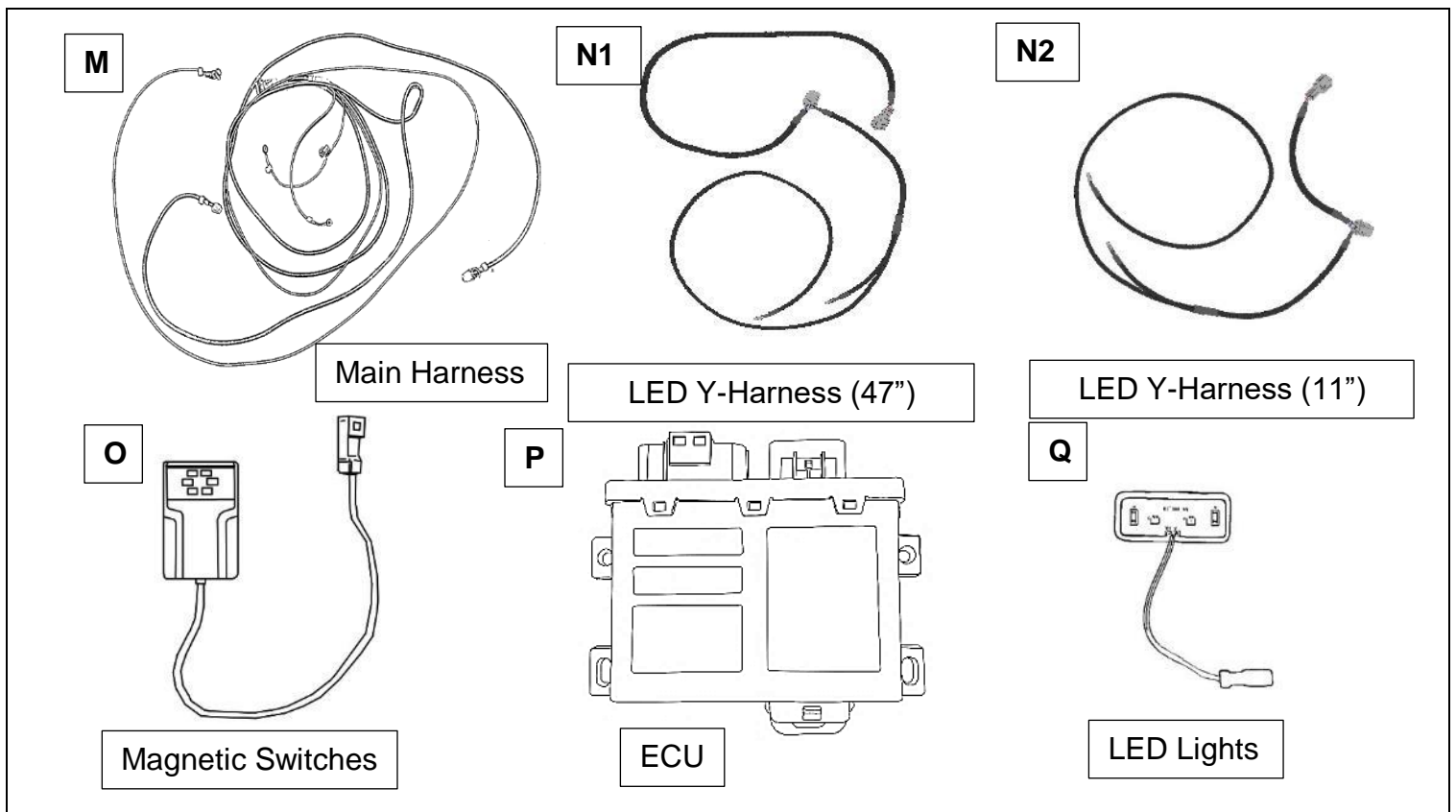
## Mechanical PARTS LIST:

Qty	Item Description	Qty	Item Description
2	Running Boards	28	8mm Flanged Nylon Lock Nuts
1	Driver/Left Front Linkage Assembly	12	8mm x 24mm x 2mm Flat Washers
1	Passenger/Right Front Linkage Assembly	16	8-1.25mm x 30mm Carriage Bolts
1	Driver/Left Rear Linkage Assembly	16	6-1.0mm x 20mm Carriage Bolts
1	Passenger/Right Rear Linkage Assembly	16	6mm Nylon Lock Nuts
1	Electronic Materials Package	16	6mm x 16mm x 1.6mm Flat Washers
4	Steel Mounting Brackets	12	Plastic Insulator
2	2mm Shim Plates	15	Zip Ties





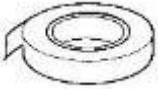
## Electronic Materials Package PARTS LIST:

Qty	Item Description	Qty	Item Description
1	Main Harness	1	ECU
4	Magnetic Switches	4	LED lights
1	LED Y-Harness (280mm)	1	LED Y-Harness (1200mm)
4	Magnets and Adhesive Prep Kit		



