

ROUGH COUNTRY

ESR610330

07-18 Jeep Wrangler JK 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



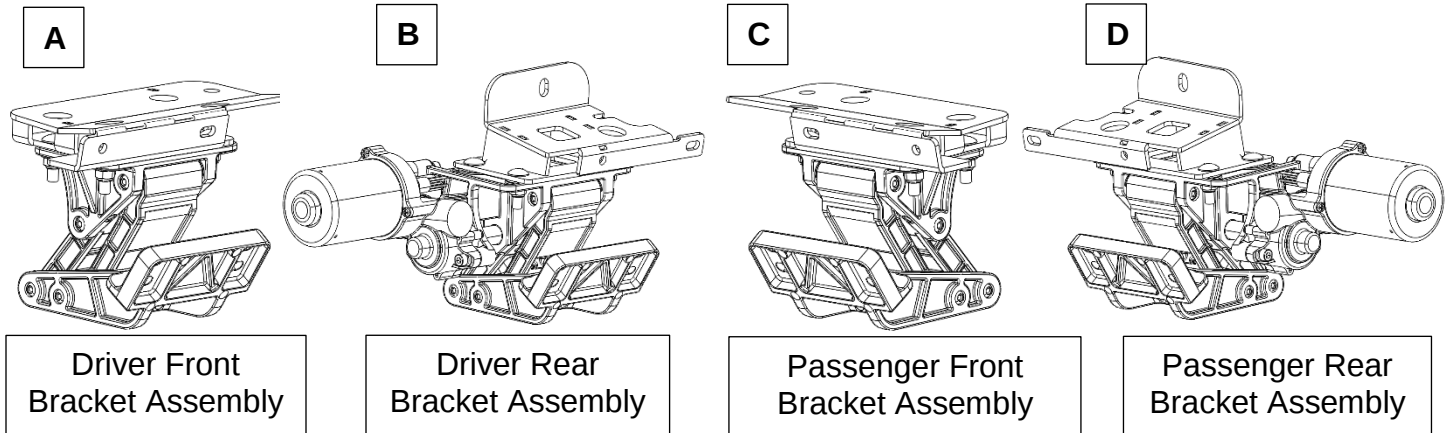
INSTALLATION INSTRUCTIONS

Mechanical PARTS LIST:

Qty	Item Description	Qty	Item Description
2	Running Boards	16	8-1.25x30mm Carriage bolts
1	Driver/Left Rear Motor Assembly	2	8-1.25x30mm Hex bolts
1	Passenger/Right Rear Motor Assembly	16	8mm Flange nylon lock nuts
2	Front Linkage Assembly	2	8mm Lock washers
1	Driver/Left Front Steel Bracket	2	8*24*2mm Large flat washers
1	Passenger/Right Front Steel Bracket	16	6-1.0mm x 20mm Carriage Bolts
1	Driver/Left Rear Steel Bracket	16	6x16x1.6 Flat washers
1	Passenger/Right Rear Steel Bracket	16	6mm Hex nylon lock nuts
2	10-1.5x30mm Hex bolts	8	6-1.0x25mm Hex bolts
2	10mm Nut plates	8	6mm Lock washers
2	10mm Hex nuts	12	6*18*1.6mm Large flat washer
4	10mm Lock washers	4	6mm Hex nuts
4	10*30*2.5mm Large flat washers	2	Plastic retainer
2	10-1.5x40mm Bolt plates	15	Zip ties

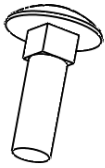
Electronic Materials Package PARTS LIST:

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



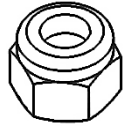
***NOTE:** Please remove OE rock rails from rocker panel before installation of power steps.

E



M6 Carriage Bolt

F



M6 Nylon Lock Nut

G



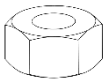
6mm Small Flat Washer

H



6mm Large Flat Washer

I



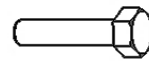
M6 Hex Nut

J



M6 Lock Washer

K



M6 Hex Bolt

L



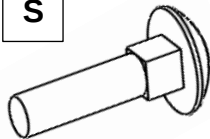
M8 Hex Bolt

R



M8 Lock Washer

S



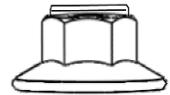
M8 Carriage Bolt

T



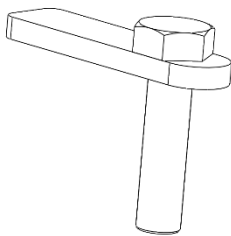
8mm Flat Washer

U



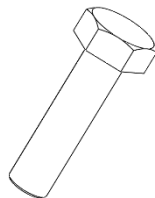
M8 Flanged Lock Nut

V



10mm Bolt Plate

W



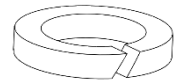
10mm Hex Bolt

X



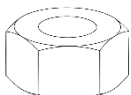
10mm Flat Washer

Y



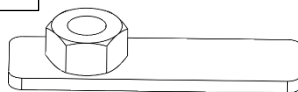
10mm Lock Washer

Z

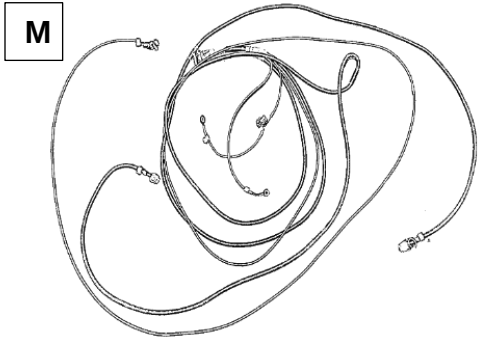


10mm Hex Nut

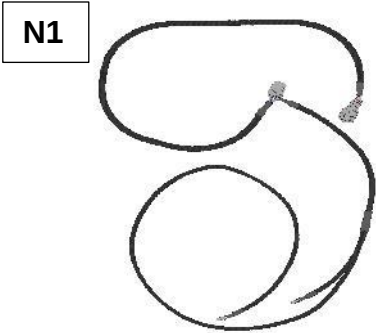
A1



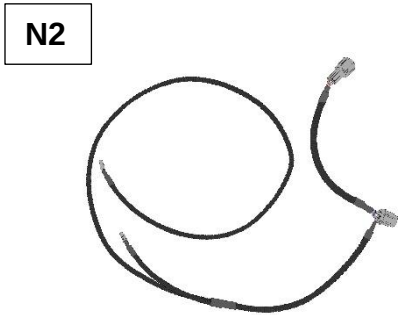
10mm Nut Plate



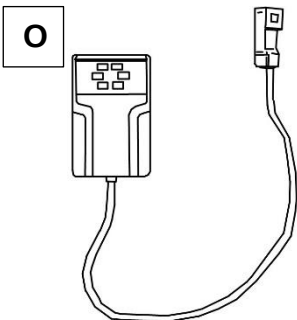
Main Harness



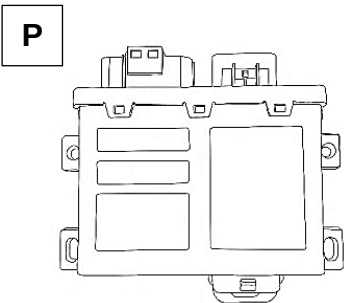
LED Y-Harness (Long)



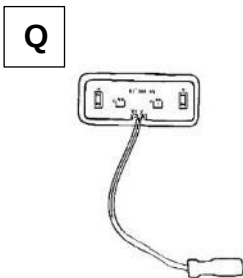
LED Y-Harness (Short)



