

ROUGH COUNTRY

ERBOX090910
ERBOX050210

RAM (2010-25) 2500/3500 POWER BOARD BOX KIT RAM 09-18 (19+ CLASIC) 1500 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



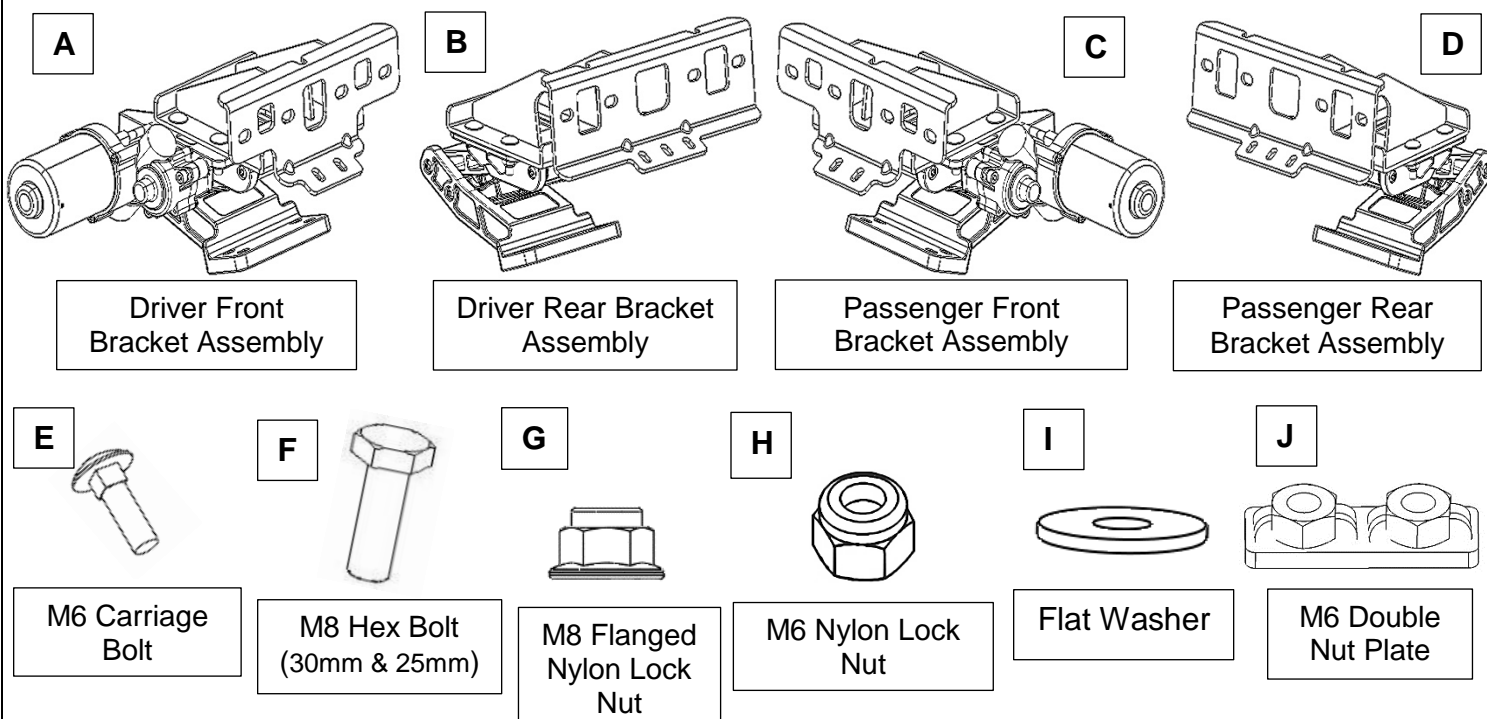
INSTALLATION INSTRUCTIONS

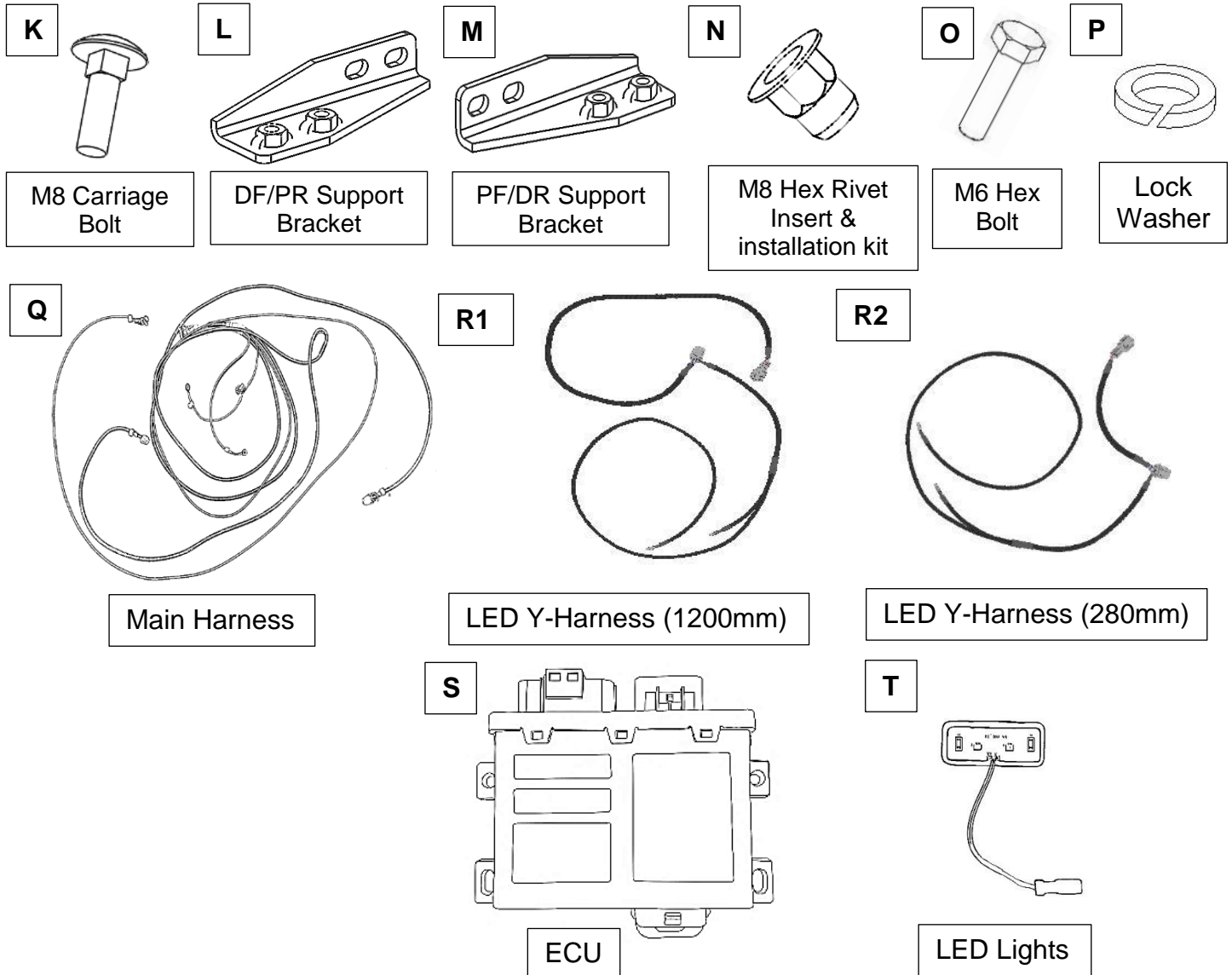
MECHANICAL PARTS LIST:

Qty	Description	Qty	Description
2	Running Boards	8	6mm Lock Washers
1	Driver Front Motor Linkage Assembly	8	6-1.0mm x 25mm Hex Bolts
1	Passenger Front Motor Linkage Assembly	9	8mm Hex Rivet Inserts
2	Rear Linkage Assemblies	9	8-1.25mm x 25mm Hex Bolts (Tool)
2	Front Steel Mounting Brackets	9	8mm x 24mm x 2mm Large Flat Washers (Tool)
2	Rear Steel Mounting Brackets	16	8mm Lock Washers
2	DF/PR Support Bracket	8	8-1.25mm x 25mm Hex Bolts
2	PF/DR Support Bracket	8	8mm x 24mm x 2mm Large Flat Washers
4	2mm Mounting Plates	8	8-1.25mm x 30mm Hex Bolts
4	6mm Double Nut Plates	16	8mm Flange Nylon Lock Nuts
16	6mm Nylon Lock Nuts	16	8-1.25x30mm Carriage Bolts
16	6-1.0mm x 20mm Carriage Bolts	8	8mm x 16mm x 1.6mm Flat Washers
16	6mm x 16mm x 1.6mm Flat Washers	1	Rubber Sleeve
8	6mm x 18mm x 1.6mm Flat 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 (280mm)	1	LED Y-Harness (1200mm)
4	Magnets and Adhesive Prep Kit	15	Zip Ties

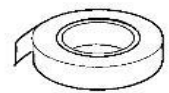




TOOLS REQUIRED



8mm
10mm
13mm



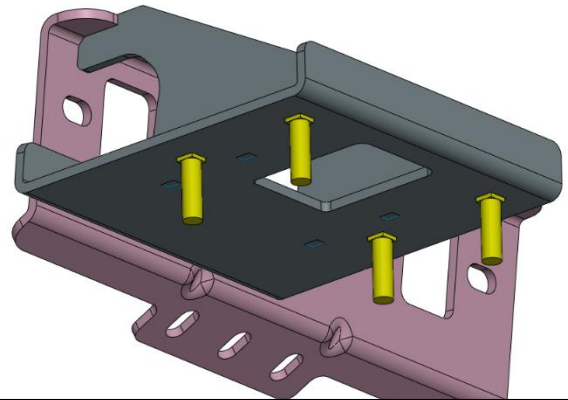
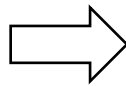
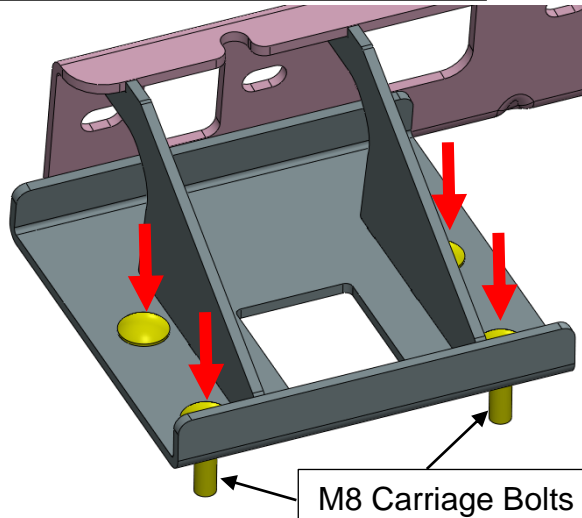
1

First, the Steel Brackets and the Linkage Assemblies must be combined with each other to form completed "Bracket Assemblies".

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. (see next page for illustrations)

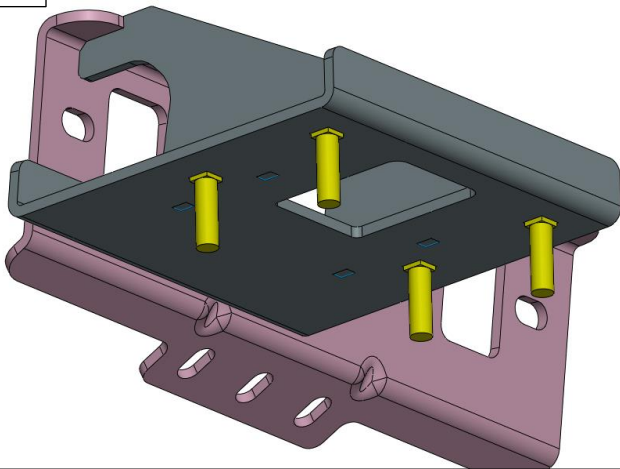
Insert M8 Carriage Bolts downwards.



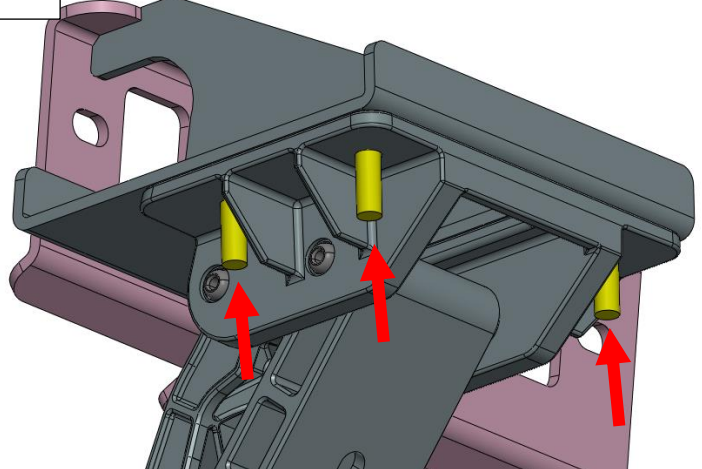
Note: Brackets pictured on this page are for illustration purposes only. Not every bracket in your kit will look like this.

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.

