



ELITE POWER RUNNING BOARD INSTALLATION MANUAL

85" P004 POWER STEP (CAN VERSION) FOR 22-26 TOYOTA TUNDRA CREW
MAX(Incl. Hybrid/HEV Models)
PART#PRB-4412

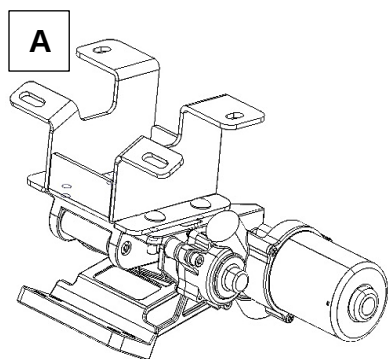
INSTALLATION INSTRUCTIONS

MECHANICAL PARTS LIST:

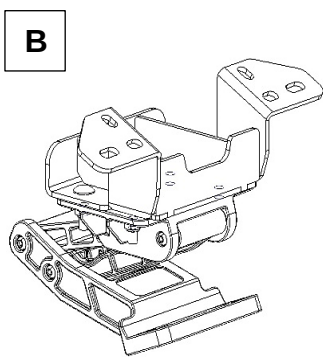
Qty	Item Description	Qty	Item Description
2	Running Boards	12	8mm Lock Washers
1	Driver/Left Front Linkage Assembly	12	8mm x 24mm x 2mm Flat Washers
1	Passenger/Right Front Linkage Assembly	16	8-1.25mm x 30mm Carriage Bolts
2	Rear Linkage Assembly	16	8mm Flanged Nylon Lock Nuts
2	Front Steel Mounting Bracket	16	6-1.0mm x 20mm Carriage Bolts
2	Rear Steel Mounting Bracket	16	6mm Nylon Lock Nuts
1	Electronic Materials Package	16	6mm x 16mm x 1.6mm Flat Washers
8	C-Shims	15	Zip ties
12	8-1.25mm x 30mm Hex Bolts	5	Double Sided Adhesive Tapes

ELECTRONIC MATERIALS PACKAGE PARTS LIST:

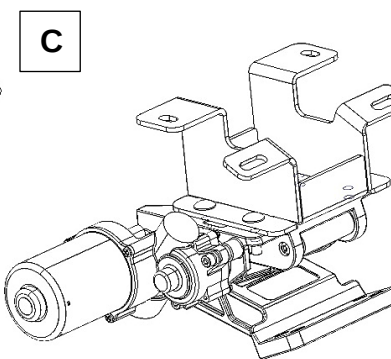
Qty	Item Description	Qty	Item Description
1	Main Harness	1	ECU
2	Wire Taps	4	LED lights
1	LED Y-Harness (280mm)	1	LED Y-Harness (1200mm)



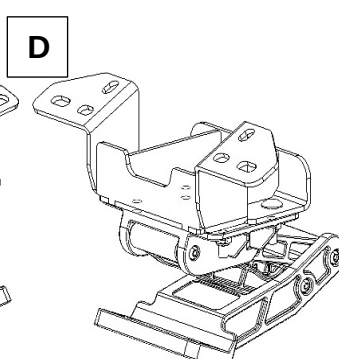
Driver Front
Bracket Assembly



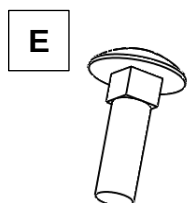
Driver Rear
Bracket Assembly



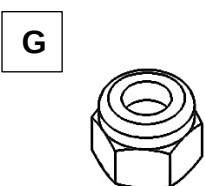
Passenger Front
Bracket Assembly



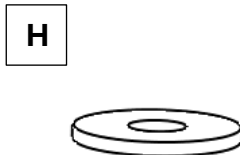
Passenger Rear
Bracket Assembly



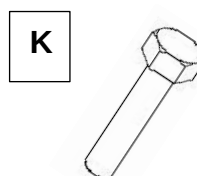
M6 Carriage
Bolt



M6 Nylon
Lock Nut



Flat Washer

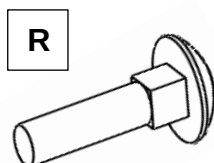


M8 Hex Bolt

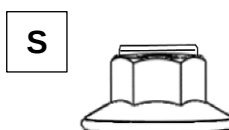
***NOTE:** Driver and
Passenger Rear
Bracket Assemblies
are the same.



