

ROUGH COUNTRY

ERBOX091710

Ford F-250/350 Crew Cab (99-16) Power Board Box 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..



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



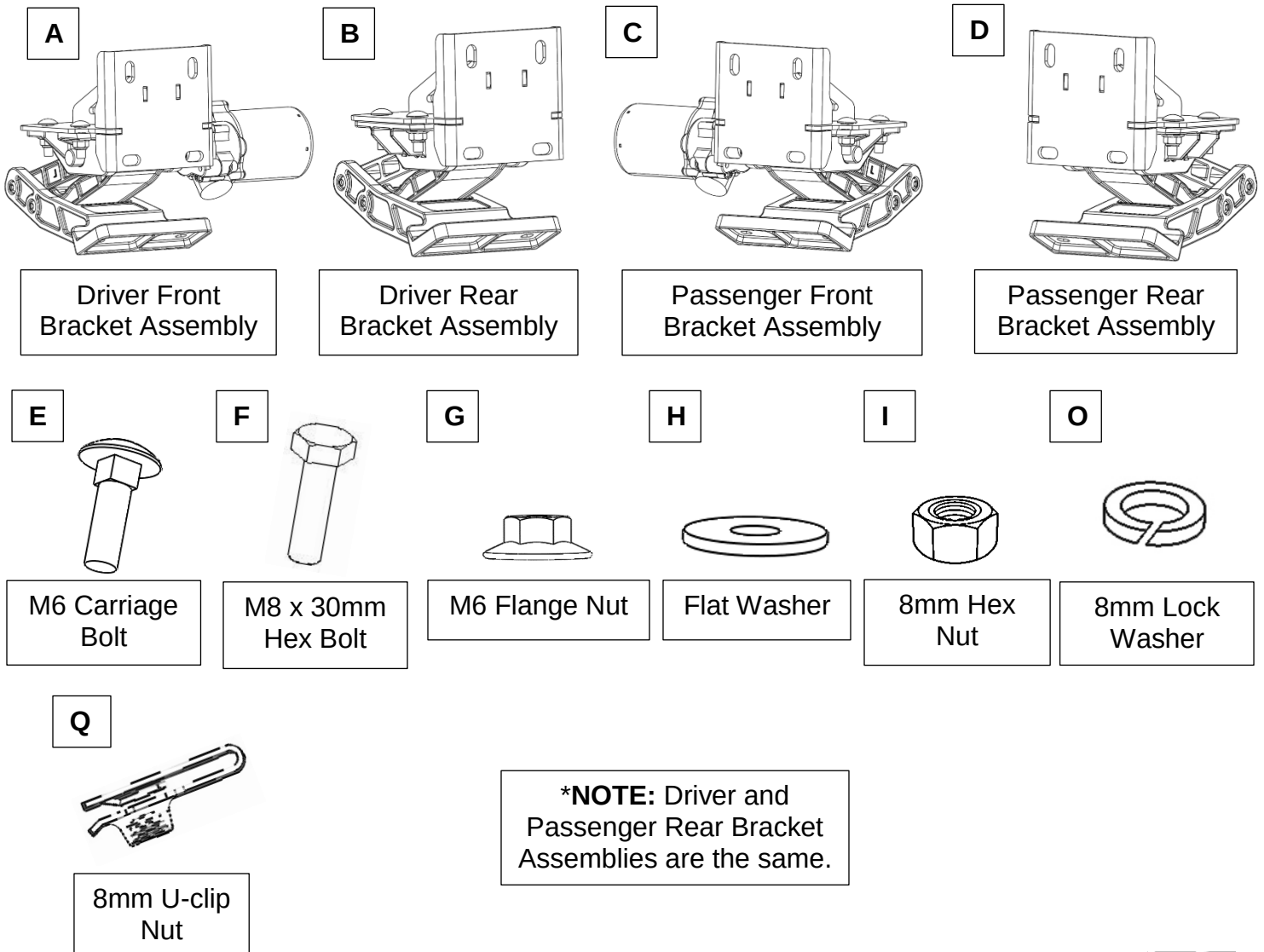
INSTALLATION INSTRUCTIONS

Mechanical PARTS LIST:

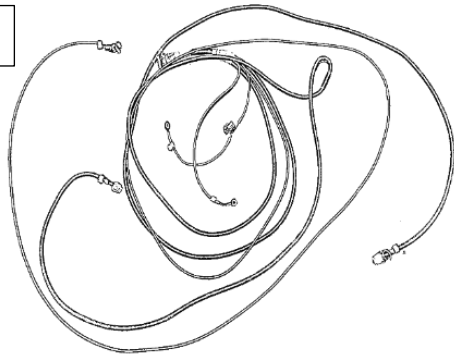
Qty	Item Description	Qty	Item Description
2	Running Board	15	Zip ties
4	Steel Mounting brackets	16	8-1.25x20mm Hex bolts
1	Driver/Left Front motor linkage assembly	24	8x24x2mm Large flat washer
1	Passenger/Right Front motor linkage assembly	16	8-1.25x30mm Carriage bolts
2	Rear linkage assembly	16	8mm Flange nylon lock nuts
16	6-1.0mm x 20mm Carriage Bolts	8	8mm Hex nuts
16	6x16x1.6 Flat washers	8	8mm U-clip nuts
16	6mm Hex nylon lock nuts	16	8mm Lock washers

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 (Short 280mm)	1	LED Y-Harness (Long 1200mm)
4	Magnets and Adhesive Prep Kit		

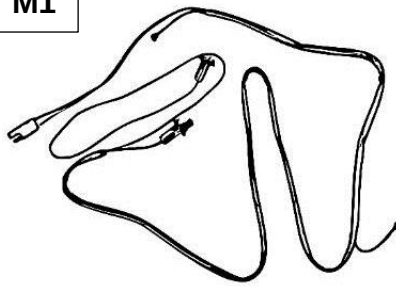


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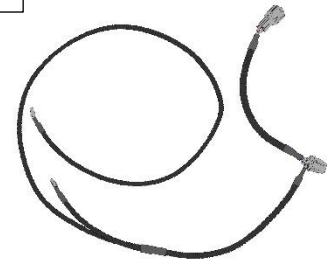
Main Harness

M1



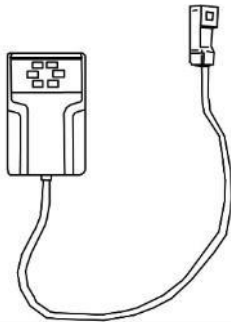
LED Y-Harness (1200mm)

M2



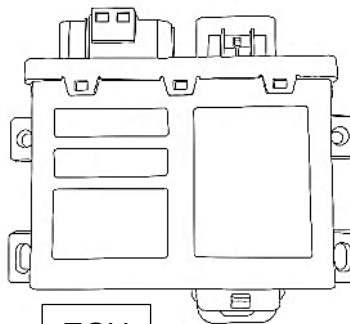
LED Y-Harness (280mm)

N



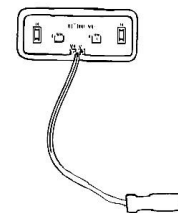
Magnetic Switches

O



ECU

P



LED Lights

TOOLS REQUIRED



Ratchet



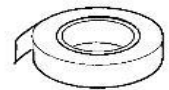
8mm
10mm
13mm
Socket



Extensions



Wrench

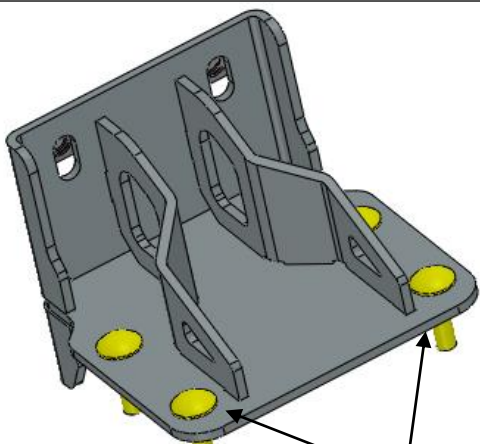


Electrical Tape

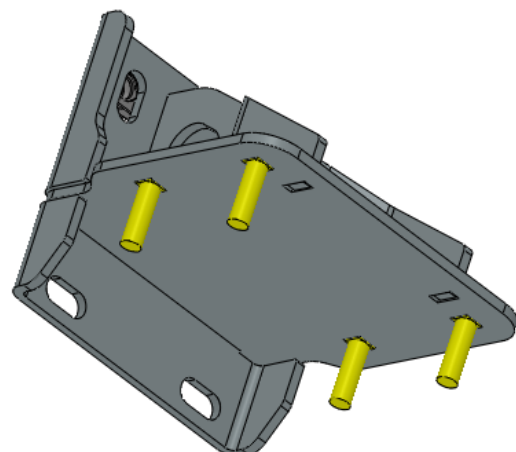
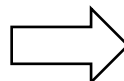
1

Take 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.