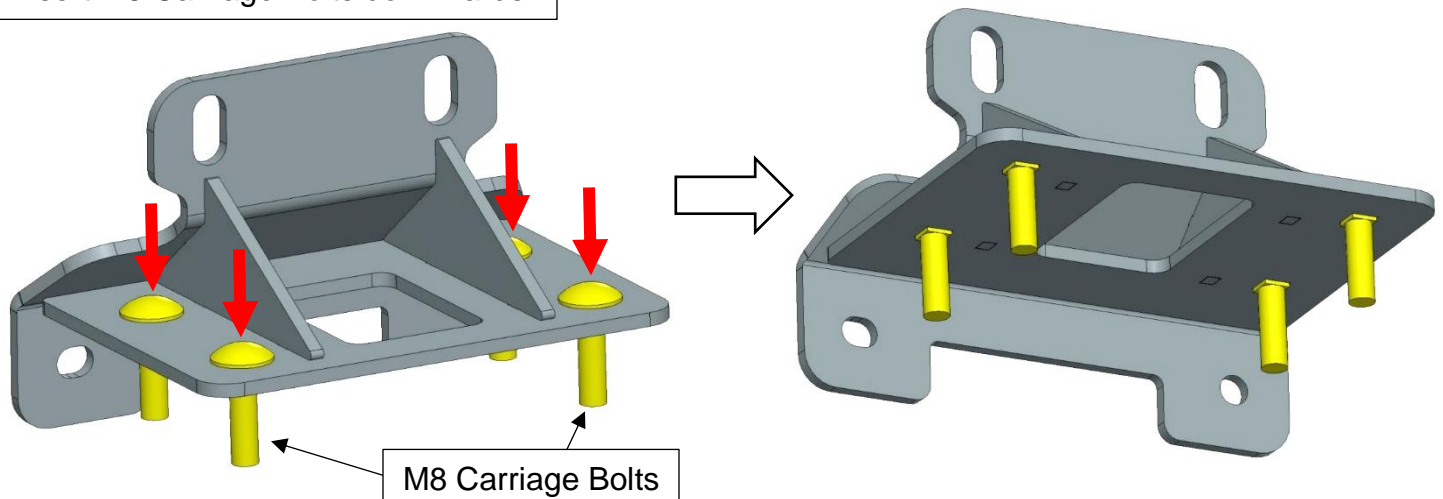


#### TOOLS REQUIRED

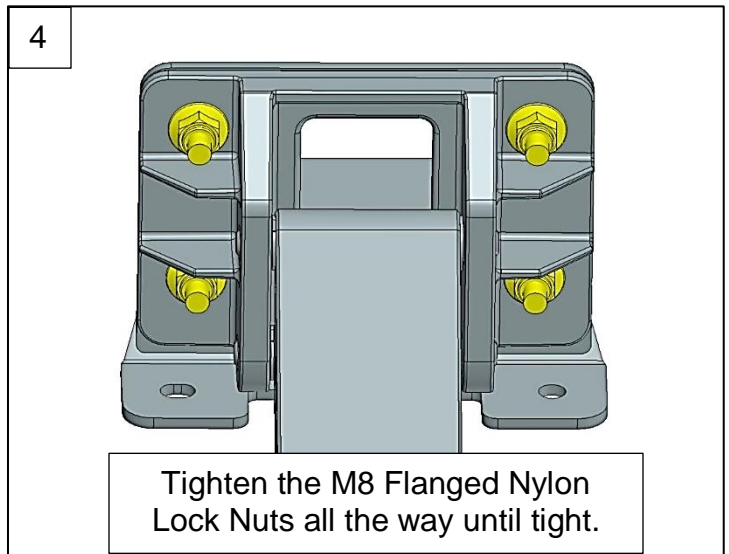
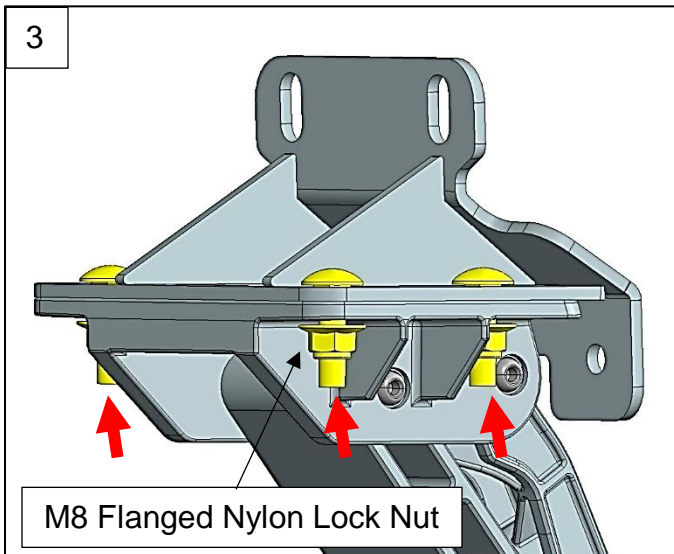
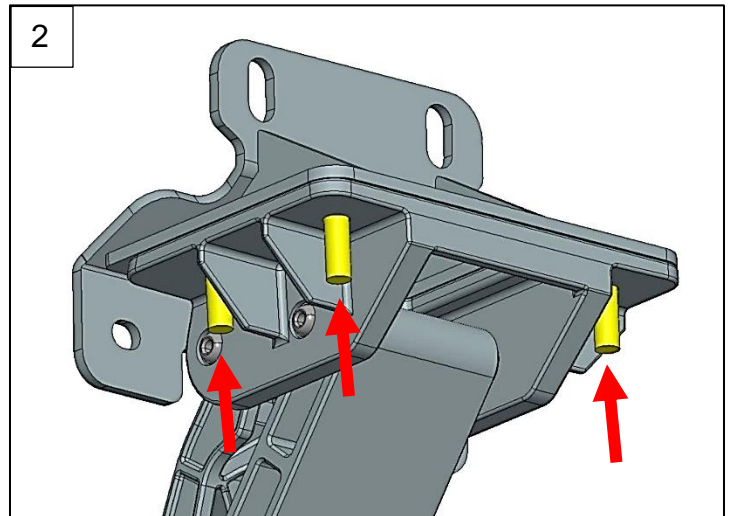
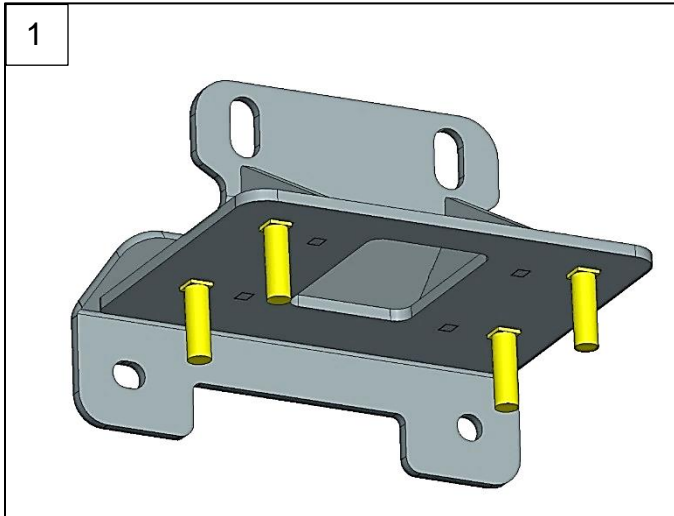
 <p><b>Ratchet</b></p>	 <p><b>8mm 10mm 13mm Socket</b></p>	 <p><b>Extension</b></p>	 <p><b>Wrench</b></p>	 <p><b>Electrical Tape</b></p>
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- 1 Locate the mounting brackets and attach them to the linkage arms. First, insert the M8 Carriage Bolts into the square slots on the brackets so that the threads are pointing downwards.

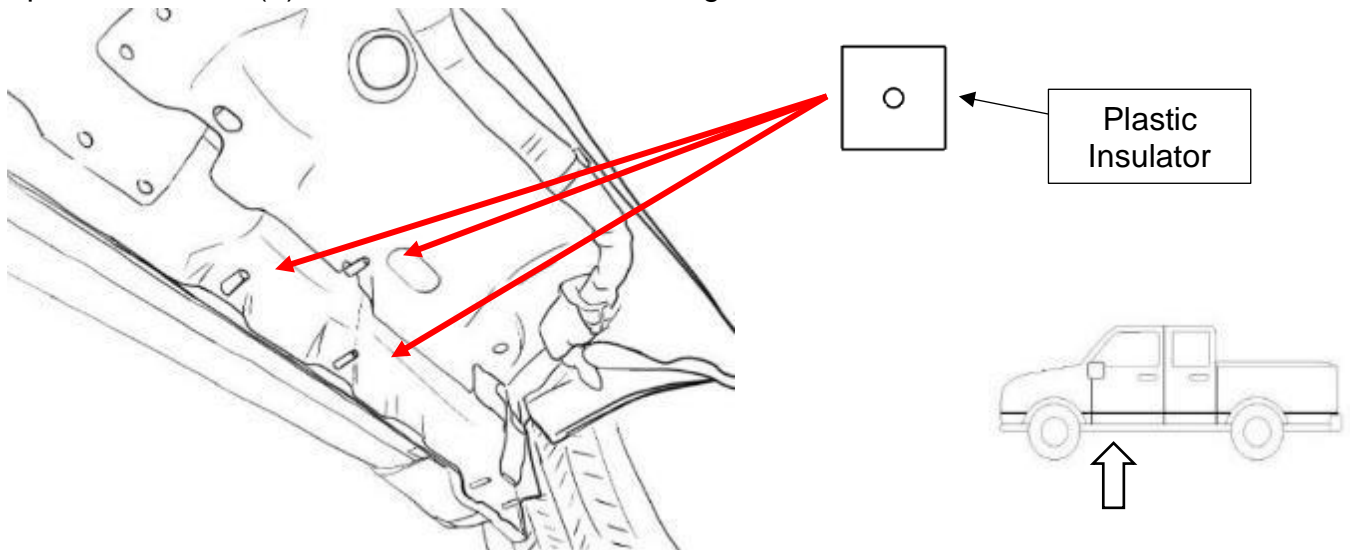
Insert M8 Carriage Bolts downwards.



Next, use the M8 Flanged Nylon Lock Nuts to fasten the aluminum linkage arms to the brackets. There are 4 fastening points on each bracket.



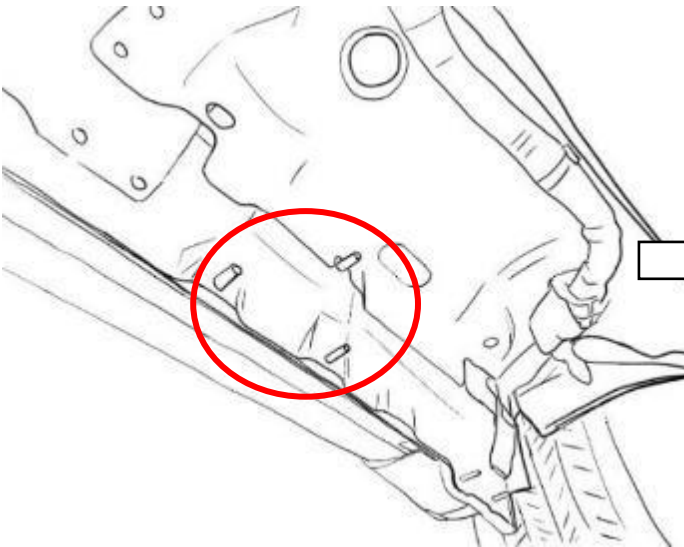
- 2** Locate Driver Side front mounting points on the rocker panel under the front door. Apply a plastic insulator (F) to each stud before mounting the front bracket.





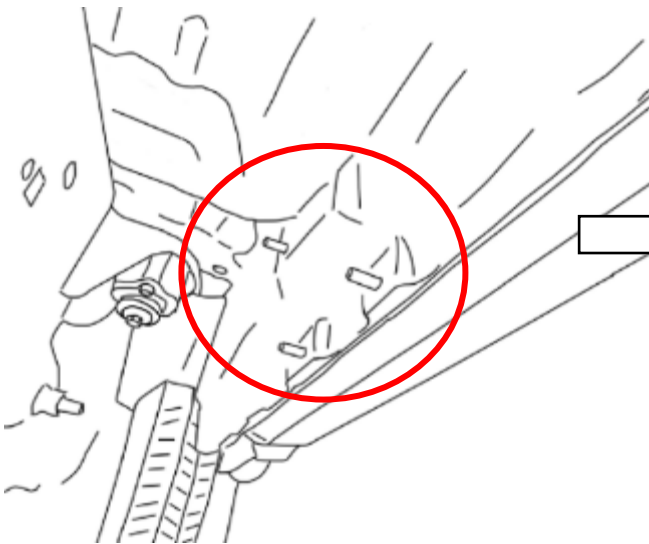
3

Next, line up front mounting bracket slots to the studs and place Driver Side/Left Front Bracket Assembly (A) onto rocker panel. Then fasten Flanged Nylon Lock Nuts (I) and Washers (H). Do not tighten all the way yet.



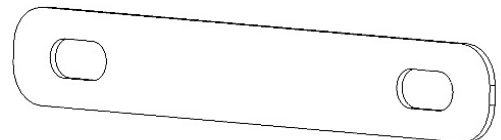
4

Locate rear mounting points. Apply a plastic insulator (F) to each stud before mounting the Driver Side Rear Bracket Assembly (B). Next, line up rear mounting bracket slots to the studs and place Driver Side/Left Rear Bracket Assembly (B) onto rocker panel.