Lock Washer



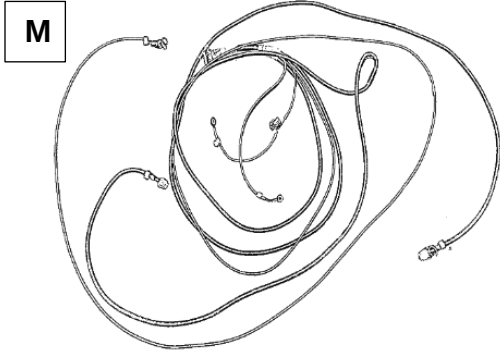
M8 Carriage
Bolt



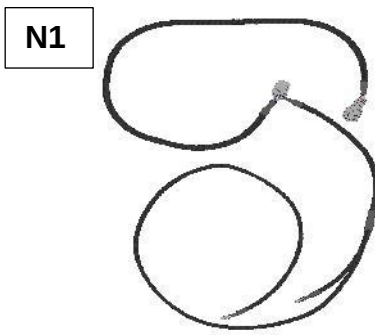
M8 Flanged
Lock Nut



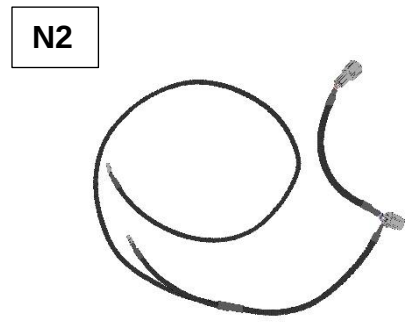
C-Shim



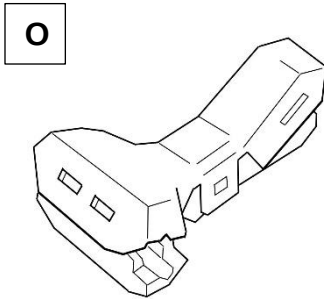
Main Harness



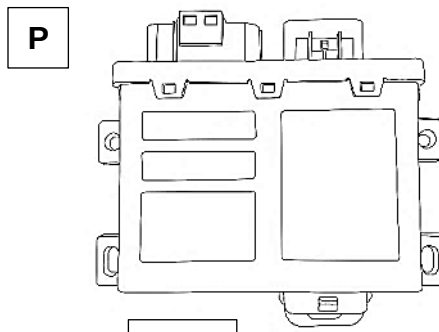
LED Y-Harness (1200mm)



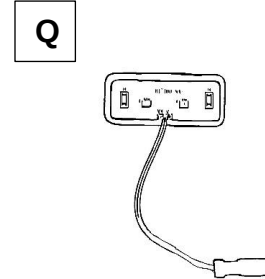
LED Y-Harness (280mm)



