

ROUGH COUNTRY

ESR610430

18+ Jeep Wrangler Unlimited 4DR 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



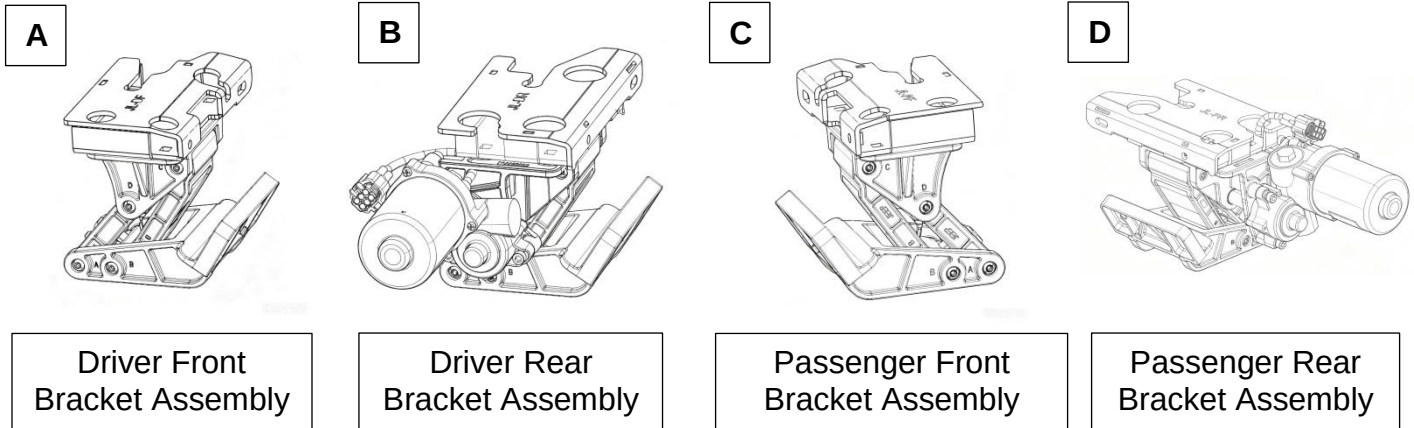
INSTALLATION INSTRUCTIONS

Mechanical PARTS LIST:

Qty	Item Description	Qty	Item Description
2	Running Boards	4	8mm x 28mm x 3mm Flat Washers
2	Front Linkage Assembly	4	8mm Lock Washers
1	Driver/Left Rear Motor Assembly	16	6-1.00mm x 20mm Carriage Bolts
1	Passenger/Right Rear Motor Assembly	16	6mm x 16mm x 1.6mm Small Flat Washers
1	Driver/Left Front Steel Bracket	20	6mm Hex Nylon Lock Nuts
1	Passenger/Right Front Steel Bracket	8	6mm Lock Washers
1	Driver/Left Rear Steel Bracket	8	6-1.00mm x 25mm Hex Bolts
1	Passenger/Right Rear Steel Bracket	4	6mm x 18mm x 1.6mm Large Flat Washers
16	8-1.25mm x 30mm Carriage Bolts	8	6mm x 22mm x 2mm Ex Large Flat Washers
16	8mm Flanged Nylon Lock Nuts	15	Zip Ties
4	8-1.25mm x 30mm Hex Bolts		

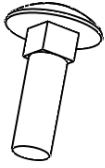
Electronic Materials Package PARTS LIST:

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	1	Toggle Switch Harness



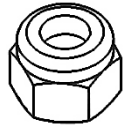
***NOTE:** Please remove OE rock rails from rocker panel before installation of power steps.

E



M6 Carriage Bolt

F



M6 Nylon Lock Nut

G



6mm Small Flat Washer

H



6mm Large Flat Washer

I



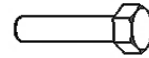
6mm Ex Large Flat Washer

J



M6 Lock Washer

K



M6 Hex Bolt

L



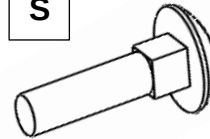
M8 Hex Bolt

R



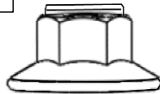
M8 Lock Washer

S



M8 Carriage Bolt

T



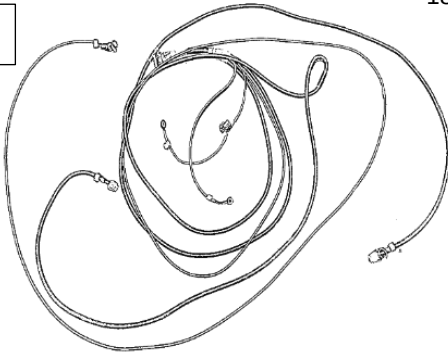
M8 Flanged Lock Nut

U



8mm Flat Washer

M



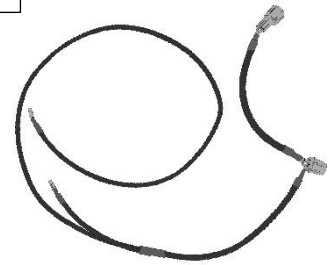
Main Harness

N1



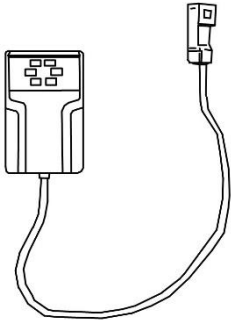
LED Y-Harness (1200mm)

N2



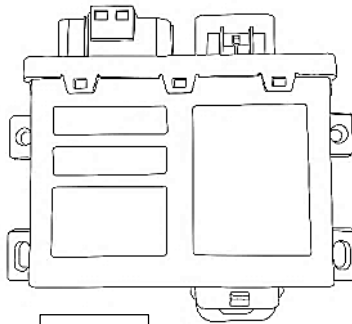
LED Y-Harness (280mm)

O



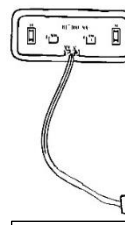
Magnetic Switches

P



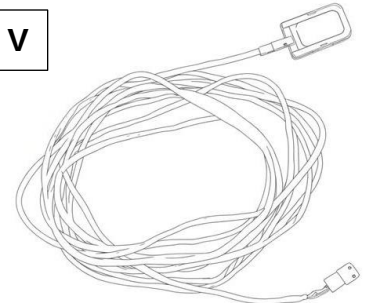
ECU

Q



LED Lights

V



Toggle Switch

TOOLS REQUIRED



Ratchet



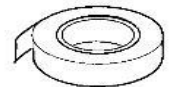
8mm
10mm
13mm
Socket



Extensions



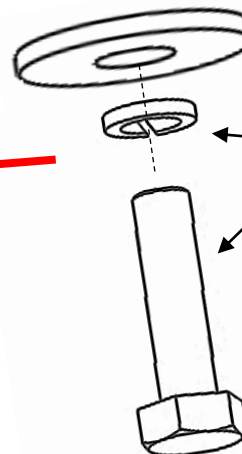
Wrenches



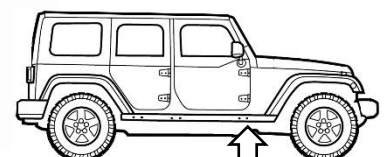
Electrical Tape

1

Locate the Driver Side center mounting points on the rocker panel under the A-Pillar (between front door and rear door). Loosely screw in the M8 Hex Bolt (L), M8 Lock Washer, and M8 Flat Washer into the upper threaded insert. Do **not** screw in all the way yet. The bracket will slide into the space between the bolt and rocker panel and will be tightened later.



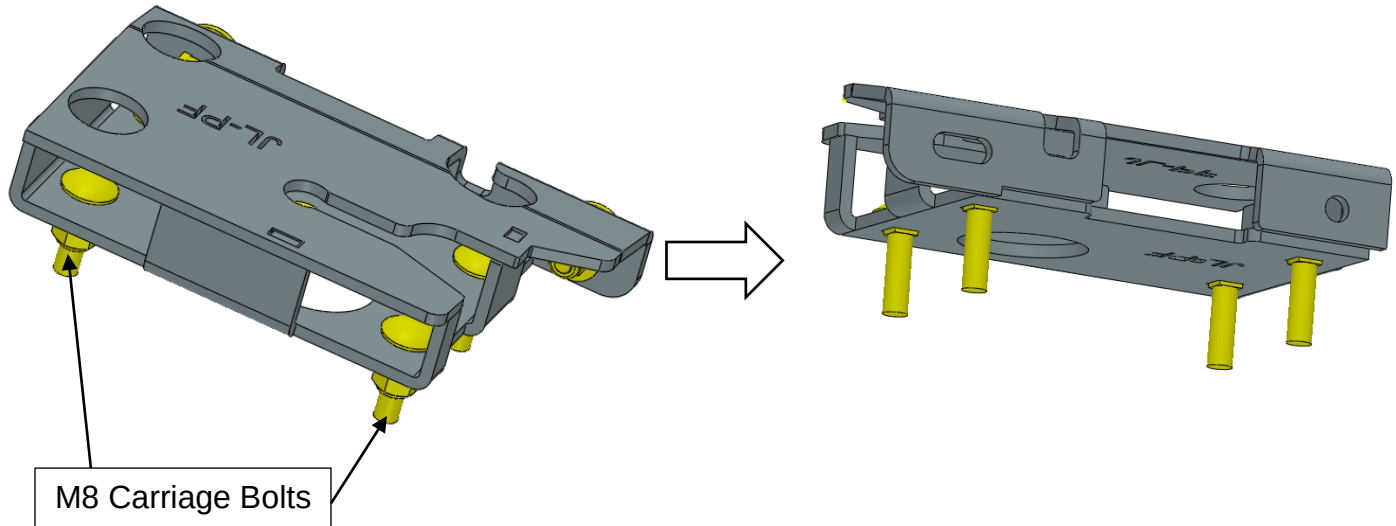
M8 Flat Washer
+
M8 Lock Washer
+
M8 Hex Bolt



2

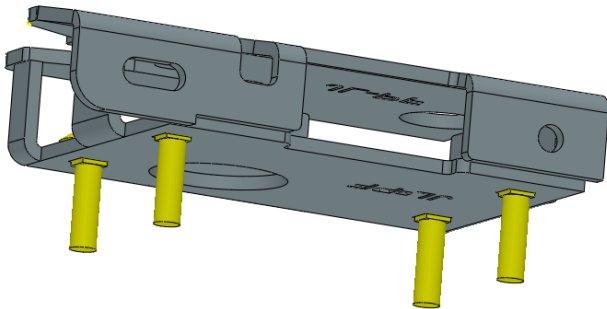
Take the mounting brackets and attach them to the linkage arms. First, insert the M8 Carriage Bolts into the square slots on the brackets so that the threads are pointing downwards.

Insert M8 Carriage Bolts downwards.