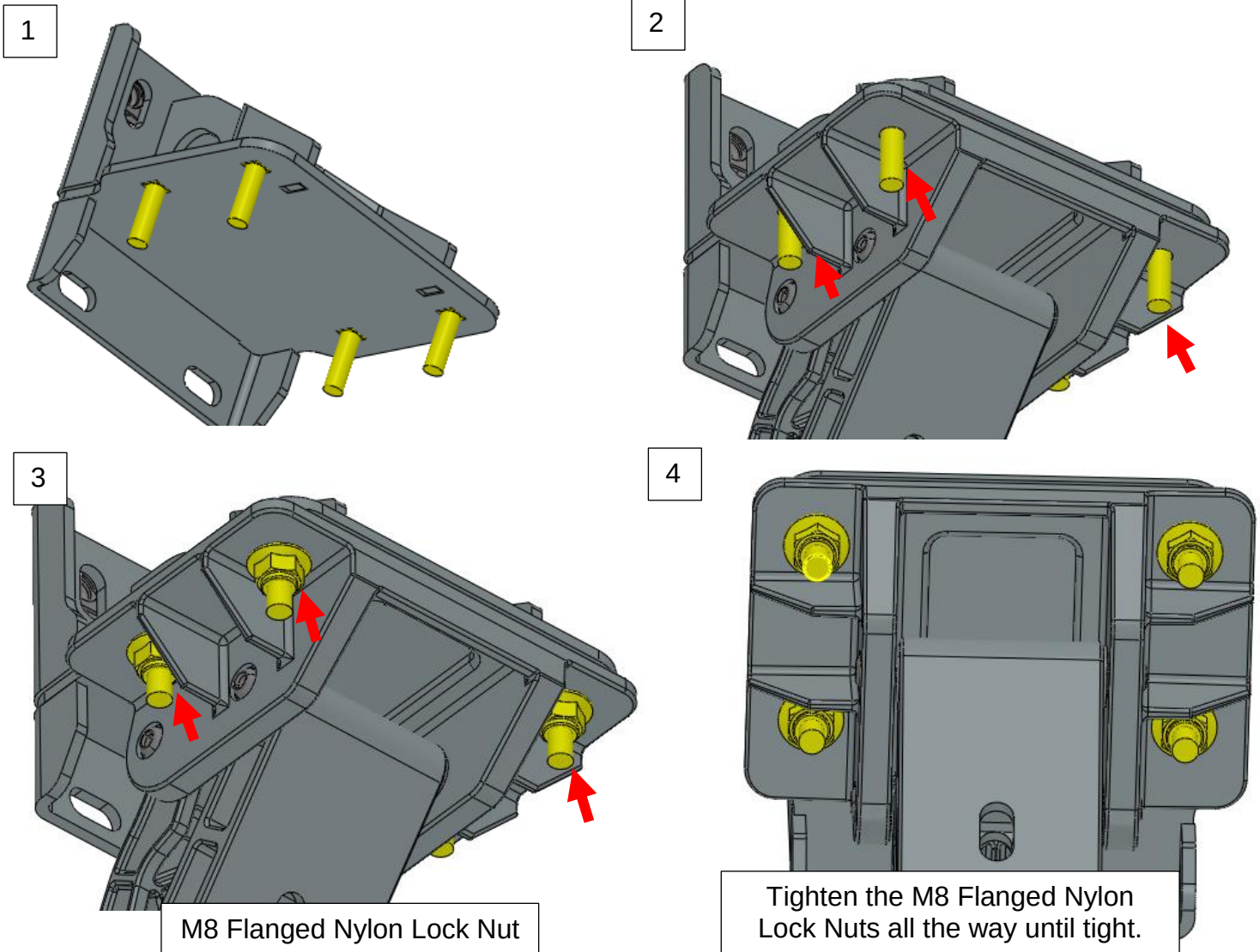
Insert M8 Carriage Bolts downwards.



M8 Carriage Bolts



Next, use the M8 Flanged Nylon Lock Nuts to fasten the aluminum linkage arms to the brackets. This step may be easier to do once the brackets are installed onto the vehicle.



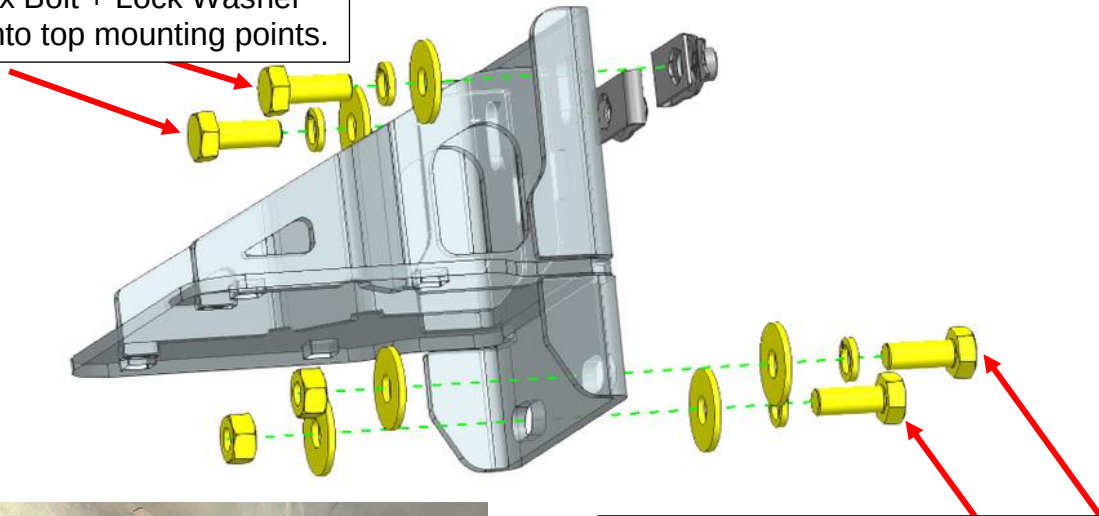
- 1** Locate Driver Side front mounting points on the rocker panel under the front door. Insert U-Clip Nuts (Q) into position as shown below.



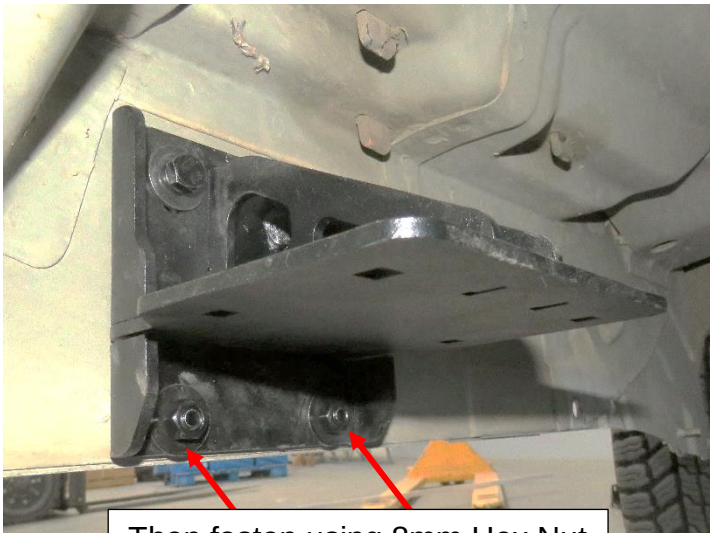
2

Next, line up front mounting bracket slots to the studs and place Driver Side/Left Front Bracket Assembly (A) onto rocker panel. Then fasten 8mm Hex Bolts + Lock Washers + Flat Washers into the U-Clip Nuts, which are the upper mounting points. After, insert an 8mm Hex bolt + Lock Washer + Flat Washer through the bottom pinch trim hole and the hole of the bracket, and then secure using an 8mm Hex Nut + Flat Washer. Do not tighten all the way yet.

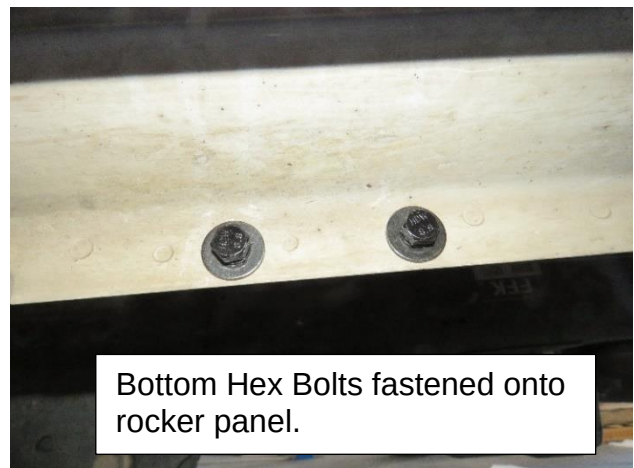
Fasten 8mm Hex Bolt + Lock Washer + Flat Washer into top mounting points.



Put 8mm Hex Bolt + Lock Washer + Flat Washer all the way through the bottom pinch trim hole + bracket mounting hole.

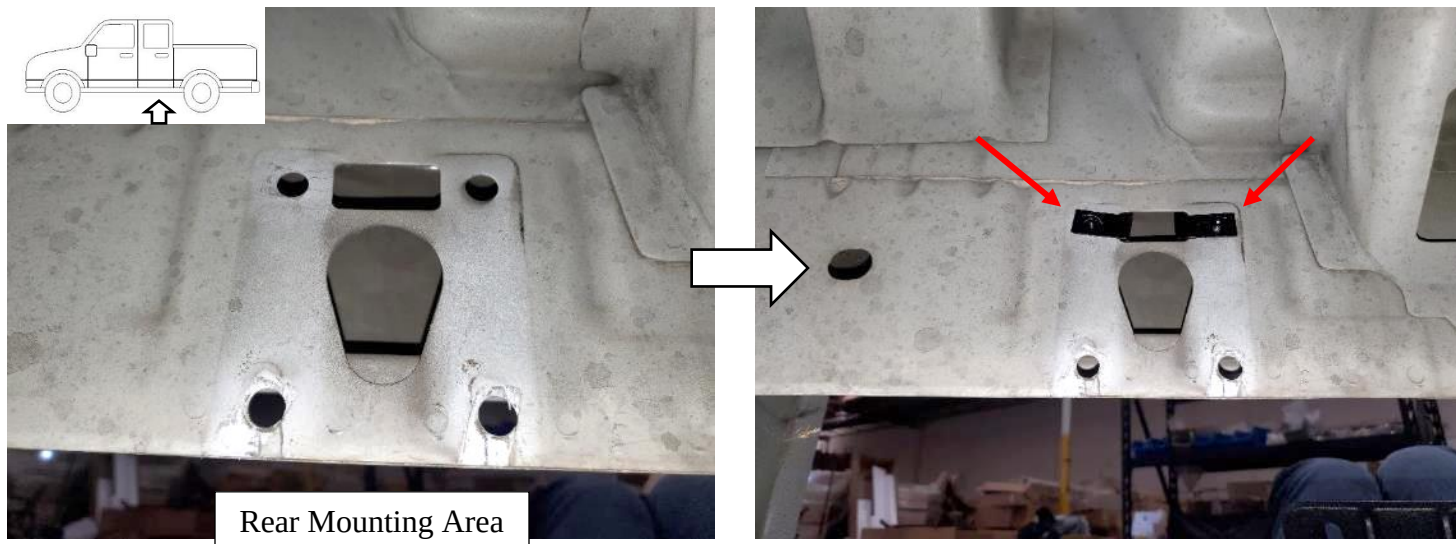


Then fasten using 8mm Hex Nut + Flat Washer.