Wire Taps



ECU



LED Lights

TOOLS REQUIRED



Ratchet



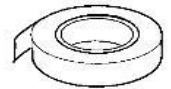
8mm
10mm
13mm
Socket



Extensions



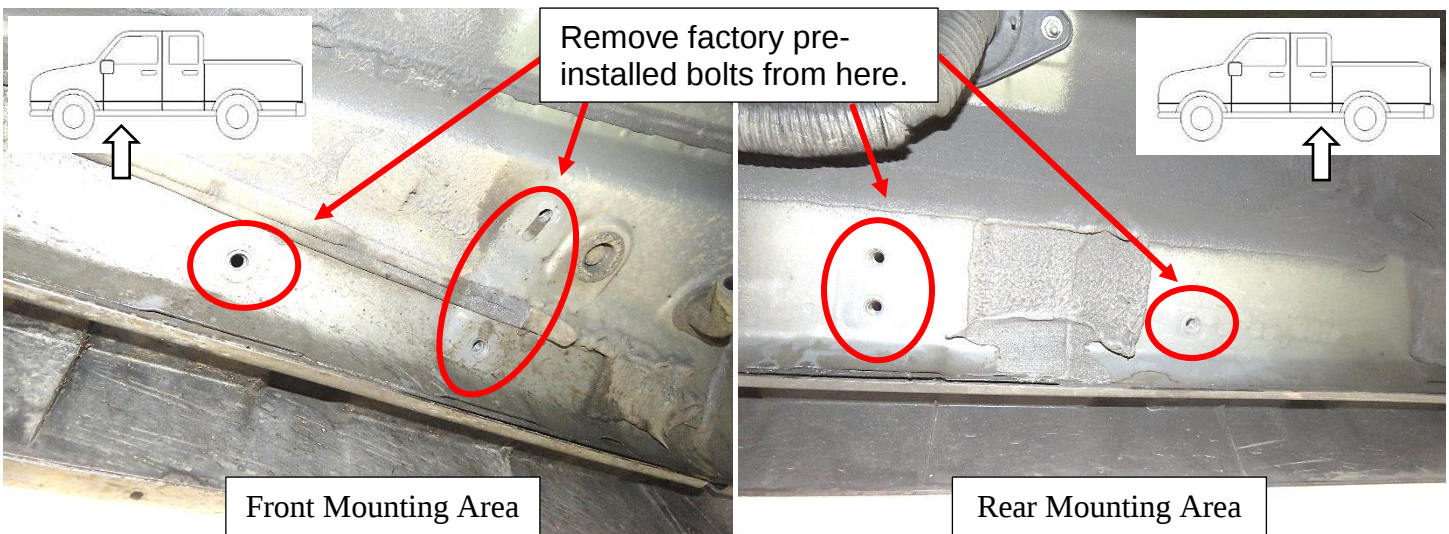
Wrenches



Electrical Tape

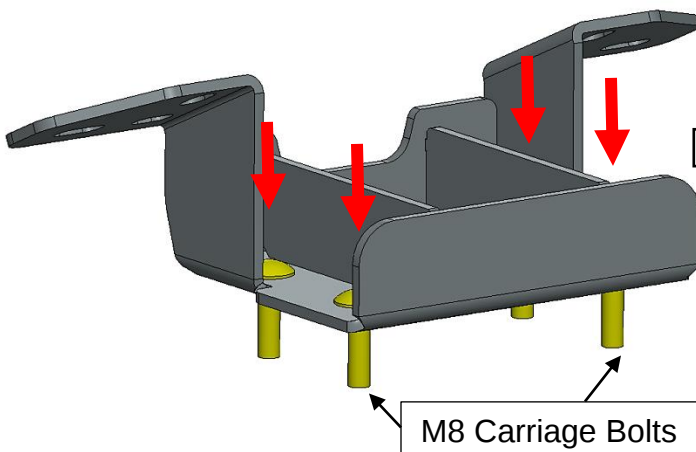
1

Locate Driver Side front mounting points on the rocker panel under the front door. Remove the OE bolts before mounting the front bracket. Do the same for the rear mounting points.



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.

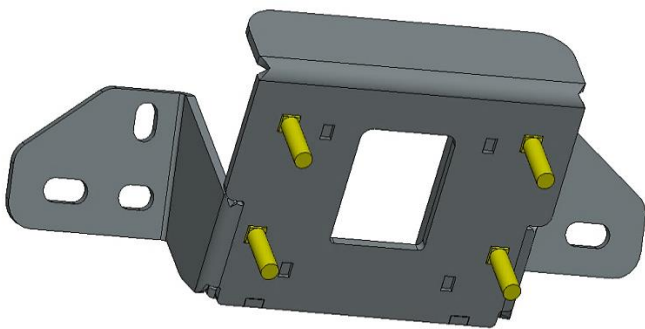
Insert M8 Carriage Bolts downwards.



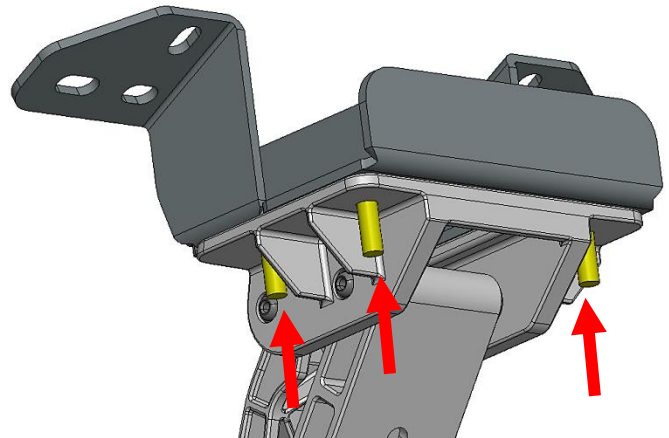
Note: Brackets pictured on this page are for illustration purposes only. Not every bracket in your kit will look like this.