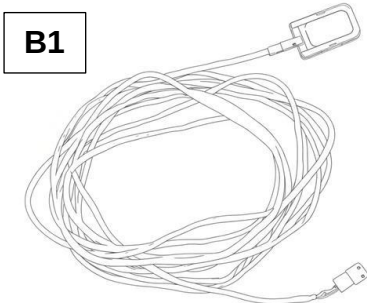
Magnetic Switches



ECU

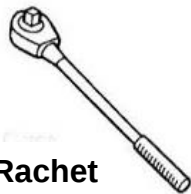


LED Lights



Toggle Switch

TOOLS REQUIRED



Ratchet



Socket

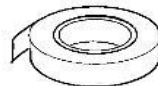
8mm
10mm
13mm



Extensions



Wrenches

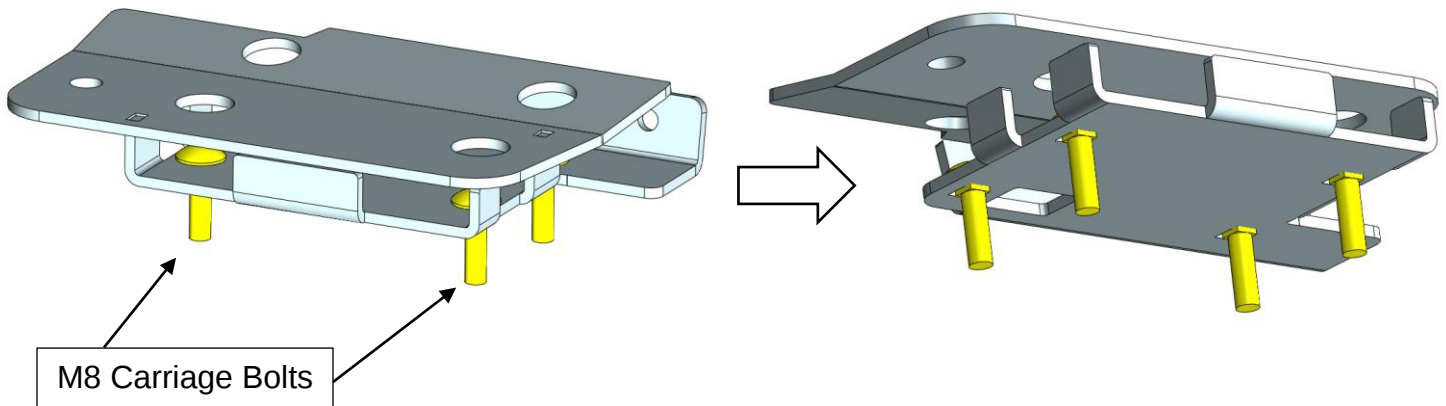


Electrical Tape

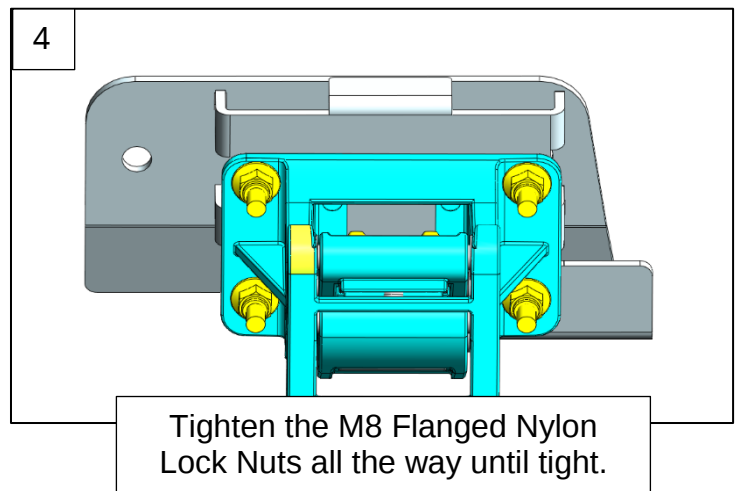
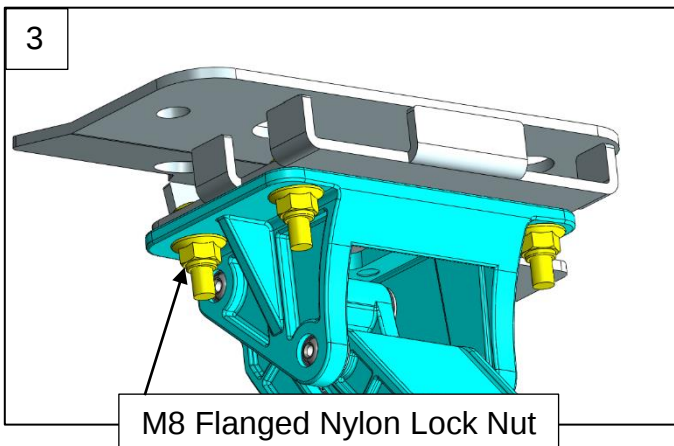
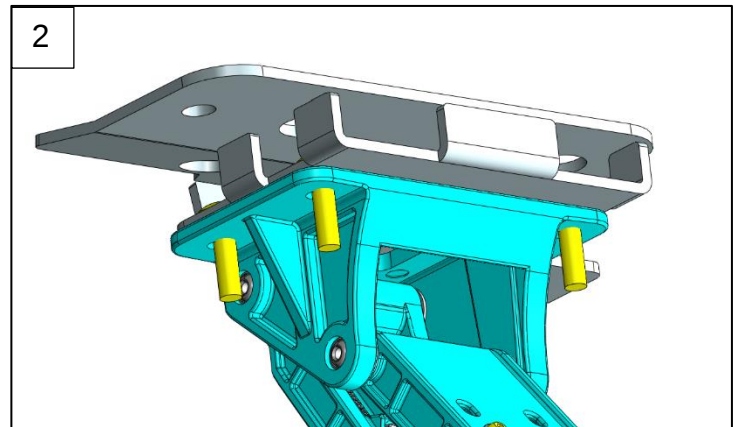
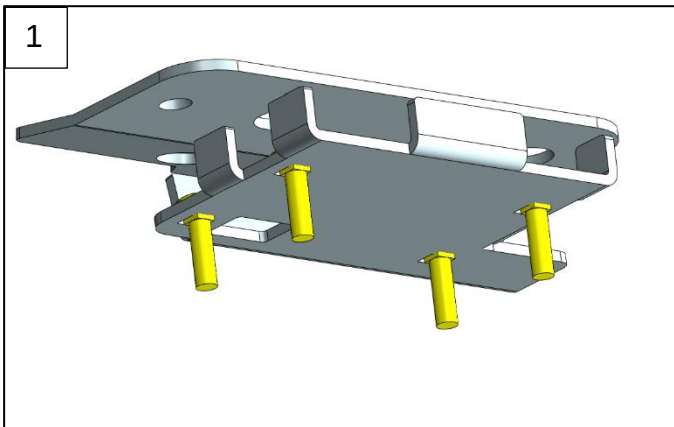
1

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.

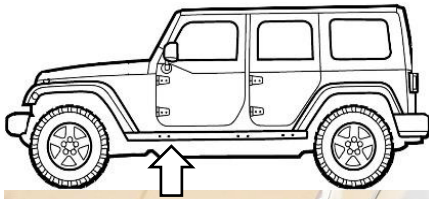
Insert M8 Carriage Bolts downwards.



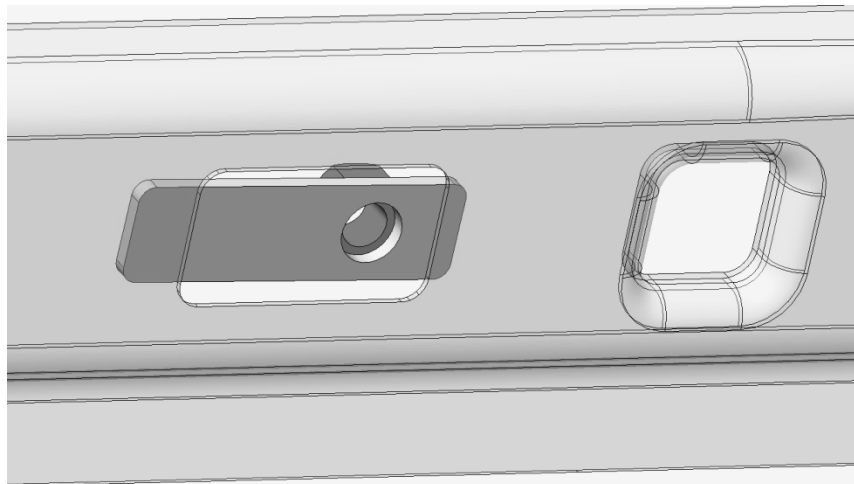
Next, use the M8 Flanged Nylon Lock Nuts to fasten the aluminum linkage arms to the brackets. There are 4 fastening points on each bracket. Repeat this step for all linkage arms.

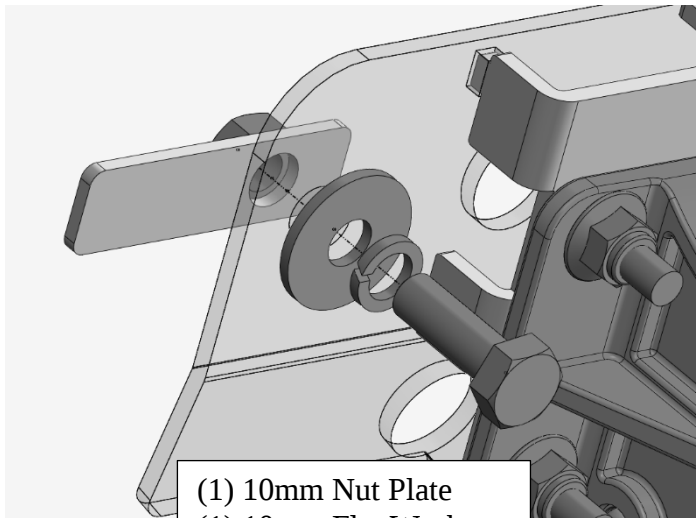


Locate the Driver Side front mounting points on the rocker panel under the A-Pillar. There will be three mounting points for the front bracket. One rectangular slot and two rocker panel holes.