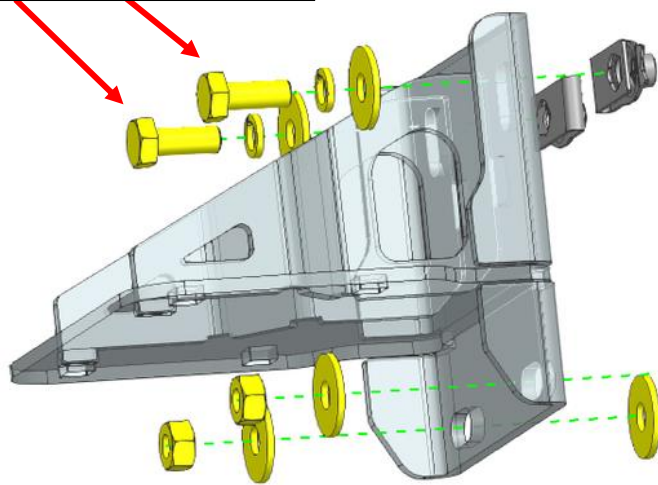
Bottom Hex Bolts fastened onto rocker panel.

Locate rear mounting points. Insert the U-Clip Nuts into position 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. Repeat the same procedure as described in step 2 for the Rear Bracket Assembly.



Next, line up front mounting bracket slots to the studs and place Driver Side/Left Rear Bracket Assembly (B) onto rocker panel. Then fasten 8mm Hex Bolts + Lock Washers + Flat Washers into the U-Clip Nuts, which are the upper mounting points. After, insert an 8mm Hex bolt + Lock Washer + Flat Washer through the bottom pinch trim hole and the hole of the bracket, and then secure using an 8mm Hex Nut + Flat Washer. Do not tighten all the way yet.

Fasten 8mm Hex Bolt + Lock Washer + Flat Washer into top mounting points.



Put 8mm Hex Bolt + Lock Washer + Flat Washer all the way through the bottom pinch trim hole + bracket mounting hole.



Then fasten using 8mm Hex Nut + Flat Washer.



Bottom Hex Bolts fastened onto rocker panel.

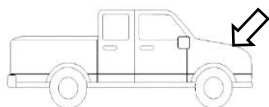
Make sure the brackets are aligned well and generally parallel to the straight line of the cab. Once aligned, tighten all the way.

5

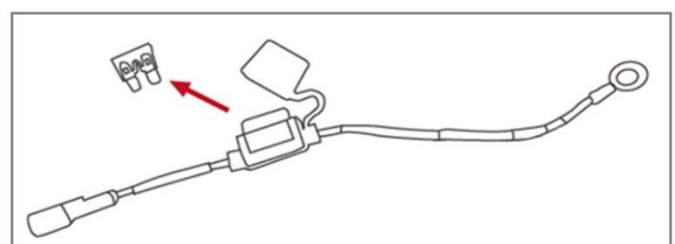
Repeat steps 1 – 4 for the Passenger Side.

6

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 (J).



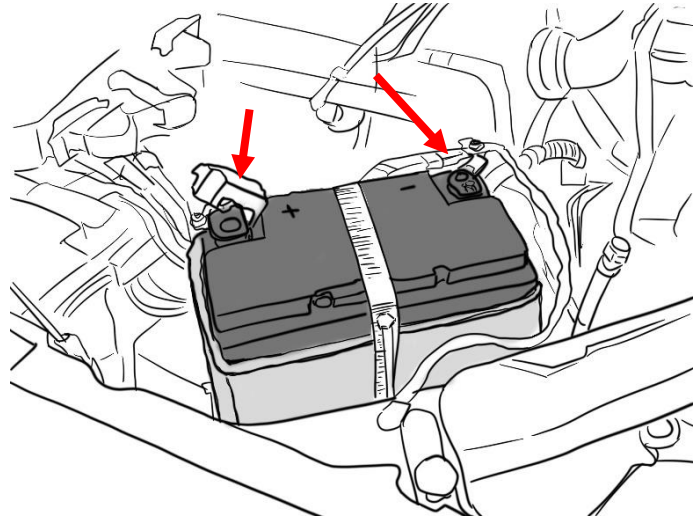
***WARNING:** Keeping the fuse connected to the fuse box may result in electrical sparks and risk of shorting when working with the battery.



Open fuse holder cap and remove fuse

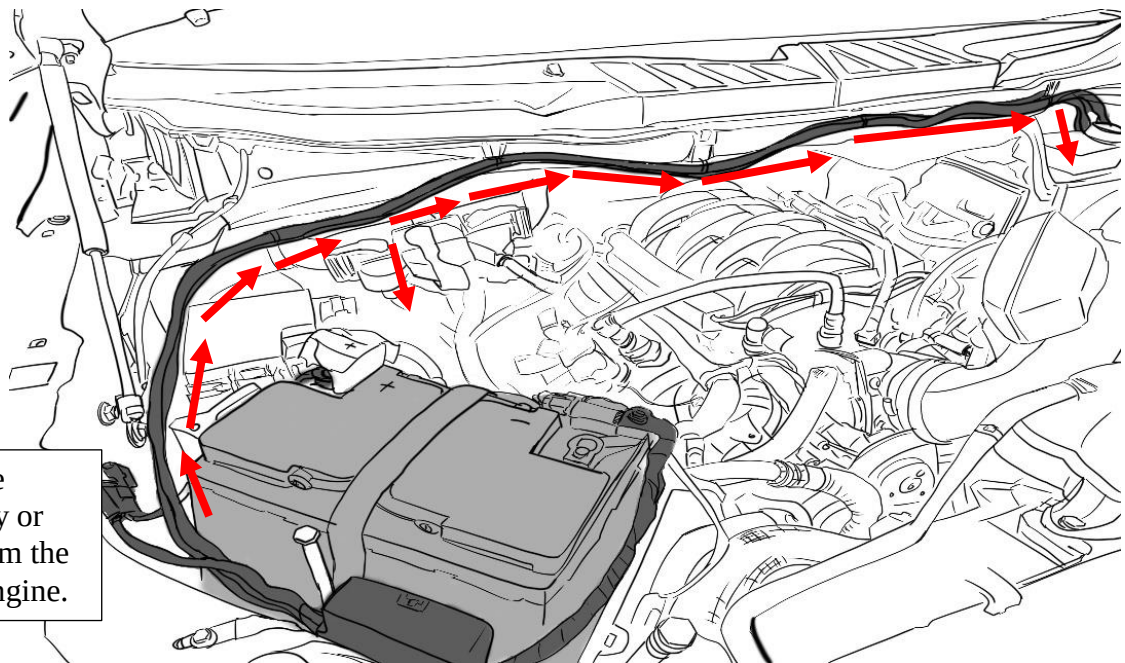
7

Connect the positive power lead on the main harness (J) to the positive battery terminal. And the negative lead to the negative battery terminal. Make sure both power leads are fully secured. Connect the ECU (M) to the main harness. Connect the Long LED Y-Harness (K1) to the Driver-side branch of the main harness. Connect the Short LED Y-Harness (K2) to the Passenger-side branch of the main harness.



8

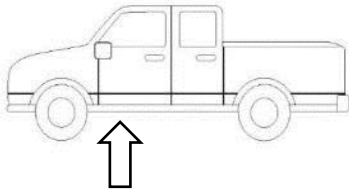
Route the main harness (J) around the battery, up along the rear of the engine compartment, and down the Driver-side wheel well. Route the shorter leg of the harness down the Passenger-side wheel well. **Be sure to avoid contact with any moving or hot engine components.** Attach and secure the main harness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



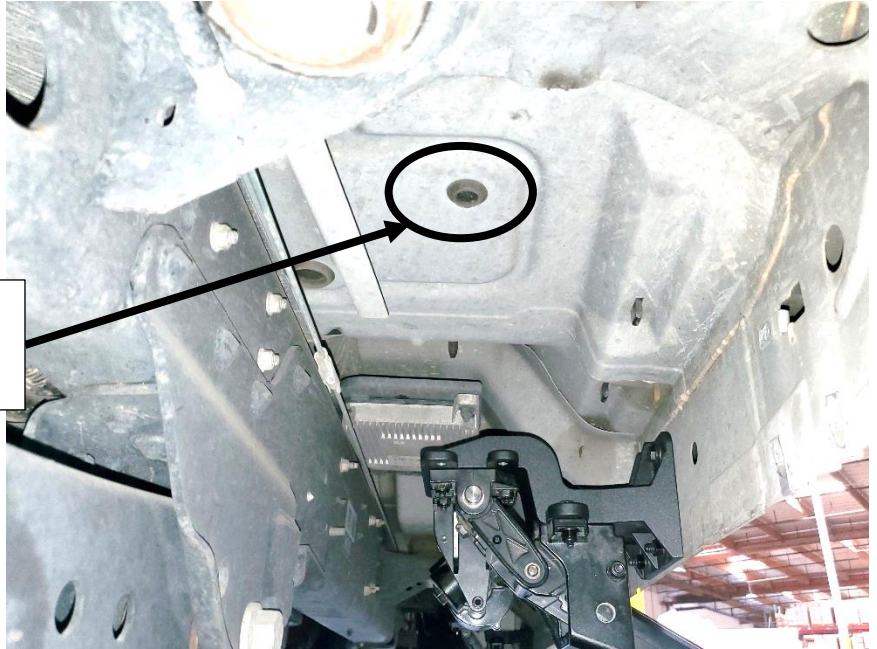
ECU (M) should be secured near battery or any space away from the direct heat of the engine.