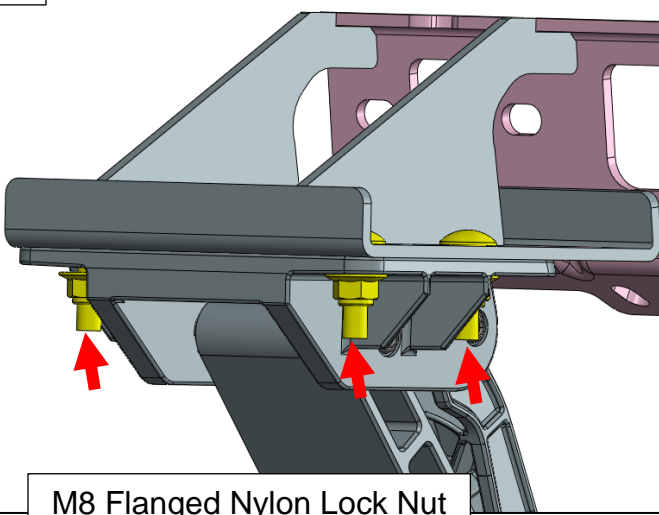
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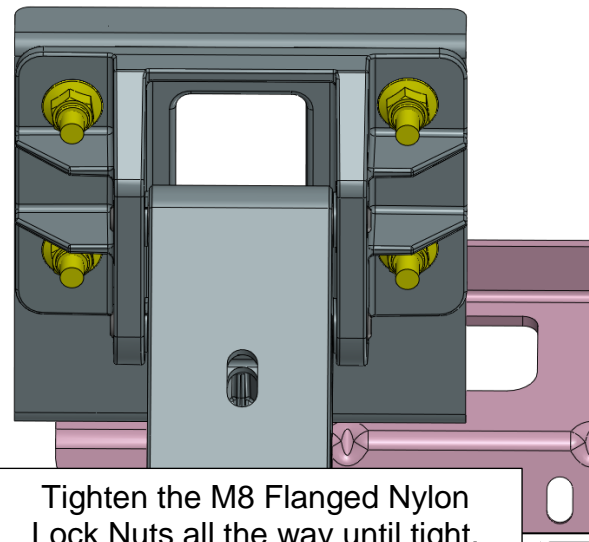
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3



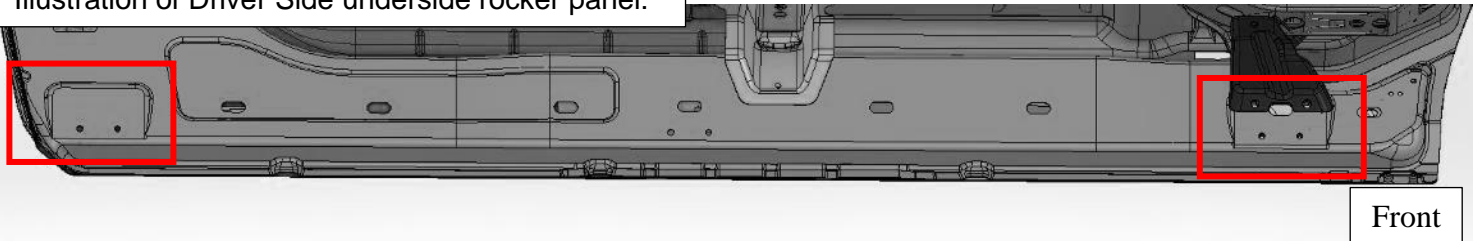
4



Tighten the M8 Flanged Nylon Lock Nuts all the way until tight.

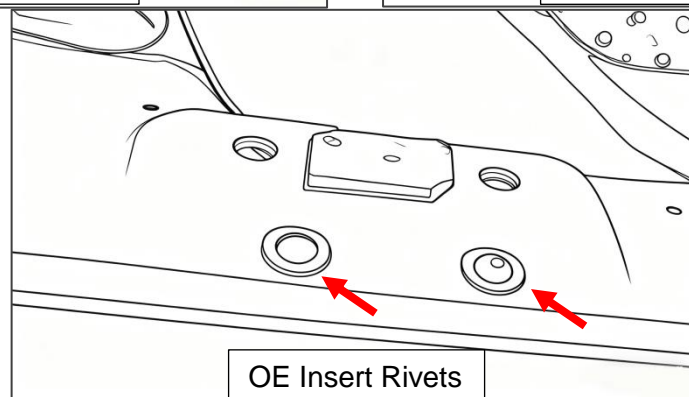
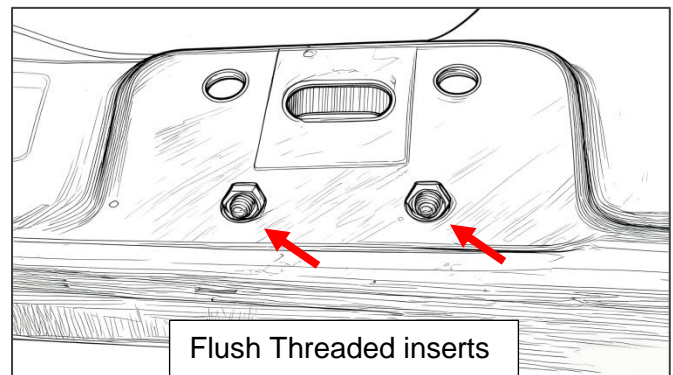
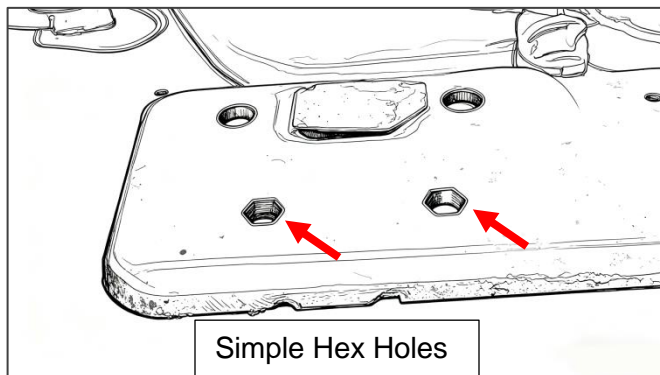
Next, identify the 4 mounting areas where the bracket assemblies will go. Use the guide below to help locate the mounting areas on the rocker panel under the truck.

Illustration of Driver Side underside rocker panel:



Determine if the rocker panel has either threaded inserts, OE rivet inserts, or has simple hexagonal holes. Follow the step in the black box below:

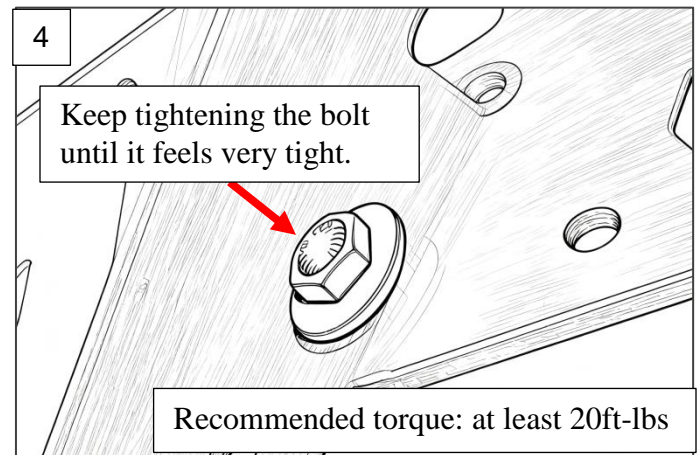
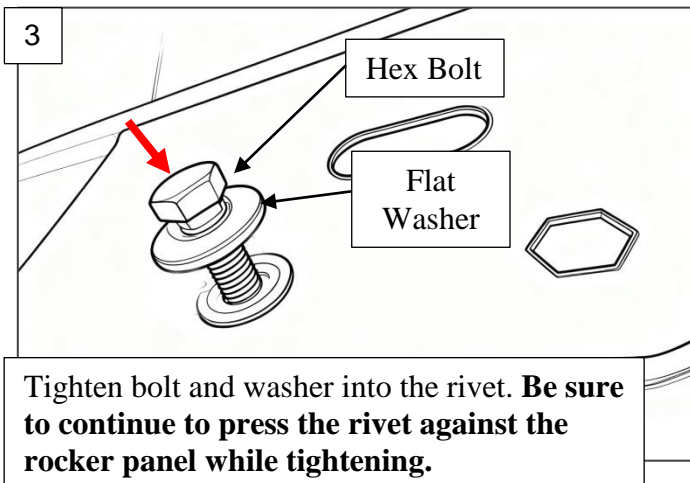
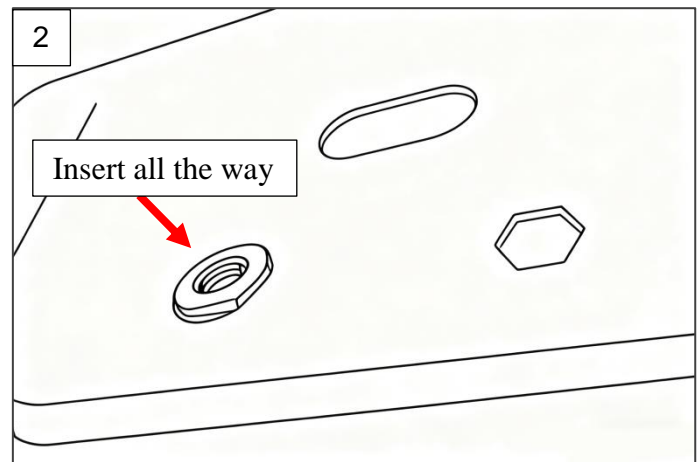
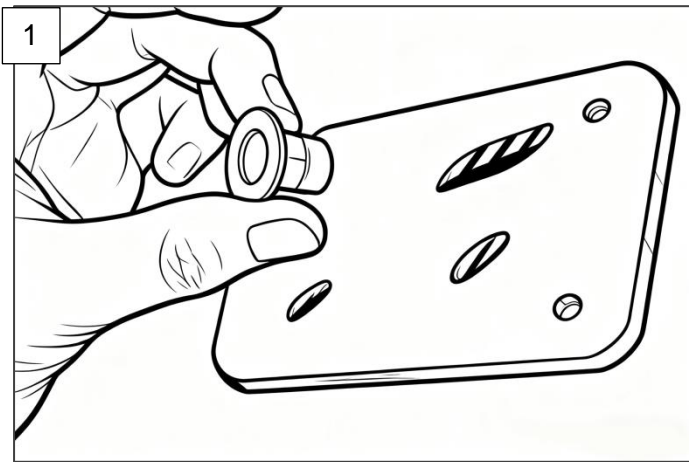
If vehicle has only hexagonal holes or simple empty hexagonal holes, **follow Step 2A**. If vehicle has flush threaded inserts, **proceed directly to Step 2C instead**. If vehicle OE insert rivets installed, proceed directly to **Step 2B instead**.



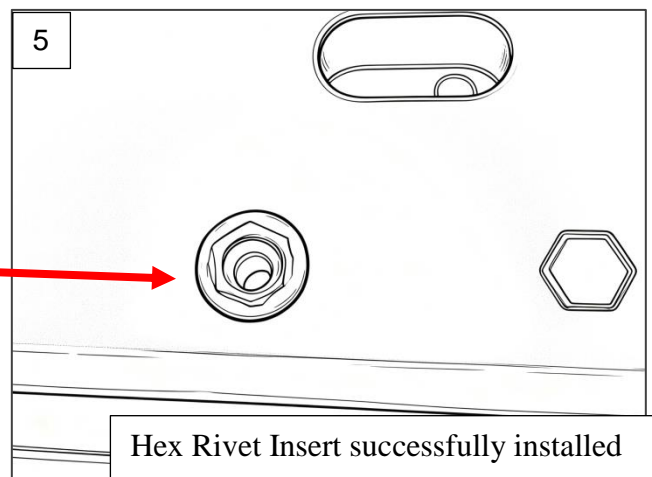
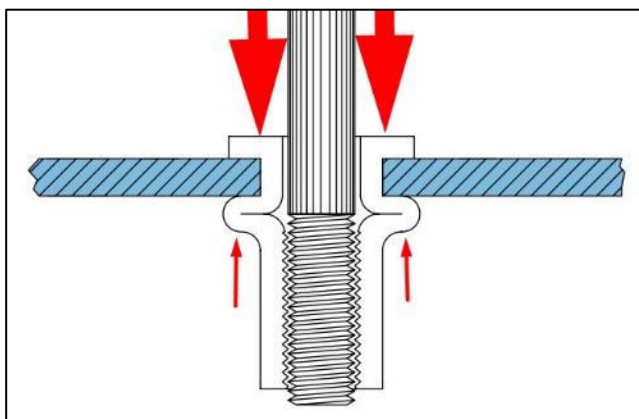
2A

If the vehicle has a combination of Hex Holes and OE Inserts, go to step 2A.

Take the M8 Hex Rivet Inserts and install them into the hexagonal holes on the rocker panel. To do this, first place the Hex Rivet Insert (R) into the hexagon hole flush against the rocker panel. Then, use the *M8x25mm High Strength Hex Bolt* that comes with the rivet and combine it with an included Flat Washer. Thread the bolt into the rivet while keeping the rivet against the rocker panel. Keep tightening until the bolt feels very tight.