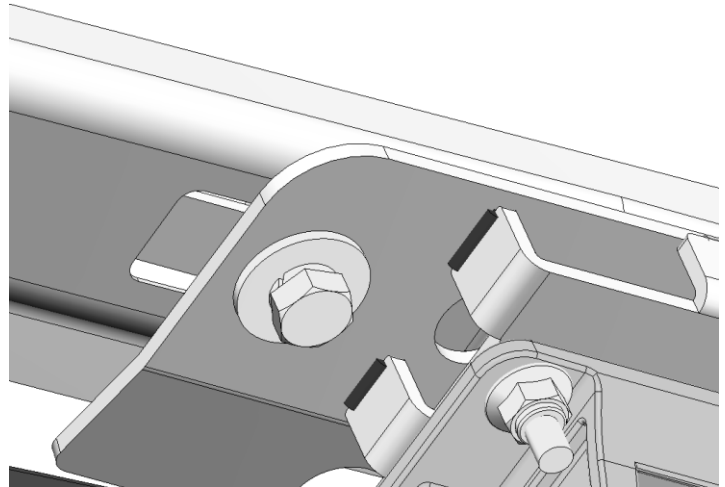


Insert the Nut Plate (A1) into the longer rectangular slot. Make sure the plate is rested on the slot with a good amount of space on each side. Please see picture below. Fasten the M10 Hex Bolt (W), Lock Washer (Y), and Flat Washer (X) onto the Nut Plate (A1). Do not fully tighten bolt onto the bracket at this time.





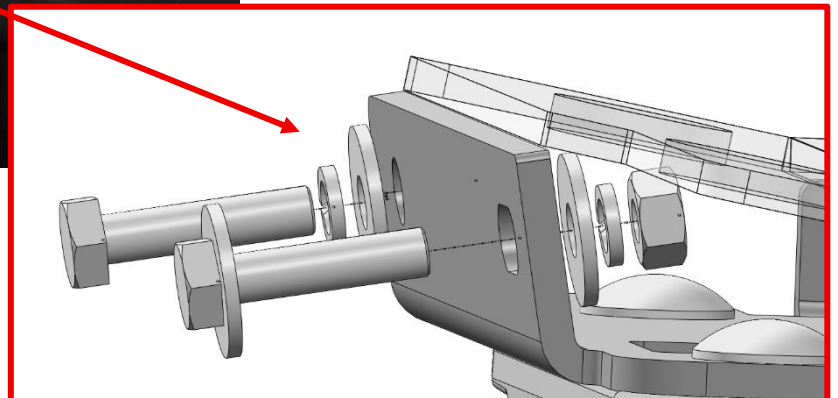
- (1) 10mm Nut Plate
- (1) 10mm Flat Washer
- (1) 10mm Lock Washer
- (1) 10mm Hex Bolt



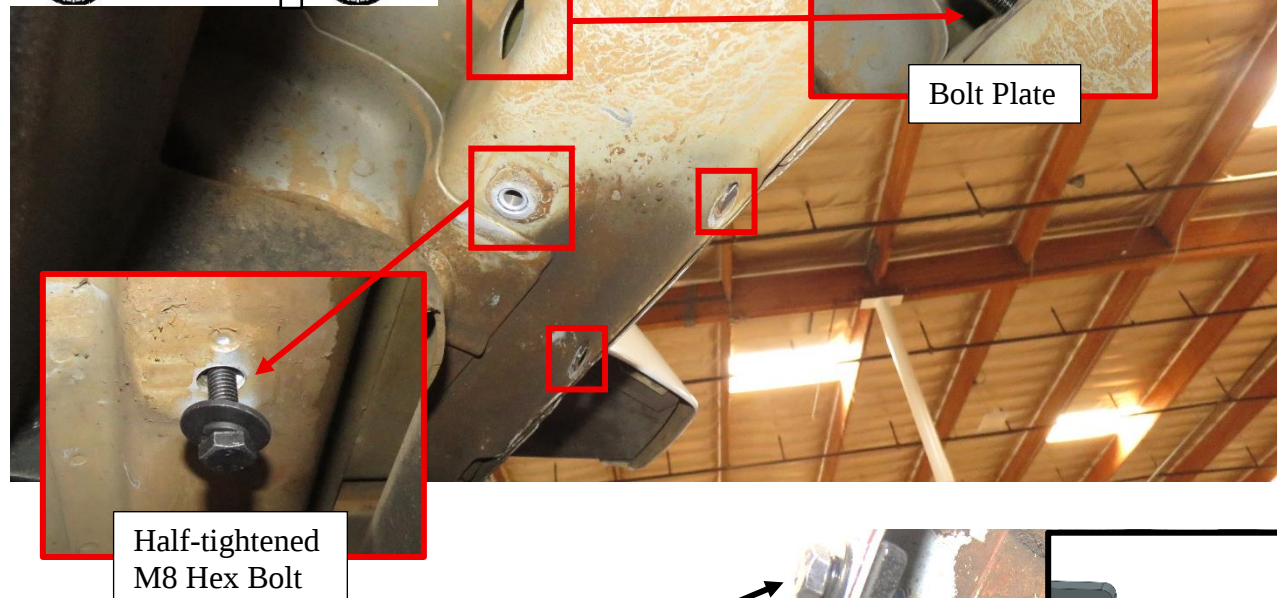
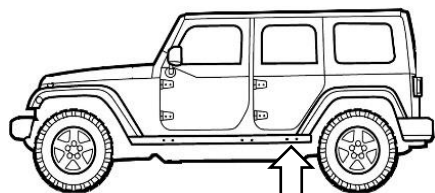
Next, fasten two M6 Hex Bolts onto the rocker panel holes. One of the mounting holes on the bracket has a welded hex nut, insert the M6 Hex Bolt (K), Lock Washer (J), and Flat Washer (H), onto this mounting hole. For the other mounting hole, fasten the M6 Hex Bolt (K) and Large Flat Washer (H) onto the Large Flat Washer (H), Lock Washer (J), and Hex Nut (I) on the other side. Make the proper adjustments to ensure the bracket is angled correctly. Then, fully fasten all the bolts.



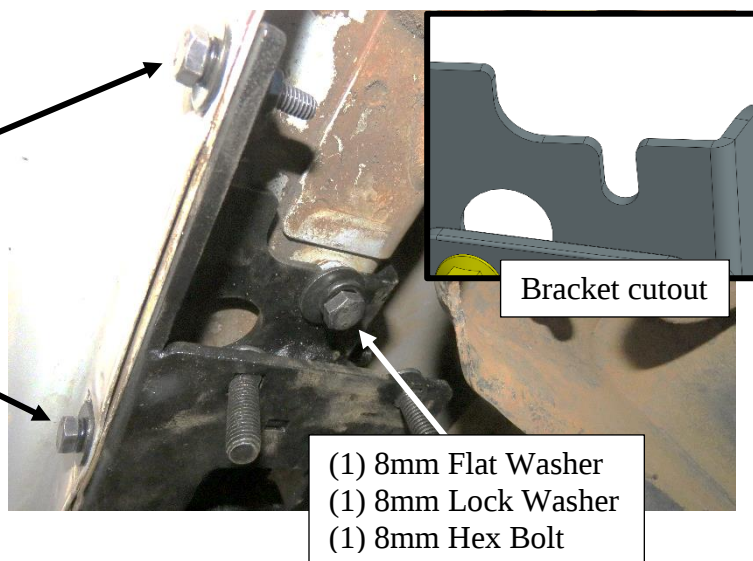
- (3) 6mm Flat Washers
- (2) 6mm Lock Washers
- (2) 6mm Hex Bolts
- (1) 6mm Hex Nut



Locate Driver Side rear mounting points. The rear mounting brackets uses 4 mount points. First, insert the Bolt Plate (V) into the hole slot. Use a plastic retainer to keep it in place. Next, tighten the M8 Hex Bolt (L) into the center mounting hole. Tighten until it is halfway in, then slide the top of the mounting bracket cutout onto the half-tightened bolt. Fasten hardware onto bolt plate and the M8 bolt. Do not tighten completely. Lastly, fasten the hardware onto the two rocker panel holes, install is the same as the front mounting bracket. Make the proper adjustments needed before tightening everything.



- (3) 6mm Flat Washers
- (2) 6mm Lock Washers
- (2) 6mm Hex Bolts
- (1) 6mm Hex Nut



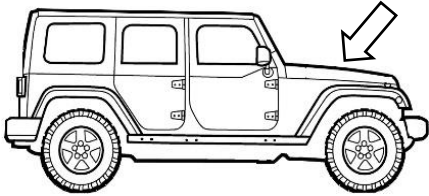
- (1) 10mm Hex Nut
- (1) 10mm Lock Washer
- (1) 10mm Flat Washer
- (1) 10mm Bolt Plate

4

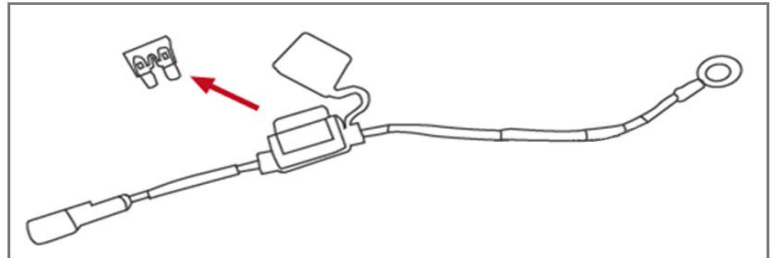
Repeat steps 1 – 3 for the Passenger Side.