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 linkage arm. Pop out the grommet and thread the two signal wires through and up into the vehicle cabin.

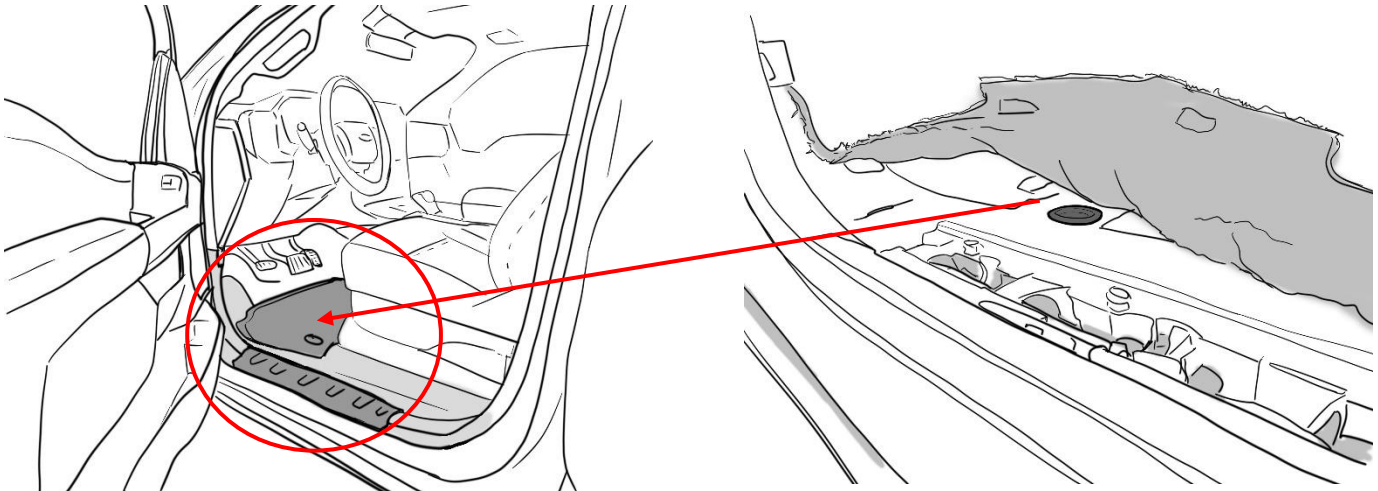


Carefully put wiring through rubber floor plug

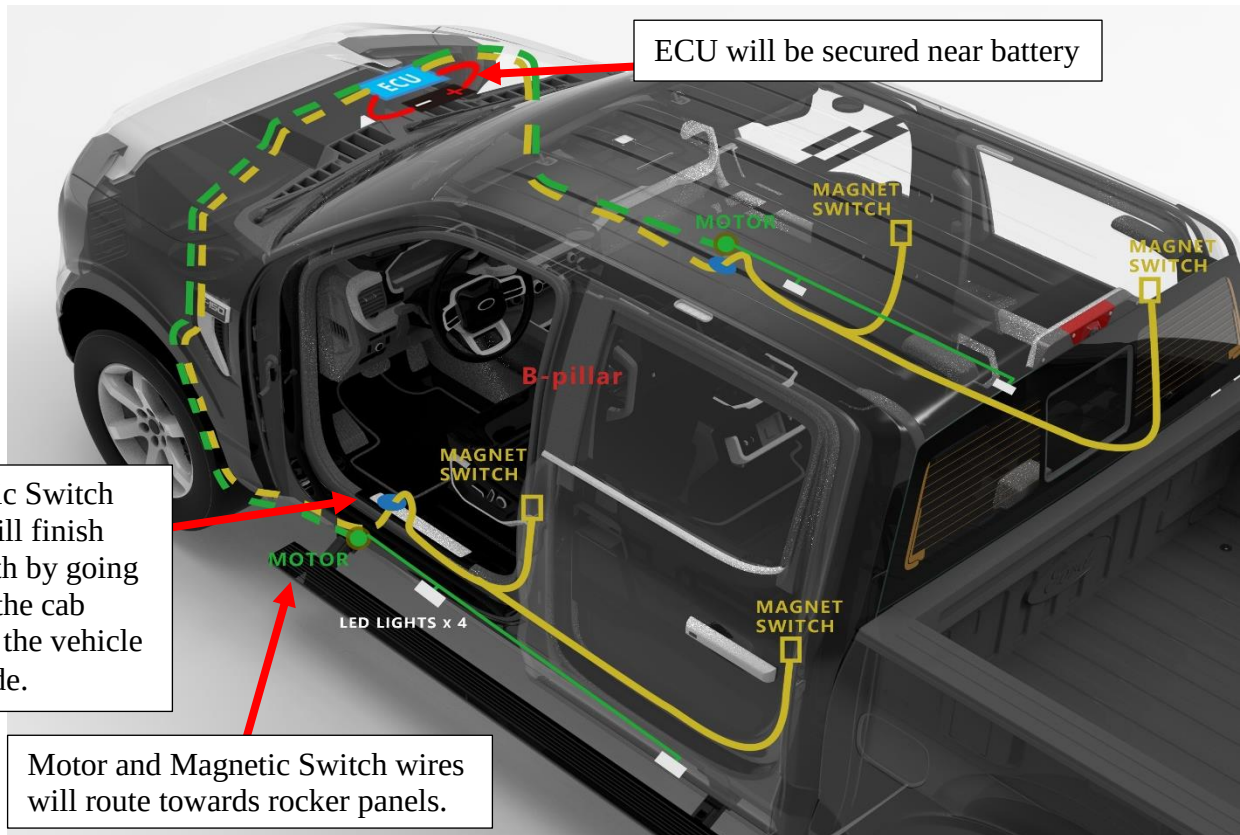


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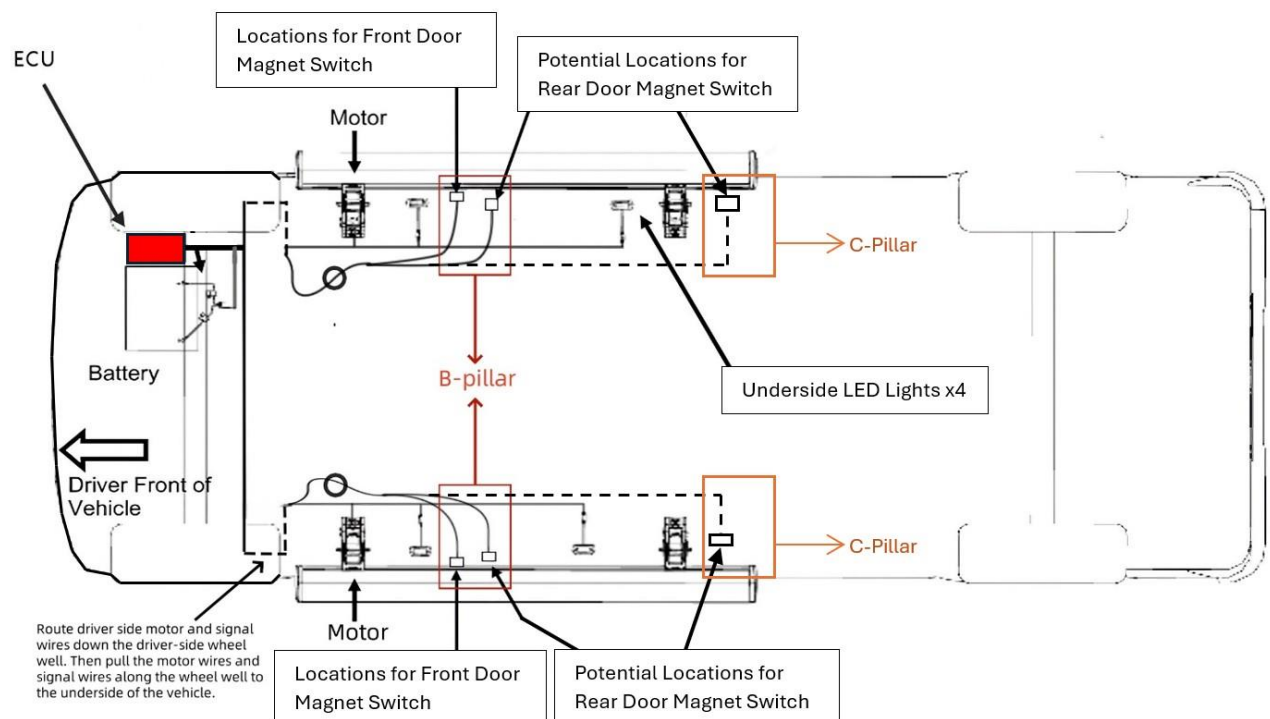
Inside the vehicle cabin, remove the driver-side front kick panel and bottom door sill plate. Peel back the carpet to access the hole where the grommet was removed. Feed the wires through.



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.