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.

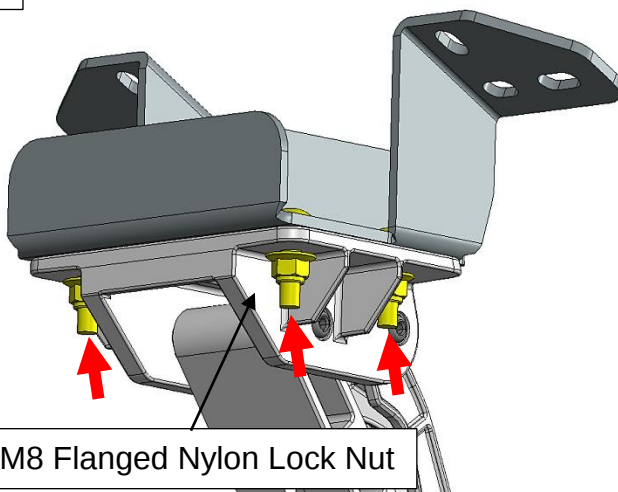
1



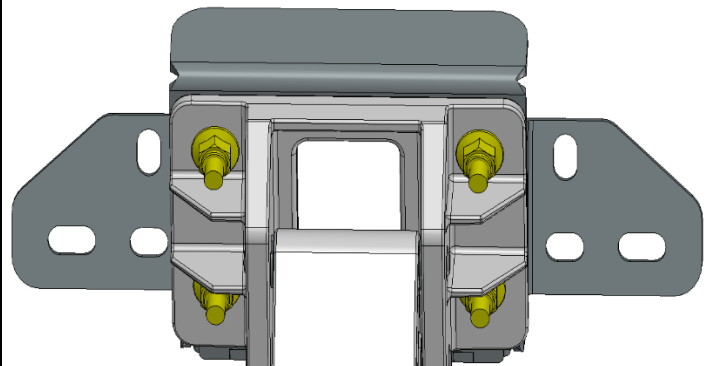
2



3



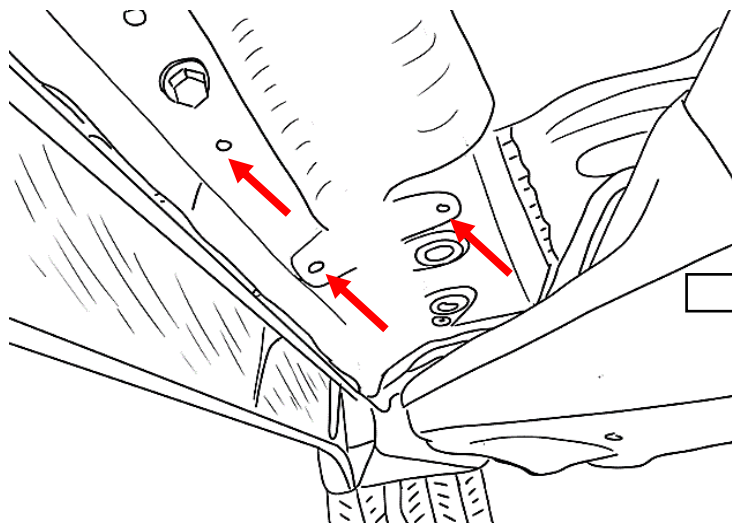
4



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

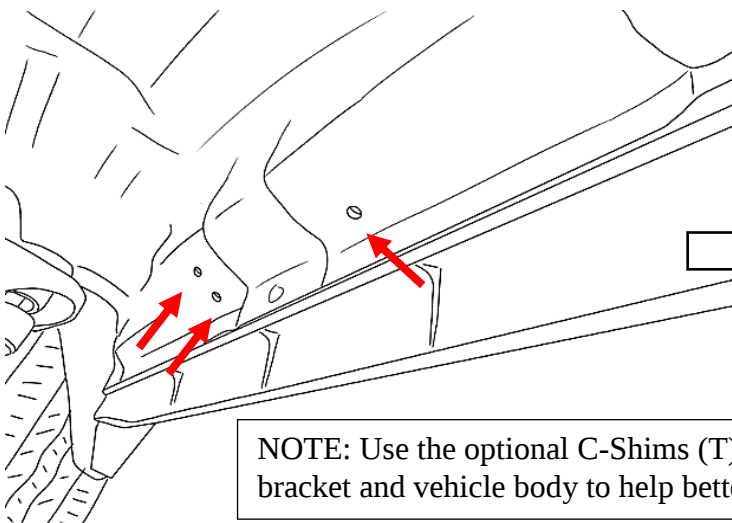
3

Next, line up front mounting bracket slots to the threaded inserts and place Driver Side/Left Front Bracket Assembly (A) onto rocker panel. Then fasten Hex Bolts (K), Lock Washers (L), and Flat washers (H). Do not tighten all the way yet.



4

Locate rear mounting points. Next, line up rear mounting bracket slots to the threaded inserts and place Driver Side/Left Rear Bracket Assembly (B) onto rocker panel. Then fasten Hex Bolts (K), Lock Washers (L), and Flat washers (H). Do not tighten all the way yet.



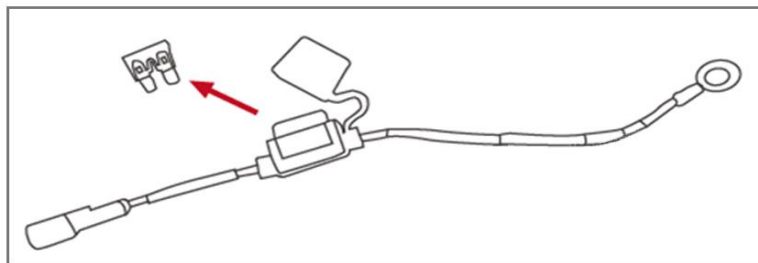
NOTE: Use the optional C-Shims (T) in the kit and place them between the bracket and vehicle body to help better align the front and rear bracket assemblies.

Repeat steps 3 – 4 for the Passenger Side.

5

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.

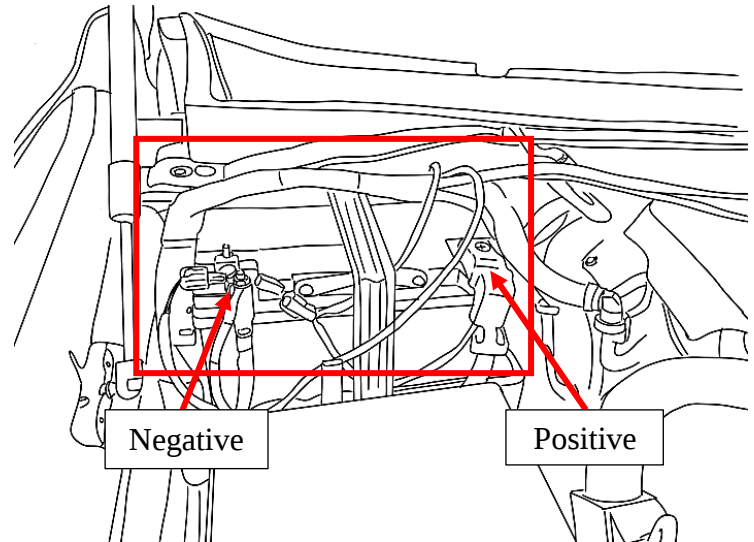


Open fuse holder cap and remove fuse

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. Connect the ECU (P) to the main harness.

Connect the Long LED Y-Harness (N1) to the Driver-side branch of the main harness.