5

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



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



Open fuse holder cap and remove fuse

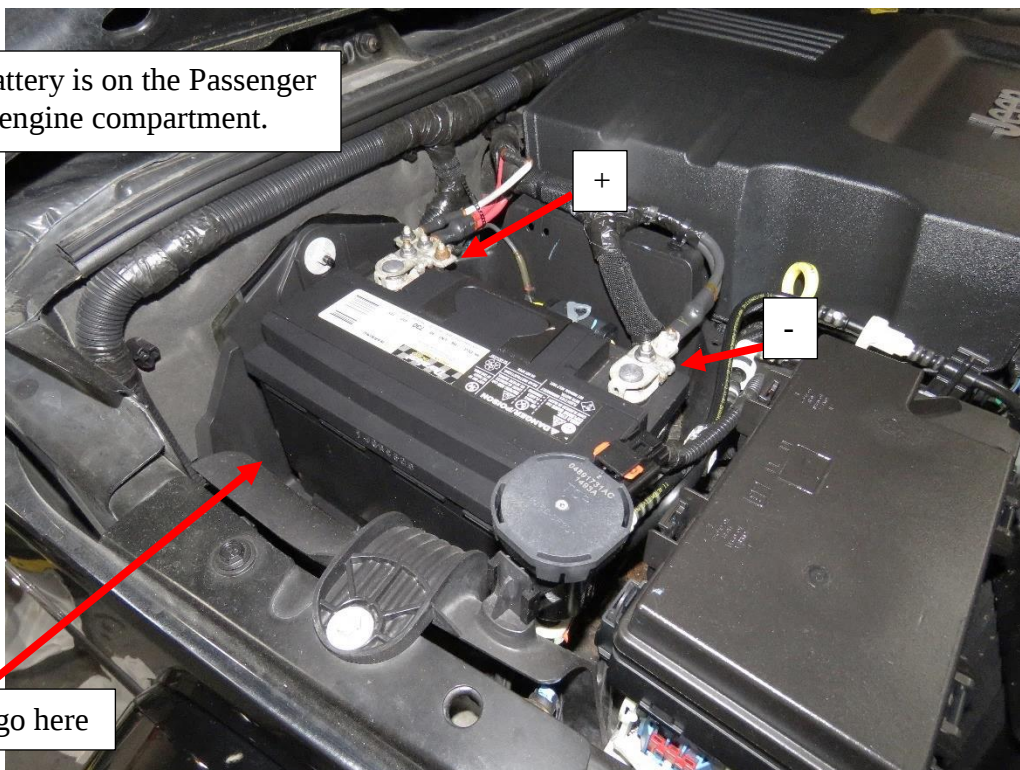
6

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.



ECU can go here

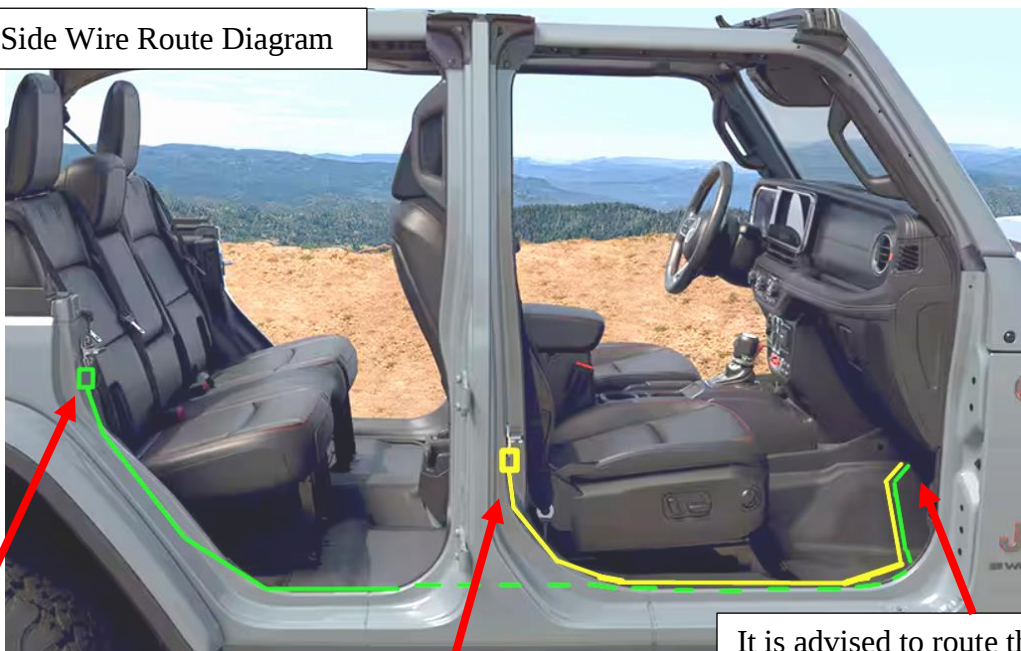
In general, the routing of the wires will follow the basis of the graphic below. The legs of the Main Harness for the motors labeled "Passenger Side" will route towards the Passenger Side of the vehicle, and the legs labeled "Driver Side" will route towards the Driver Side of the vehicle.

ECU will be secured near battery

Magnetic Switch wires will enter the cab through the firewall.

Magnetic Switch wires will finish their path by going up to each door in the cab and routing across the interior of the cab.

Passenger Side Wire Route Diagram

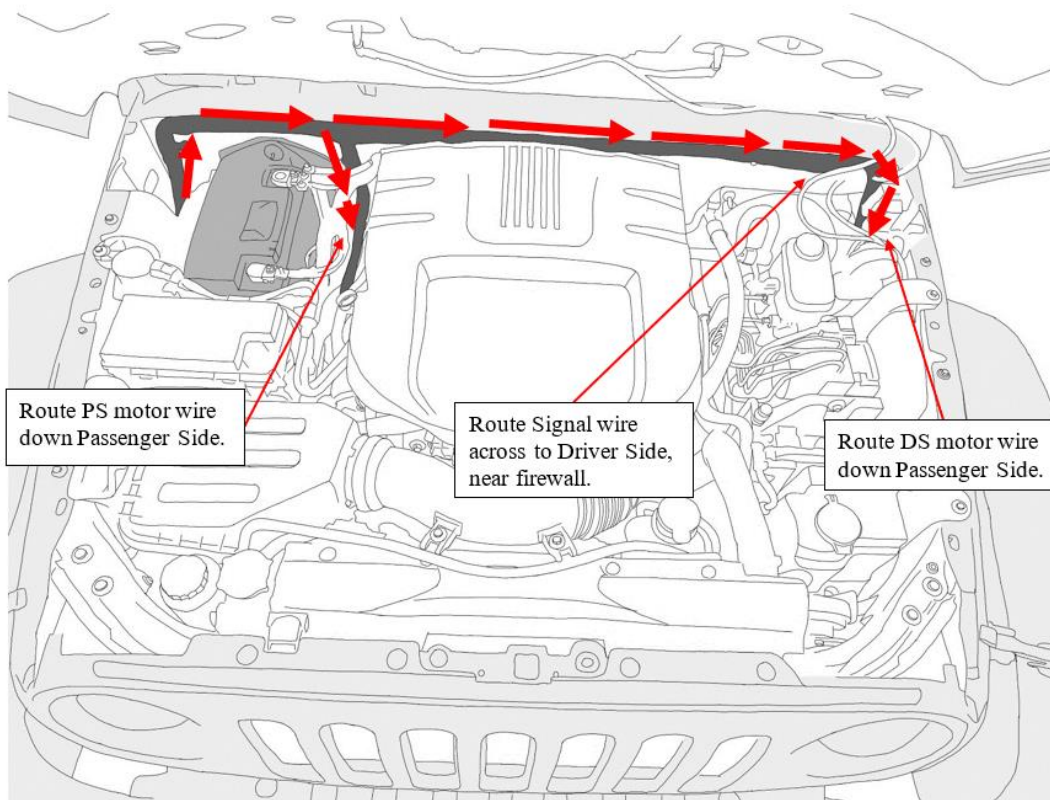


The Magnetic Switches will generally be placed close to the door latch and striker. Exact location may differ slightly depending on year of make.