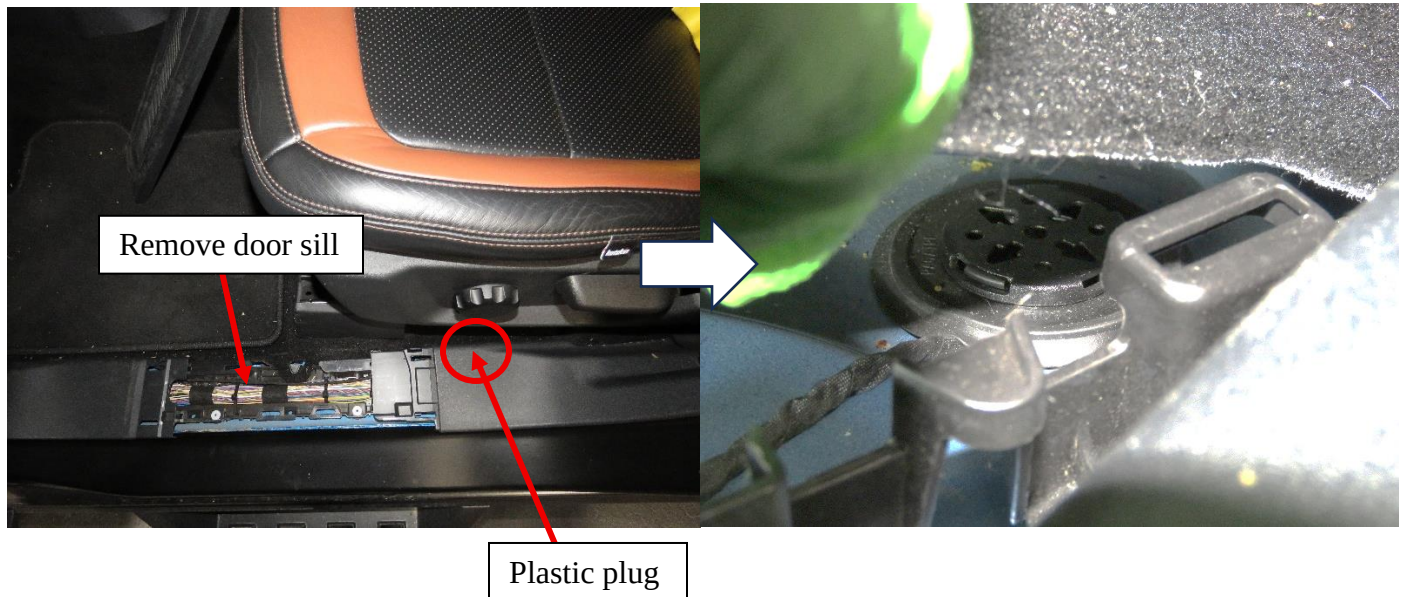


The main idea is to route the wires from the battery to the appropriate side, and from there, to route the signal wires for the magnetic switches up through the floor of the vehicle and into the cab. Use the general diagram on the next page as reference while routing the wires:

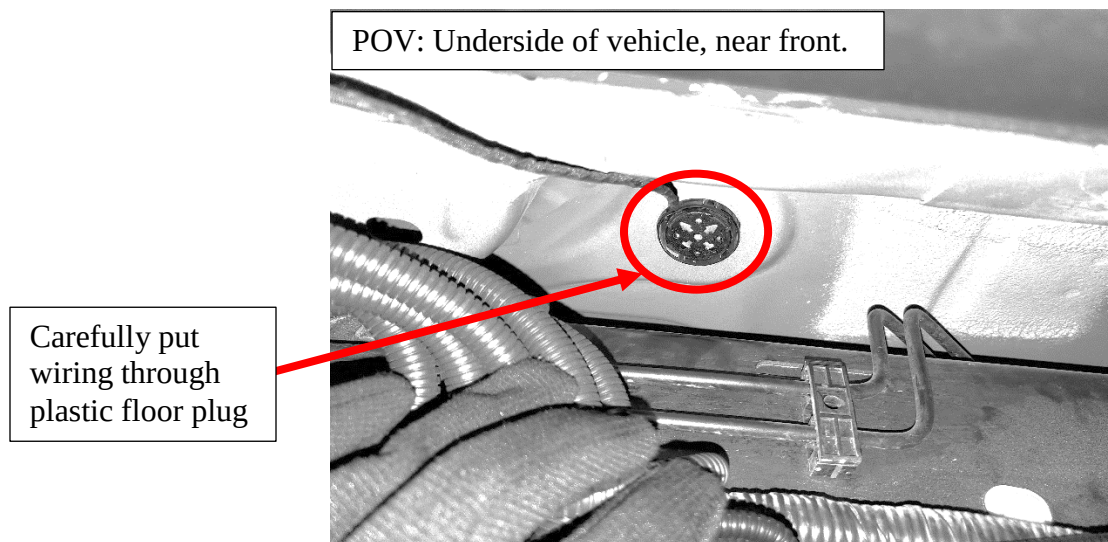


12

Route switch wiring through floor grommet, remove the bottom door sill plate. Peel back the carpet to access the hole. Remove the plug from the underside of the vehicle. Routing method may differ between vehicles, but they should follow these general steps.



Push up on the rubber floor plug, it will pop out. Make sure to push gently so the rubber plug is easy to retrieve when plugging back in the hole.

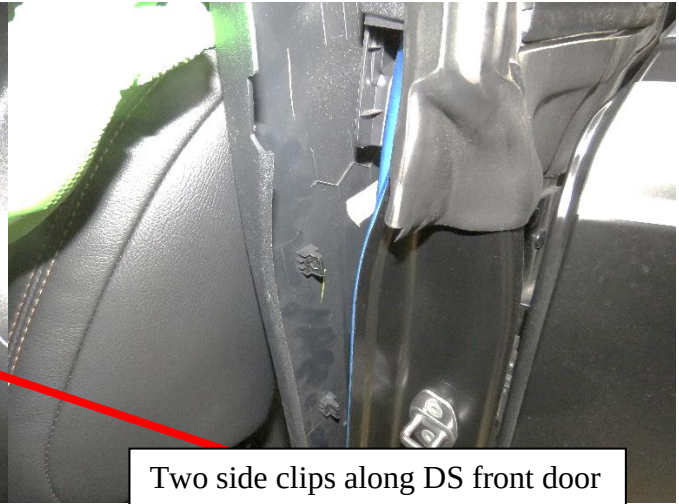


13

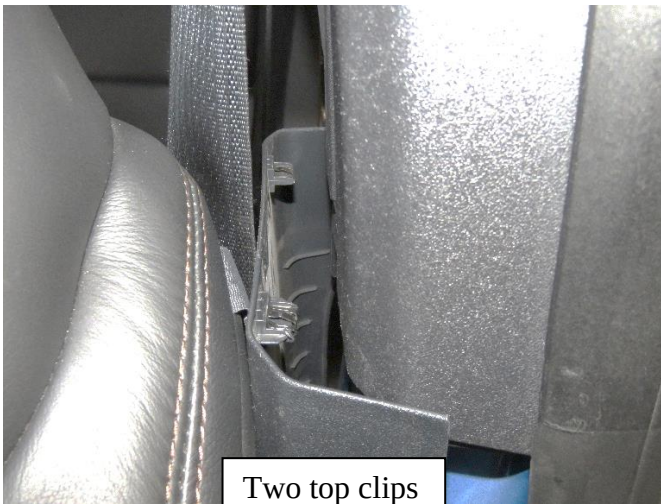
Accessing the rubber floor plug can take some time. It is difficult to get to, so the B-pillar plastic trim would have to be removed for easier access. Be gentle when prying the plastic trim out.



Bottom clip along DS front door



Two side clips along DS front door



Two top clips



Two side clips along DS rear door

- 14** Once the B-pillar plastic trim is free, move the door sill portion to the side to gain better access to the plastic floor plug. Remove the plug and fish the switch wires into the cabin. Push the plug back in when the desired wire length is met.