Then fasten Nylon Lock Nuts (I) and washers (H). Do not tighten all the way yet. For Ford SuperDuty vehicles: **Before mounting the rear bracket assembly**, use 2mm Rear Bracket Shims (K) for the bottom stud for the rear bracket.

**For SuperDuty**, Place 2mm Shim Plate onto mounting studs before mounting the Rear Bracket Assembly.

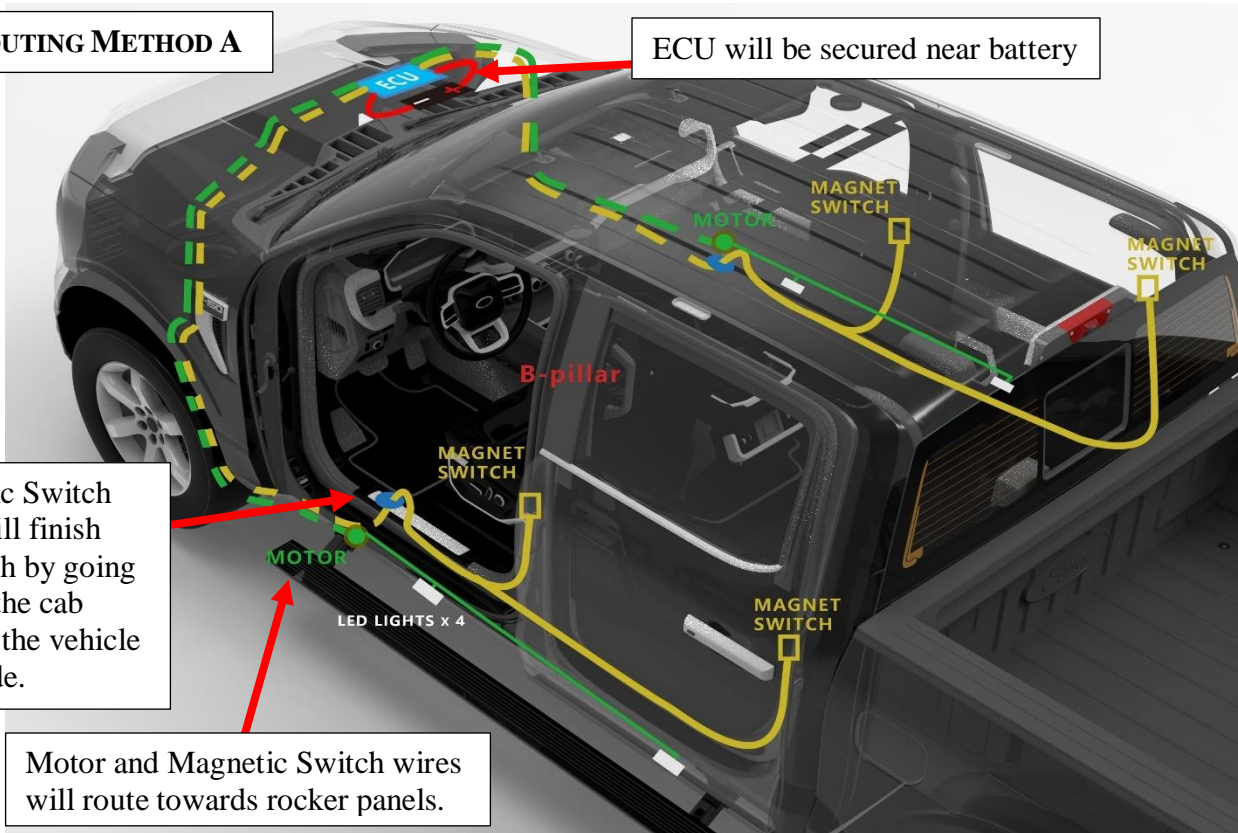


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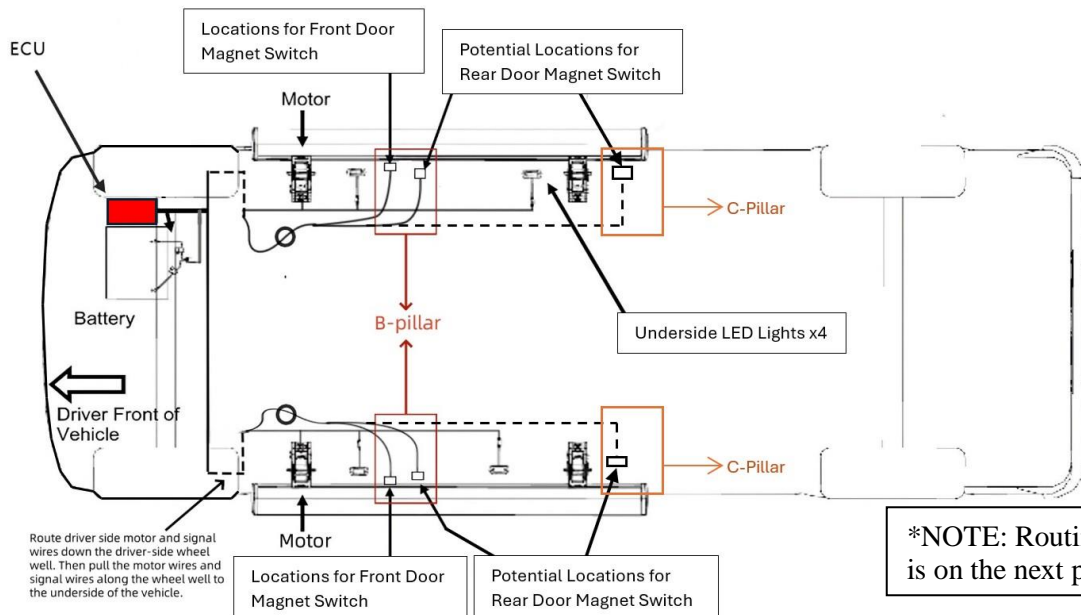
Repeat steps 1 – 4 for the Passenger Side.

Use electrical Routing Method A or B, whichever is more applicable to your vehicle. In general, the routing of the wires will follow the basis of the graphic below. The legs of the Main Harness labeled "Passenger Side" will route towards the Passenger Side of the vehicle, and the legs labeled "Driver Side" will route towards the Driver Side of the vehicle.

### ROUTING METHOD A



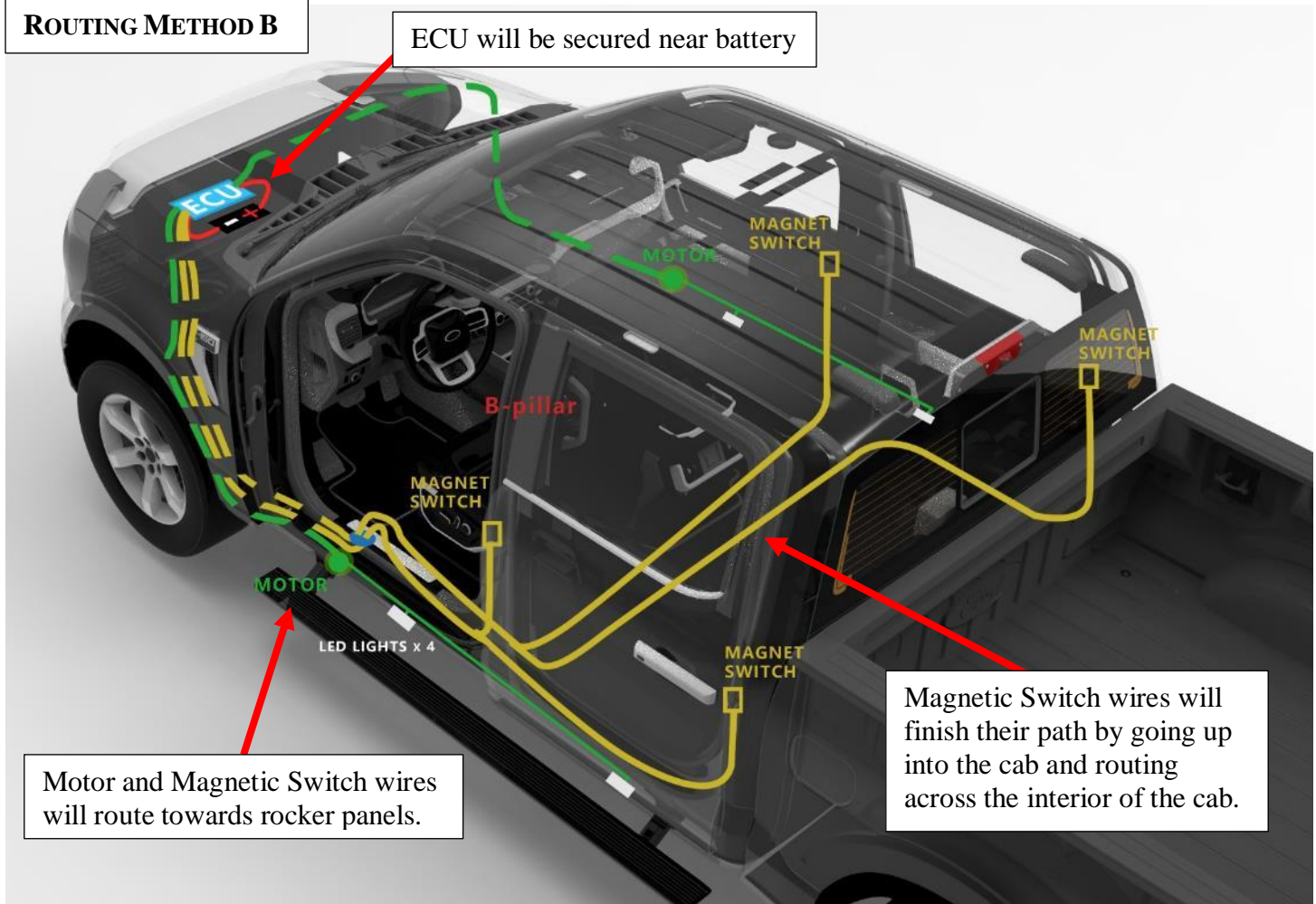
The goal is to route the wires from the battery to the appropriate side, and from there, to route the signal wires for the magnetic switches up through the floor of the vehicle and into the cab. Use the general diagram below as reference while routing the wires:



Electrical Routing Method B is the alternative in case the plastic or rubber plugs on the underside of the Driver Side of the vehicle body are not present or accessible on the

Passenger Side, or vice versa. Please refer to the graphic below for the general routing paths the wires will take.