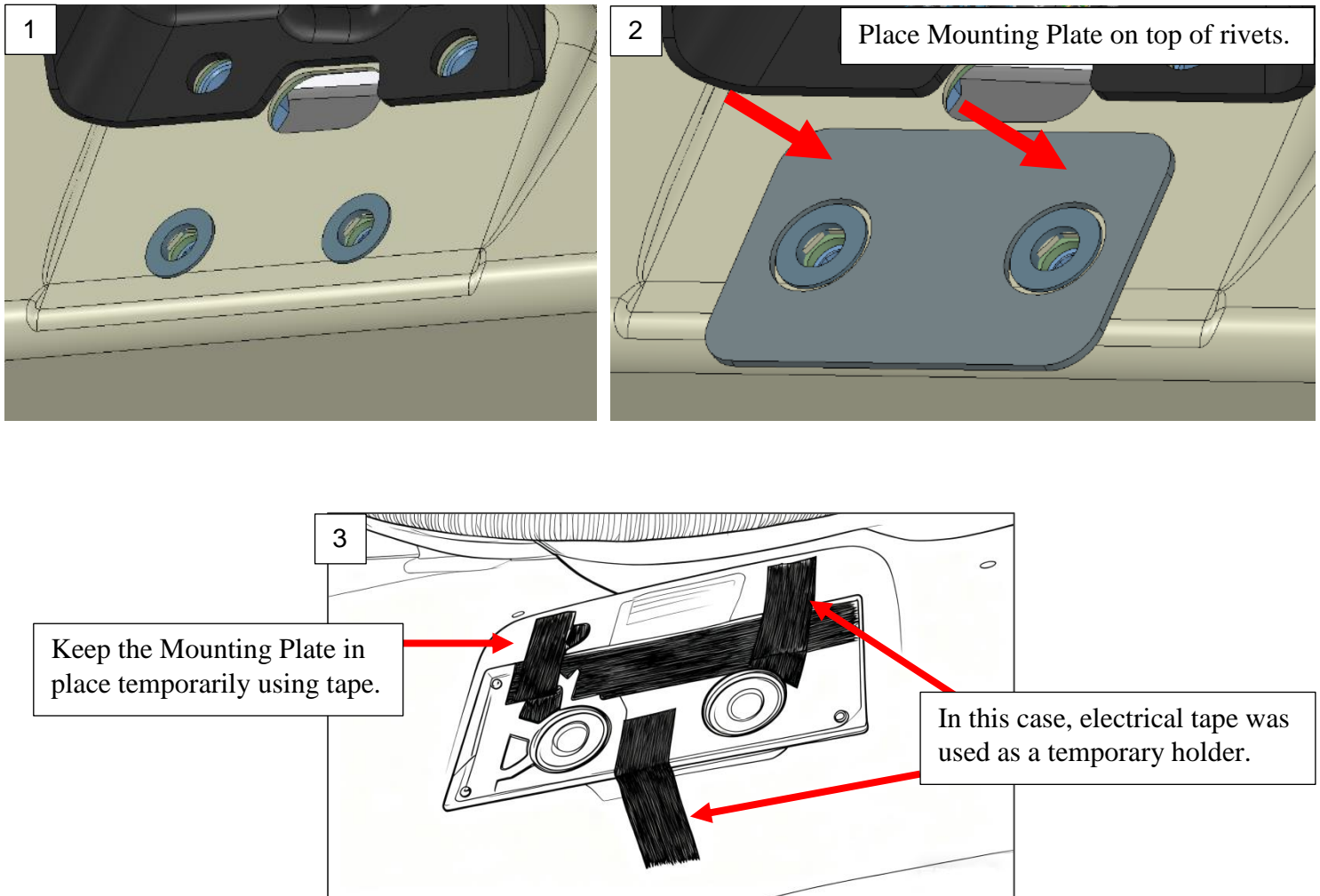
When the Hex Rivet Insert (rivet nut) is tightened, the nut will compress and grab the rocker panel, forming a fixture. To be sure the rivet is compressed, you may try to feel the back of the insert for the newly formed rear lip. **Do not exceed 24 ft-lbs of torque.**



Once installed, unthread the Hex Bolt from the Rivet and move on to the next mounting point. Repeat this step for all required mounting points. **Use a new High Strength Hex Bolt and Flat Washer every time a new Rivet is installed.**

Proceed to step 2B.

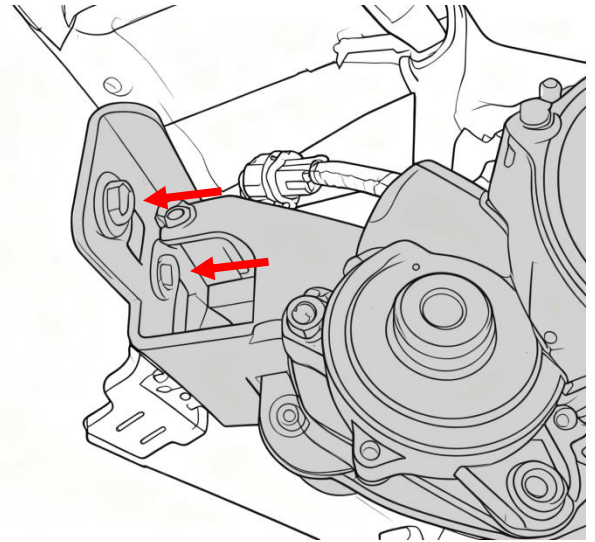
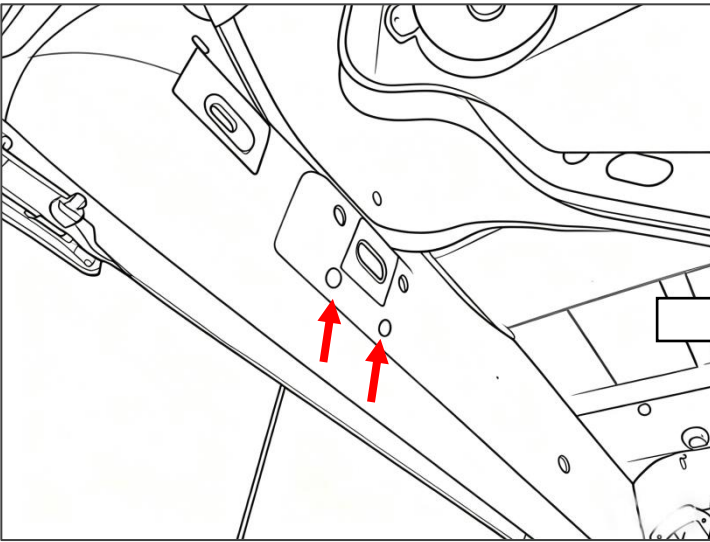
Once the Insert Rivets are installed, take a 2mm Mounting Plate and line up the holes with the Rivet heads. Place the Mounting Plate against the rocker panel, with the holes concentric around the Rivet heads, and use a small amount of tape to keep the mounting plate in place.



Proceed to step 2C. Repeat this step each time a bracket assembly is installed.

Locate the front threaded mounting points. Next, line up the front mounting bracket slots to the rocker panel mounting points and place Driver Side/Left Front Bracket Assembly (A) onto rocker panel.

Thread the M8 Hex Bolts (30mm length) + M8 Lock Washers + M8 Flat Washers (24mm diameter) into the two threaded inserts. Do not tighten all the way yet. Hand tighten the mounting hardware until snug.

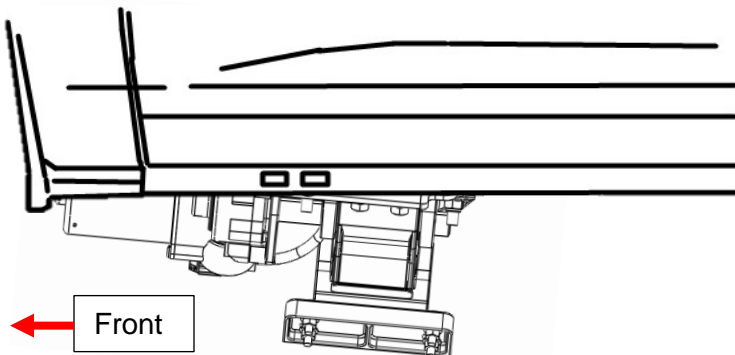


At this point it is recommended that the bracket assembly be mounted tight enough to not fall or shift from its own weight but just barely loose enough to adjust further.

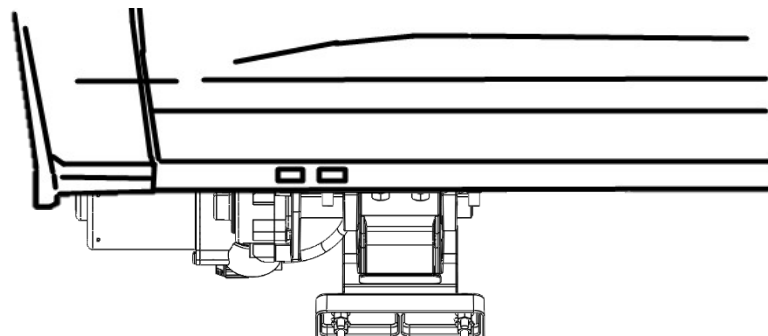
Proceed to step 3.

3

Look at the bracket assembly and determine if the bracket is mounted crooked. Adjust the bracket assembly so that the horizontal lines of the linkage arm are parallel to vehicle body. Once the bracket assembly is aligned correctly, fully tighten the mounting hardware.



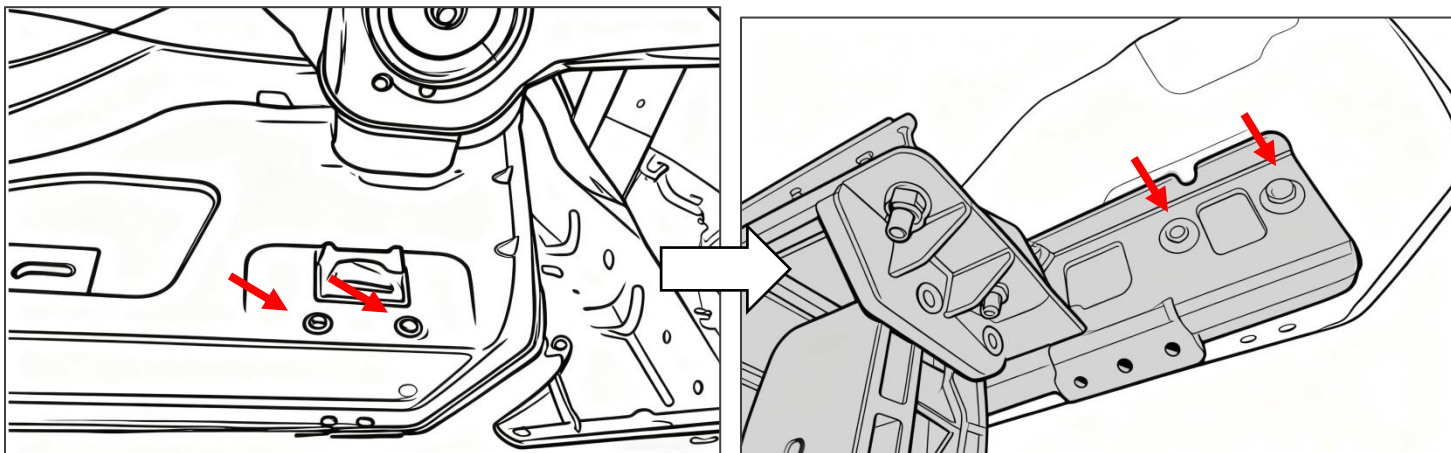
Bad Alignment
to vehicle body.



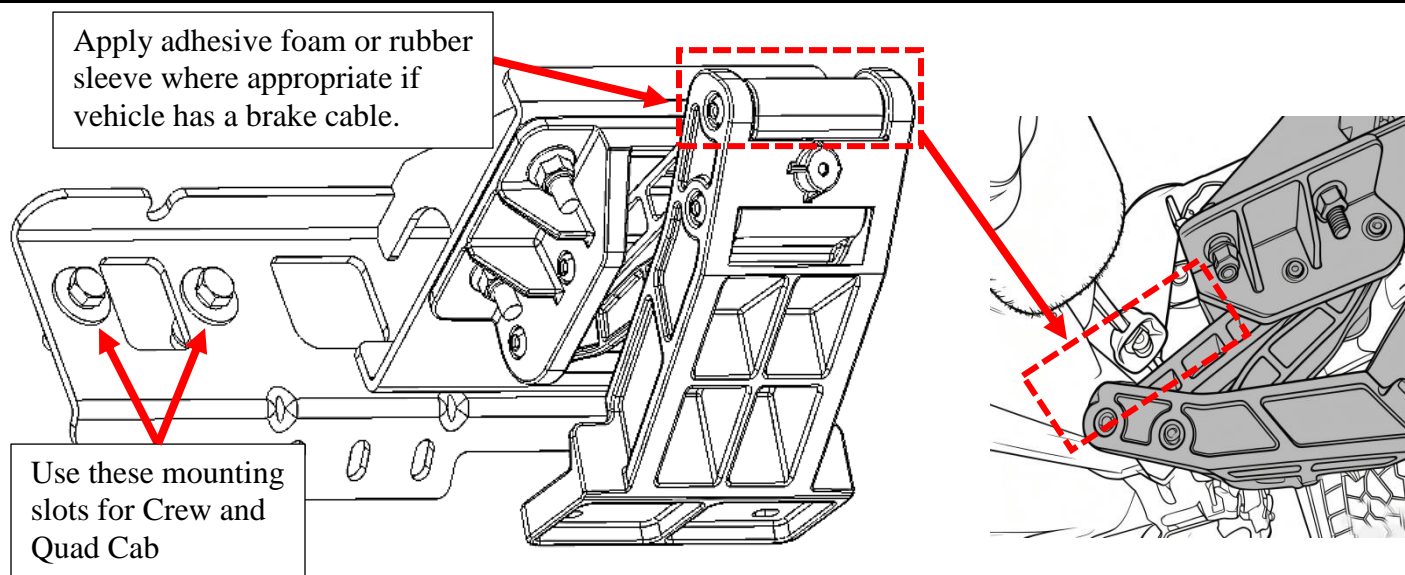
Good Alignment
to vehicle body.