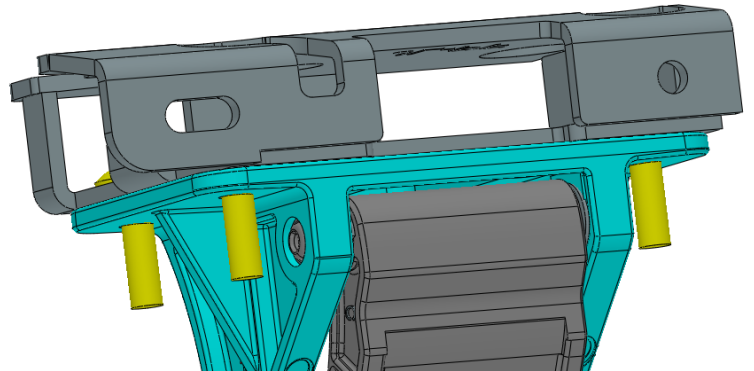


Next, use the M8 Flanged Nylon Lock Nuts to fasten the aluminum linkage arms to the brackets. There are 4 fastening points on each bracket.

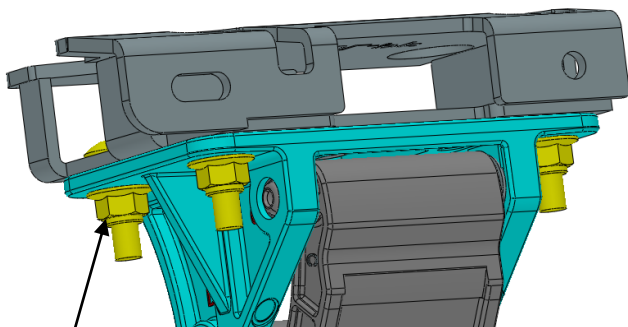
1



2

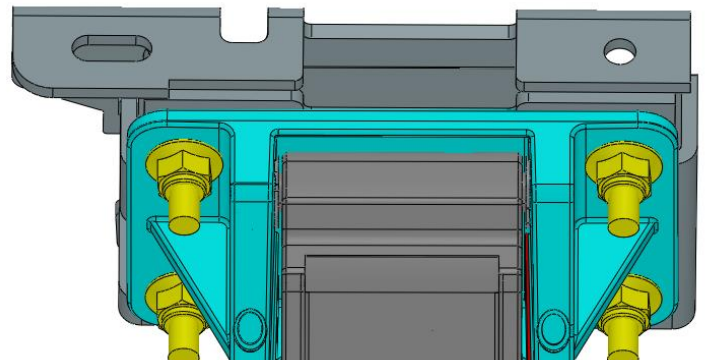


3



M8 Flanged Nylon Lock Nut

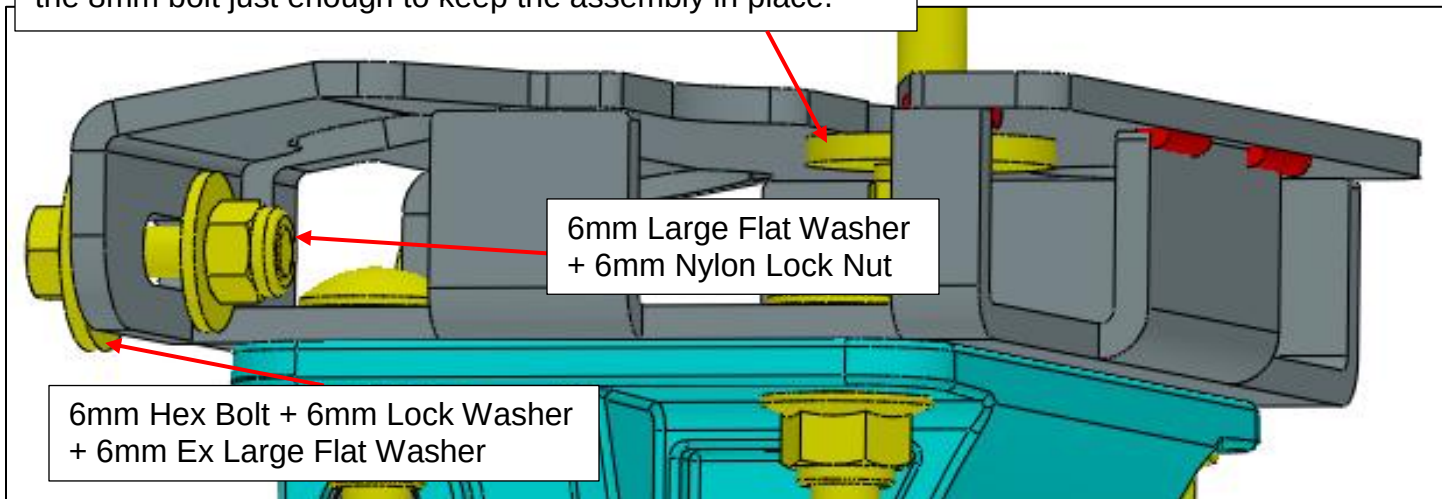
4



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

Next, line up front mounting bracket slots to the holes on the pinch weld and the M8 Hex Bolt (K) and then slide Driver Side/Left Front Bracket Assembly (A) onto M8 Hex Bolt + Flat Washer. Then tighten the M8 bolt a little to hold the bracket in place, and then fasten the M6 Bolts (F), Nylon Lock Nuts (I), Washers (H and I). Do not tighten all the way yet.

After sliding the front bracket onto the 8mm Washer, tighten the 8mm bolt just enough to keep the assembly in place.



Next, screw in the other mounting point on the pinch trim.

6mm Hex Bolt + 6mm Lock Washer + 6mm Ex Large Flat Washer

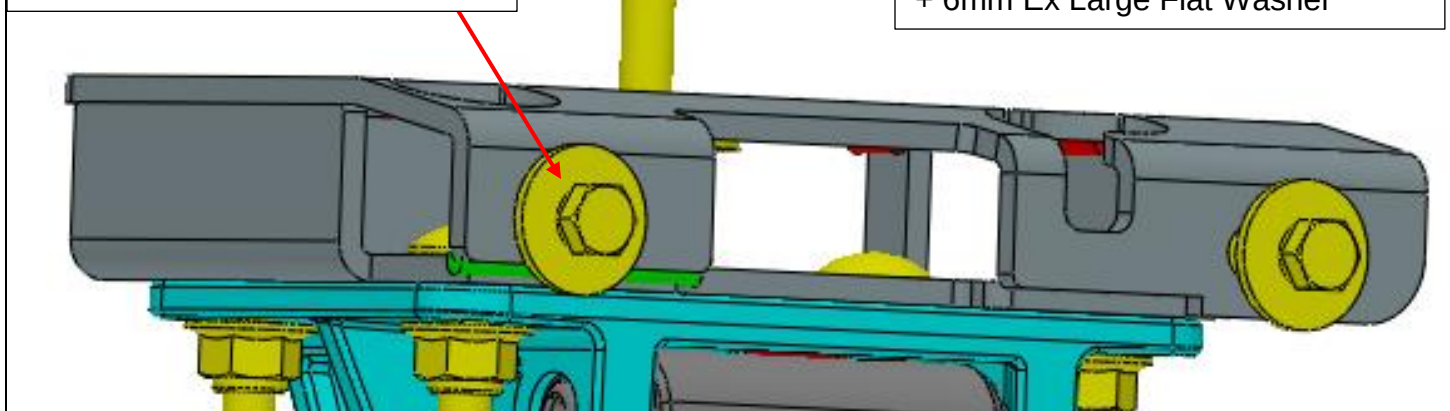
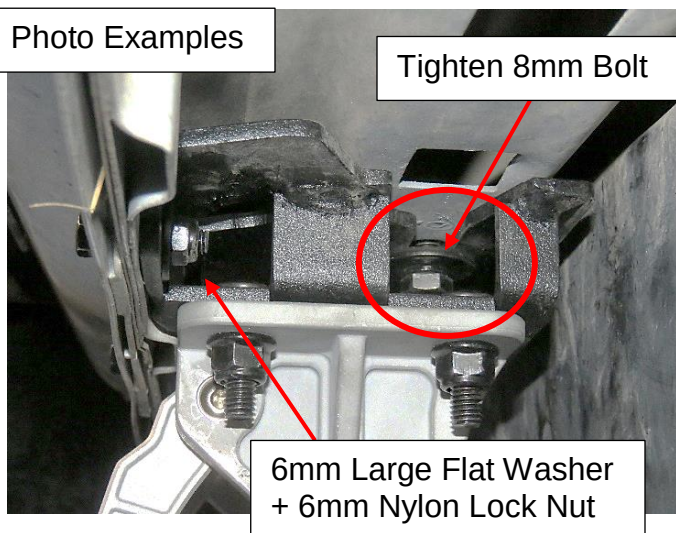


Photo Examples

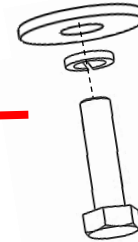
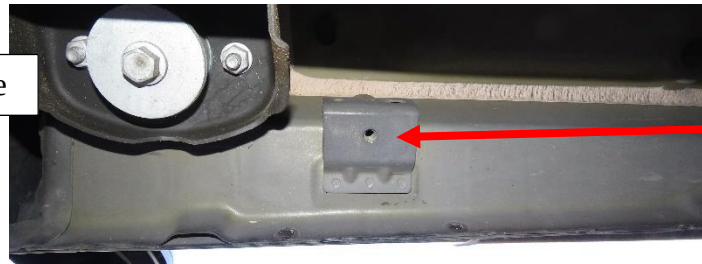


4

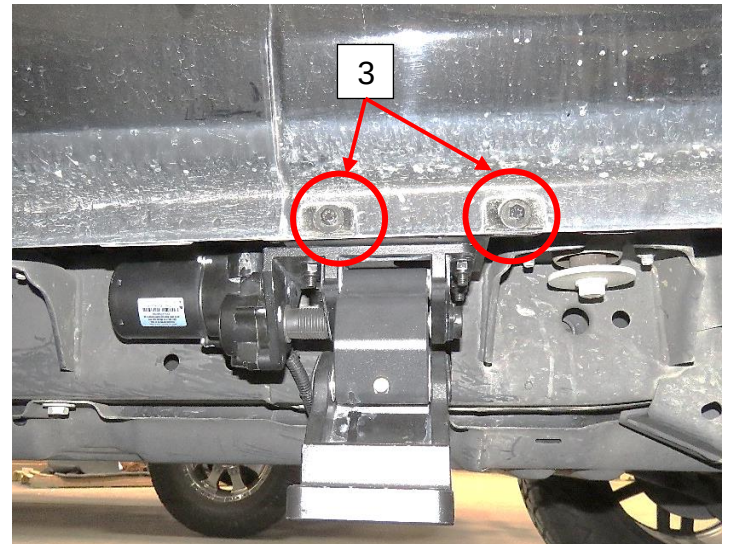
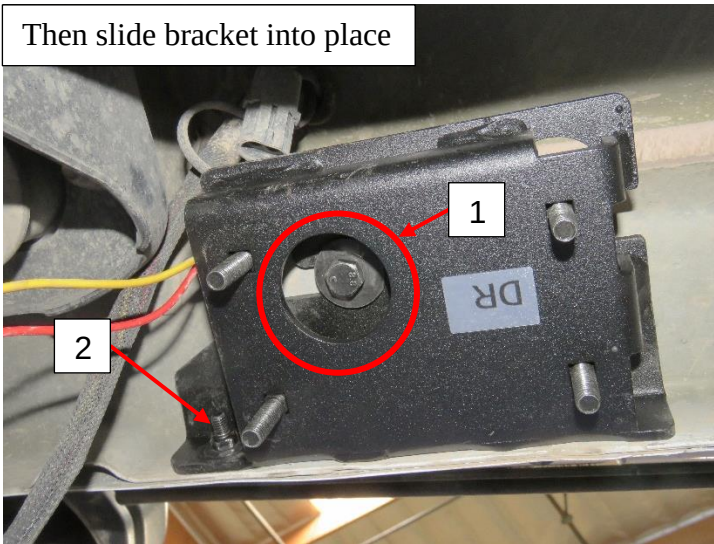
18-24 JEEP WRANGLER JL 4-Door (Incl. 25-26 Models Without Tire Deflector Brackets)

Locate rear mounting points. Repeat step 3 for the rear mounting point. Next, line up rear mounting bracket slots to the holes and M8 Hex Bolt (K), and then slide the Driver Side/Left Rear Bracket Assembly (B) into place. Position the bracket so that the holes on the pinch trim and the bracket line up. Then fasten the M6 Bolts (F), Nylon Lock Nuts (I), washers (H), and the M8 Bolt (K). Tighten the M8 bolt first, then the M6 bolts.