### ROUTING METHOD B

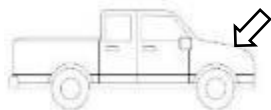


The general steps for Routing Method B are the same as Routing Method A, with the only difference being that the Passenger Side Magnetic Switch wires routing up into the cab via the same grommet/plug as the Driver Side Magnetic Switch wires.

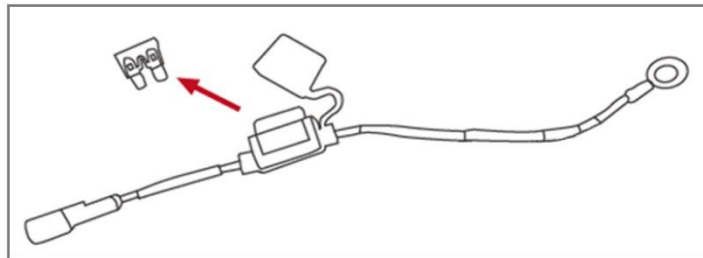
Once the Passenger Side Magnetic Switch wires are routed into the cab, they need to be routed along the inside, across to the Passenger Side of the cab and up to the doors like pictured in the graphic above.



Start from the engine compartment by opening the front hood of the vehicle. Locate the Battery and its terminals (positive/negative). Remove the 25A fuse from the fuse box that comes with the main harness (M).



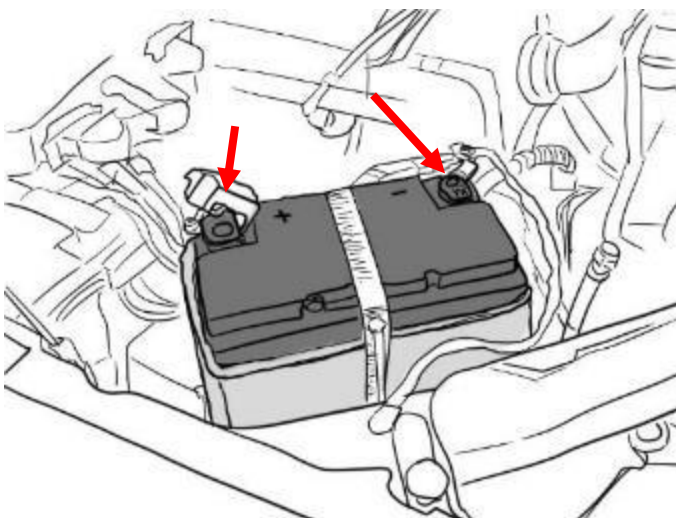
**\*WARNING:** Keeping the fuse connected to the fuse box may result in electrical sparks and risk of shorting when working with the battery.



Open fuse holder cap and remove fuse

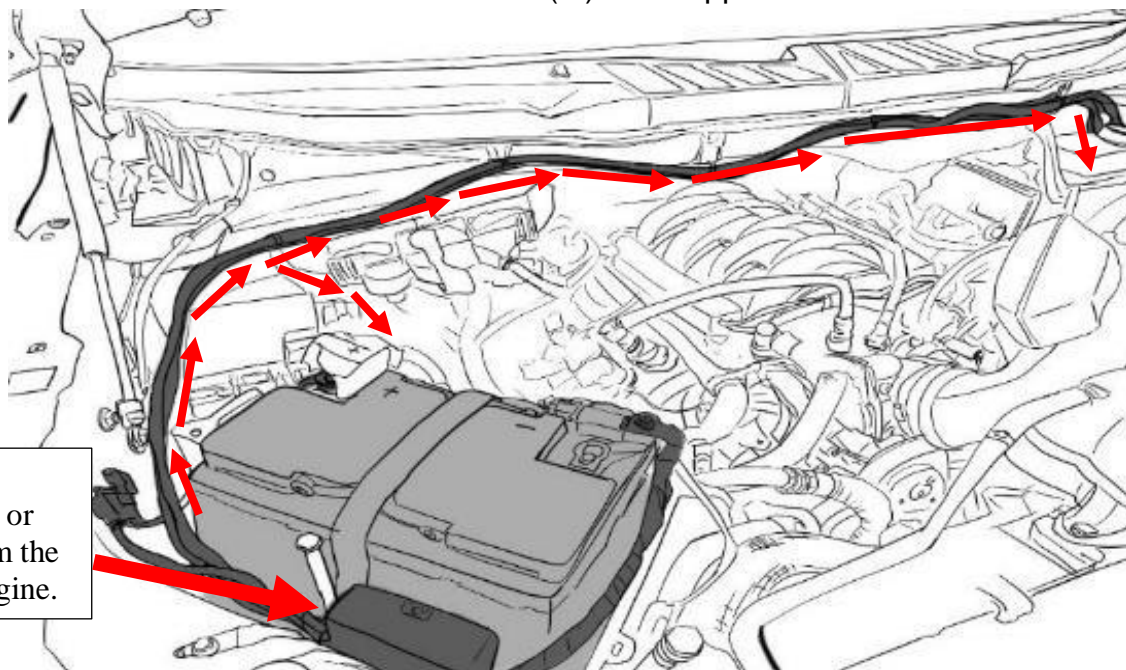
7

Connect the power leads on the main harness (M) to the positive battery terminal, positive to positive, and negative to negative. Make sure both power leads are fully secured. Connect the ECU (P) to the main harness. Connect the Long LED Y-Harness (N1) to the Driver-side branch of the main harness. Connect the Short LED Y-Harness (N2) to the Passenger-side branch of the Main harness.



8

Route the main harness (M) around the battery, up along the rear of the engine compartment, and down the Driver-side wheel well. Route the shorter leg of the harness down the Passenger-side wheel well. **Be sure to avoid contact with any moving or hot engine components.** Attach and secure the main harness (M) with supplied cable ties.

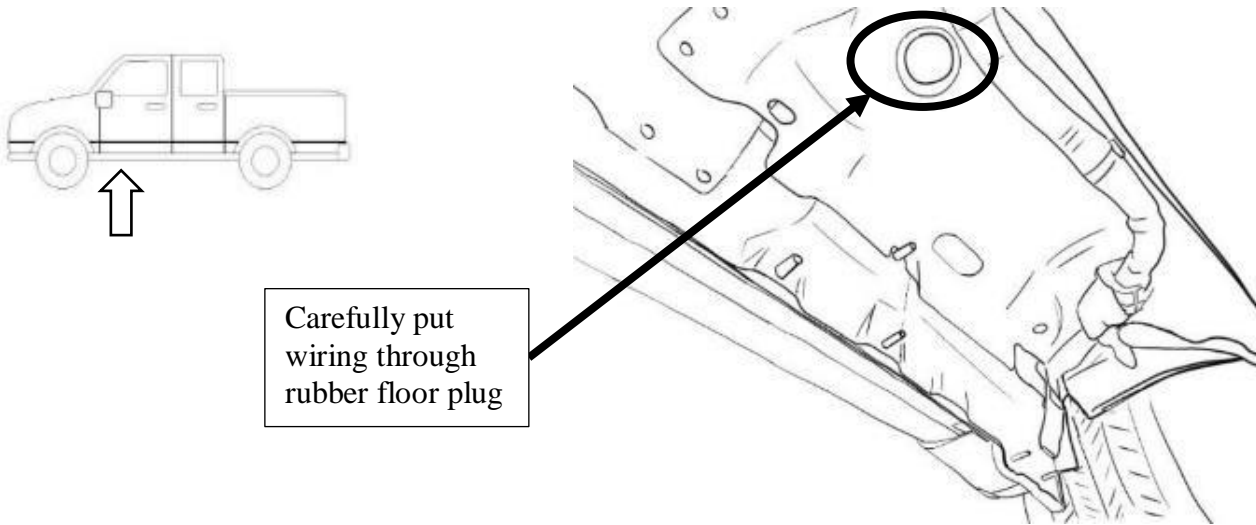


ECU (P) should be secured near battery or any space away from the direct heat of the engine.