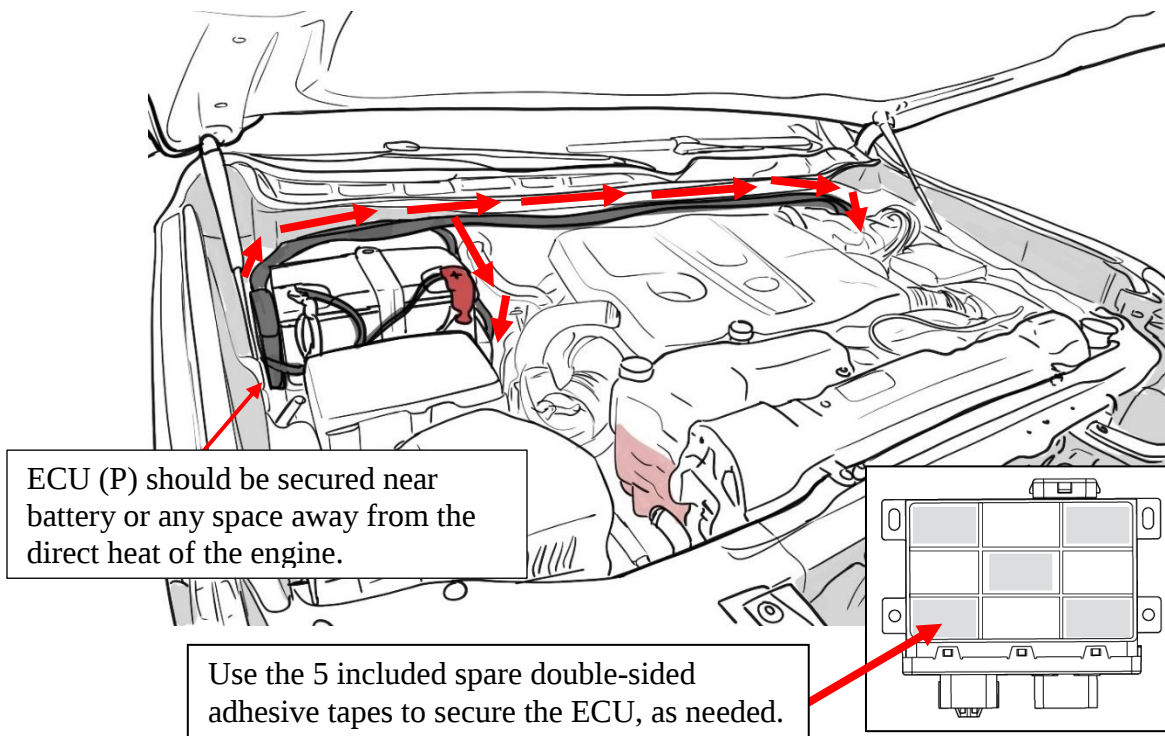
Connect the Short LED Y-Harness (N2) to the Passenger-side branch of the main harness.



If the vehicle is a non-Hybrid model, **follow Step 7A**. If the vehicle is a Hybrid model, **follow Step 7B** instead (next page).

7A

Route the main harness (M) around the battery, up along the rear of the engine compartment. The longer 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.**