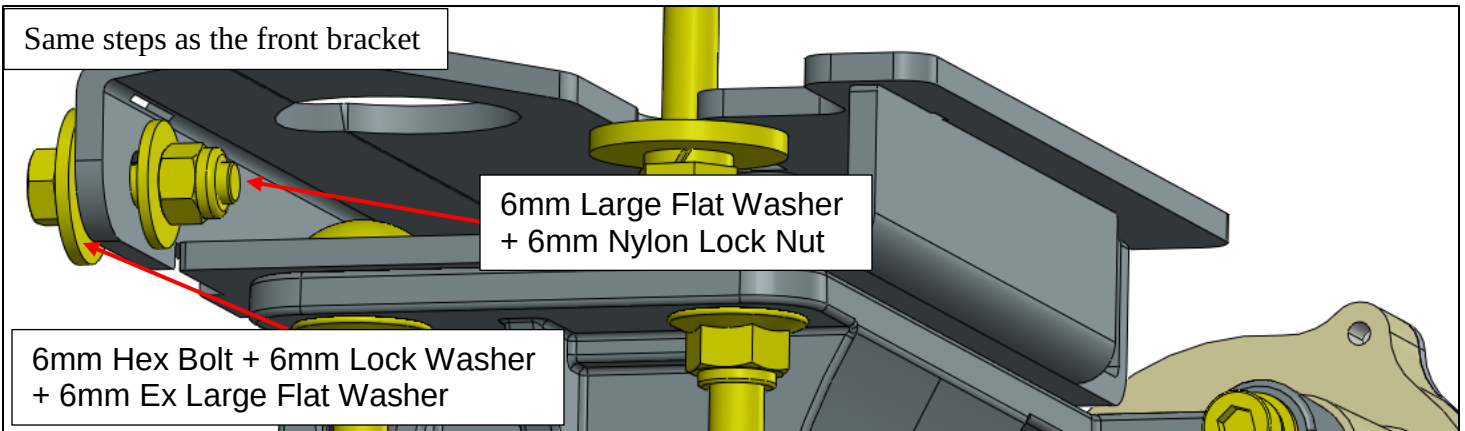
First insert bolt + plate



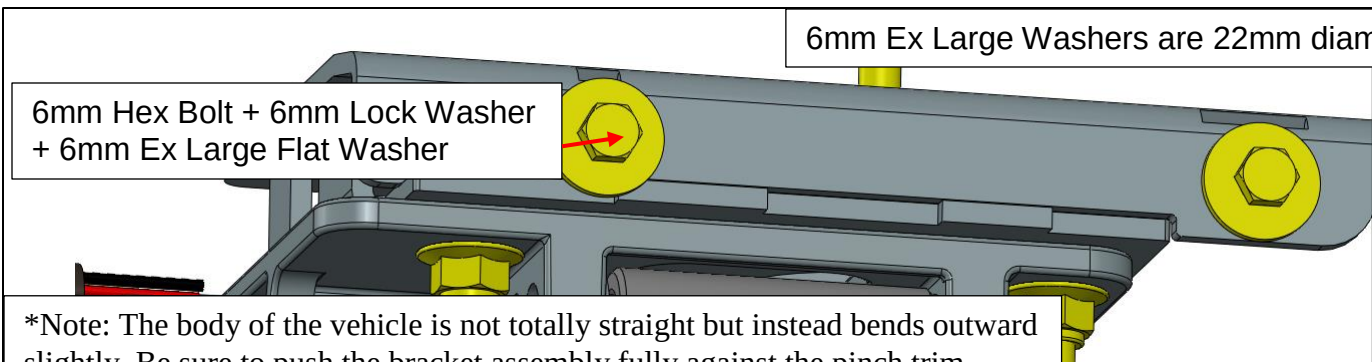
Then slide bracket into place



Same steps as the front bracket



6mm Ex Large Washers are 22mm diameter



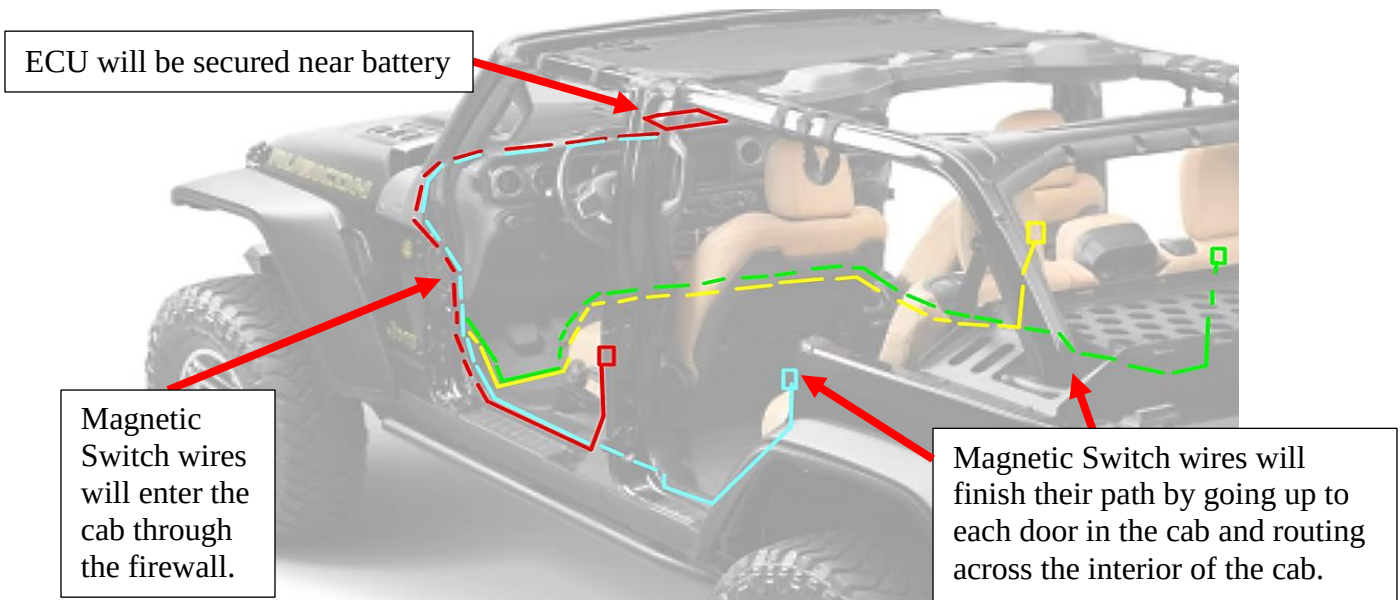
*Note: The body of the vehicle is not totally straight but instead bends outward slightly. Be sure to push the bracket assembly fully against the pinch trim.

5

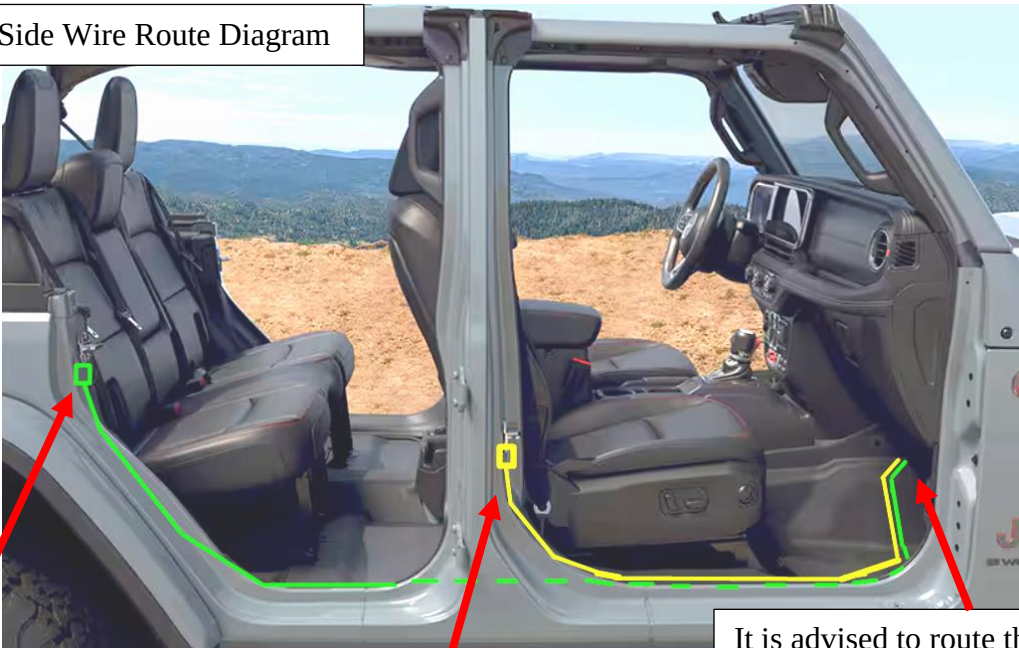
Repeat steps 1 – 4 for the Passenger Side.

6

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.



Passenger Side Wire Route Diagram



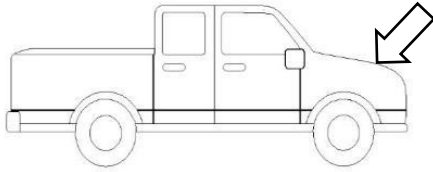
The Magnetic Switches will generally be placed close to the door latch and striker. Exact location may differ slightly depending on year of make.

It is advised to route the Passenger Side Magnet Switch wires behind the center console for a cleaner look. See following pages for more details.