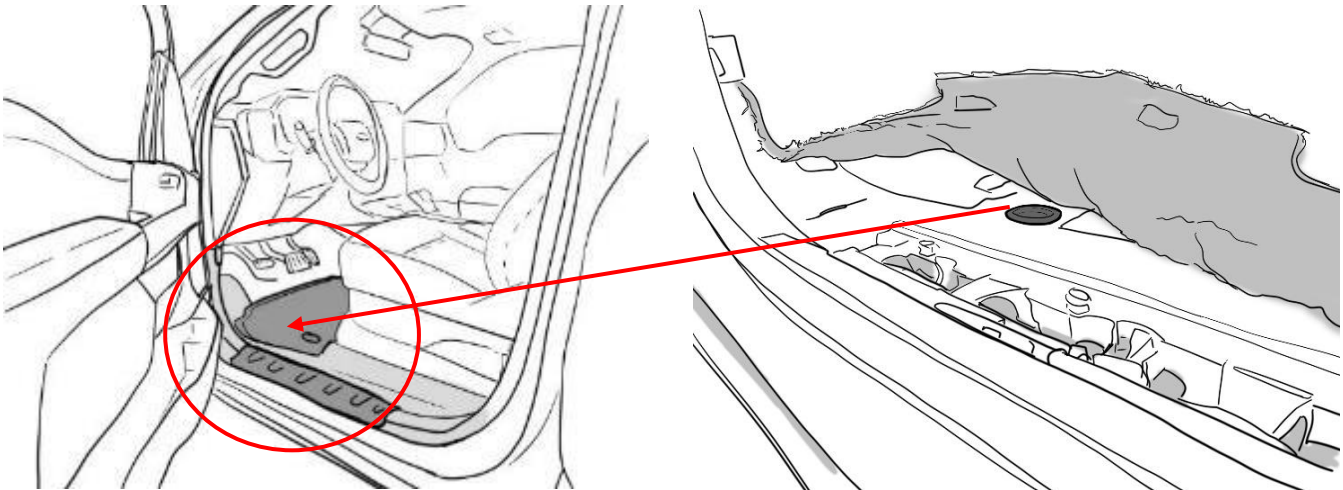
9

On the underside of the driver side, locate and remove the floor grommet in the floor panel behind the front wheel well. The grommet will be close to the front. Poke a hole through the grommet and push the two magnetic switch signal wires through and up into the vehicle cabin.

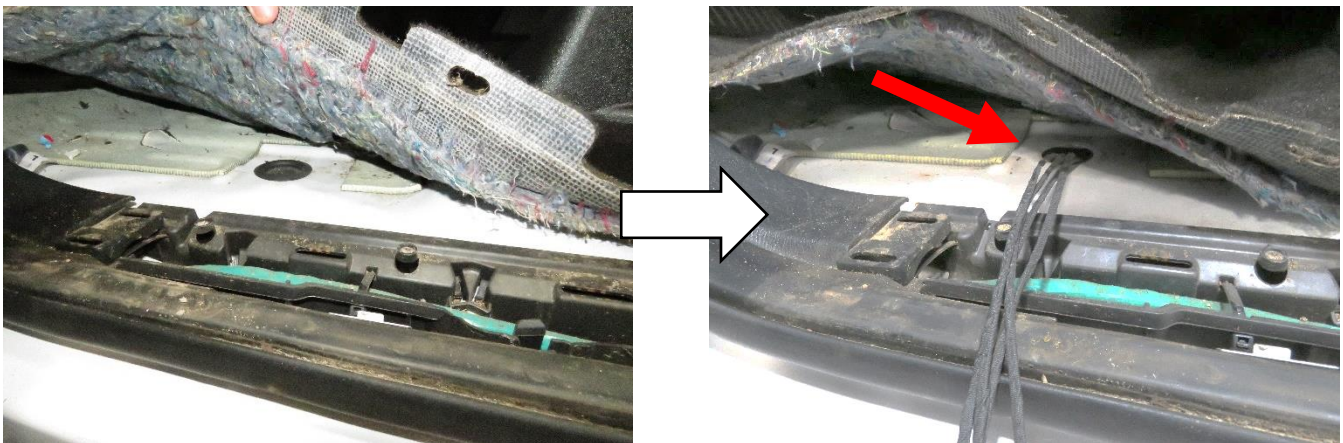


10

Inside the vehicle cabin, remove the driver-side front kick panel and bottom door sill plate. Peel back the carpet to access the hole where the grommet was removed. Feed the wires through.

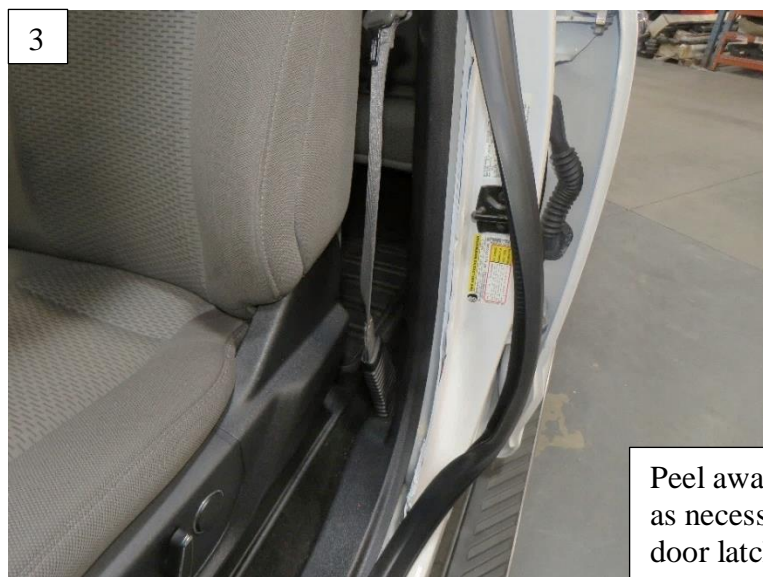
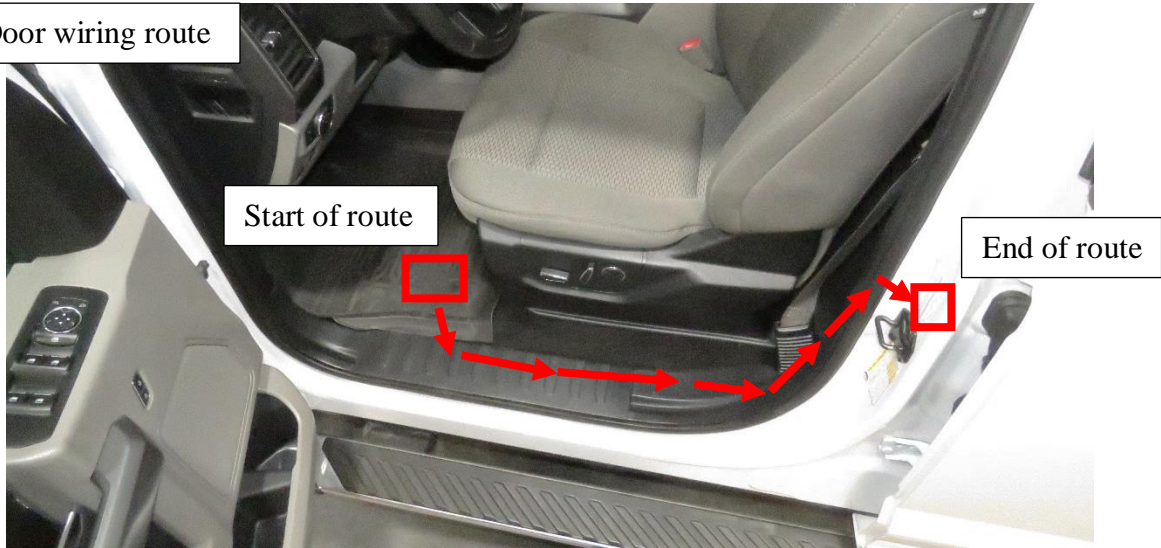


Pull the two signal wires through and determine which of them has longer length. The shorter length wire will be for the front door, and the longer length wire will be for the rear door.



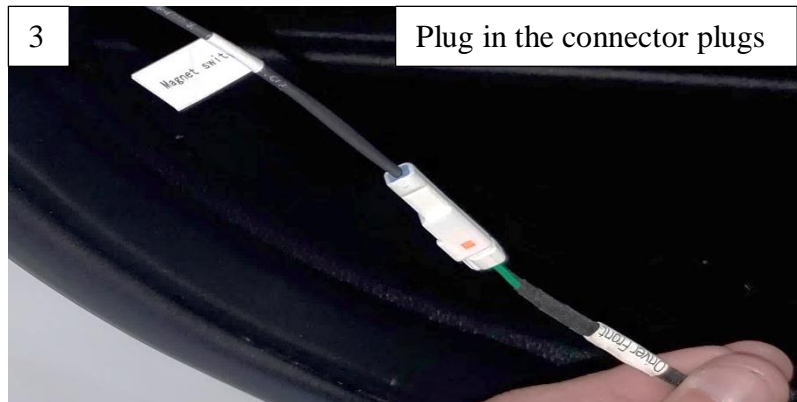
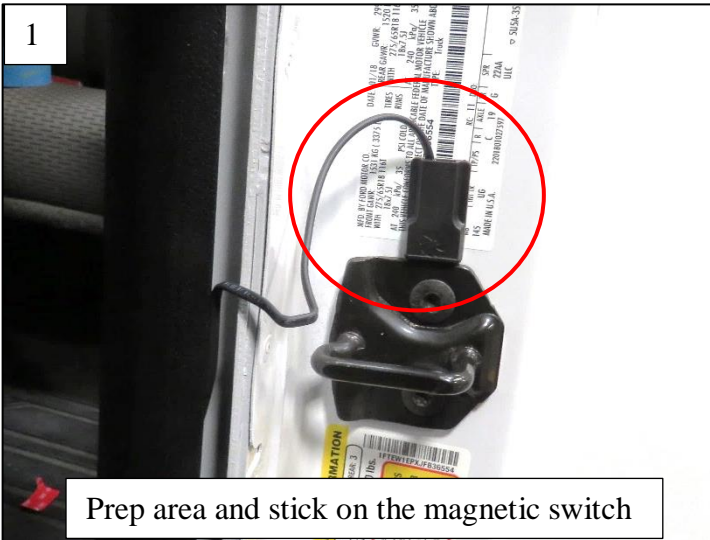
Starting on the front door, take the shorter signal wire and route it up through the door sill and weather seal of the panels up to where the door latch striker is.