Locate rear mounting points (rearmost on vehicle rocker panel). Repeat either Step 2A or Step 2B depending on the hole or insert style the vehicle has.

For most cab models, the slots on the extended part of the bracket assembly will be used as shown below to avoid interfering vehicle parts. Next, line up rear mounting bracket slots to the studs and place Driver Side/Left Rear Bracket Assembly (B) onto rocker panel. Then fasten M8 Hex Bolts (30mm long) and washers (I). Do not tighten all the way yet.



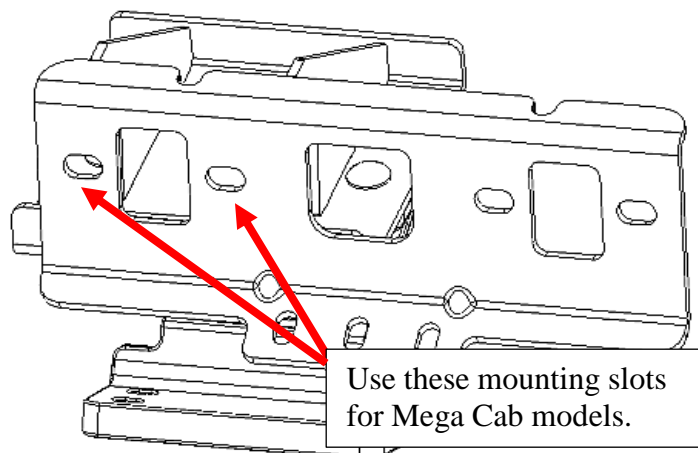
NOTE: If your Ram 2500/3500 has Air Ride Suspension, see next page for special notes.



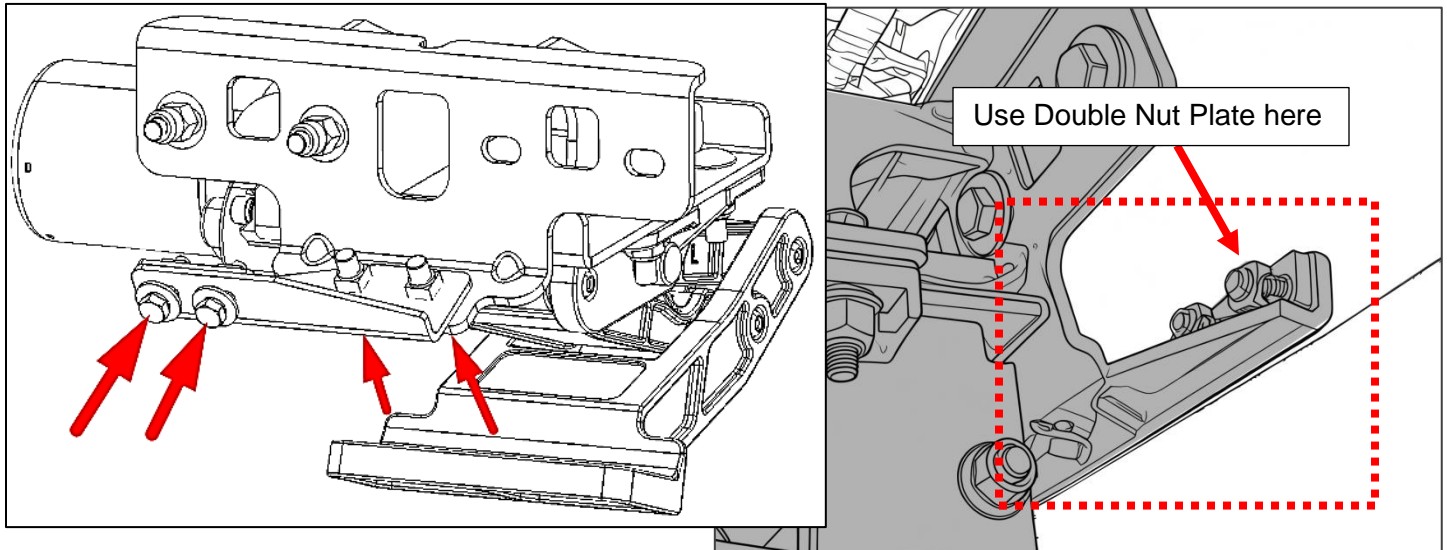
For Mega Cab models, the extended part of the bracket assembly is not used for mounting. Instead, follow the guide as shown.

Line up the two mounting slots closest to the center of the rear bracket assembly (B).

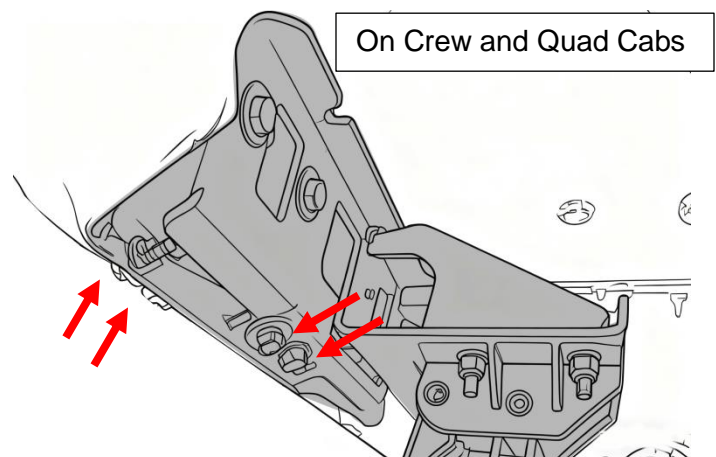
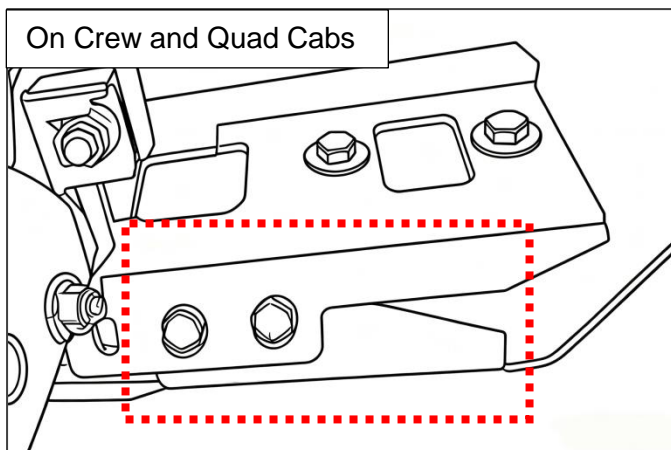
Repeat step 3 to check alignment of rear bracket assembly. Then proceed to step 5.



Take the support bracket labeled “DF/PR” (Support Bracket (A)) and attach it to the Driver Side Front Bracket Assembly (A) and the vehicle pinch weld. Thread in the appropriate M6 Hex Bolts (25mm length) + M6 Lock Washers + M6 Flat Washers and use the Double Nut Plate to connect the support bracket to the vehicle pinch weld.



Take the support bracket labeled “DR/PF” (Support bracket (B)) and attach it to the rear bracket assembly using the same process. For Mega Cab vehicles, use Support Bracket A instead.

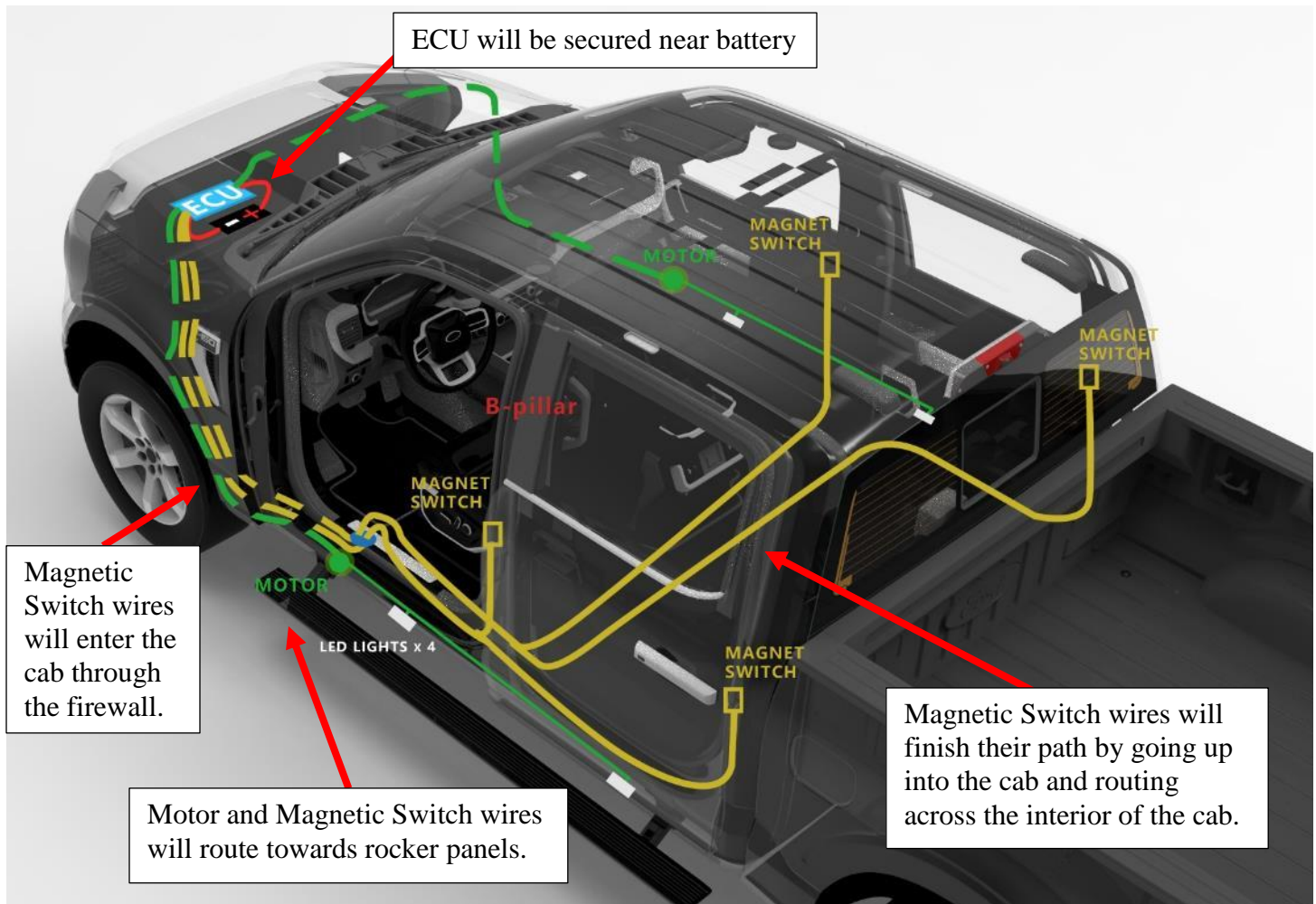


ATTENTION! SPECIAL NOTE:

If vehicle is a Ram 2500/3500 and has Air Ride Suspension tank and compressor on outside of frame, then flip the Driver Side and Passenger Side rear brackets. Mount the Driver Side rear bracket assembly + Support Bracket on the Passenger Side, and vice versa.

Repeat steps 1 – 2 for the Passenger Side.

In general, the routing of the wires will follow the basis of the graphic below. The legs of the Main Harness for the motors 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.



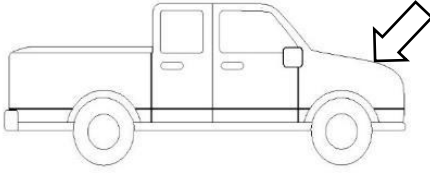
The general steps for the routing method are detailed in steps 8 to 16. However, it is important to note that the Passenger Side Magnetic Switch wires route into the cab via the same grommet/plug in the firewall as the Driver Side Magnetic Switch wires.

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.

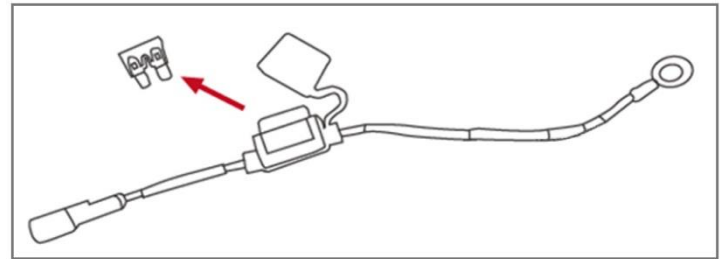
*NOTE: Continue to next step for more details.

8

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 (Q).