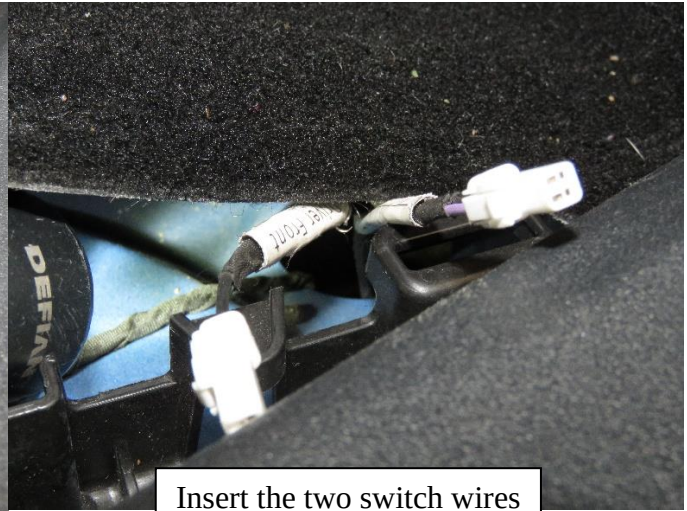
Move the plastic trim to the side



Locate the plastic floor plug underneath the Driver seat



Remove the plastic floor plug



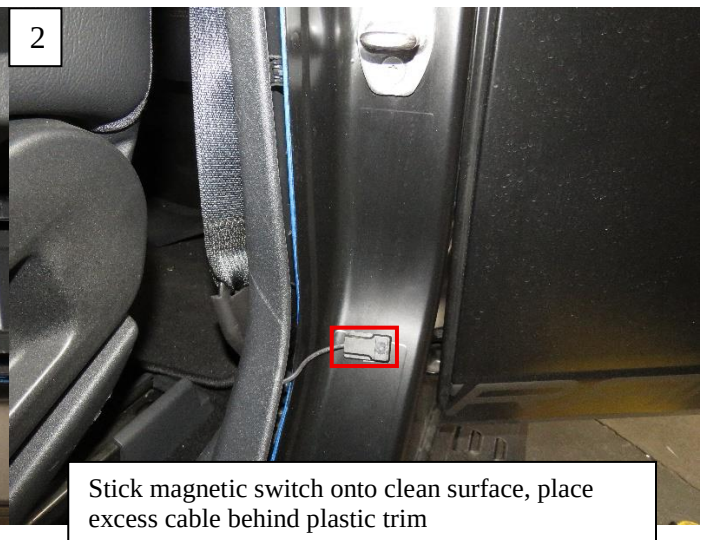
Insert the two switch wires



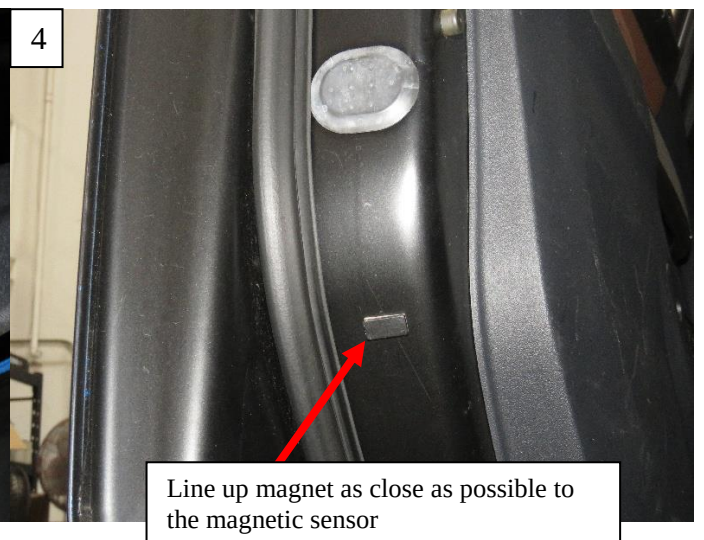
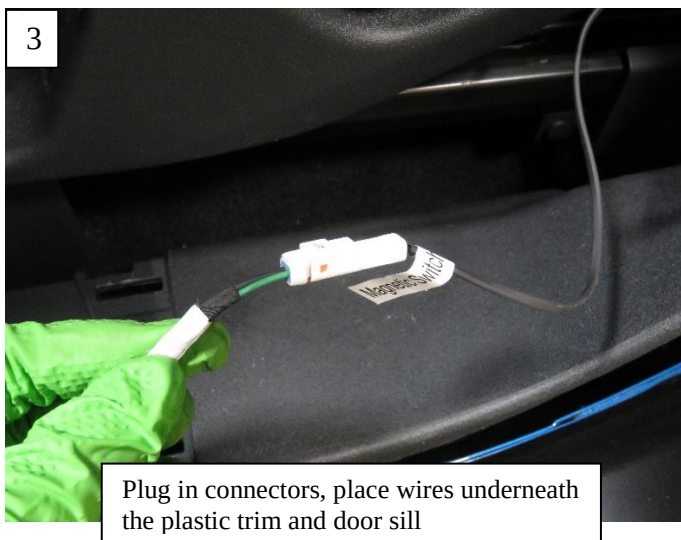
Push the plug back in over the wires

15

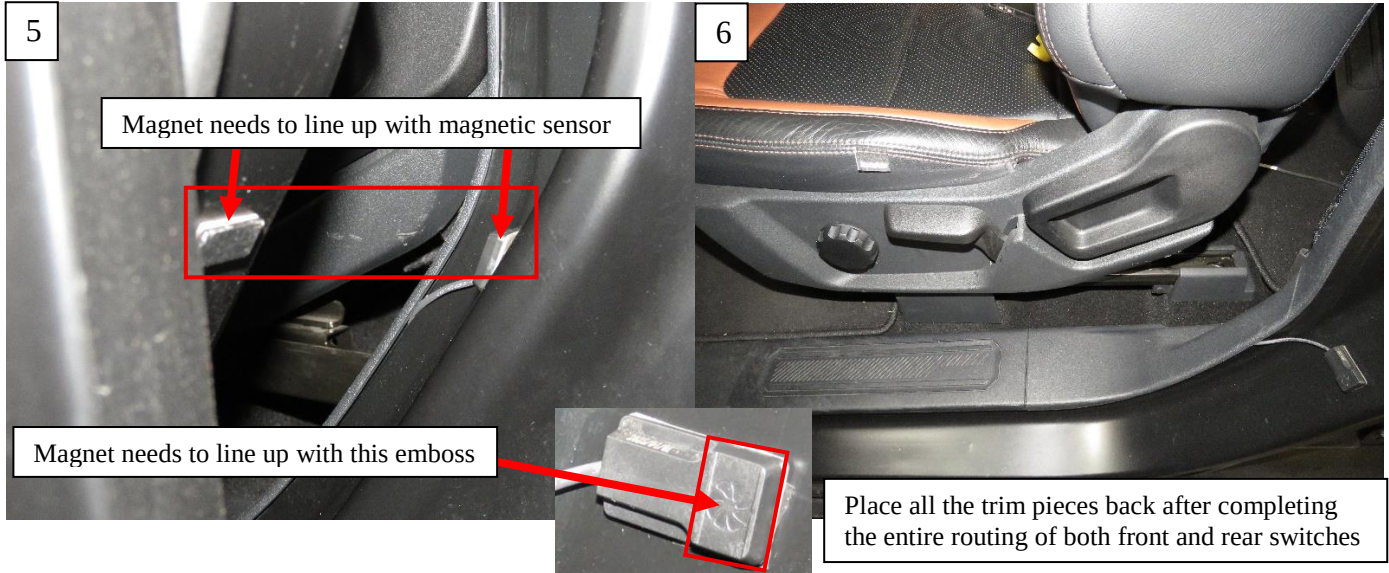
Starting on the front door, take the shorter switch wire and route it up through the door sill underplating and behind the B-pillar plastic cover. The switch will be placed just below the seat belt.



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.

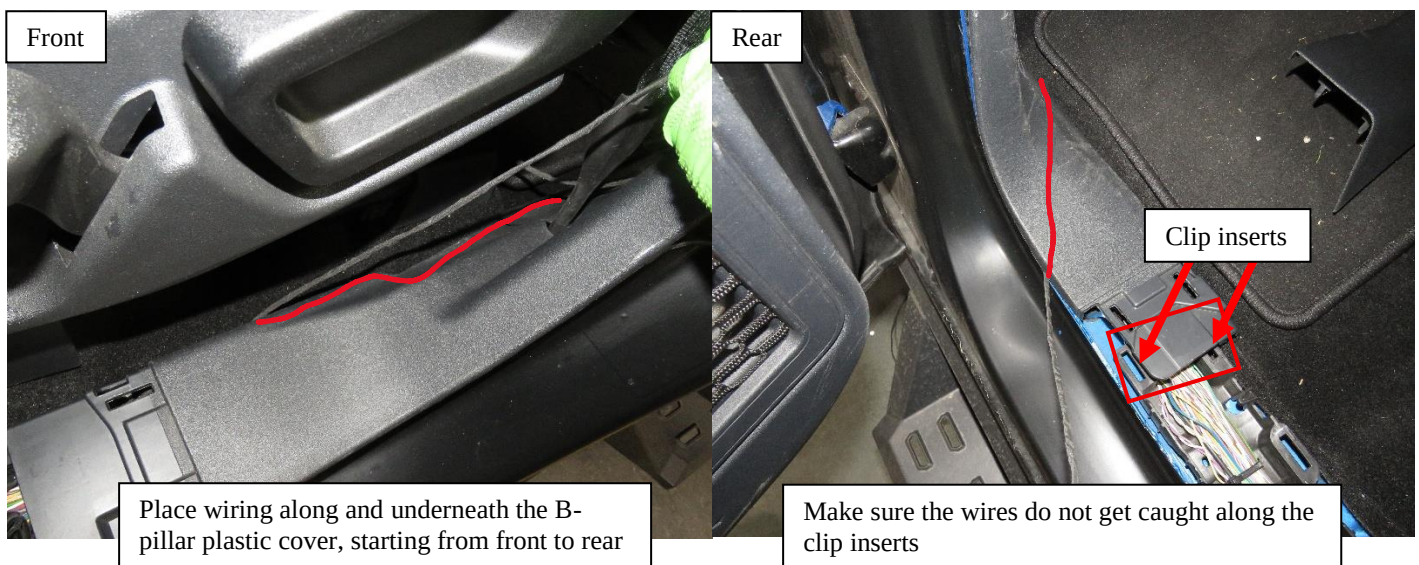


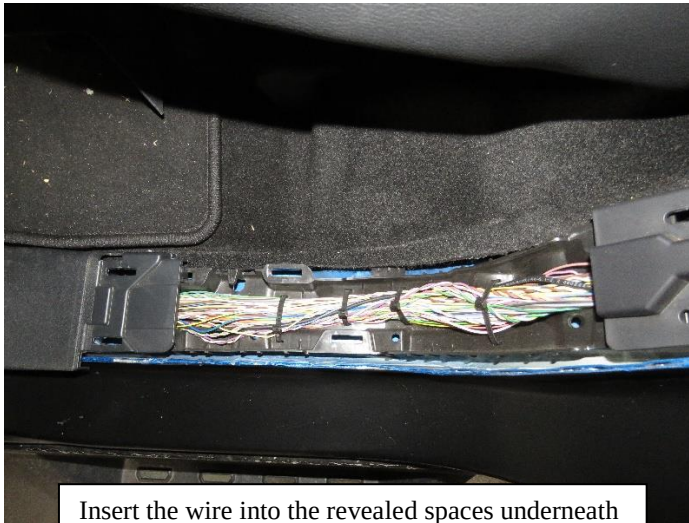
Then, take a magnet and place a provided 3M adhesive patch on one side. Take the newly prepped magnet and line it up with the magnetic switch on the door side. When closing the door, the magnet needs to align with the rectangular emboss of the magnetic switch to properly activate. Attach this magnet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



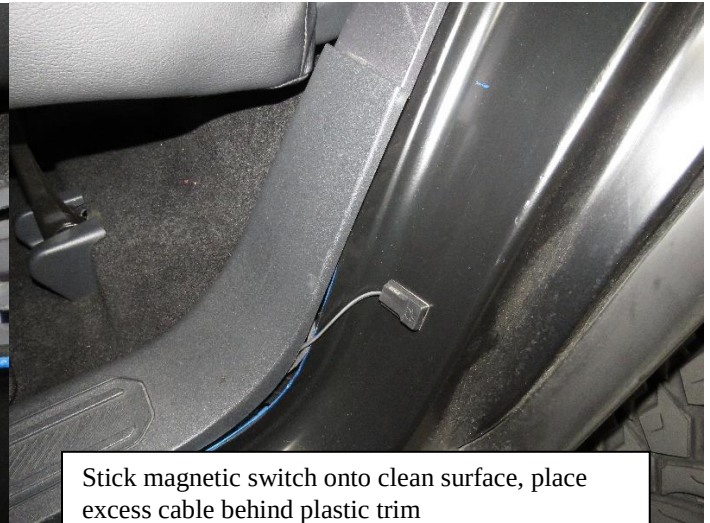
16

Ending on the rear door, take the longer switch wire and route it up through the B-pillar plastic trim and along the rear door sill. Place wires underneath the door sill and plastic trim. Ensure the wires do not get caught on the plastic clips along the door sill inserts.