#### DS Front Door wiring route

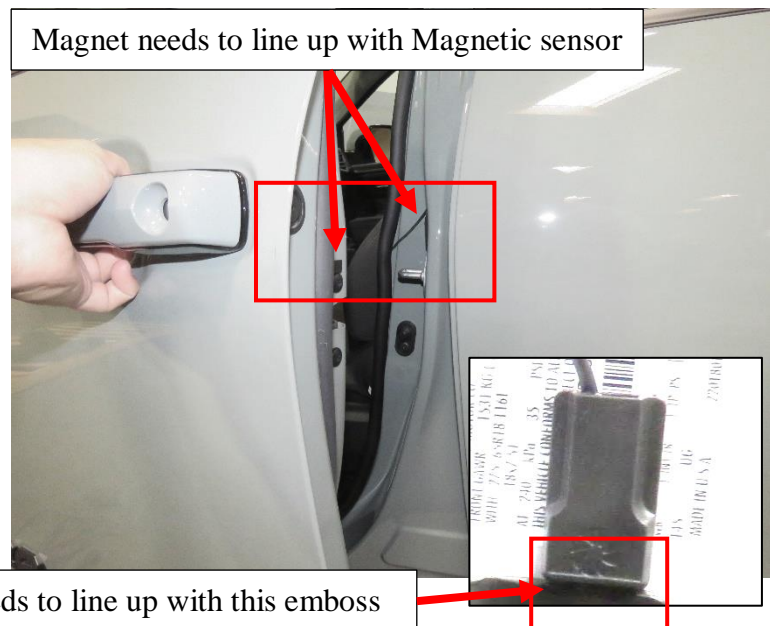




After routing the signal wire near the striker, attach the magnetic switch to the B-pillar just above or below the striker. Be sure to clean the area using alcohol wipes and a clean cloth to ensure maximum adhesion to the surface. Then connect the signal wire plug to the magnetic switch plug.



Then, take a magnet and place a provided 3M adhesive patch on one side. Take the newly prepped magnet and line it up with the magnetic switch on the door side. When closing the door, the magnet needs to align with the rectangular emboss of the magnetic switch to properly activate. Attach this magnet to the corresponding position.

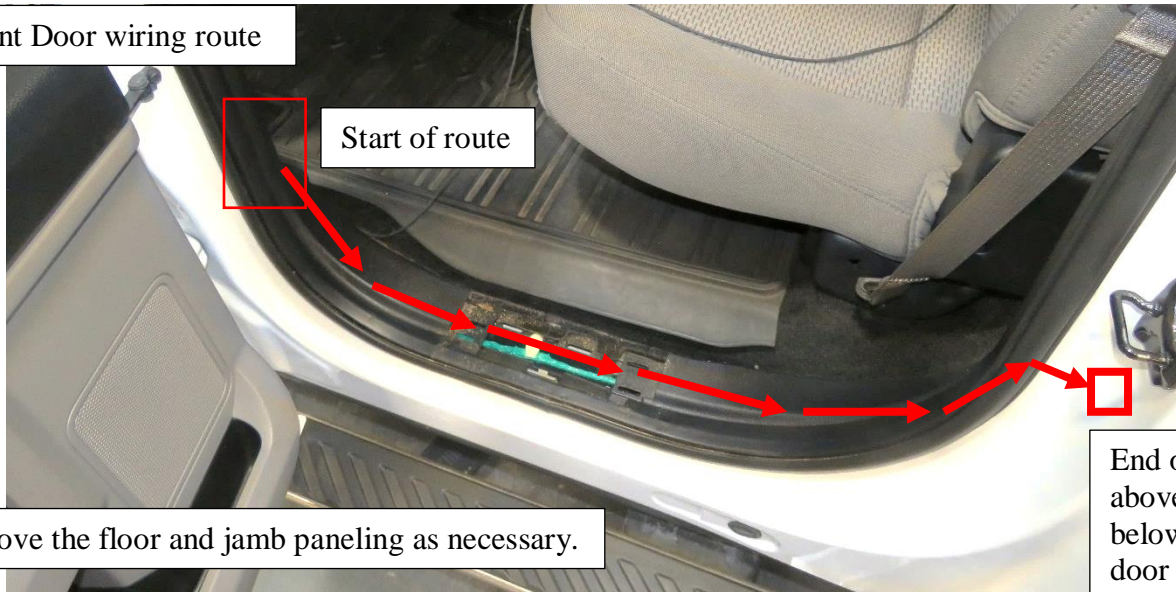




Next, do the same procedure to the Driver-Side rear door too.

Route the longer signal wire following this path. Be sure to give enough length and slack to the wire to reach the door striker while hiding the wiring under the plastic panels.

PS Front Door wiring route

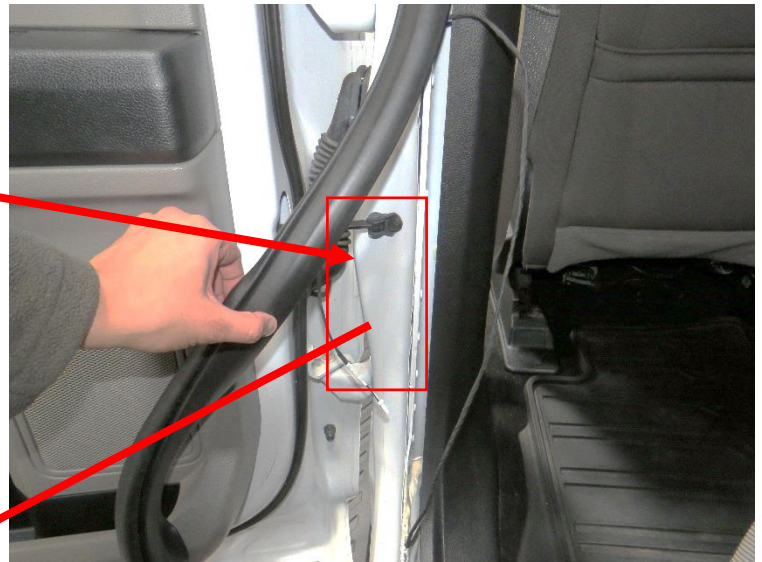


Remove the floor and jamb paneling as necessary.

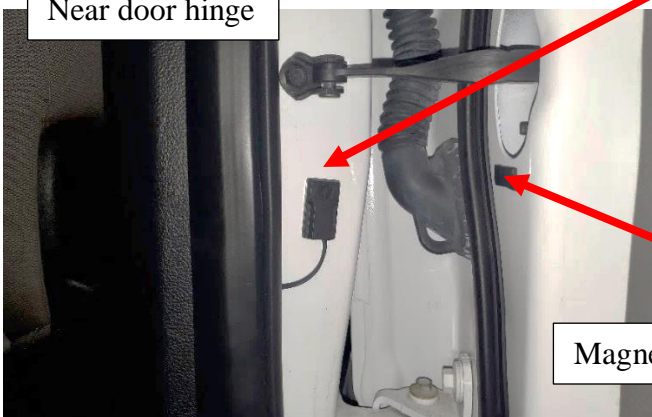
If the signal wire is not long enough for whatever reason, the alternative location for the magnetic switch is at the front of the rear door (near hinge) instead of the back. See pictures below for reference:



Near door hinge



Peeling off the weather seal and routing the wire up the B-pillar may be necessary.



Magnet

Magnet will need to line up with Magnetic sensor

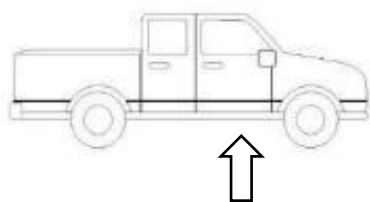
12

Attach the main harness (M) to one LED Y-Harness (N). Then attach the LED Y-Harness to the motor (do this for driver side first). Repeat for passenger side.