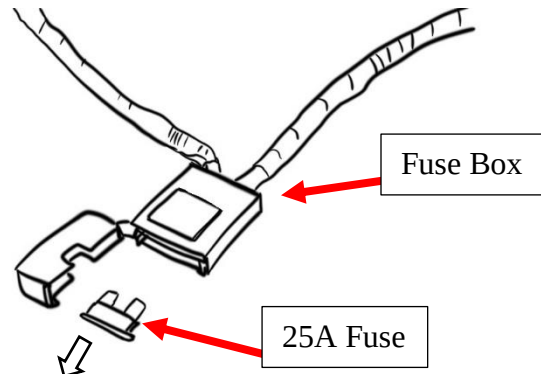
Once the Passenger Side Magnetic Switch wires are routed into the cab, they need to be routed along the inside, across to the Passenger Side of the cab and up to the doors like pictured in the graphic above

7

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.



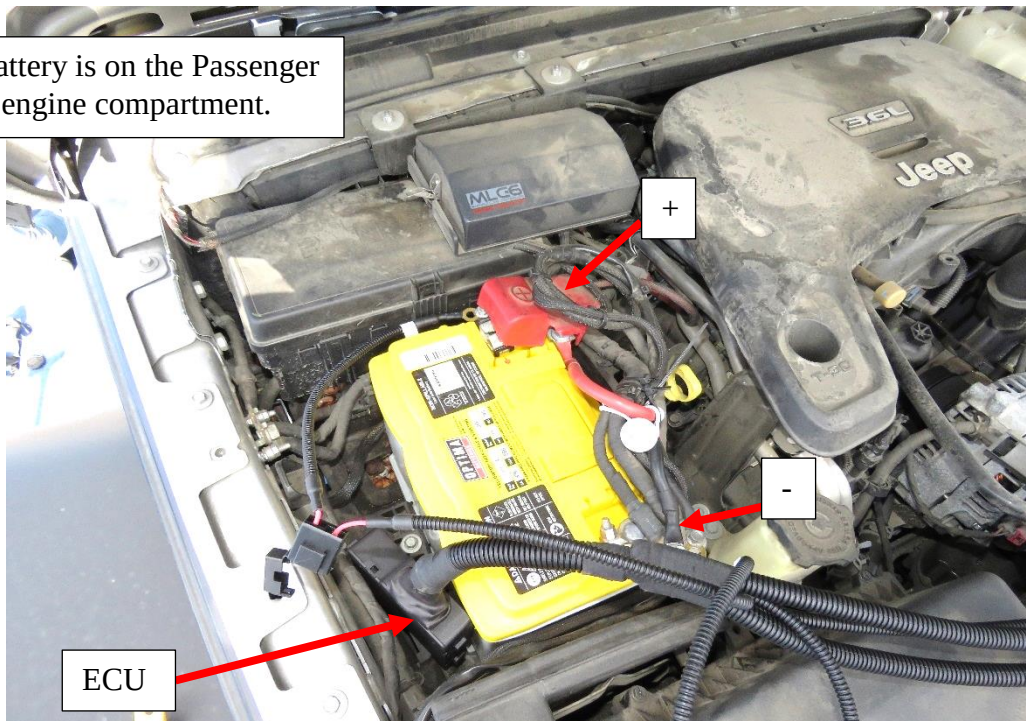
8

Connect the positive power lead on the main harness (M) to the positive battery terminal. Connect the negative lead to the negative battery terminal.

Make sure both power leads are fully secured. Then Connect the ECU (P) to the main harness and locate a space to place and secure to ECU.

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.

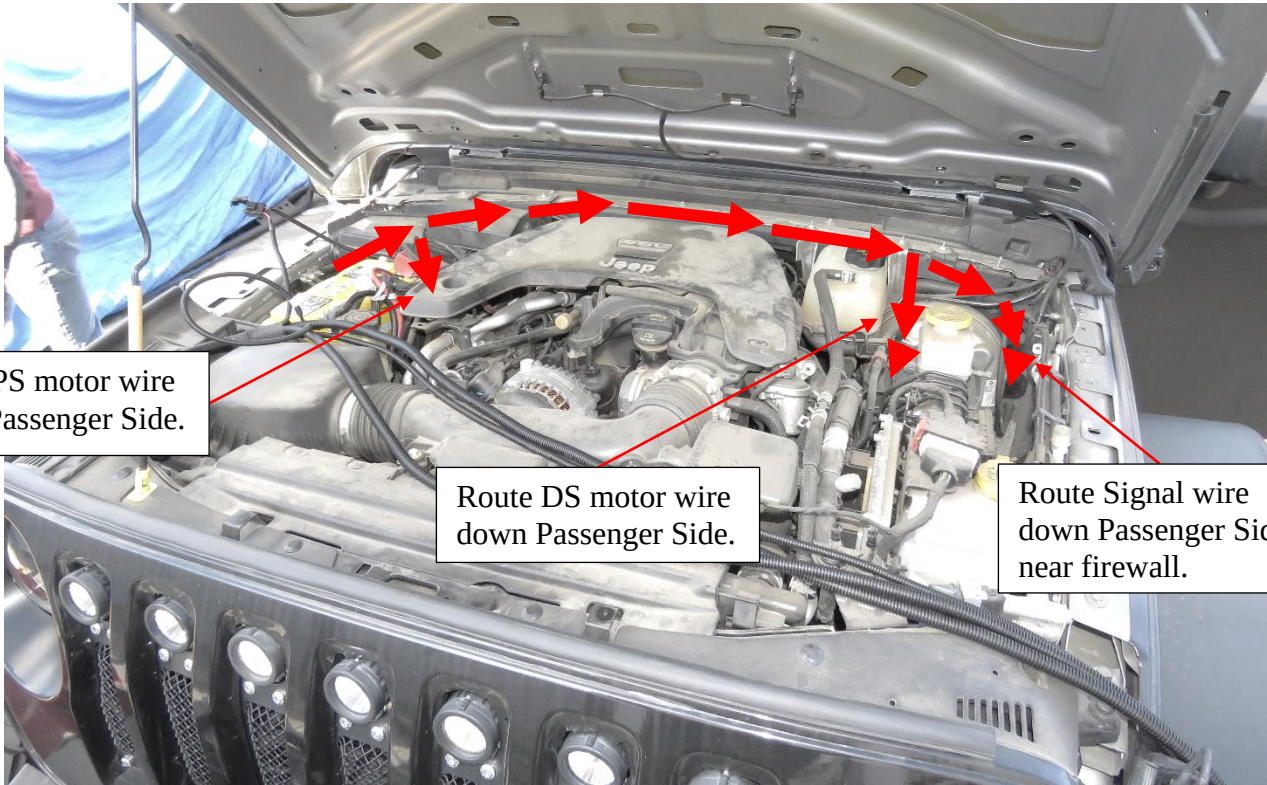
***NOTE:** Battery is on the Passenger Side of the engine compartment.



9

18-24 JEEP WRANGLER JL 4-Door (Incl. 25-26 Models Without Tire Deflector Brackets)

Route the main harness (M) around the battery, up along the rear of the engine compartment, and the Driver Side leg down the Driver-side frame. Route the 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 (M) with supplied cable ties.



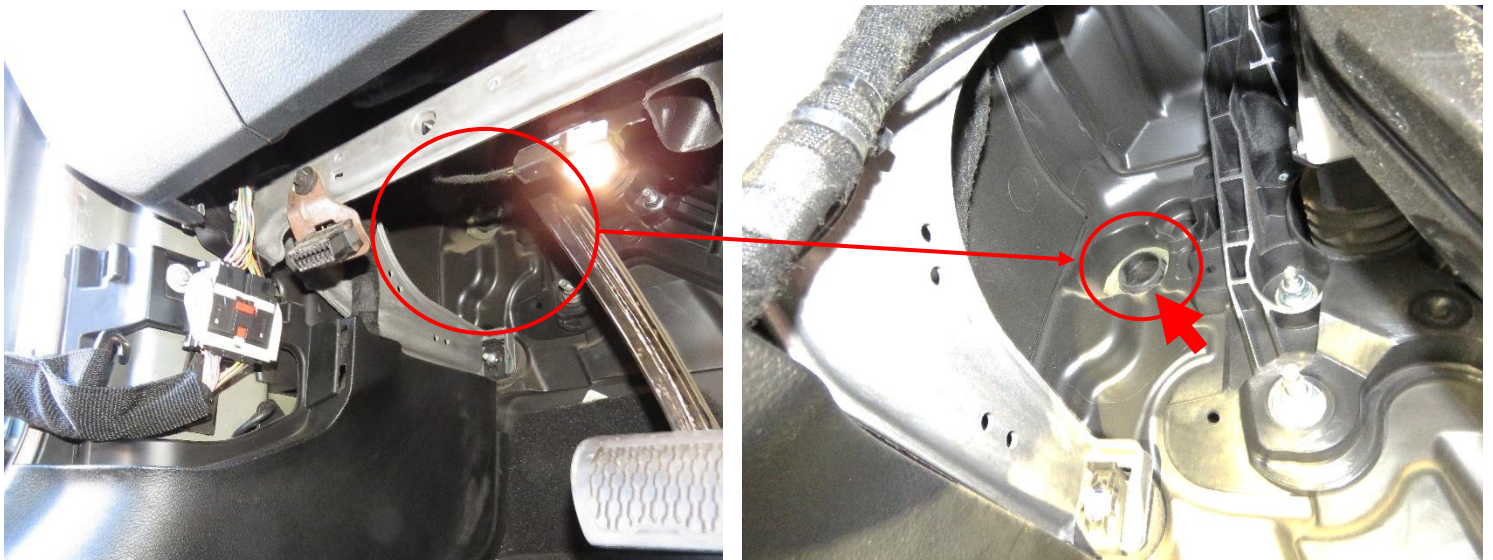
Route PS motor wire
down Passenger Side.

Route DS motor wire
down Passenger Side.

Route Signal wire
down Passenger Side,
near firewall.

10

Inside the vehicle cabin, locate the rubber grommet connecting to the firewall. The grommet is found under the dash panels, behind the OBD port, and up into the cabin-side firewall. Poke a hole through the grommet and feed the signal wires through.



On some vehicles, there is a floor grommet which can be routed through instead of the firewall.



The rubber floor grommet is hidden under the carpet, under the front driver seat.

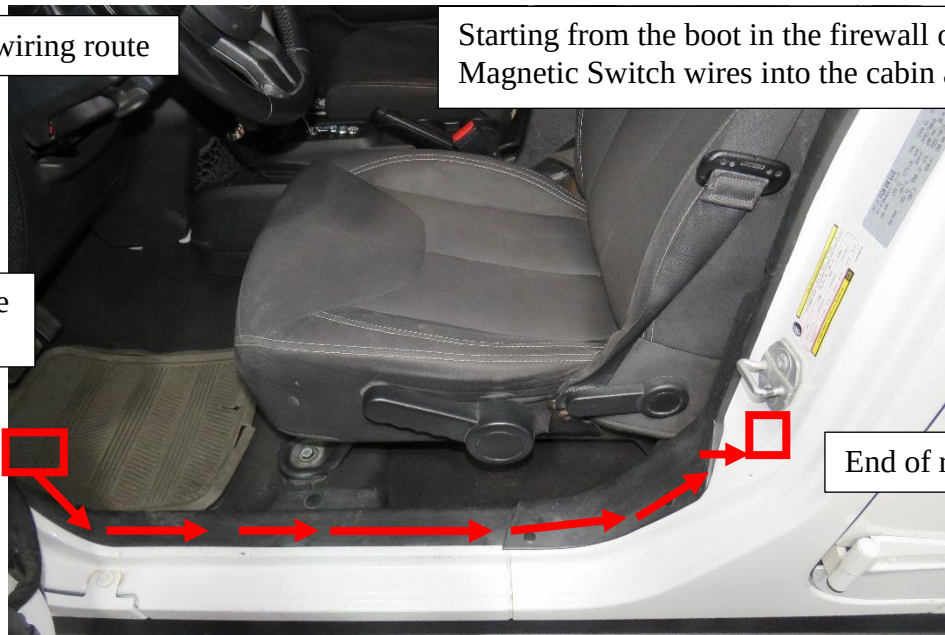


Starting on the front door, take the shorter signal wire and route it up through the underplating and weather seal of the panels up to where the door latch striker is.