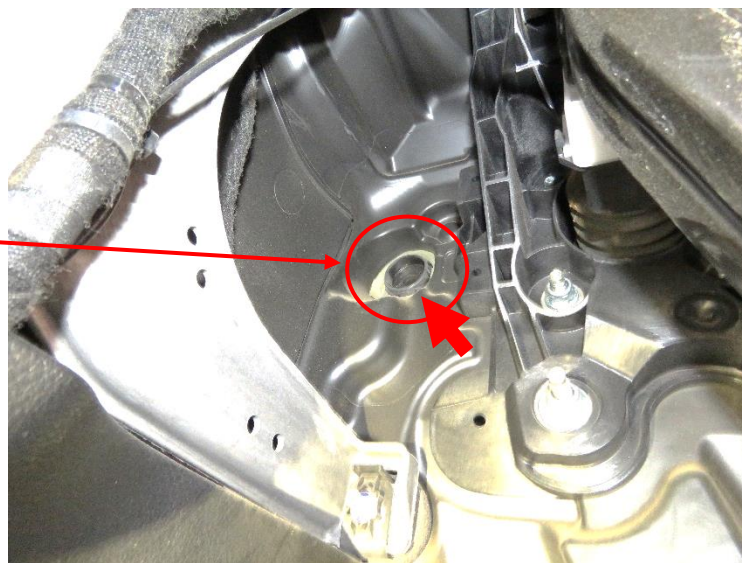
It is advised to route the Passenger Side Magnet Switch wires behind the center console for a cleaner look. See following pages for more details.

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

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.



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.

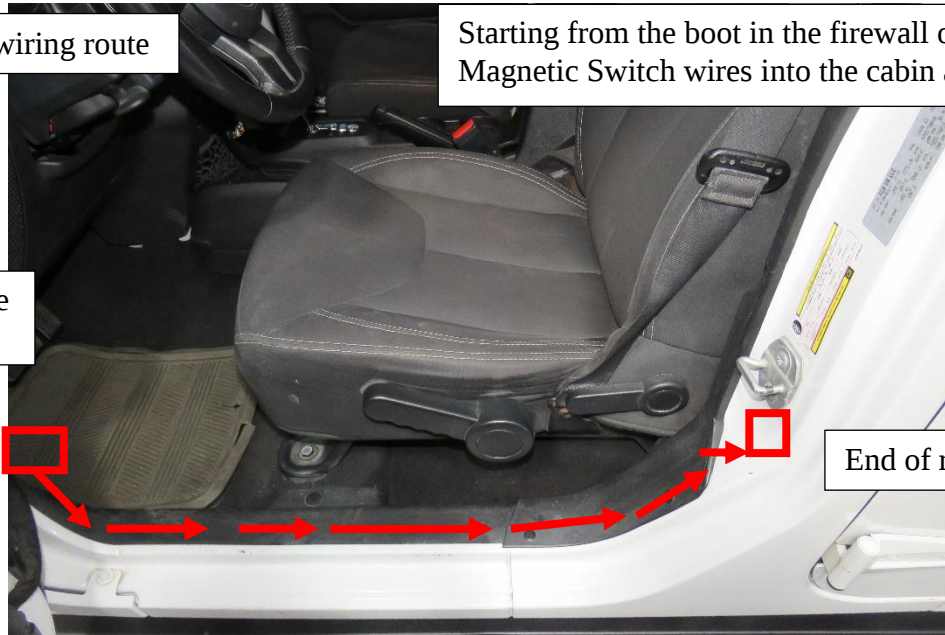


Starting on the front door, take the shorter signal wire and route it up through the underplating and weather seal of the panels up to where the door latch striker is.

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

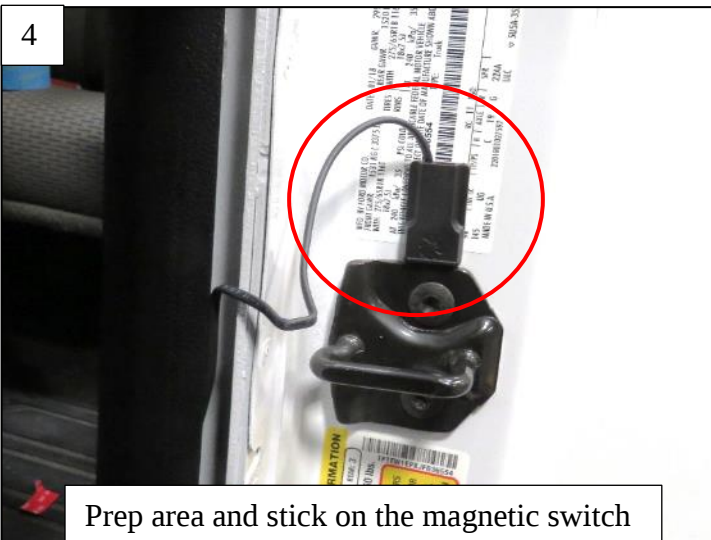


Door Latch Striker

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

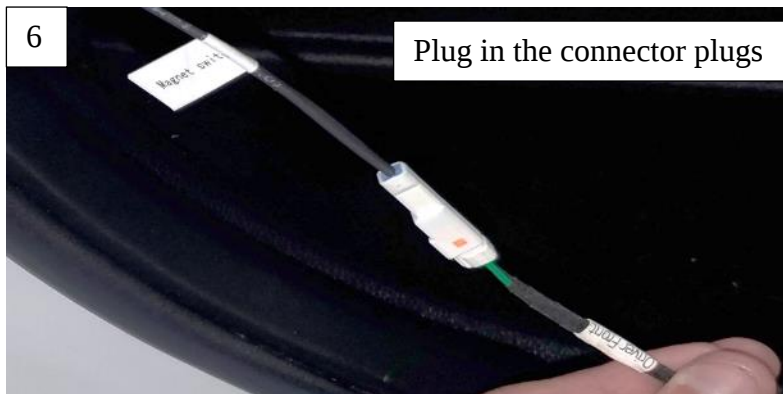
5

Place the weather seal back on over the wire.

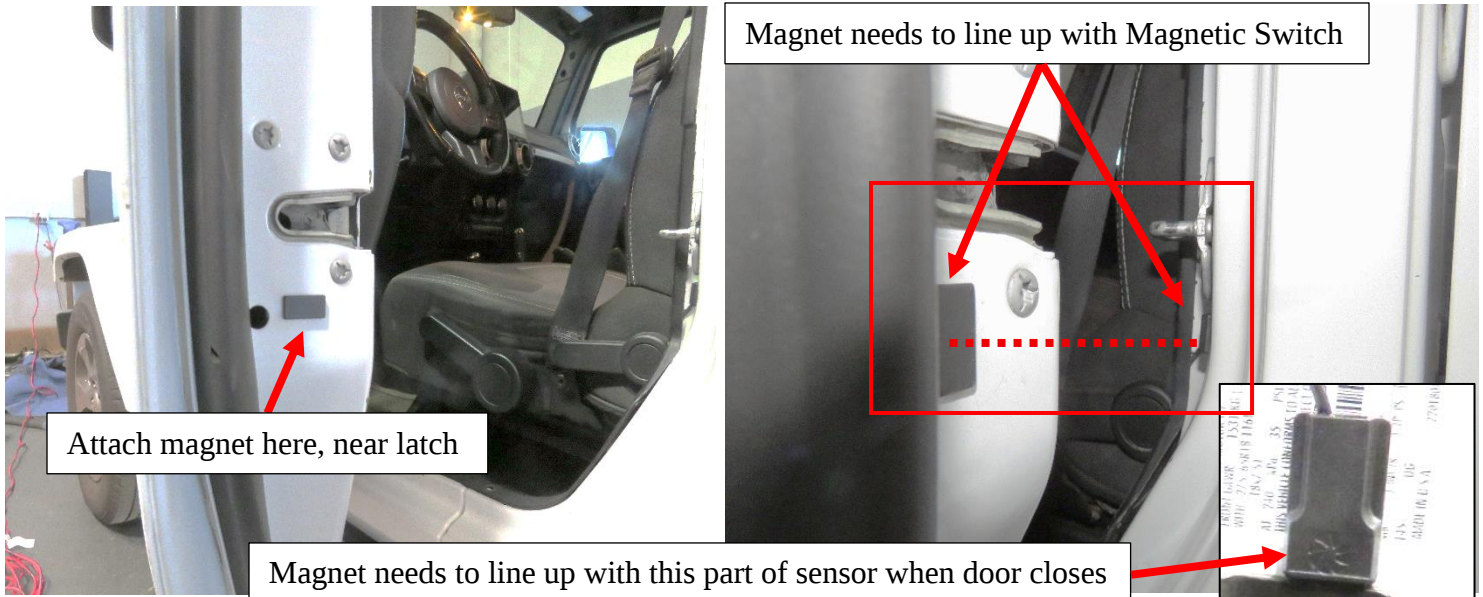


6

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.



10

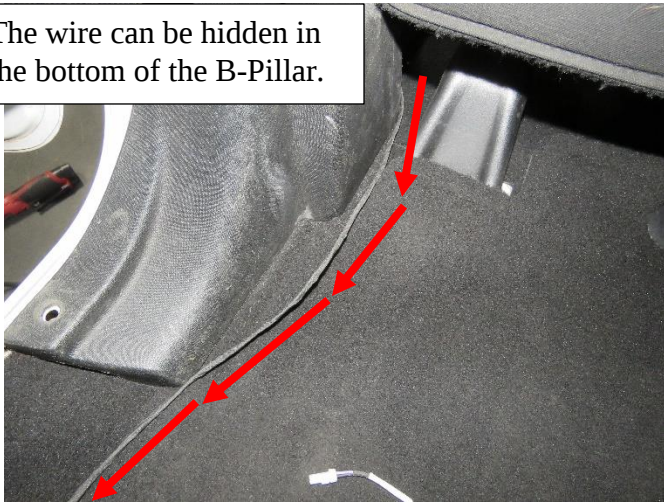
Next, do the same procedure to the Driver-Side rear door too.