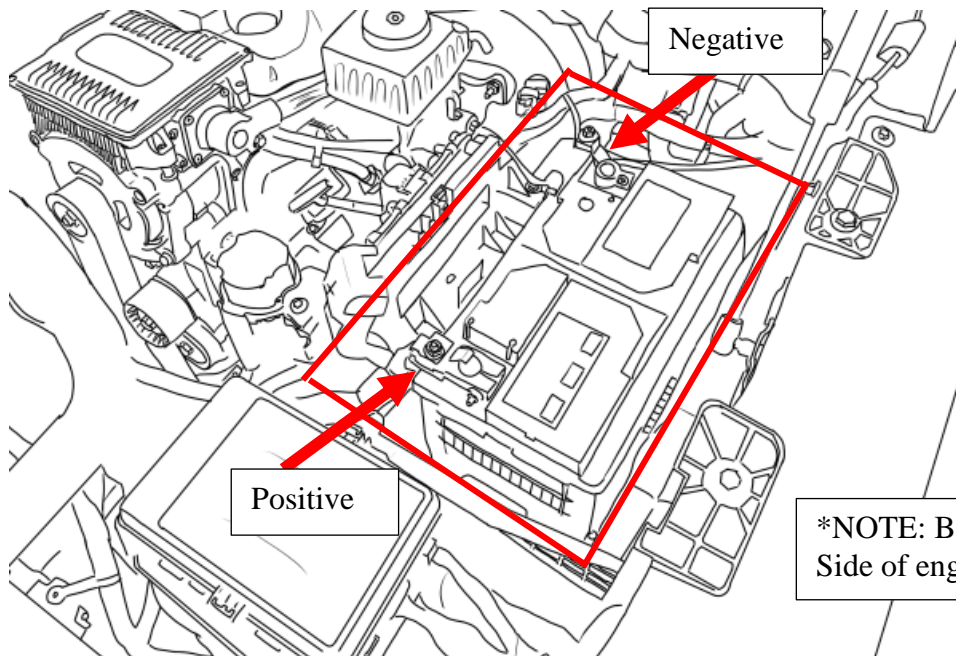
***WARNING:** Keeping the fuse connected to the fuse box may result in electrical sparks and risk of shorting when working with the battery.



Open fuse holder cap and remove fuse

9

Connect the positive power lead on the main harness (Q) to the positive battery terminal. Connect the negative lead to the negative battery terminal. Make sure both power leads are fully secured. Connect the ECU (S) to the main harness.

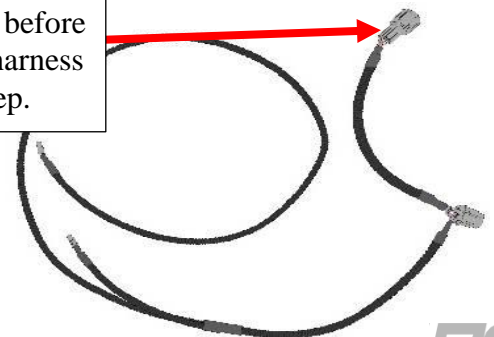


***NOTE:** Battery is on Driver Side of engine compartment.

Connect the Short LED Y-Harness (R1) to the Driver-side branch of the main harness.

Connect the Long LED Y-Harness (R2) to the Passenger-side branch of the main harness.

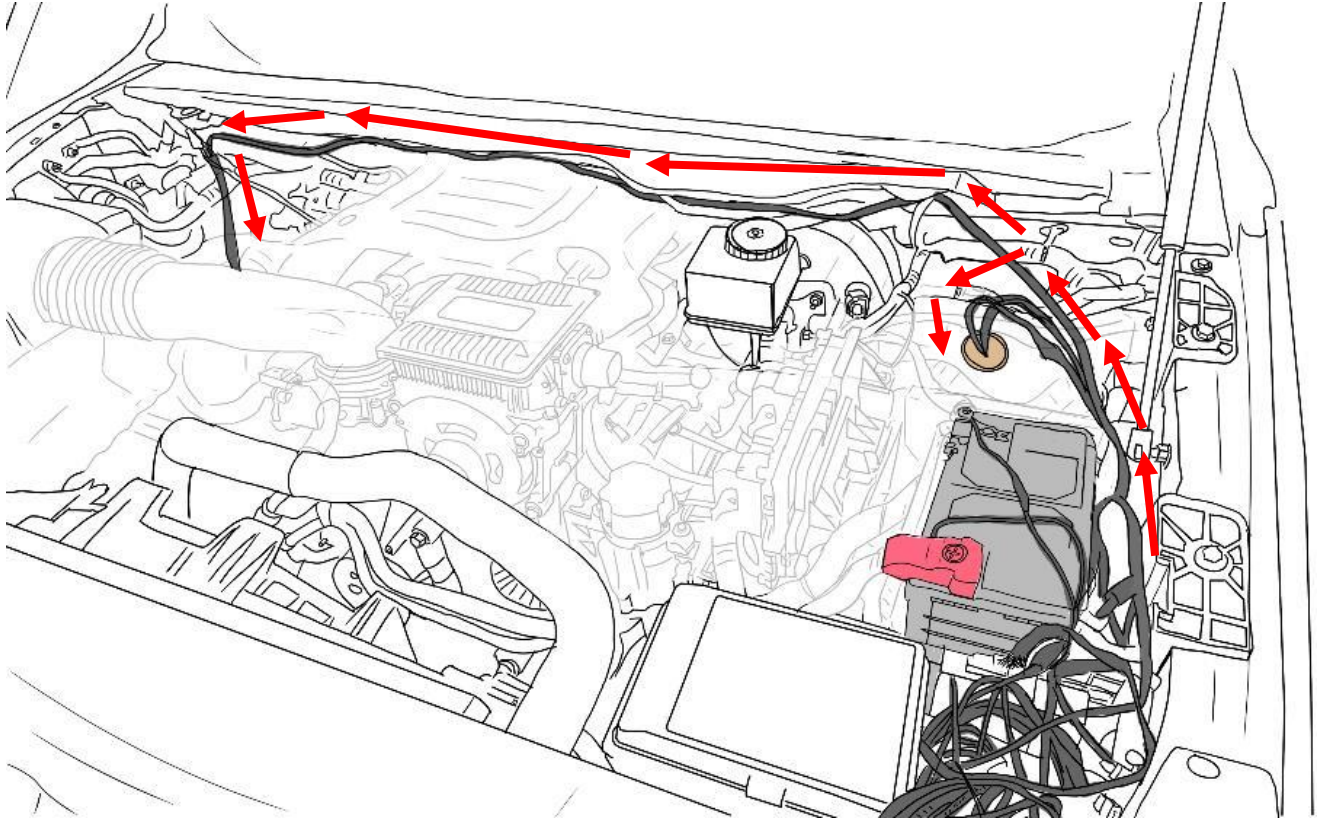
Connect leads before routing main harness legs in next step.



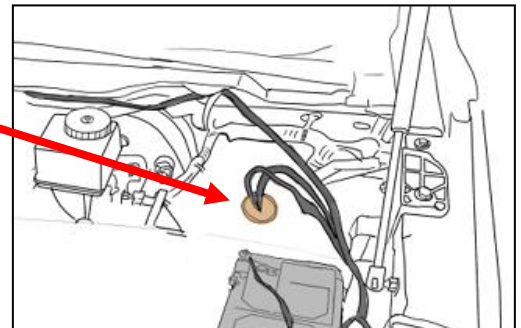
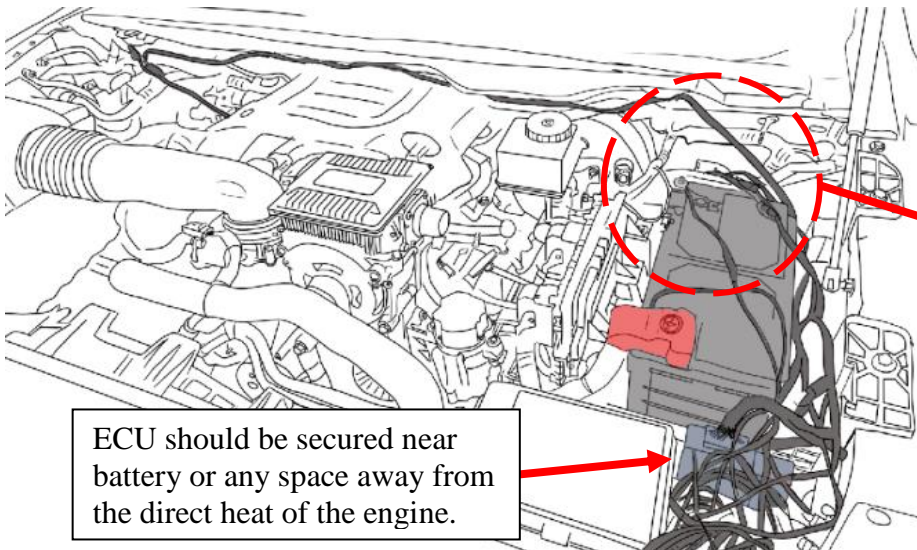
Route the main harness (Q) around the battery, up along the rear of the engine compartment.

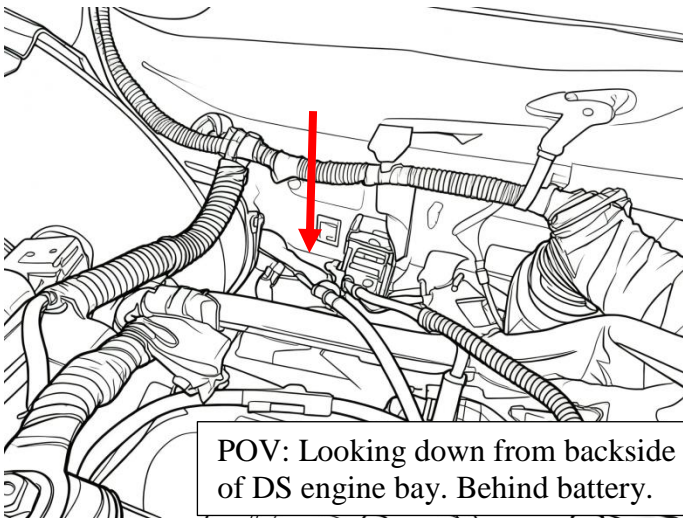
The longer motor Driver-side branch of the main harness must route down the backside, against the fire wall, and down past the steering column towards the vehicle frame. **Be sure to avoid contact with the steering column.**

Route the shorter motor (marked "Passenger-side") 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 (Q) with supplied cable ties.

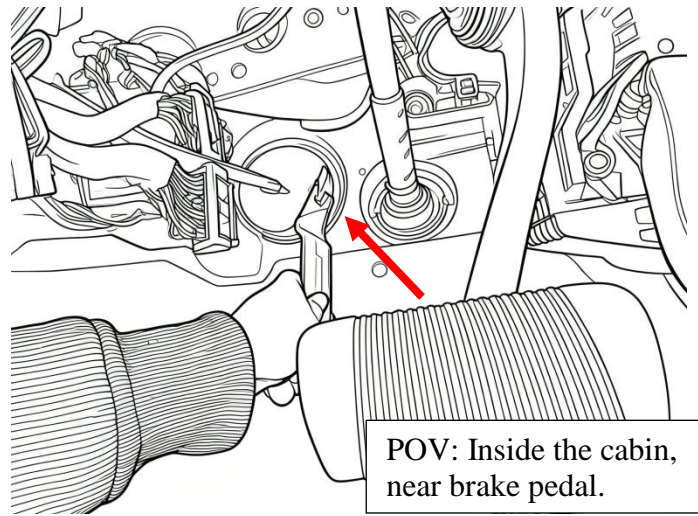


Route the Magnetic Switch wires through the double-sided rubber boot against the backside of the engine bay firewall. The boot can be clearly seen from the inside of the cabin. **Be sure to avoid contact with the steering column.**



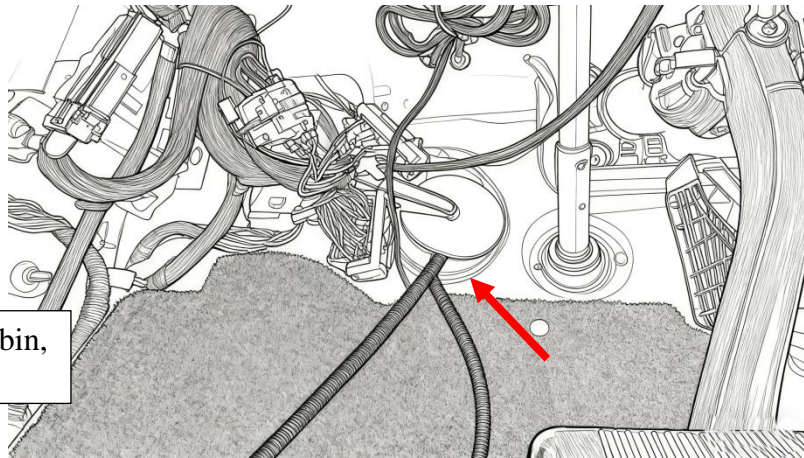


POV: Looking down from backside of DS engine bay. Behind battery.