DS Front Door wiring route

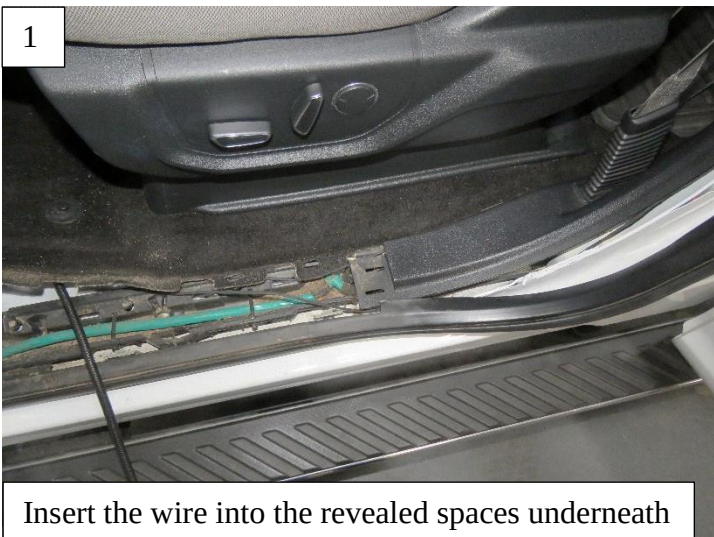
Starting from the boot in the firewall or floor, route the Magnetic Switch wires into the cabin and to each door.

Start of route
(firewall)



End of route

1



Insert the wire into the revealed spaces underneath

2



It is recommended to go under the plastic paneling.

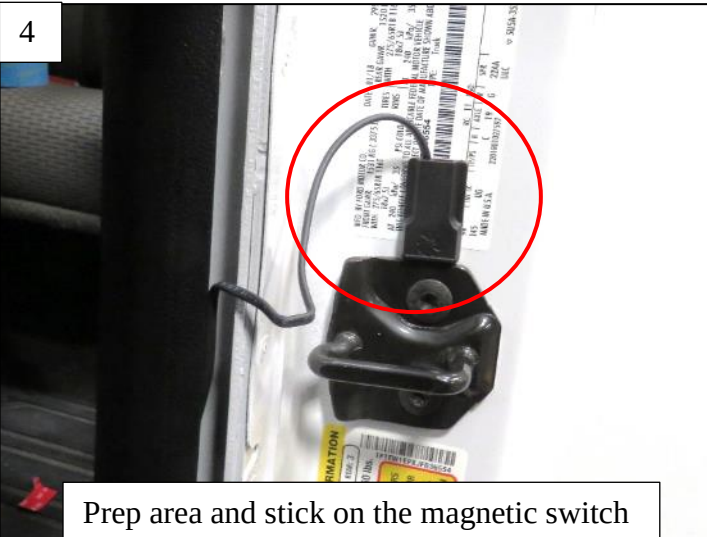
3

Door Latch Striker

Note: Photos here are for illustration purposes only. Your vehicle may not be the same.

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.

4



Prep area and stick on the magnetic switch

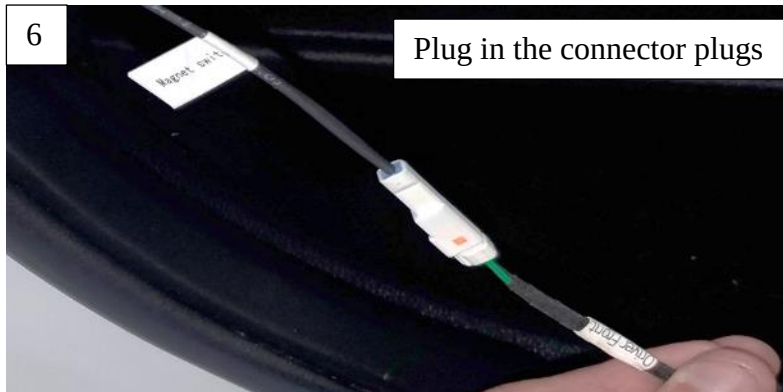
5

Place the weather seal back on over the wire.

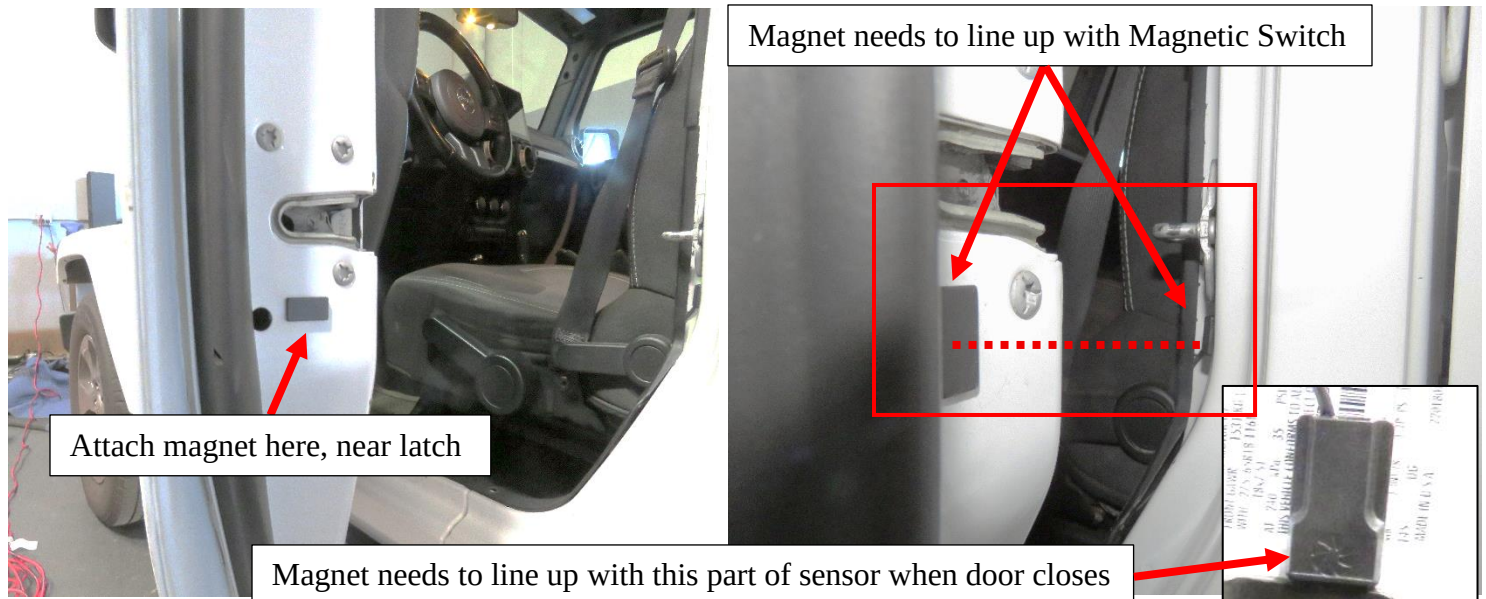


6

Plug in the connector plugs



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.



11

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.

DS Rear Door wiring route

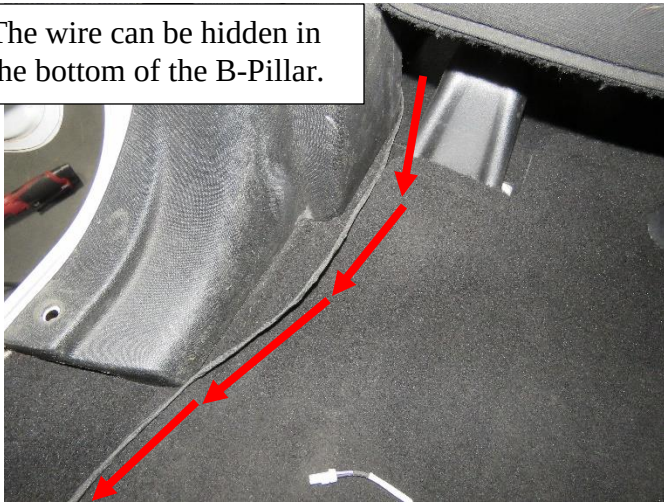
Start of route:
Go around B-pillar

End of route:
above or
below the
door striker.

Remove the floor and jamb paneling as necessary.

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.



The wire tucks into the weather strip near the striker.



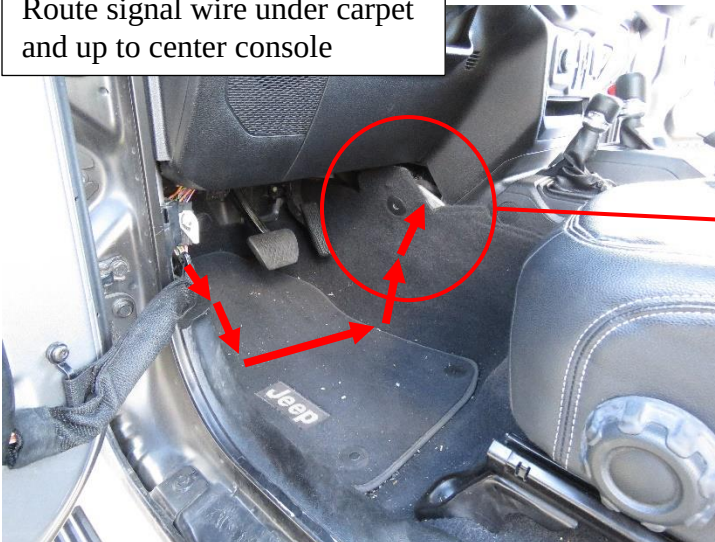
Magnetic Switch

12

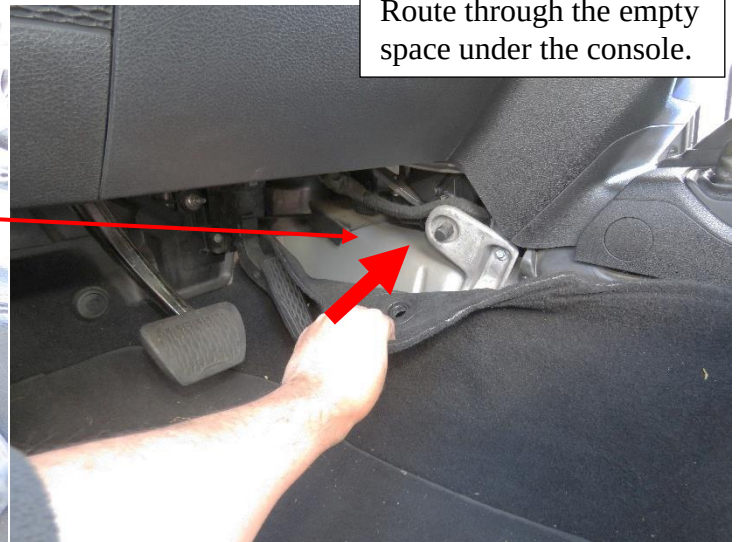
Next, follow the same procedure in steps 10 and 11 for the Passenger Side too. This time, route the Passenger Side Magnetic Switch Wires across the interior over to the other side. The illustration below shows the general paths of the Magnetic Switch wires as colored lines.