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.



The wire tucks into the weather strip near the striker.



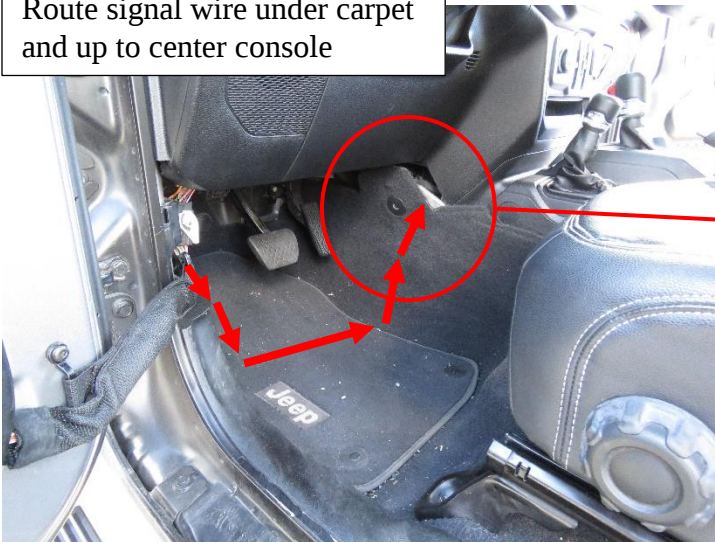
Magnetic Switch

11

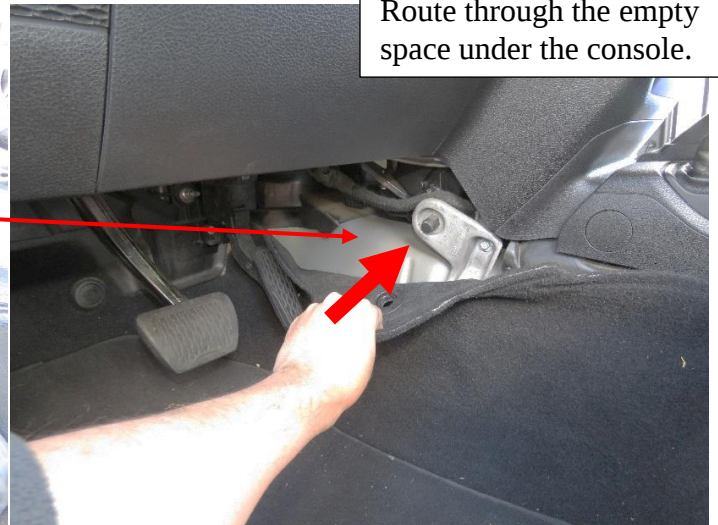
Next, follow the same procedure in steps 9 and 10 for the Passenger Side too. This time, route the Passenger Side Magnetic Switch Wires across the interior over to the other side. The illustration below shows the general paths of the Magnetic Switch wires as colored lines.

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.



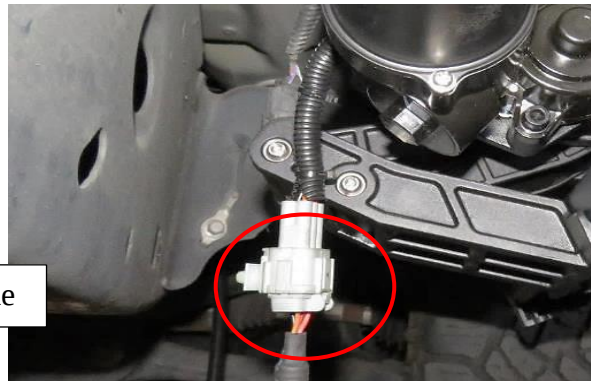
Remove carpet if needed, and route
under or near the glove box.



12

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.

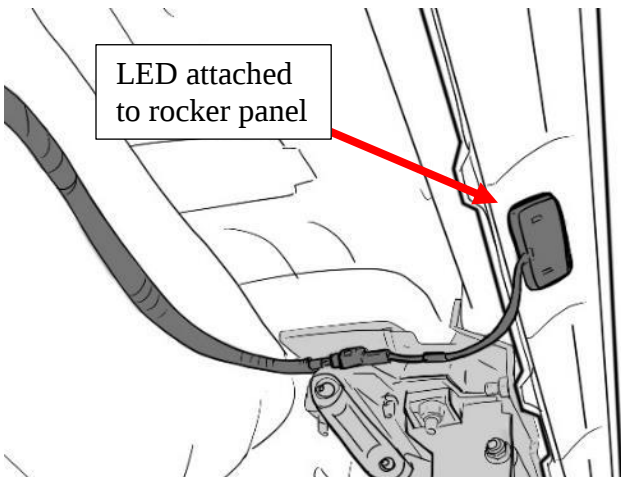
Driver side



13

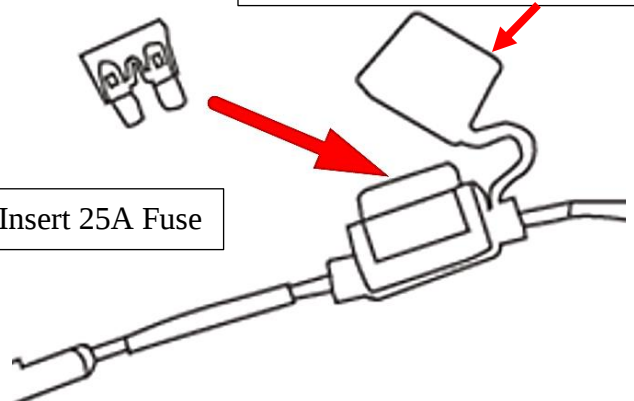
Plug in LED lights (Q) into LED Y-Harness (N) and attach them to the bottom of the rocker panel. Use provided 3M double sided adhesive tape on back of LED light (Q). Replace Fuse into Fuse Box.

LED attached
to rocker panel



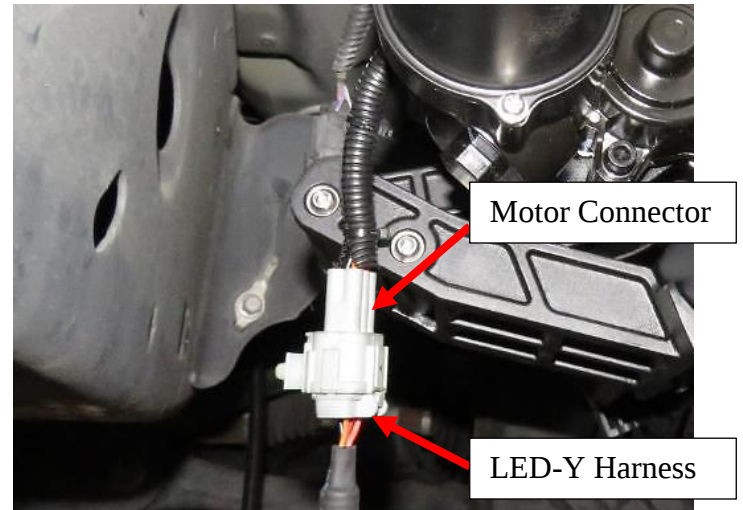
Close lid after replacing Fuse

Insert 25A Fuse



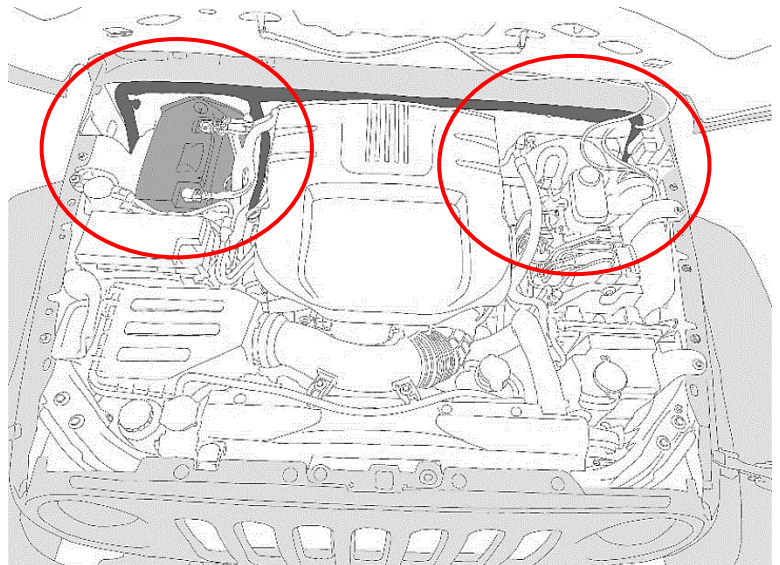
Check to make sure the harnesses on the Driver Side/Left Front Bracket Assembly (A) and Passenger Side Front Bracket Assembly (C) are connected to the main harness (M) via the LED-Y harnesses (N).