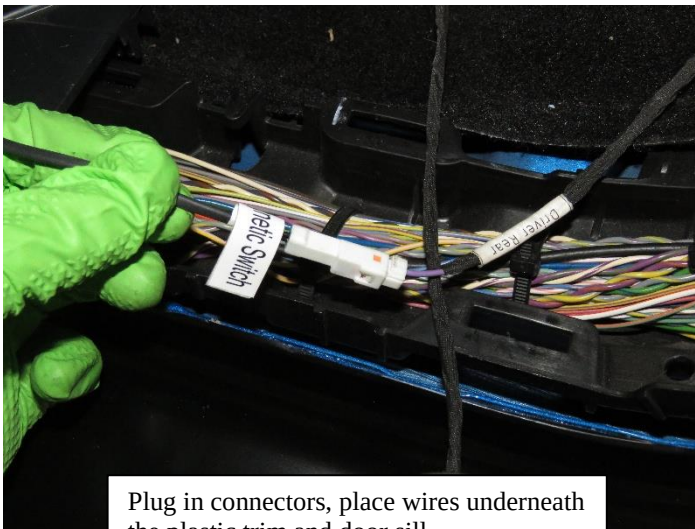


Insert the wire into the revealed spaces underneath

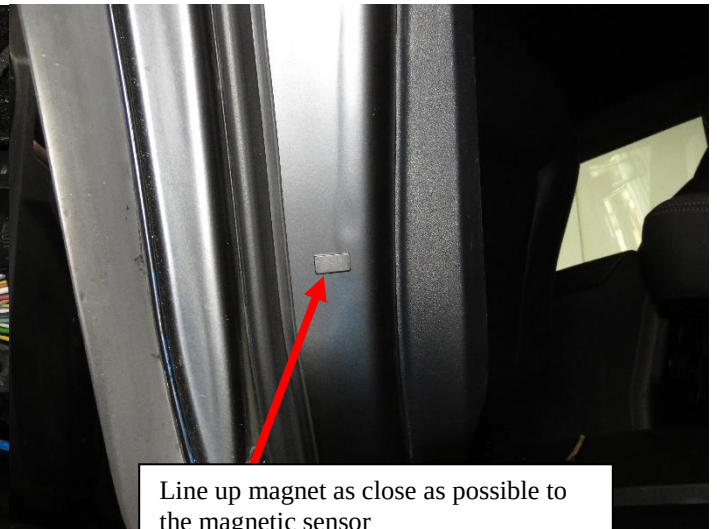


Stick magnetic switch onto clean surface, place excess cable behind plastic trim

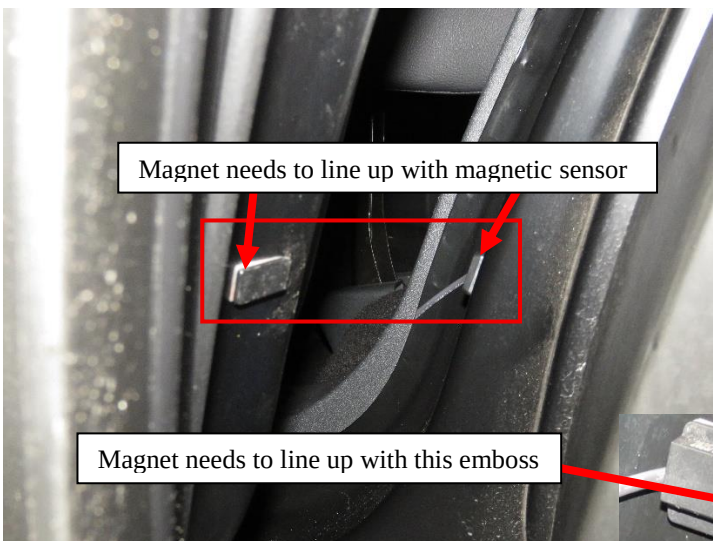
After routing the signal wire under the door sill, attach the magnetic switch to the C-pillar right below the door latch. Be sure to clean the area using alcohol wipes and a clean cloth to ensure maximum adhesion to the surface. Then connect the signal wire plug to the magnetic switch plug.



Plug in connectors, place wires underneath the plastic trim and door sill



Line up magnet as close as possible to the magnetic sensor



Magnet needs to line up with magnetic sensor

Magnet needs to line up with this emboss



Place all the trim pieces after the rear switch is placed



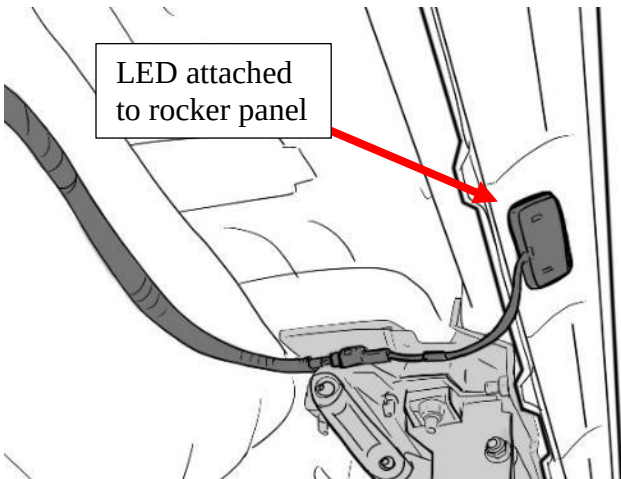
Attach the main harness (L) to the LED Y-Harness (M). Then attach the LED Y-Harness (M) to the motor on the Driver Side. Repeat for Passenger Side. The shorter LED Y-Harness should connect to the motor that is on the same side as the ECU.

Driver side



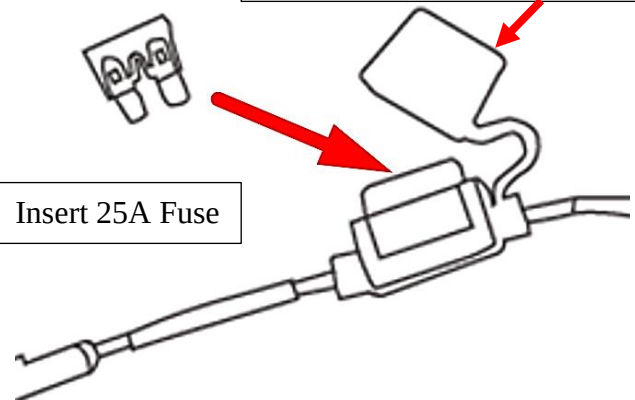
Plug in LED lights (P) into LED Y-Harness (M) and attach them to the bottom of the rocker panel. Use provided 3M double sided adhesive tape on back of LED light (P). Replace Fuse into Fuse Box.

LED attached
to rocker panel



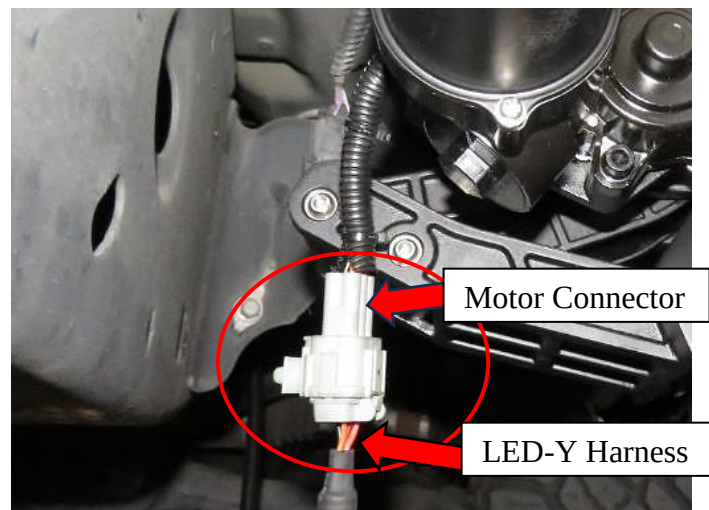
Close lid after replacing Fuse

Insert 25A Fuse



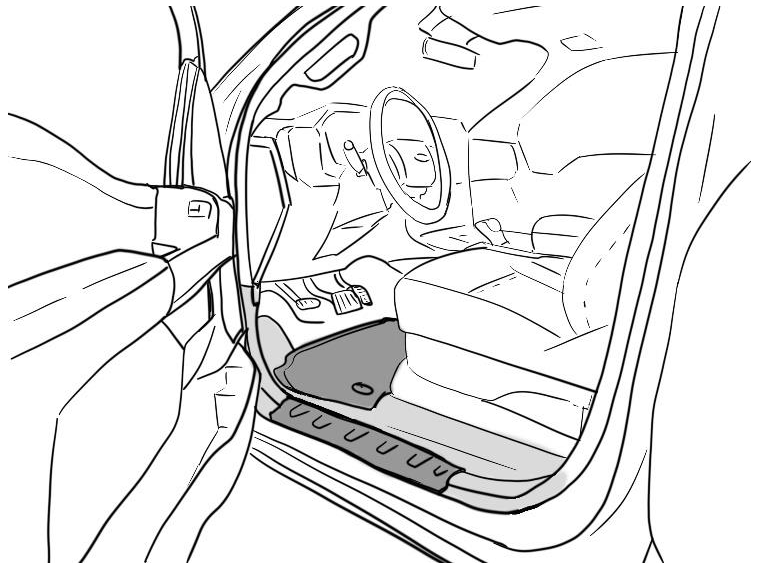
Check to make sure the harnesses on the Driver Side/Left Front Bracket Assembly (A) and Passenger Side Front Bracket Assembly (C) are connected to the main harness (L) via the LED-Y harnesses (M).

*NOTE: The linkage arms on the front bracket assemblies will not move unless both motors are connected.