Once the signal leg of the main harness is fed through the grommet, route the wiring under the carpet and through the side of the bottom of the center console area. It is recommended to use the vacant space between the center console bracketry.

Route signal wire under carpet and up to center console



Route through the empty space under the console.



Route through the gap
out to the other side.



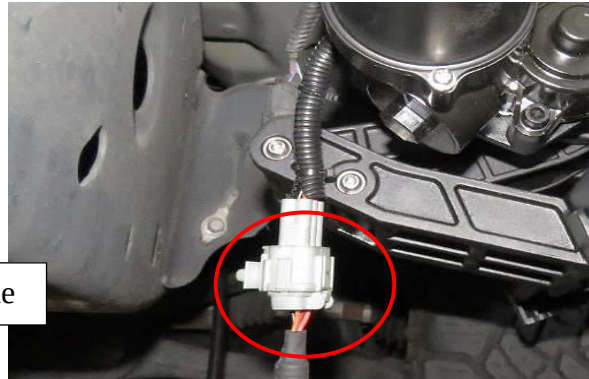
Remove carpet if needed, and route
under or near the glove box.



13

Attach the main harness (M) to one LED Y-Harness (N). Then attach the longer LED Y-Harness (N1) to the motor on the Driver Side. Repeat for Passenger Side. The shorter LED Y-Harness (N2) should connect to the motor that is on the same side as the ECU.

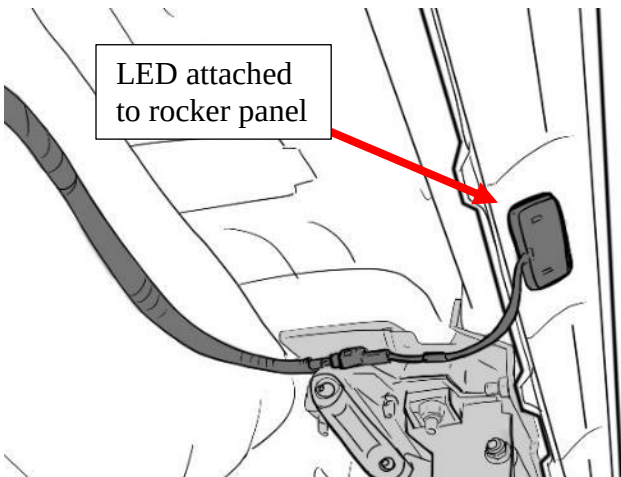
Driver side



14

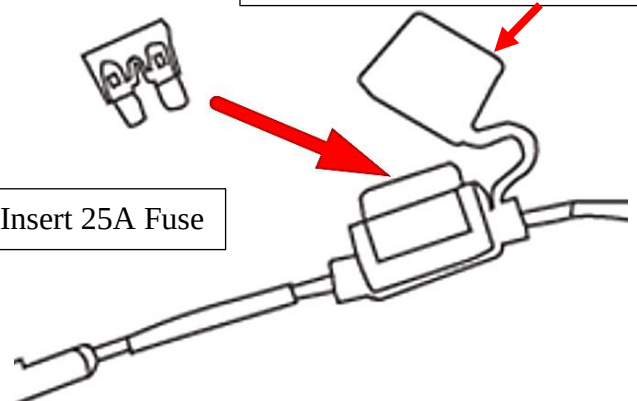
Plug in LED lights (Q) into LED Y-Harness (N) and attach them to the bottom of the rocker panel. Use provided 3M double sided adhesive tape on back of LED light (Q). Replace Fuse into Fuse Box.

LED attached
to rocker panel



Close lid after replacing Fuse

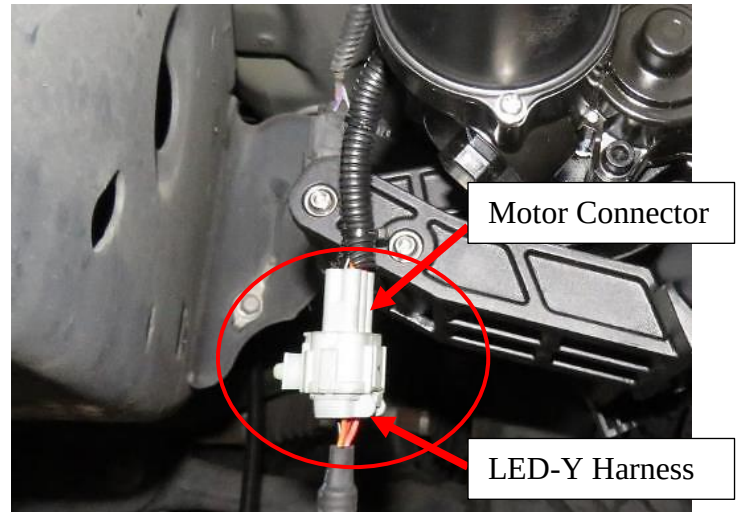
Insert 25A Fuse



15

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

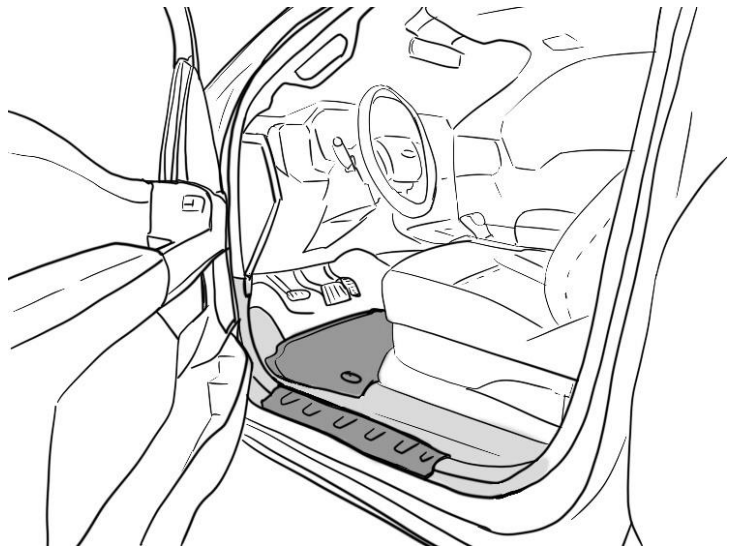


16

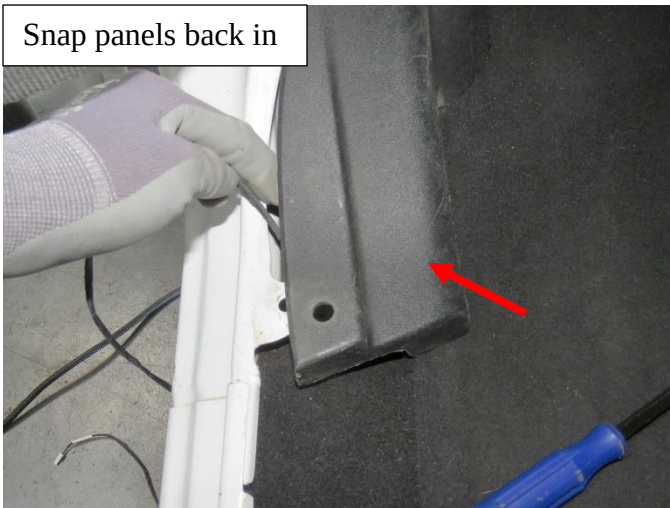
Seal the grommet in the firewall with RTV Silicone Sealant.

Hide wires and reattach any panels and carpet that was removed. Reattach the **glove box** if it was removed and check to make sure there are no obstructions or potential snag points around the brake pedal area.

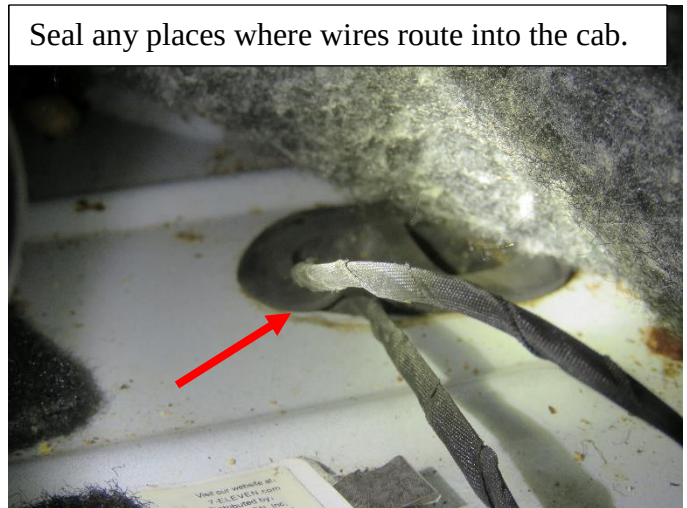
Be sure that the glove box can open and close without snagging on any wires.



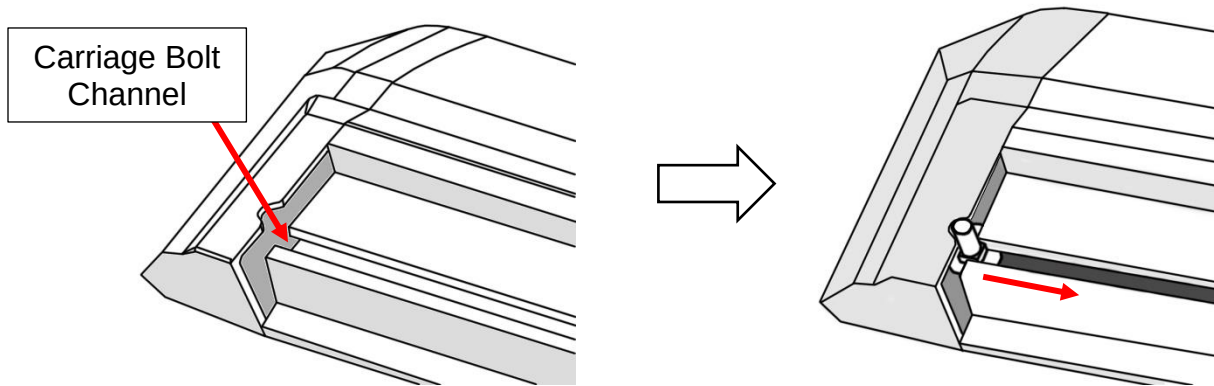
Snap panels back in



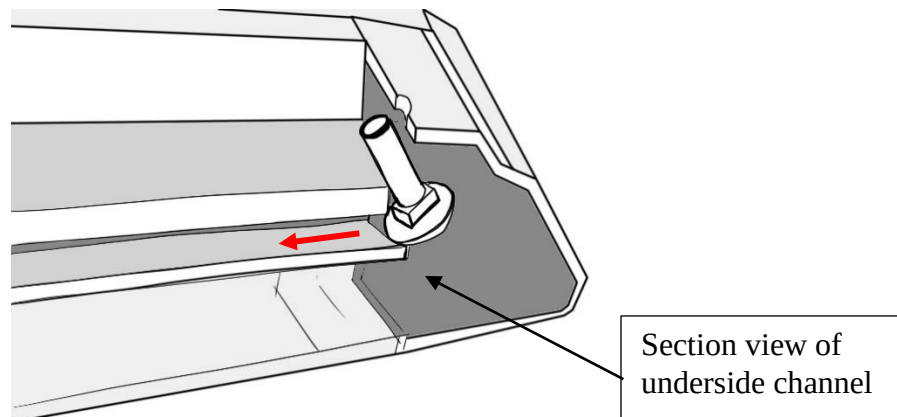
Seal any places where wires route into the cab.