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

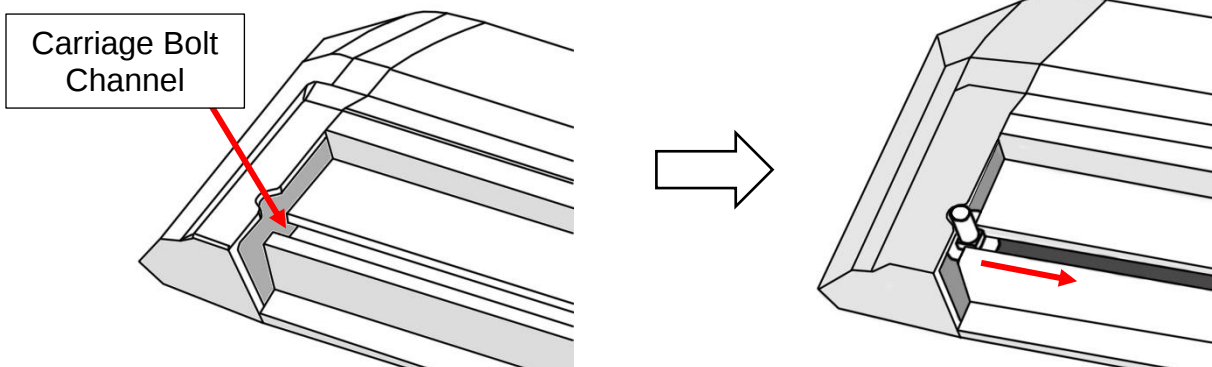


Hide wires and reattach any panels That may have been removed during installation.

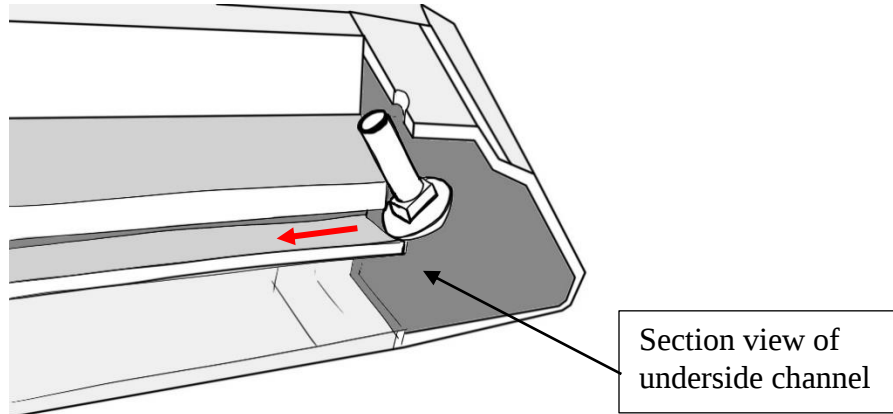
Check and secure the excess wiring to make sure there are no obstructions or potential snag points around moving parts of the vehicle (including steering column and engine).



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.

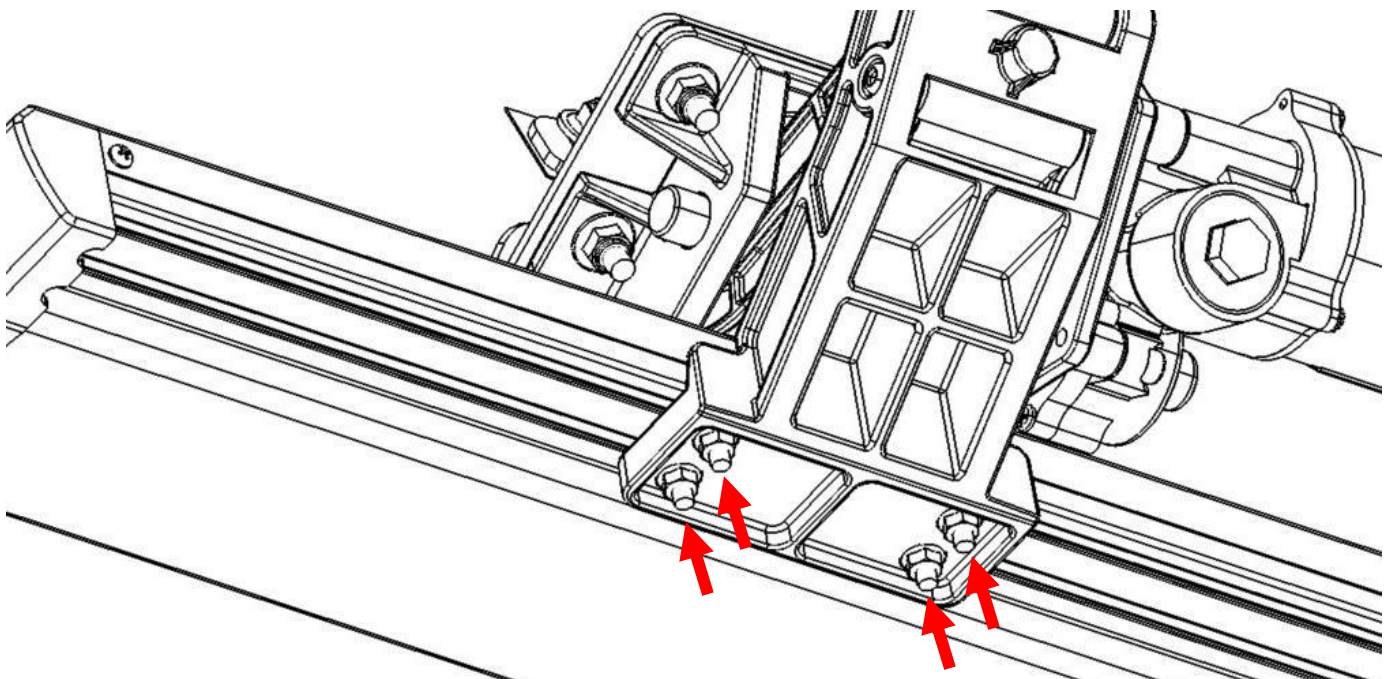


17

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 (G) 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.

18

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”.

19

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 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.

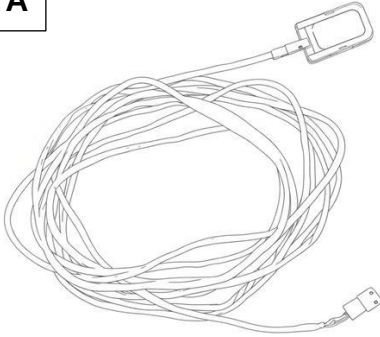
The power steps will not work if the Jeep doors are removed.

*NOTE:

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

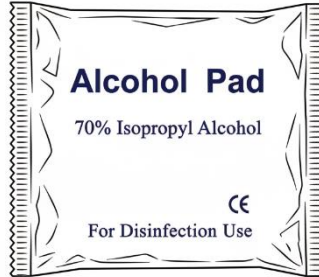
Toggle(Manual) Switch Installation

A



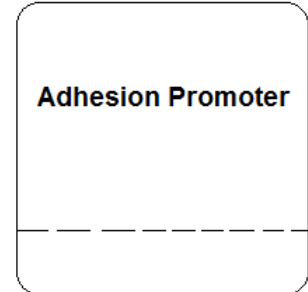
Toggle Switch
Harness

B



Alcohol Pad

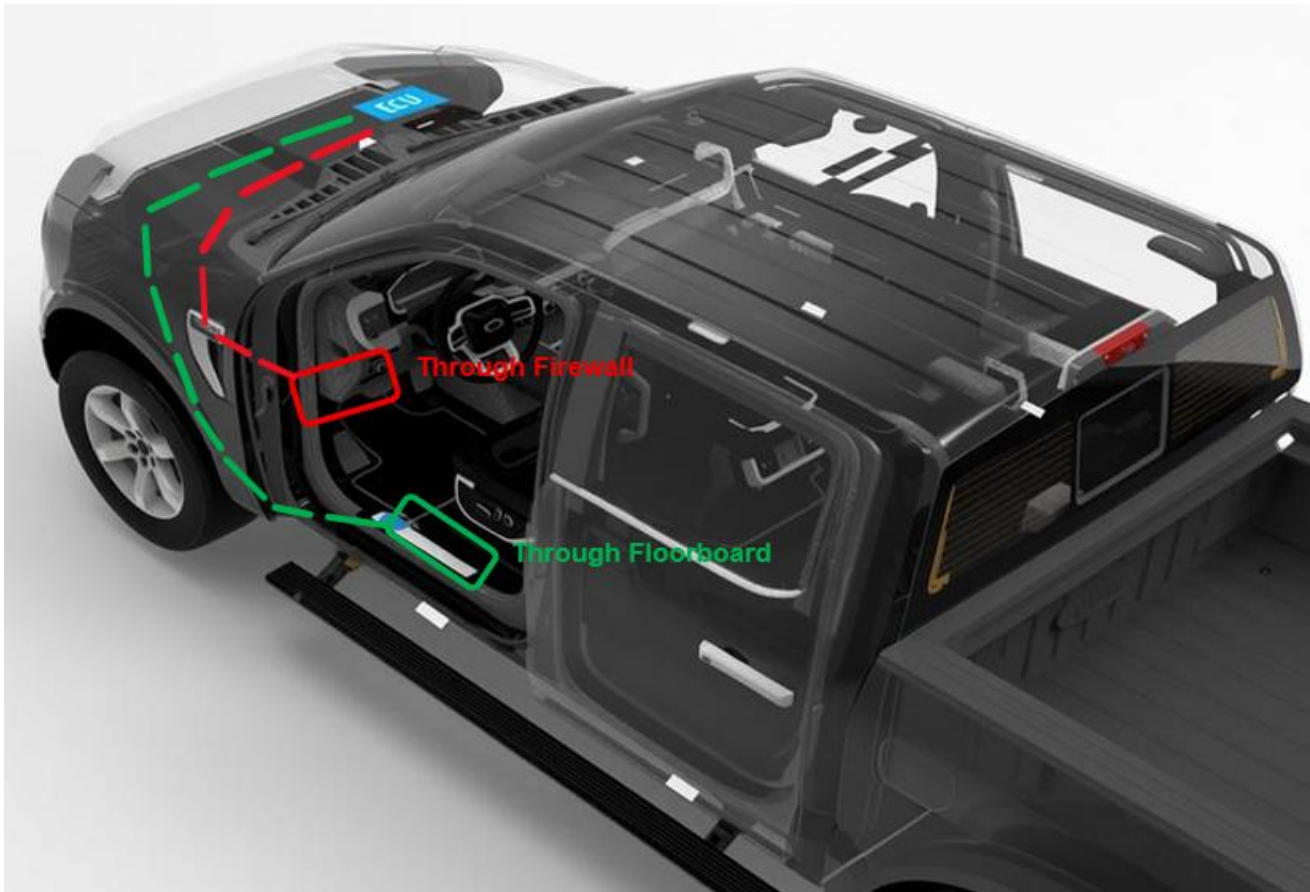
C



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.

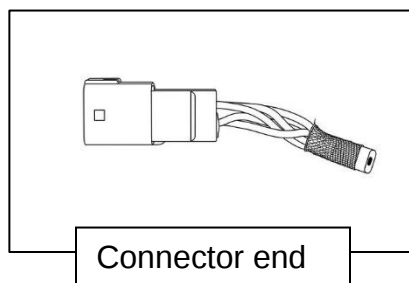
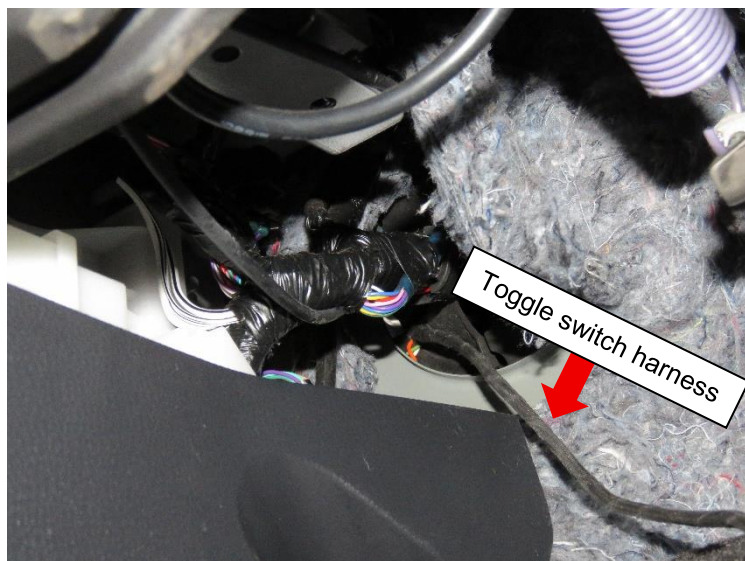


This is routing method A, locate the rubber grommet beneath the driver side dashboard.



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.



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.

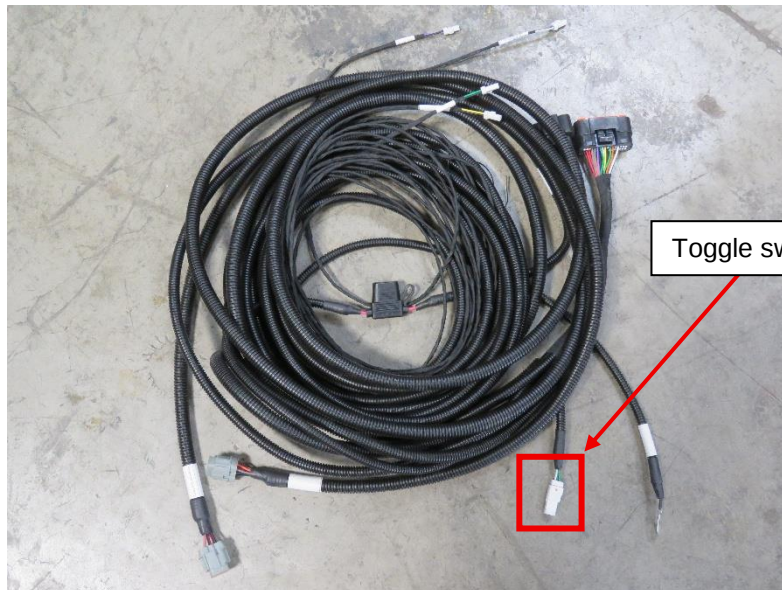
Remove any clips holding the plastic trim in place and pry the carpet open.





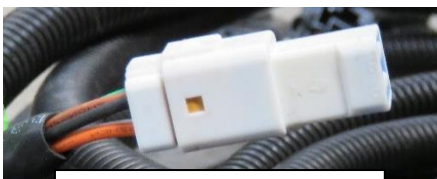
Remove the rubber grommet and feed the toggle switch harness through the hole. Pull slowly until you can reach the male-end of the connector on the main harness.

- 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

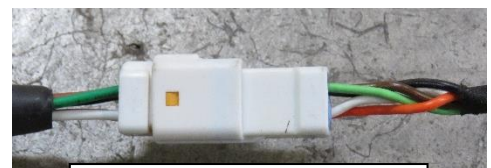
- 4** Remove the empty connector head from the main harness, then plug in the connector from the toggle switch harness.



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.

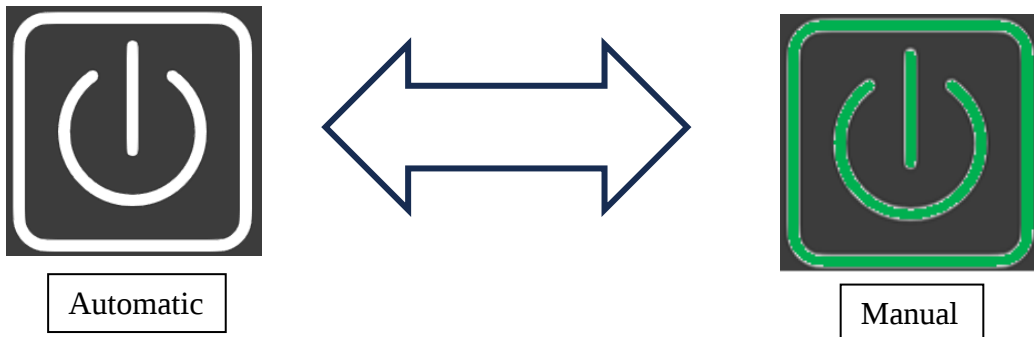
Carefully peel the cover on the adhesive backing, then place the switch at the desired location and press firmly.



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:

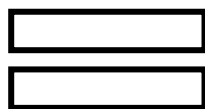
When “manual cycle mode” is enabled, press the “HOLD TO CYCLE” button to cycle through the deployment and retraction motion of the power steps. Both Driver-side and Passenger-side will perform the cycling motion. Driver-side and Passenger side boards will not be in sync; this is normal.

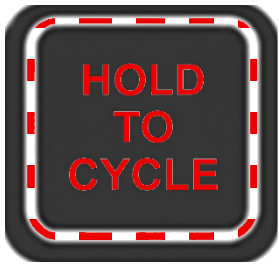
You may need to hold the “HOLD TO CYCLE” button for more than 500ms for the boards to react. While the boards are in motion or inbetween states, the button will flash **RED**.

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.

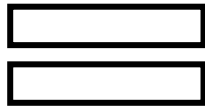
When both boards are fully retracted, the **RED** light in the “HOLD TO CYCLE” button will turn off. When both boards are fully deployed, the **RED** light in the “HOLD TO CYCLE” button will stay on.

LED Light Indication: (Visual Guide)





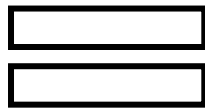
Flashing Red Light



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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