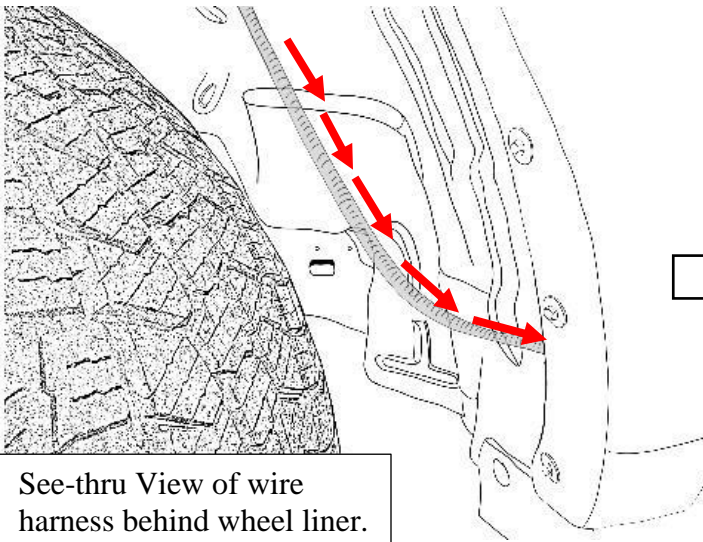
POV: Inside the cabin, near brake pedal.

Inside the cabin, the rubber boot access is located under the steering wheel, behind the brake pedal. A pry-tool is recommended when peeling back the boot flap from the inside of the cabin. It is advised to finish routing the Magnetic Switch wires before attempting to bundle any extra length.

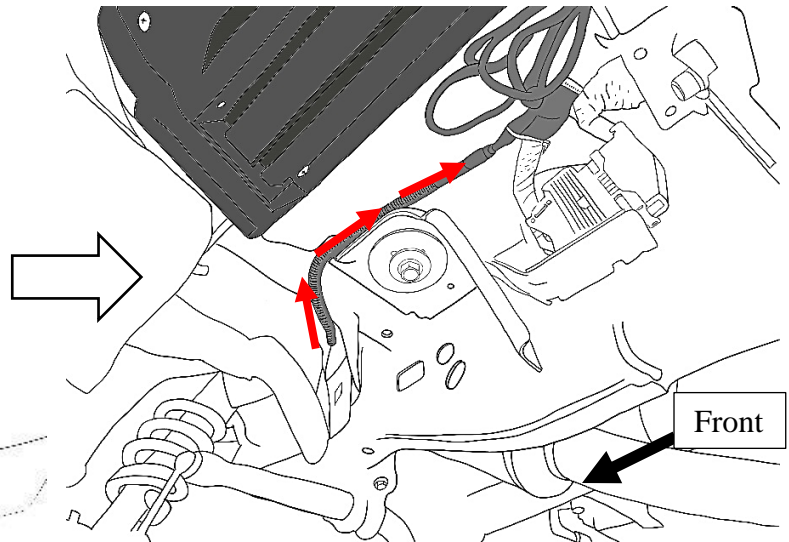


POV: Inside the cabin, near brake pedal.

- 11** Route the motor wires of the main harness (Q) through the engine bay and **behind the Driver-Side wheel well liner**, then to the Drive-side frame.

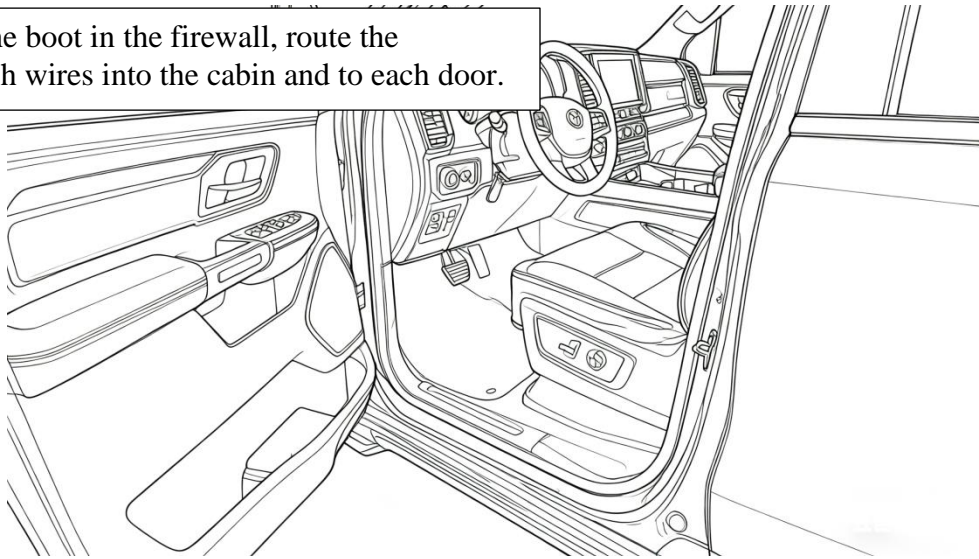


See-thru View of wire harness behind wheel liner.



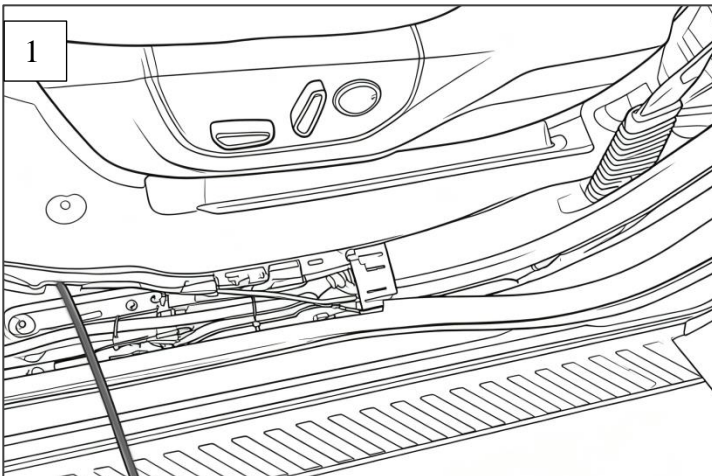
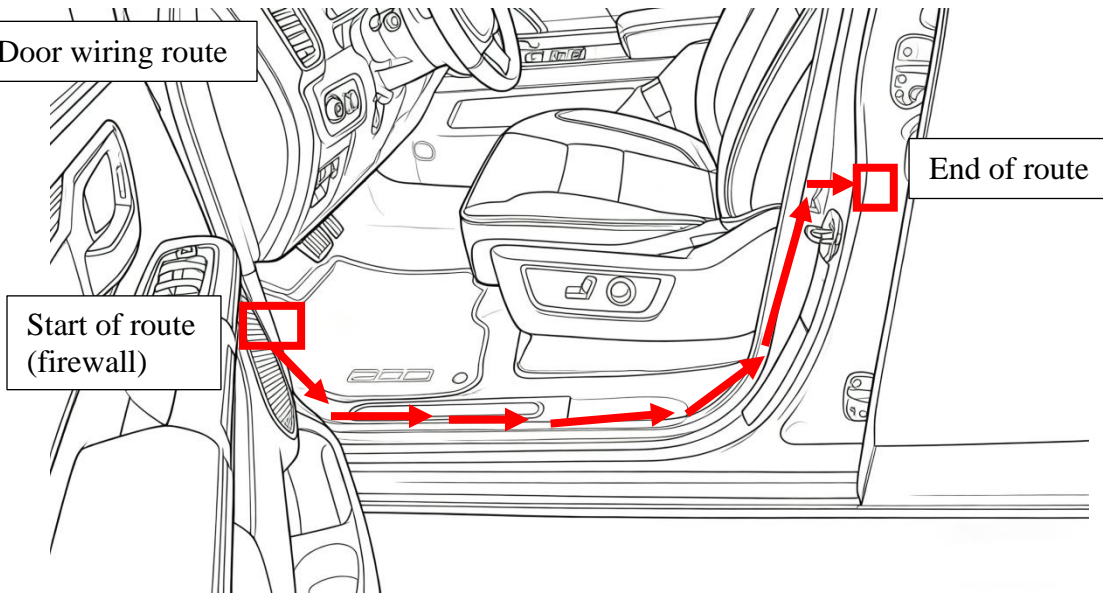
Front

Starting from the boot in the firewall, route the Magnetic Switch wires into the cabin and to each door.

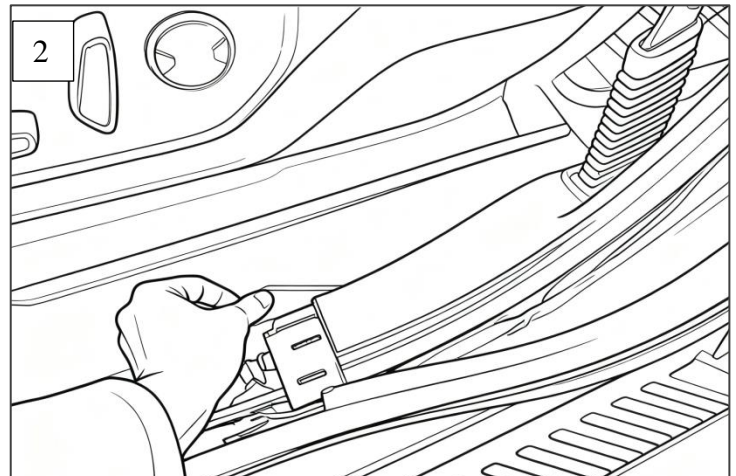


Starting on the front door, take the shorter signal wire and route it up through the underplating and weather seal of the panels up to where the door latch striker is.

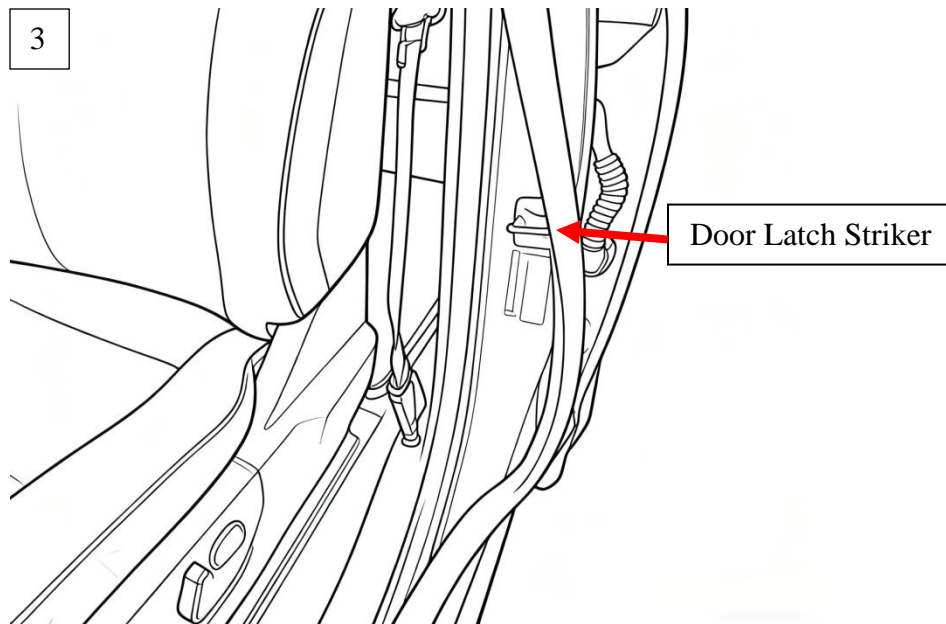
DS Front Door wiring route



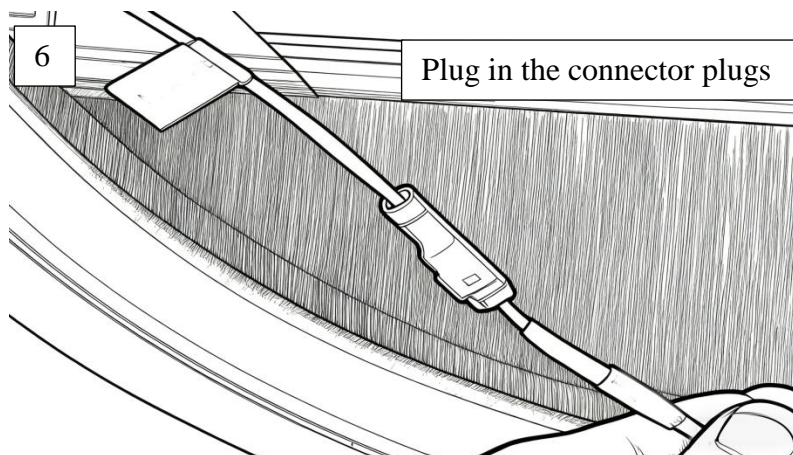
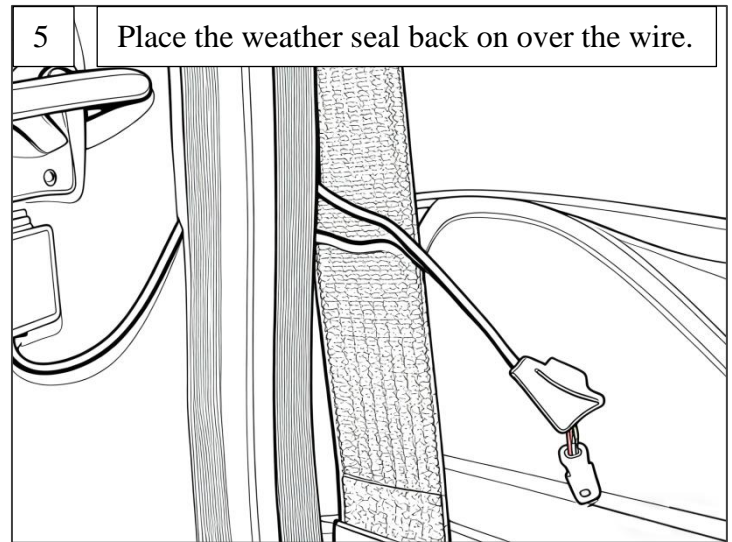
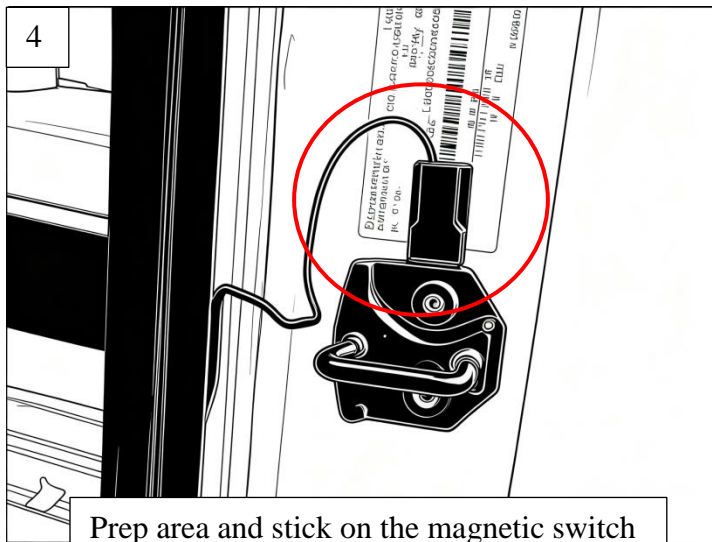
Insert the wire into the revealed spaces underneath