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) per side, meaning 4 for each arm.



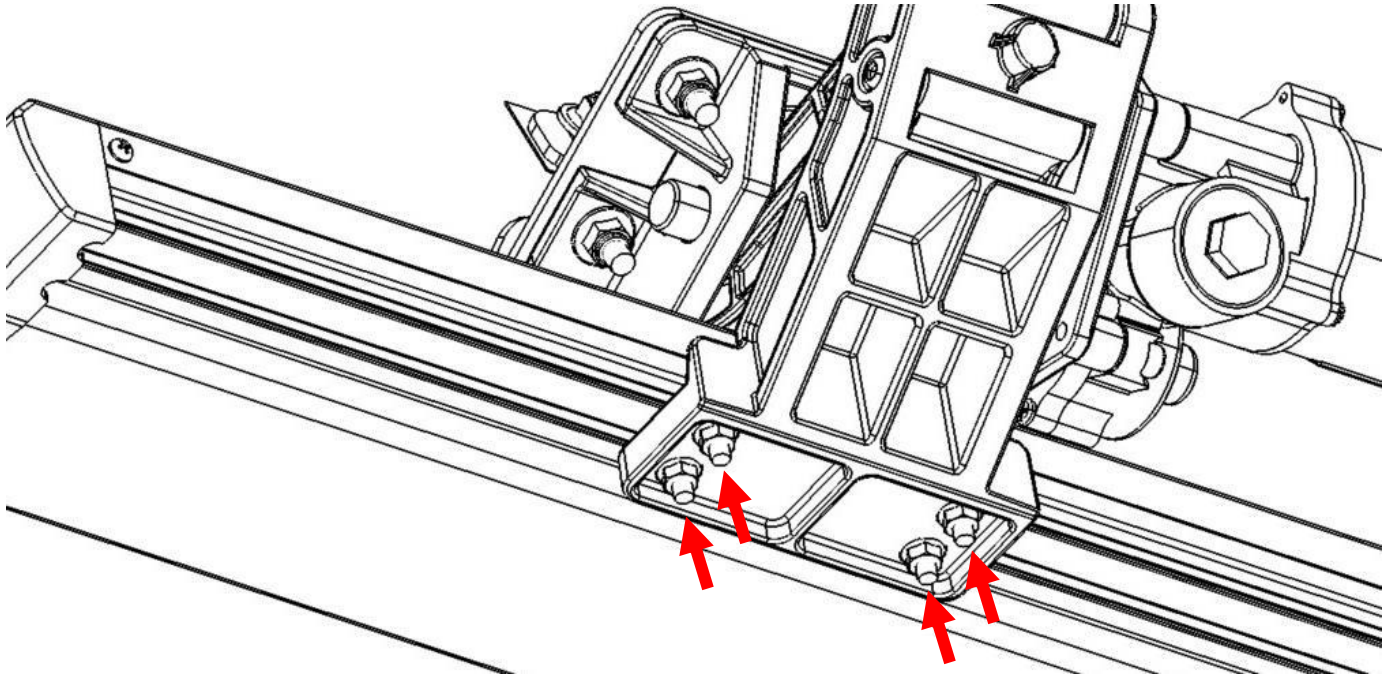
Use the notch in the board's end caps to feed the bolts into the channel.



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 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 Small Flat Washers (G) + 6mm Nylon Lock Nuts (F) onto the carriage bolts.



Once the board is adjusted, plug in 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.

19

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”.

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 taps for a good, solid connection or flip the CAN Signal High and Low wires.

*NOTE: If board still does not move during troubleshooting, it may also be necessary to check all other wiring connections.

*NOTE: Be sure that your Jeep doors are plugged in before trying to test the power steps.

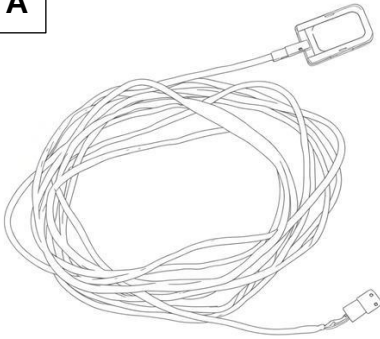
The power steps will not work if the Jeep doors are removed.

***NOTE:**

The Toggle(Manual) Switch Installation & Function instruction will be displayed on the next page.

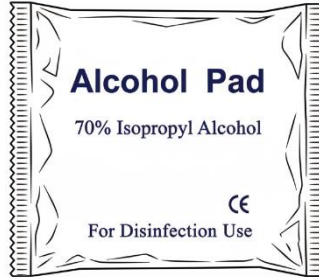
Toggle(Manual) Switch Installation

A



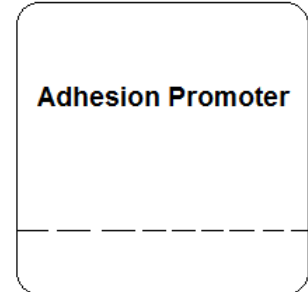
Toggle Switch
Harness

B



Alcohol Pad

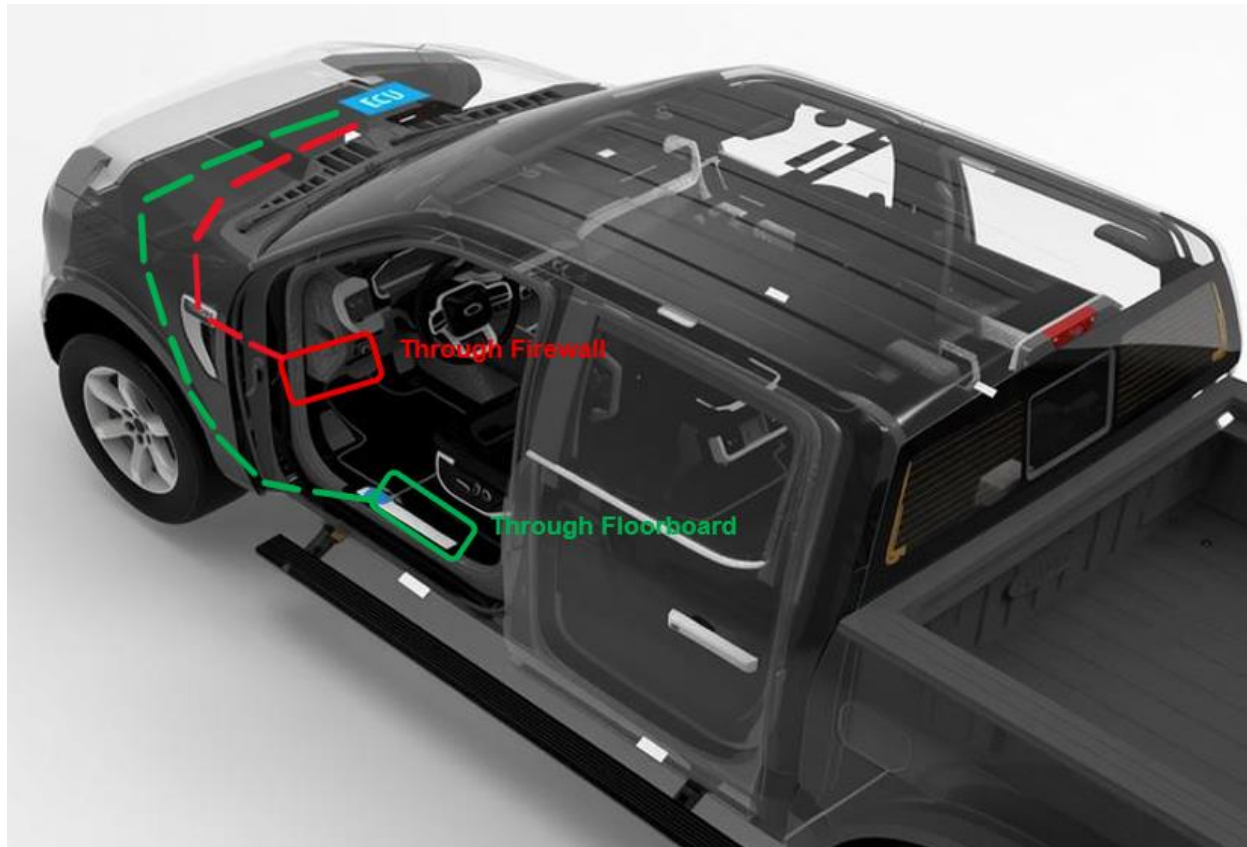
C



Adhesion Promoter

1

First, route the toggle switch harness in the same way the MGS sensor wires from the main harness would be routed. This will depend on your vehicle and application. The wire route will go through the vehicle's firewall or directly underneath the vehicle. Start from the inside of the cabin, feed the connector-end of the harness through the rubber grommet from either the firewall **(2A)** or the floorboard **(2B)** to the outside of the cabin. Leave enough wire inside the cabin to freely place the toggle switch onto the dashboard.