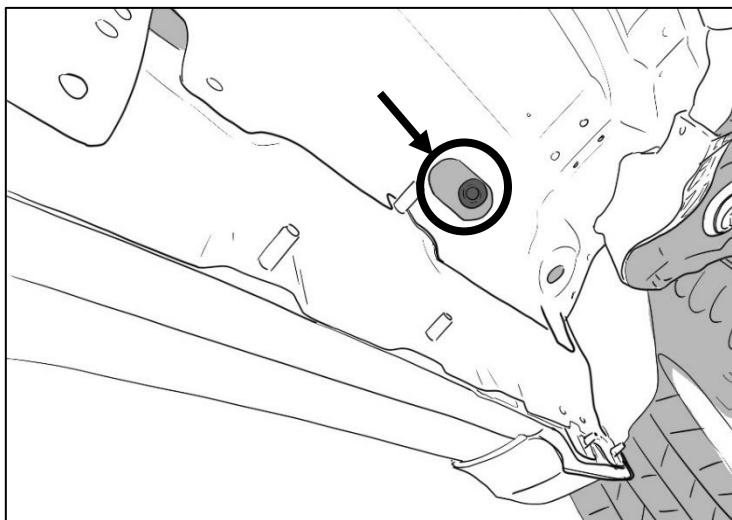
13

Route the Passenger-Side magnetic switch signal wires. Once the Passenger-Side wires are routed through the back of the engine bay and down to the Passenger-Side rocker panel, locate the rubber grommet in the upper area of the underside that leads into the cab.



Carefully put wiring through rubber floor plug

On some vehicles, the floor grommet will be a smaller rubber plug that sits inside an underside cavity. Due to the greater thickness, an incision of the plastic conduit on the wiring to the appropriate branch of the power step main harness (M) may be necessary to fit through the hole.

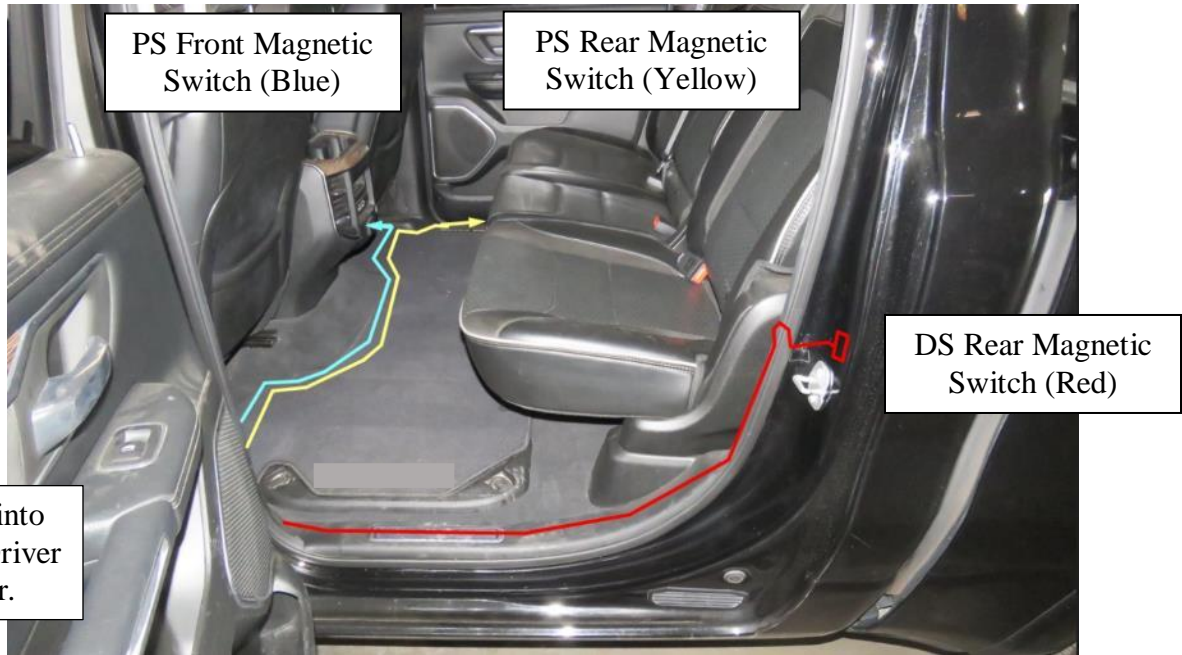


**NOTE:** If there is **no plug** on the **Passenger-Side underside** (i.e. Super Cab models), **route** the magnetic switch wires **through the Driver-Side underside** instead, referring to **Routing Method B.**



Folow Steps 9 to 10 for the Passenger-Side and complete the routing of the wires of the Passenger-Side magnetic switches. Refer to the diagrams in Step 6 (either Routing Method A or B) as a guide.

If Routing Method B is being used, after snaking the Passenger-Side magnetic switch wires into the cab through the Driver-Side underside plug, route the Passenger Side Magnetic Switch Wires across the interior over to the other side. The illustration below shows the general paths of the Magnetic Switch wires as colored lines.



**Follow the rest of Steps 9-11 to complete Passenger-Side wiring for Magnetic Switches.**

## 14

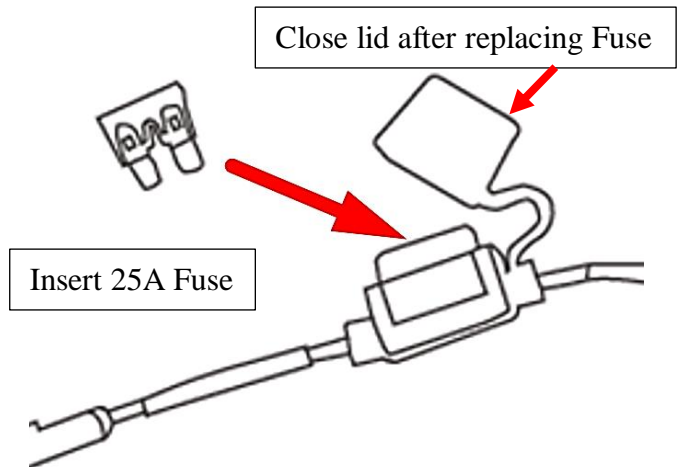
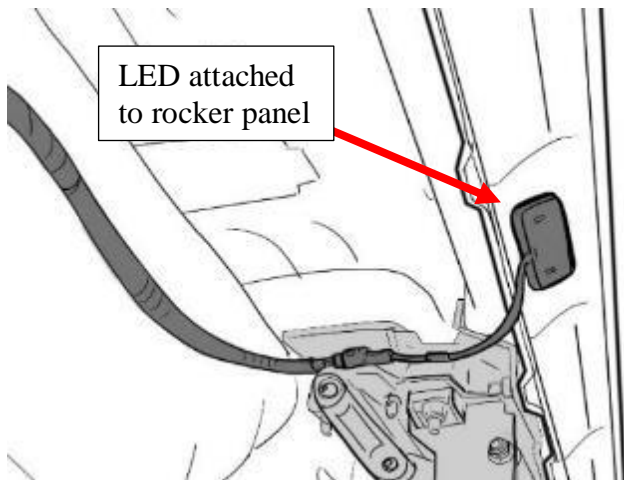
Be sure the main harness (M) is connected to the appropriate length LED Y-Harness (N). Then attach the LED Y-Harness (N) to the motor on the Driver-Side. Repeat for Passenger Side.





15

Plug in LED lights (Q) into LED Y-Harness (N) and attach them to the bottom of the rocker panel. Use provided 3M double sided adhesive tape on back of LED light (Q). Replace Fuse into Fuse Box.



16

Check to make sure the harnesses on the Driver Side/Left Front Bracket Assembly (A) and Passenger Side Front Bracket Assembly (C) are connected to the main harness (M) via the LED-Y harnesses (N).

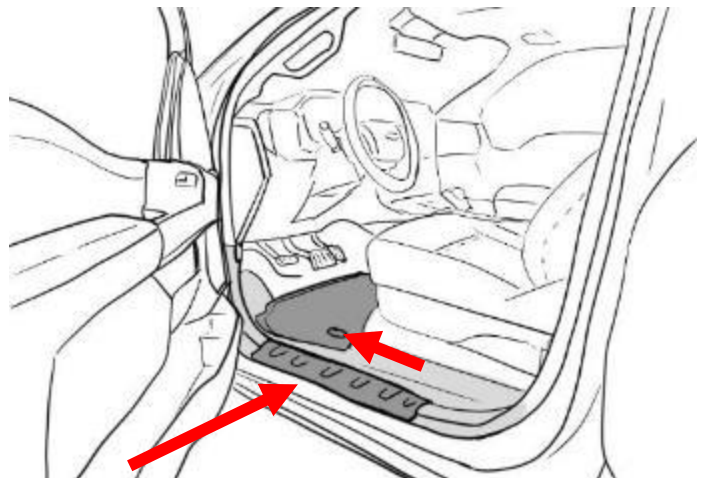
\*NOTE: It is recommended to place the connectors so that they are not directly exposed to mud, water, and debris kicked up from the front tires.