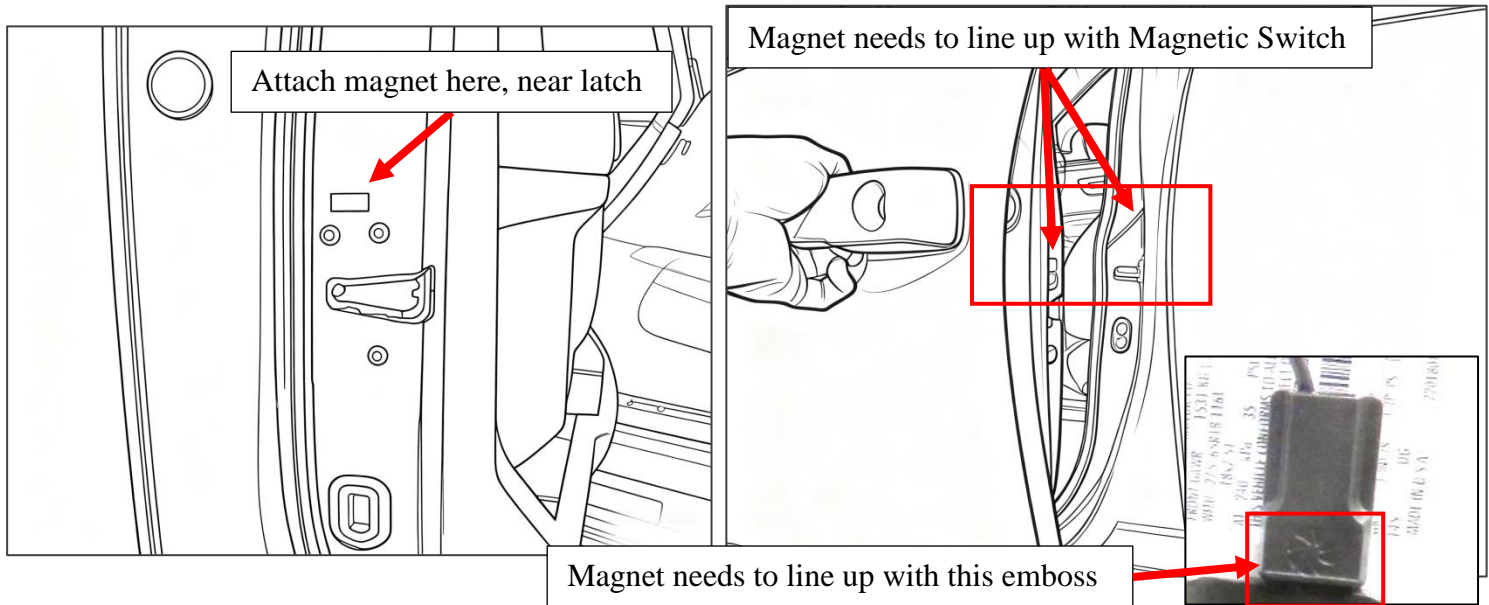
It is recommended to go under the plastic paneling.



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.



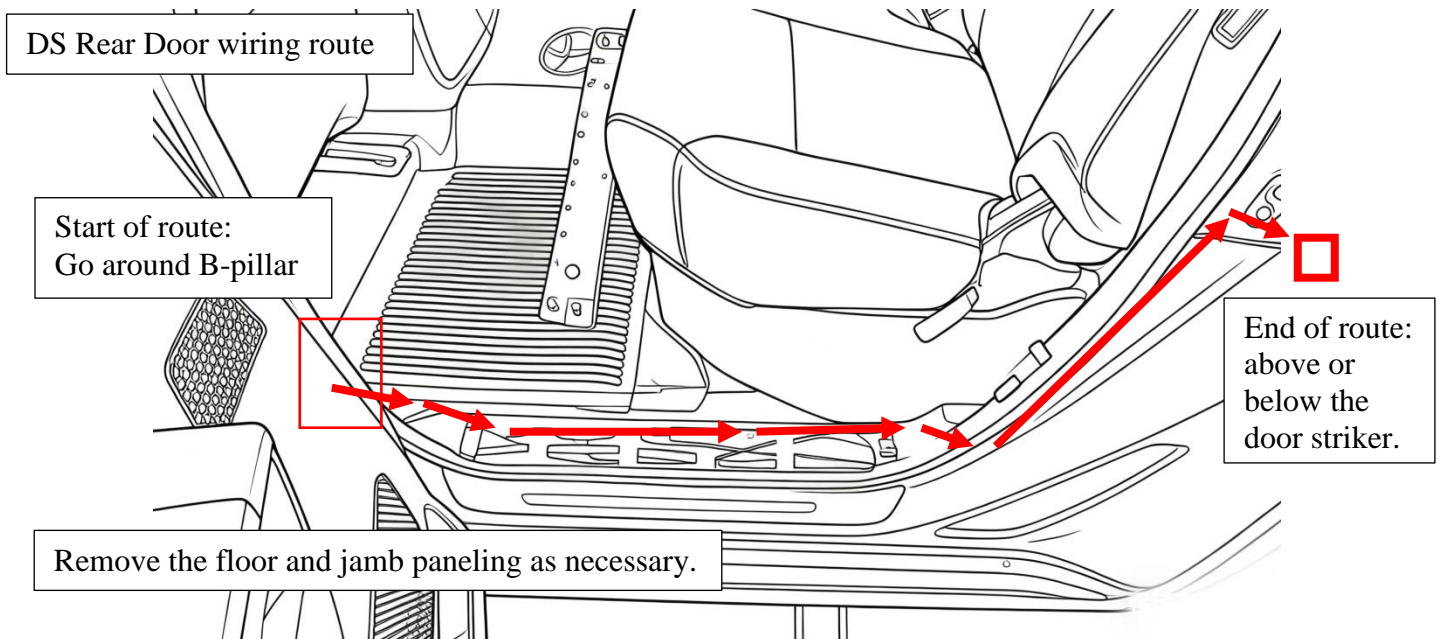
Then, take a magnet and place a provided 3M adhesive patch on one side. Take the newly prepped magnet and line it up with the magnetic switch on the door side. When closing the door, the magnet needs to align with the rectangular emboss of the magnetic switch to properly activate. Attach this magnet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



12

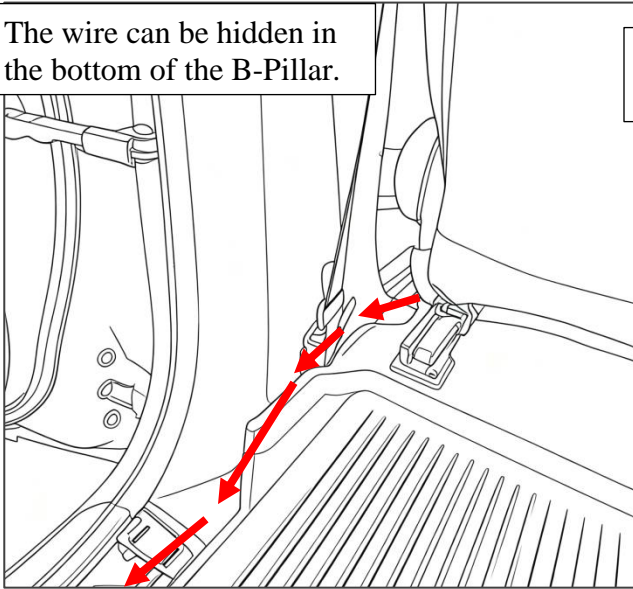
Next, do the same procedure to the Driver-Side rear door too.

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.

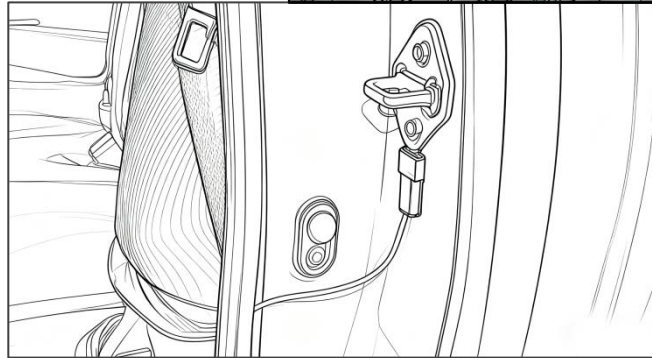
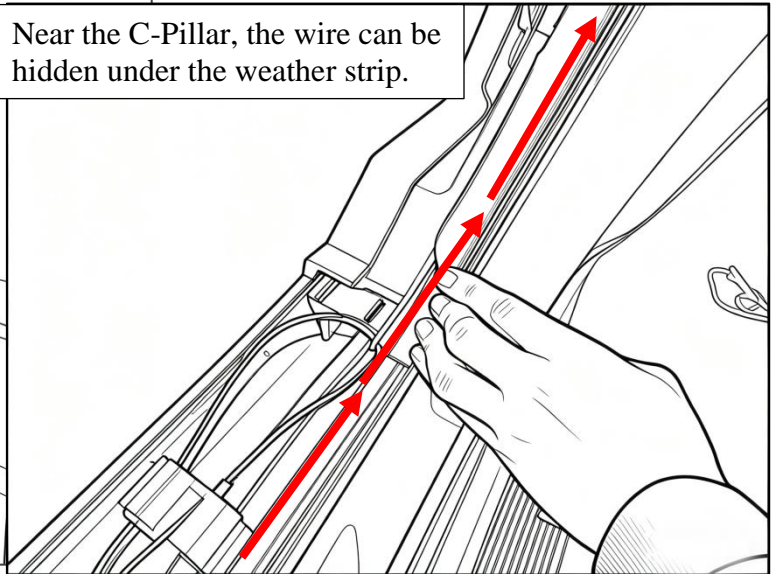


To effectively route the wire while hiding it, it is advisable to remove some of the interior plastic paneling around the B-Pillar and C-Pillar. See pictures below for reference:

The wire can be hidden in the bottom of the B-Pillar.

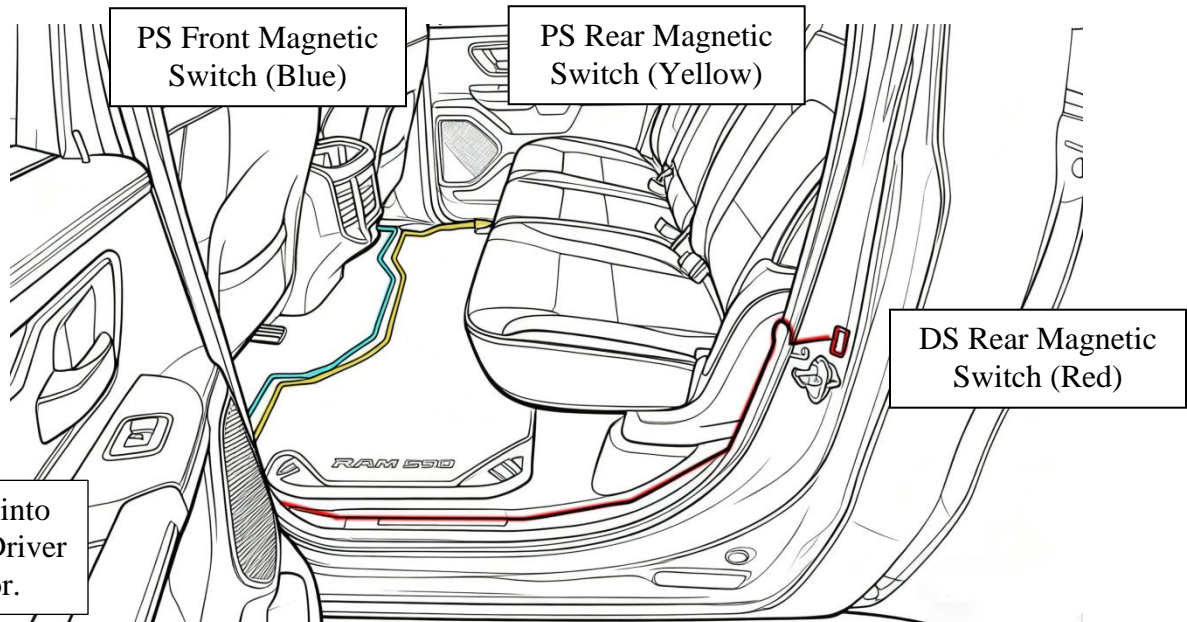


Near the C-Pillar, the wire can be hidden under the weather strip.