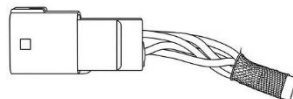
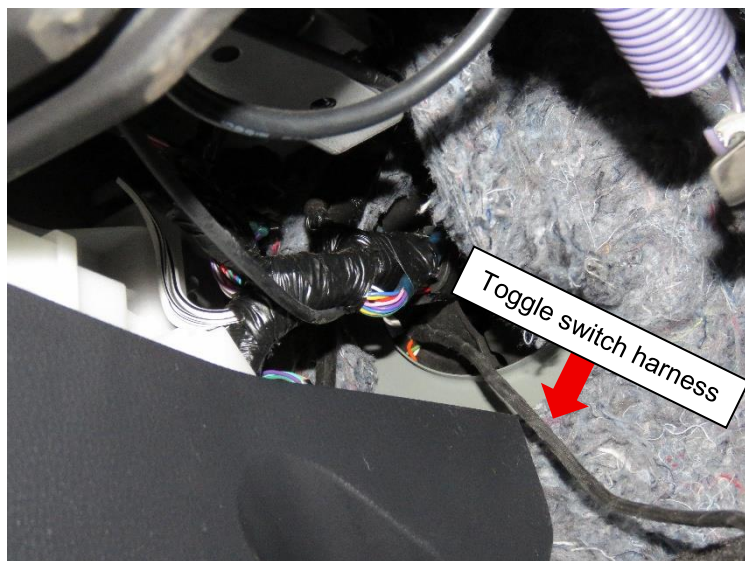
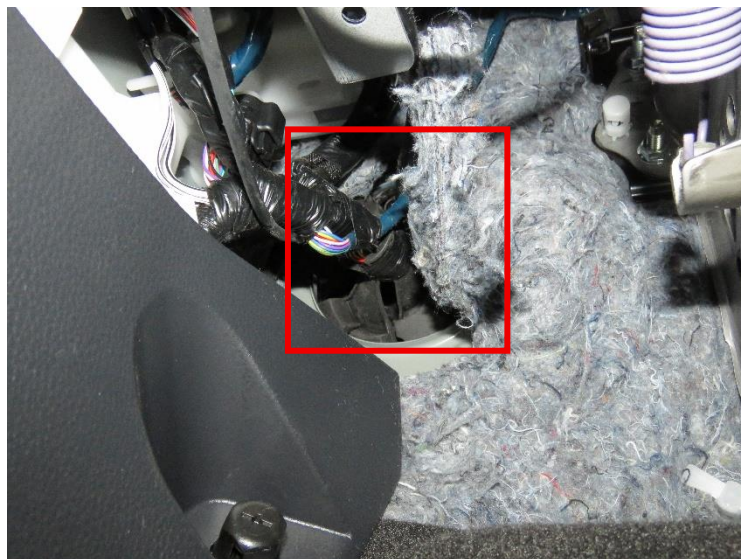


This is routing method A, locate the rubber grommet beneath the driver side dashboard.



Push the rubber grommet outwards.
Be careful not to push on the
vehicle's OE wiring harness. Press
along the edges until the grommet
pops out of place.

Once the grommet is out of place,
slowly feed the connector-end of the
harness outwards to the engine
compartment.



Connector end

From the outside, find the connector jutting out of the rubber grommet. Pull slowly until you can reach the male-end of the connector on the main harness.



2B This is routing method B, locate the rubber grommet beneath the floorboard. The grommet can be underneath the seats or in the general area beneath the floor mats, depending on the vehicle.



In this case, the floor grommet is located directly below the driver side seat.

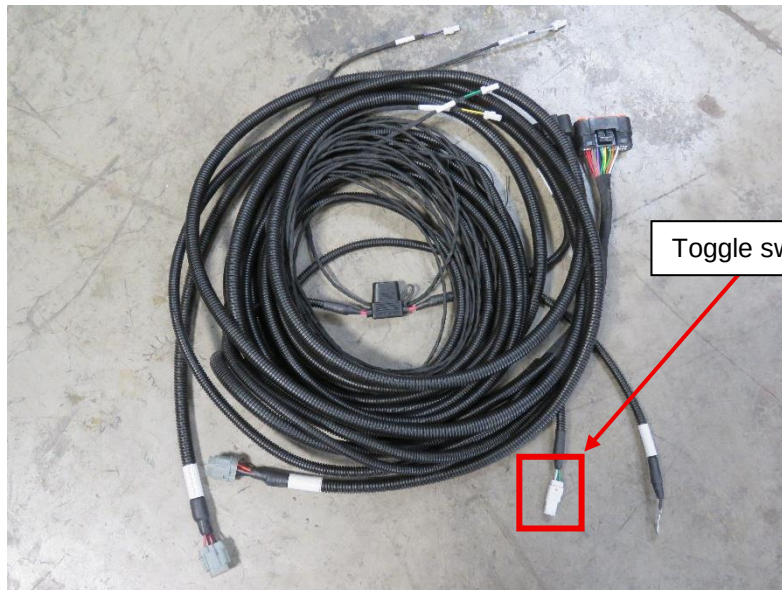
Remove any clips holding the plastic trim in place and pry the carpet open.





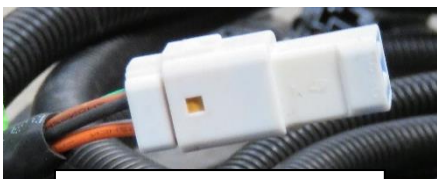
Remove the rubber grommet and feed the toggle switch harness through the hole. Pull slowly until you can reach the male-end of the connector on the main harness.

- 3** Locate the switch button male connector on the main harness. There should be an empty female connector head plugged into it already.



Toggle switch connector

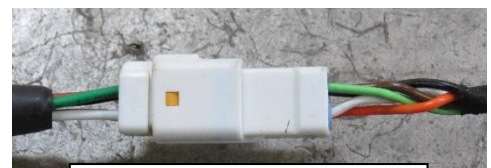
- 4** Remove the empty connector head from the main harness, then plug in the connector from the toggle switch harness.



Empty female connector



Unplugged male connector



Toggle switch plugged into main harness

Once the toggle switch is plugged into the main harness, find an optimal spot to place the button. The general area should be located on the left side of the driver's dashboard. Before sticking the adhesive backside of the switch, clean the designated area with the provided alcohol wipe so that the adhesive has direct contact with the interior panel.



First, Use the provided alcohol pad to clean the intended and surrounding surface where you wish to place the toggle switch. Next, please use the provided adhesion promoter to wipe this area evenly.

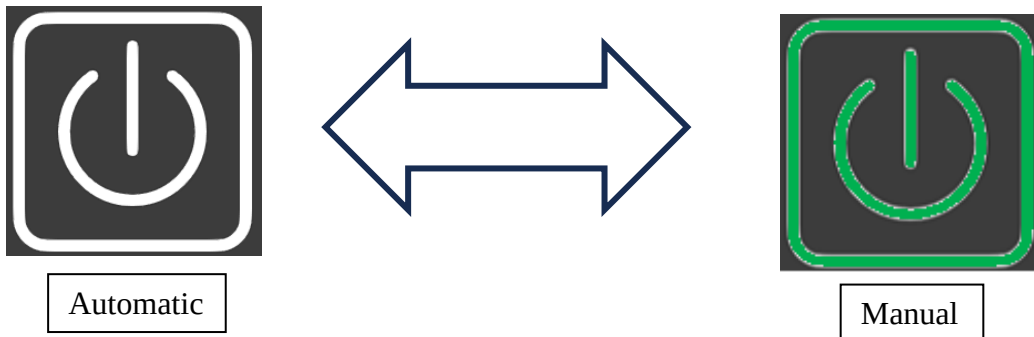
Carefully peel the cover on the adhesive backing, then place the switch at the desired location and press firmly.



Manual Toggle Switch Function

1. Enable manual mode:

To enable “manual cycle mode”, hold the power icon button on the switch for **1s**. This commands the power steps to change from normal automatic to manual infinite cycle mode. Pressing the button again will change it back. When in “manual cycle mode”, the power icon will be lit GREEN. No light means the power steps are in normal automatic mode.



2. Power step cycling:

When “manual cycle mode” is enabled, press the “HOLD TO CYCLE” button to cycle through the deployment and retraction motion of the power steps. Both Driver-side and Passenger-side will perform the cycling motion. Driver-side and Passenger side boards will not be in sync; this is normal.

You may need to hold the “HOLD TO CYCLE” button for more than 500ms for the boards to react. While the boards are in motion or inbetween states, the button will flash RED.

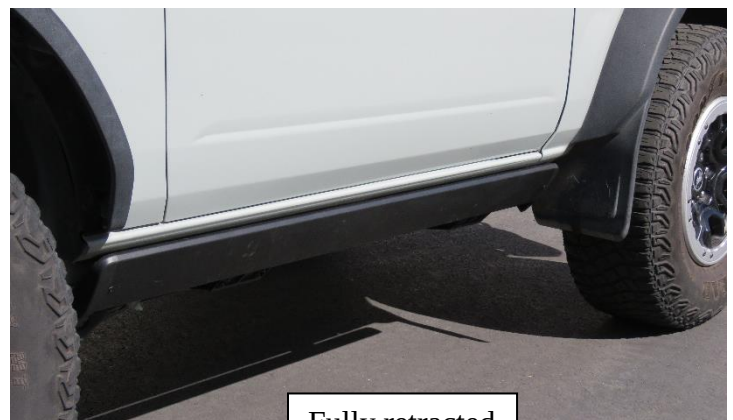
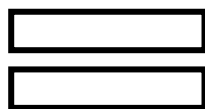
During the cycle motion, when both Driver-side and Passenger-side boards reach the apex of either the deployed or retracted state, the boards will hold that state for **2s** before continuing the cycle.

When both boards are fully retracted, the RED light in the “HOLD TO CYCLE” button will turn off. When both boards are fully deployed, the RED light in the “HOLD TO CYCLE” button will stay on.

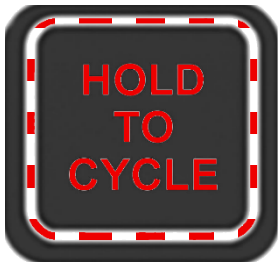
LED Light Indication: (Visual Guide)



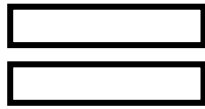
Light Off



Fully retracted



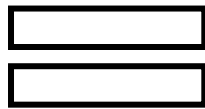
Flashing Red Light



Board is not fully retracted nor deployed



Solid Red Light



Fully deployed

3. Safety Function:

Please exercise caution when operating the manual cycle mode.

It is important to NEVER use a body part or obstacle to obstruct the motion of boards while operating.

When any of the boards encounter an obstacle during the cycle motion in “manual cycle mode”, the boards will automatically stop with the RED light continuing to flash. To resume operation after removing the obstacle, please release the “HOLD TO CYCLE” button and then press and hold it again.

Alternatively, “manual cycle mode” may be disabled by long pressing the power icon button.

4. LED light indicators:

A brief summary of what the LED lights on the buttons mean:

GREEN light indicates power and mode, and RED light indicates cycling state.

When board is in automatic mode, both lights are turned off.

When “manual cycle mode” is enabled, GREEN light stays lit.

When both boards are fully deployed in manual mode, the RED light stays lit.

When both boards are fully retracted in manual mode, the RED light stays off.

When either board is not fully deployed or retracted, the RED light flashes.

5. Sleep Mode:

If the powersteps are idle and there are no inputs for a time, the ECU will go into sleep mode.

Normally, this happens when the doors have not been opened or closed for 5 minutes, or when the vehicle goes into sleep mode.

When the powerstep ECU goes into sleep mode, both GREEN and RED lights on the manual buttons will turn off to save vehicle power.

If the manual buttons go to sleep, you can just press any button to wake it back up. When the powerstep ECU awakens, it will return to the mode it was in before it fell asleep. For example, if the powersteps were in “manual cycle mode” when the ECU fell asleep, then the powersteps will stay in “manual cycle mode” when it wakes back up.

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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