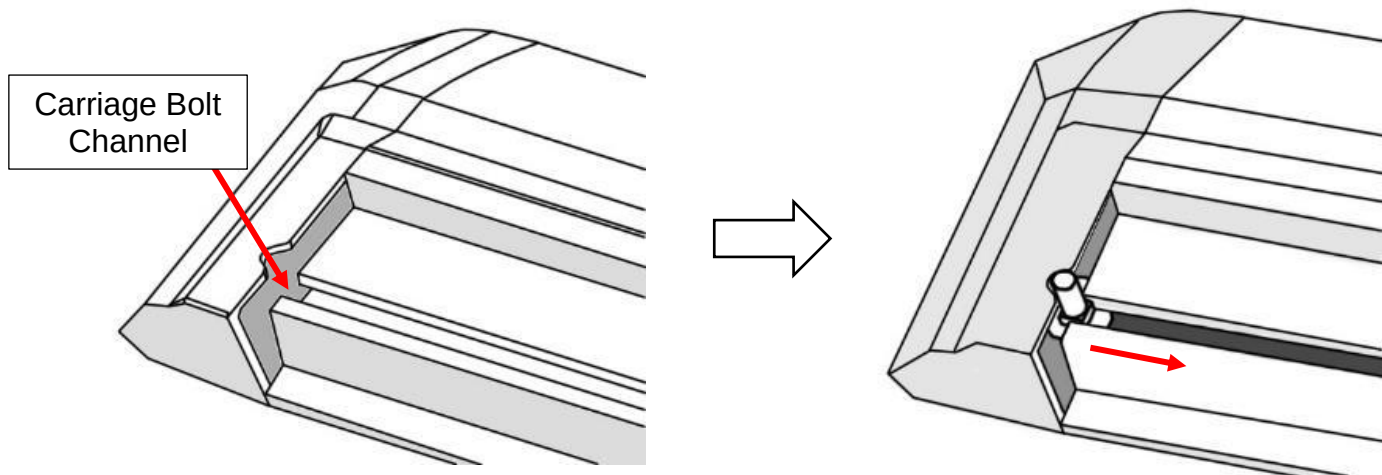


20 Seal the grommet with RTV Silicone Sealant.

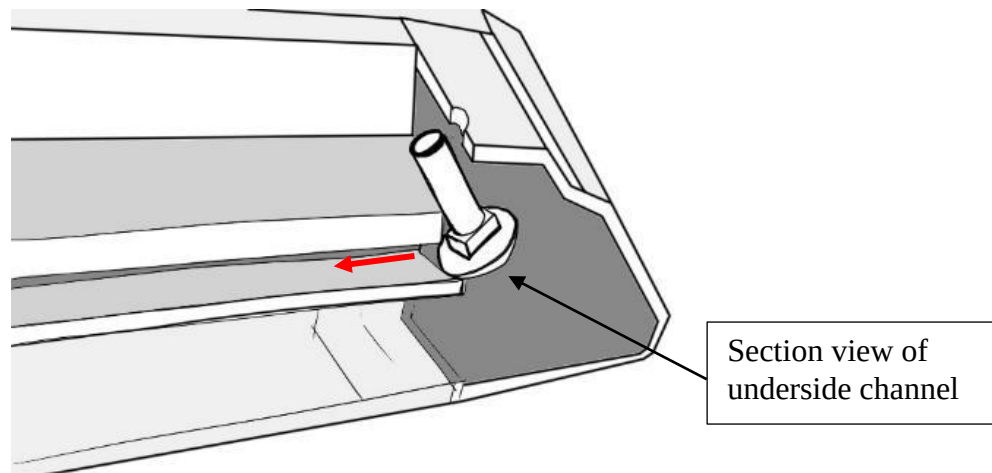
Hide wires and reattach the kick panel with the carpet fully unfurled in its original position. Reattach the door sill panel and check to make sure there are no obstructions or potential snag points around the brake pedal area.



21 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.

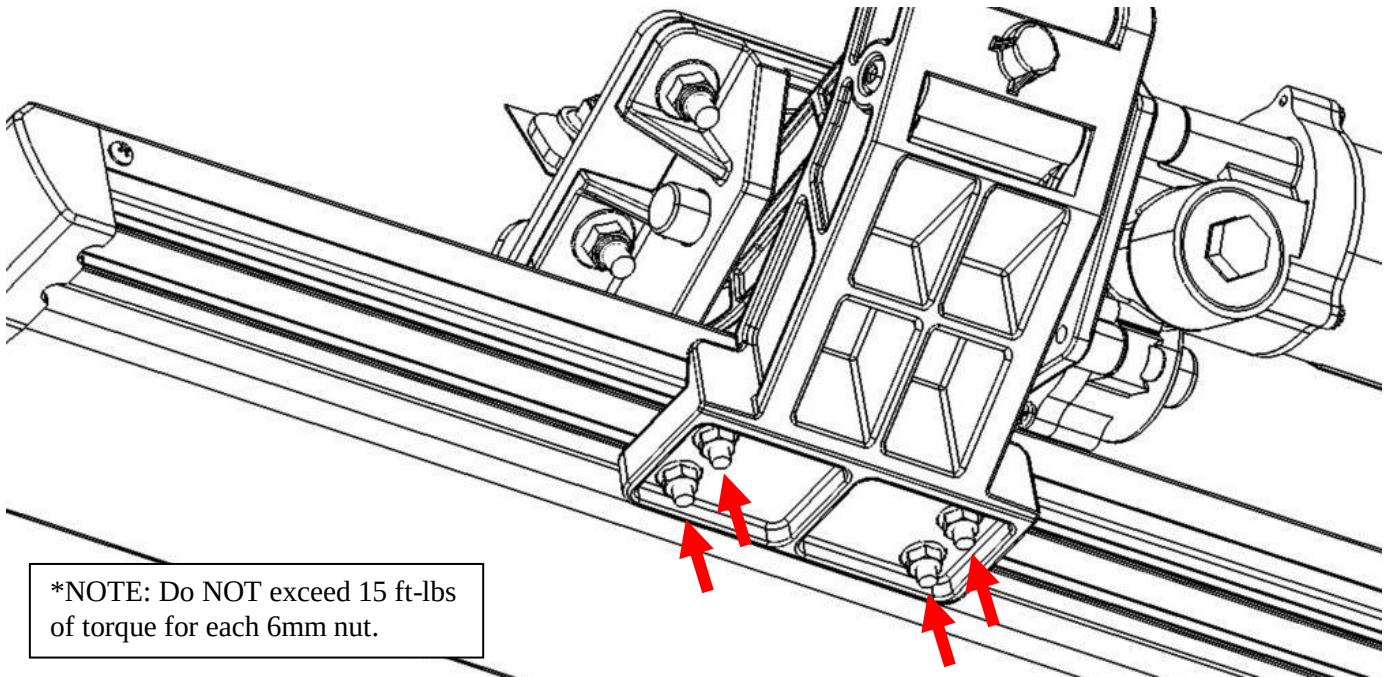


22

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 motor connector from the LED-Y harness (to cut power to the linkage arms), while front door is open, to hold 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 (H) onto the carriage bolts.



Once the board is adjusted, plug in the motor connector to the LED-Y harness (to return power to the linkage arms), making sure that the door remains open. Proceed to 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.

Some further adjustment may be required for desired step position. Repeat for passenger side.

23

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

- a) With board deployed loosen 6mm nuts under board.
- b) Leave the 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 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.

24

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



FINAL REMARKS

- Ensure there are no debris or obstacles preventing the power steps from operating.
- Open and close each door on both sides to ensure that power steps are operating correctly.
- Check and ensure that all electrical connections are properly connected.
- Check and ensure that the magnetic switches are lined up correctly and that they directly face each other when the door is closed.
- Check and ensure that the magnetic switches fully adhere to a clean surface.
- Conceal the magnetic switch wiring as best as possible underneath the door sill and along the weather seal.
- Recheck that all mounting hardware is tight.
- Adjust mounting brackets or running board to enable smooth operation even after having stepped on the deployed boards.

MAINTENANCE AND CARE

- Periodically clean the linkage arms and motor of any dirt or debris that may accumulate.
- Avoid spraying the motors directly with high pressure liquids.
- Avoid damaging the power steps.
- Ensure power step ECU is not exposed directly to water to prevent degradation.
- Ensure wiring is properly tucked away and concealed from mechanically moving parts and exposure to high heat or very low temperature conditions.
- Periodically recheck that all mounting hardware is tight
- Do not overload the running board.
- Readjust running board if necessary.

WARNING AND SAFETY

- Do not use boards as a rock slider or as skid protection.
- Do not use solvents, chemicals, oils, or corrosive liquids on power steps. If the power steps encounter these substances, clean the power steps as soon as possible. Mild detergent and water is recommended.
- Do not obstruct the power steps in any way during operations of deployment and retraction.
- Do not rely in any way on the components of this product to keep occupants within the vehicle or to protect against injury or death in the event of an accident.
- Do not sit/stand on the running board for long periods of time.
- Do not jump on power step board or rest heavy objects on boards or subject power steps to excessive force.
- Do not step on plastic end caps of the boards. Failure to do so may result in injury.
- Do not place bodily appendages between running board and the vehicle body. Please mind the gap between the vehicle and the board.

- Do not allow children to use power steps without adult supervision and proper operation. This is not a toy. Improper use may result in injury.
- Remove the fuse on the power lead on the main harness before doing electrical troubleshooting to avoid risk of shock or injury. Make sure the motors do not have power before working on mechanical adjustments to avoid injury.

By purchasing any item sold by Rough Country, LLC, the buyer expressly warrants that he/she is in compliance with all applicable, State, and Local laws and regulations regarding the purchase, ownership, and use of the item. It shall be the buyers responsibility to comply with all Federal, State and Local laws governing the sales of any items listed, illustrated or sold. The buyer expressly agrees to indemnify and hold harmless Rough Country, LLC for all claims resulting directly or indirectly from the purchase, ownership, or use of the items