13

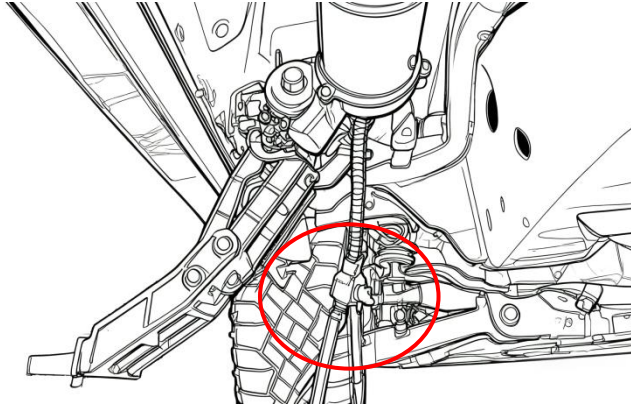
Next, follow the same procedure in steps 11 and 12 for the Passenger Side too. This time, route the Passenger Side Magnetic Switch Wires across the interior over to the other side. The illustration below shows the general paths of the Magnetic Switch wires as colored lines.



POV: looking into the cab from Driver Side Rear Door.

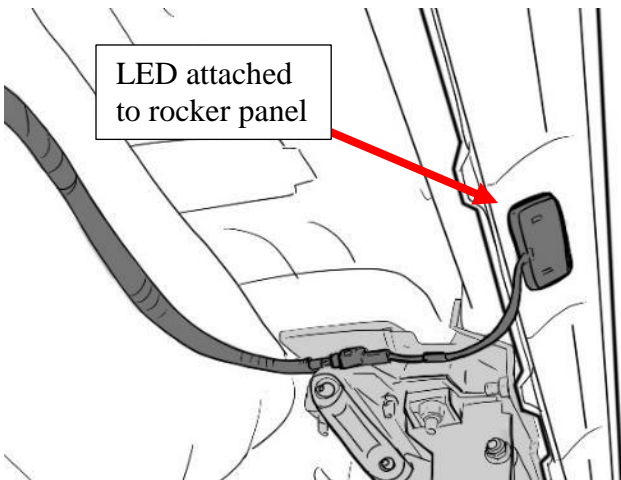
Attach the main harness (Q) to the LED Y-Harness (R). Then attach the LED Y-Harness (R) to the motor on the Driver Side. Repeat for Passenger Side. The shorter LED Y-Harness should connect to the motor that is on the same side as the ECU.

Driver side



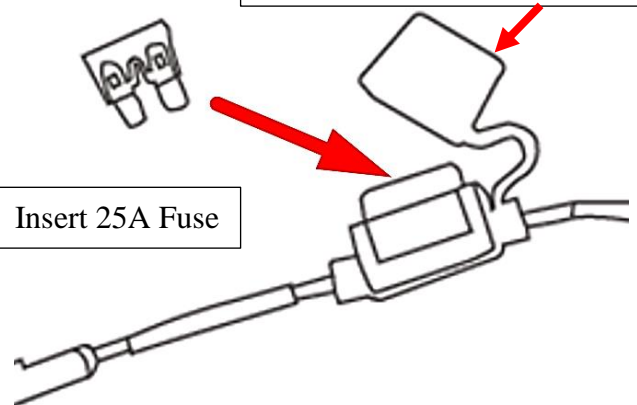
Plug in LED lights (T) into LED Y-Harness (R) and attach them to the bottom of the rocker panel. Use provided 3M double sided adhesive tape on back of LED light (T). Replace Fuse into Fuse Box.

LED attached to rocker panel



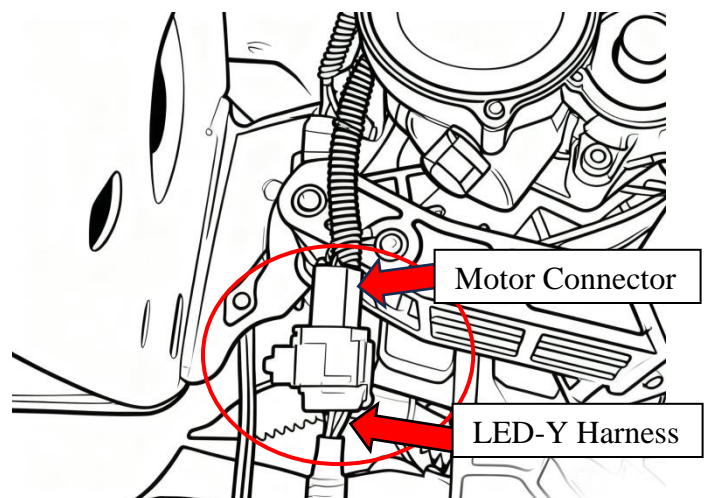
Close lid after replacing Fuse

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 (Q) via the LED-Y harnesses (R).

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

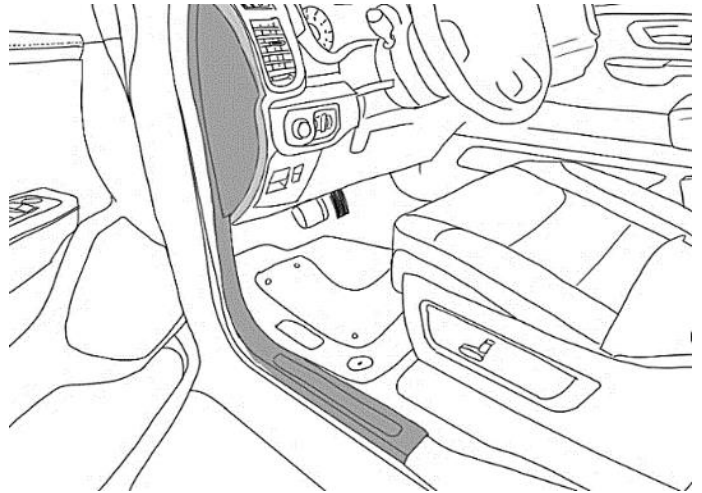


17

Seal the rubber boot with RTV Silicone Sealant if needed.

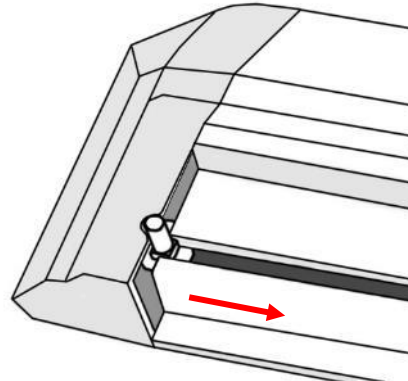
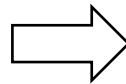
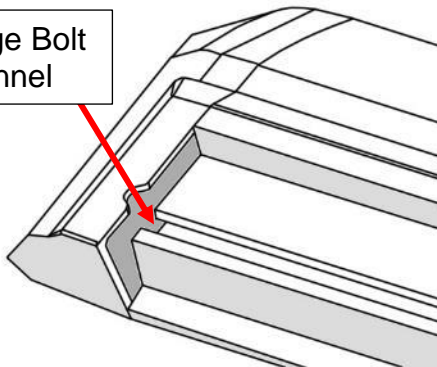
Hide wires and reattach the interior panels with the carpet fully unfurled in its original position. Reattach the door sill weather strip.

Check to make sure there are no obstructions or potential snag points around the brake pedal area.

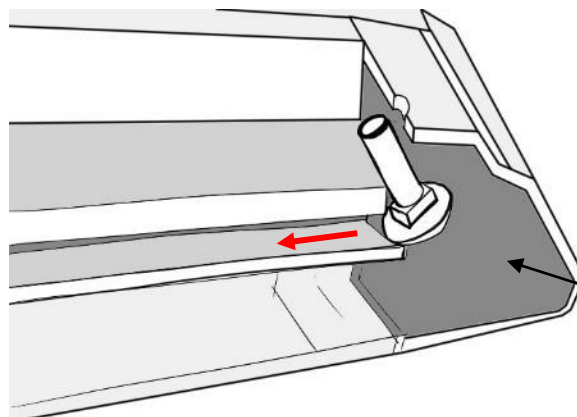
**18**

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 4 carriage bolts (E).

Carriage Bolt
Channel



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

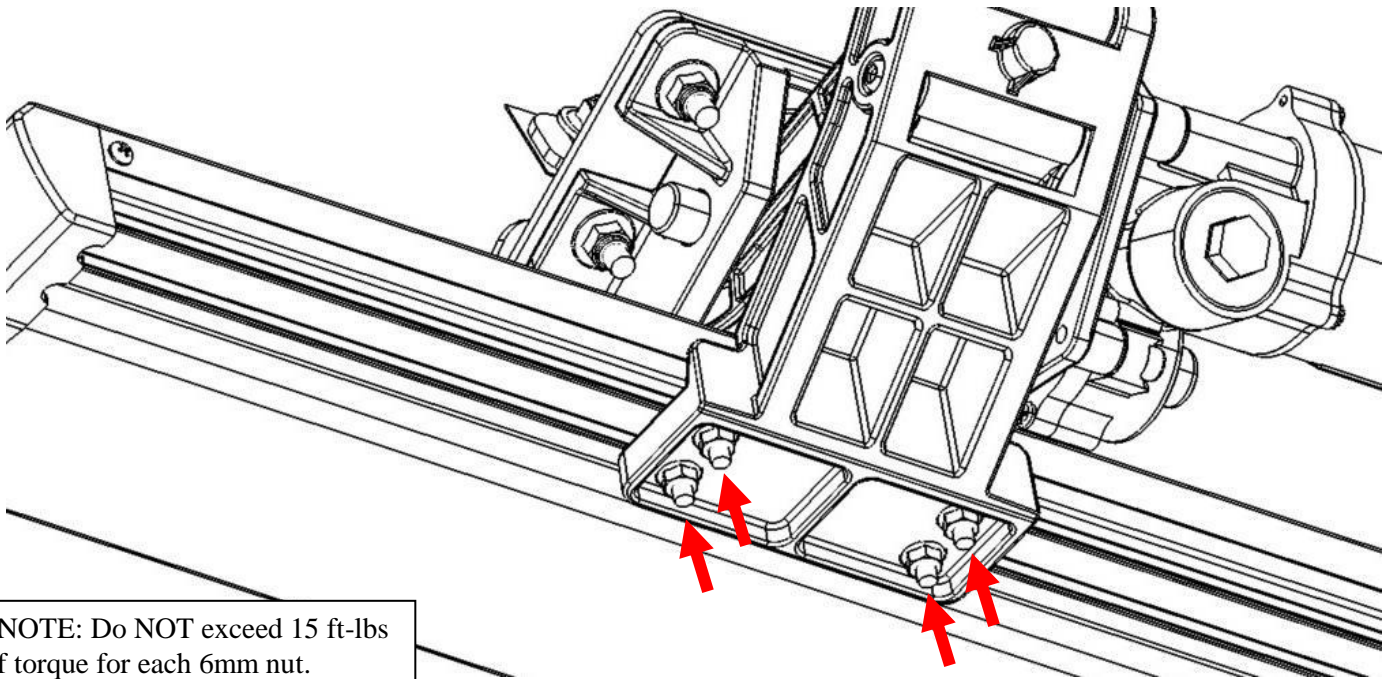


Section view of
underside channel

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 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 4 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.

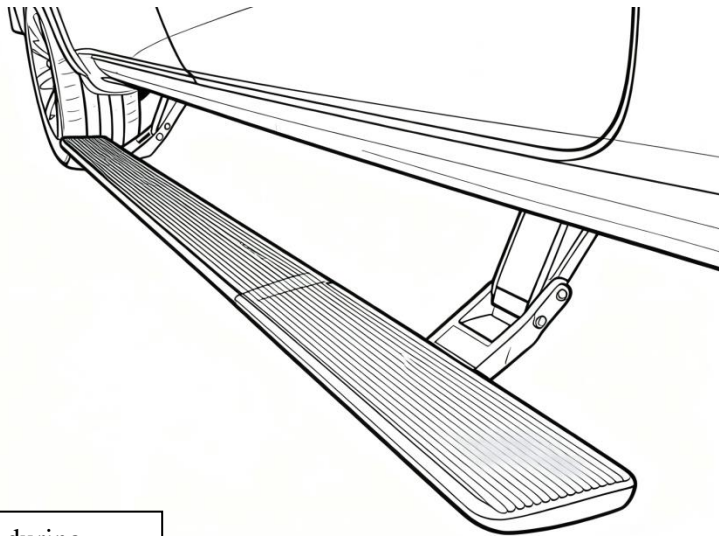
Perform system check and troubleshooting. If board is making irregular movements or noise, readjust the boards as follows:

- 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 the 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 wire connections and magnetic switch positioning.

*NOTE: May need to loosen support brackets to adjust bracket assemblies.

*NOTE: May need to check to see if bracket alignment is correct (see step 3).

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.

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