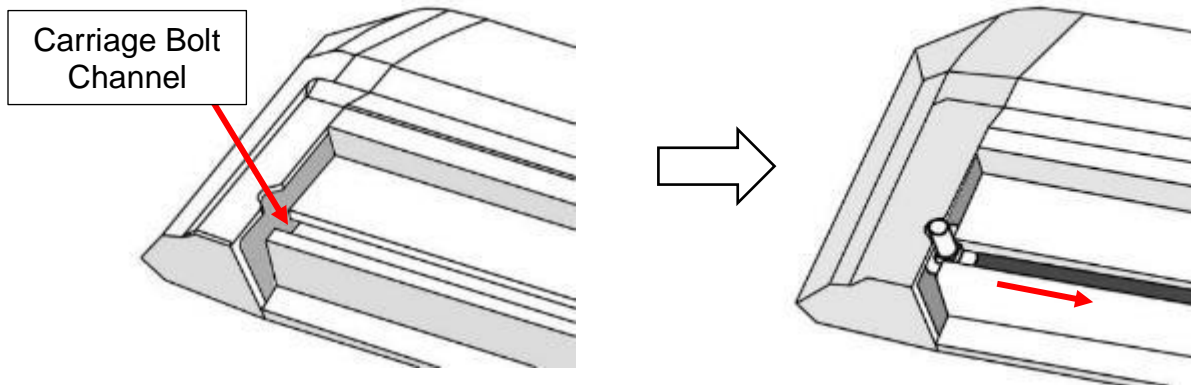
17

Seal the rubber boot with RTV Silicone Sealant if needed.

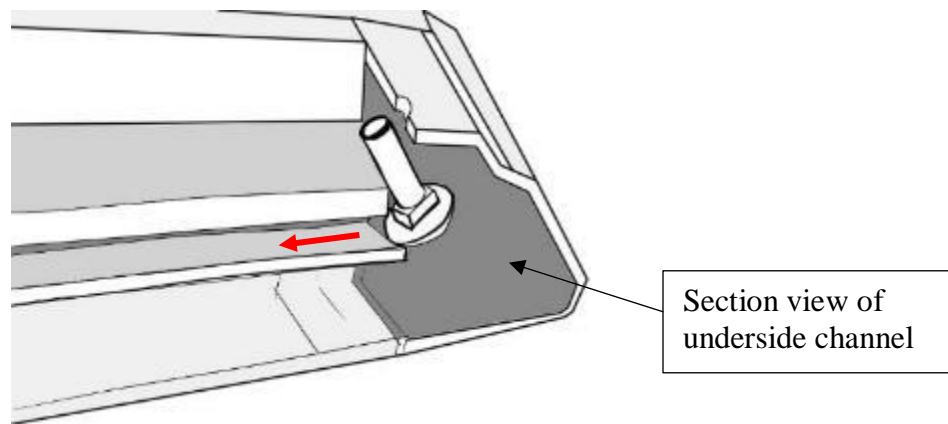
Hide wires and reattach the kick panel with the carpet fully placed in its original position. Reattach the door sill panels and check to make sure there are no obstructions or potential snag points around the brake pedal area.



Prepare the power step boards. Locate the end of the boards and slide the M6 Carriage Bolts (E) into the channel on the underside of the board. Insert a total of 8 carriage bolts (E).



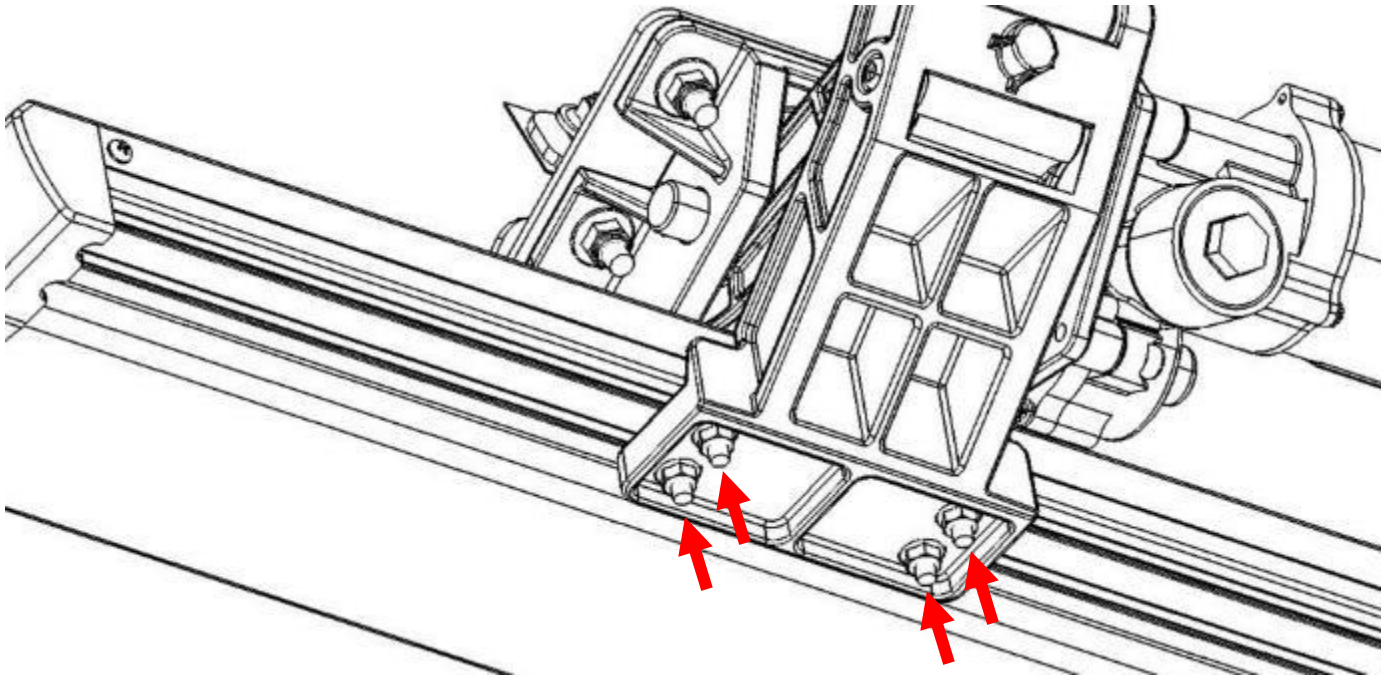
Use the notch in the board's end caps to feed the bolts into the channel.



Perform a function check by closing the driver side front door and opening it again. The front bracket assembly (A) motor should activate the linkage arm and move it into the down or "deployed" position.

After deploying linkage arms, unplug the main harness connector (to cut power from the system) while front door is open to hold the board in the deployed position for running board installation.

Line up the carriage bolts (E), under the power step boards, with the slots on the linkage arms (A & B). Insert the 8 carriage bolts (E) into the slots on front and rear linkage arms. Adjust board to desired position. Moderately hand tighten the 6mm Flat Washers + 6mm Nylon Lock Nuts (G) onto the carriage bolts.



Once the board is adjusted, plug in main harness (M) connector to return power to the linkage arms. Open and close doors several times to deploy and retract the steps to settle the steps into their natural alignment. After cycling the step, tighten all hardware on the board and brackets.

Adjust further for the desired step position. Repeat for passenger side.

## 20

Perform system check and troubleshooting. If board is making irregular movements or noise, readjust the boards as follows:

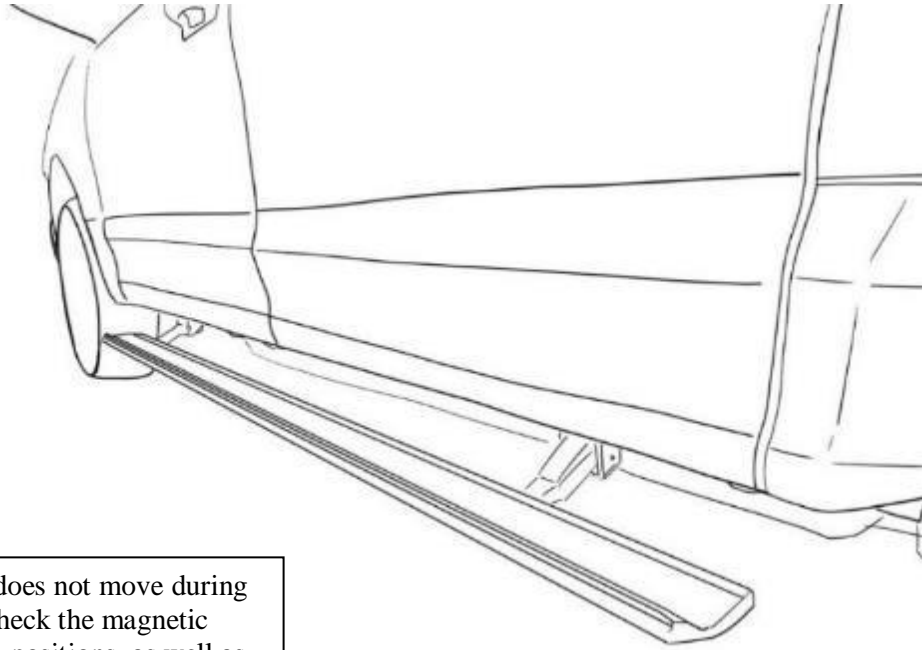
- a) With board deployed loosen 6mm flange nuts under board.
- b) Leave the flange nuts slightly less than snug.
- c) Open and close door several times for board to settle into position.
- d) With the step in the deployed position, gradually tighten flange nuts while alternating between each. Do not over tighten.

If board is making abnormal noise or the motion is binding, repeat steps “a” through “d”.

Note: If the above method does not resolve the issue, the brackets mounting to the vehicle may not be aligned properly with the vehicle. In this case, remove the board and realign brackets before attempting steps “a” to “d” once again



Reinstall any remaining trim panels if necessary. Check and make sure all hardware is fully tightened. Perform a final system check. Finish.



\*NOTE: If board does not move during troubleshooting, check the magnetic switch and magnet positions, as well as all other wiring connections.

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