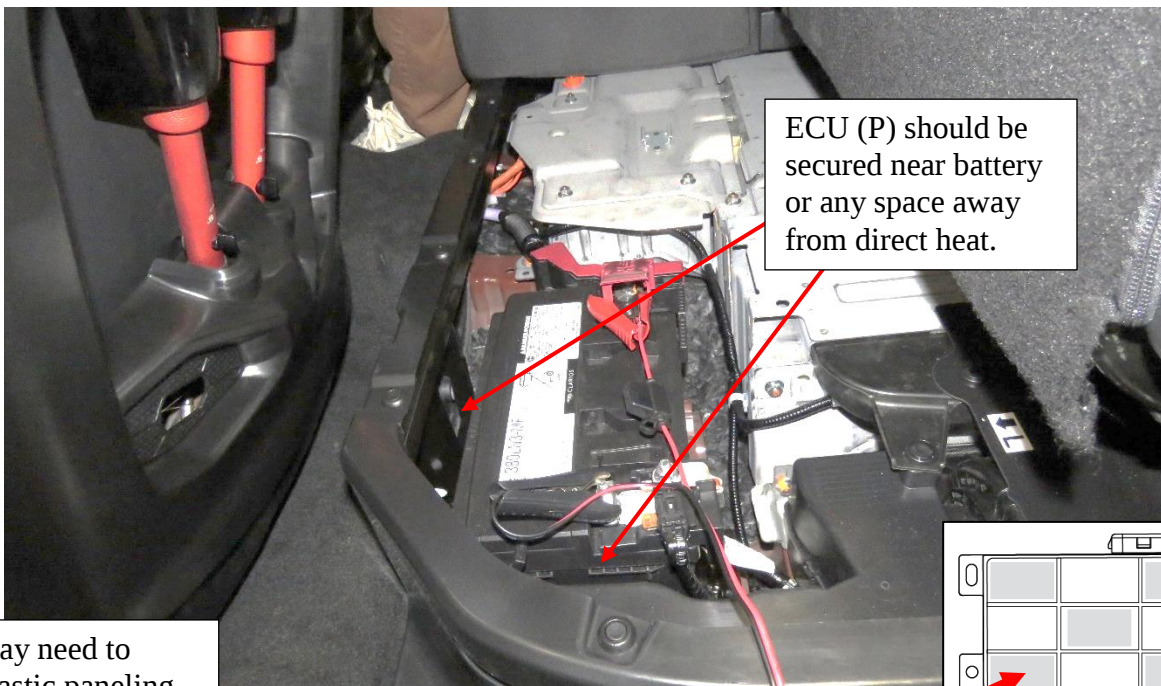


Route the shorter (marked "Passenger-side") leg of the harness down the Passenger-side wheel well. **Be sure to avoid contact with any moving or hot engine components.** Attach and secure the main harness (M) with supplied cable ties. **Be sure the harness avoids contact with the suspension and steering column.**

On Hybrid models, the battery is not located in the traditional location in the engine bay. Instead, locate the battery under the Driver Side Rear Seat. Lift the rear seat to unveil the enclosed battery space and find the positive and negative battery terminals. Connect the power leads on the Main Harness (M) to the battery terminals.



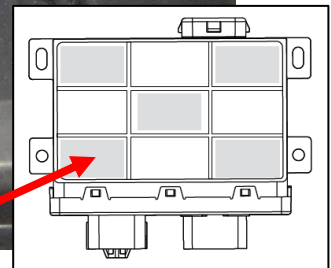
Route the main harness (M) around the battery and along the inside of the cabin. Find a good spot to hide the ECU. The Driver-side branch of the main harness must route down to the outside of the cabin to the Driver-side motor, on the underside. Connect the Short LED Y-harness too. **Be sure to avoid contact with the steering column and hot exhaust pipes.**



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

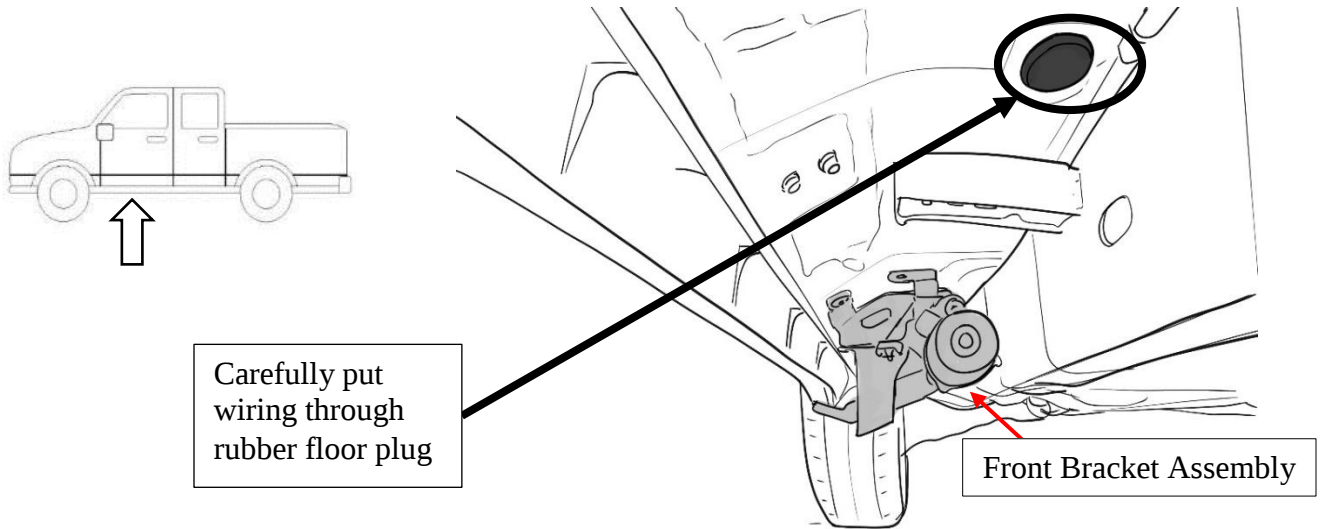
NOTE: May need to remove plastic paneling to hide wires when routing through interior.

Use the 5 included spare double-sided adhesive tapes to secure the ECU, as needed.

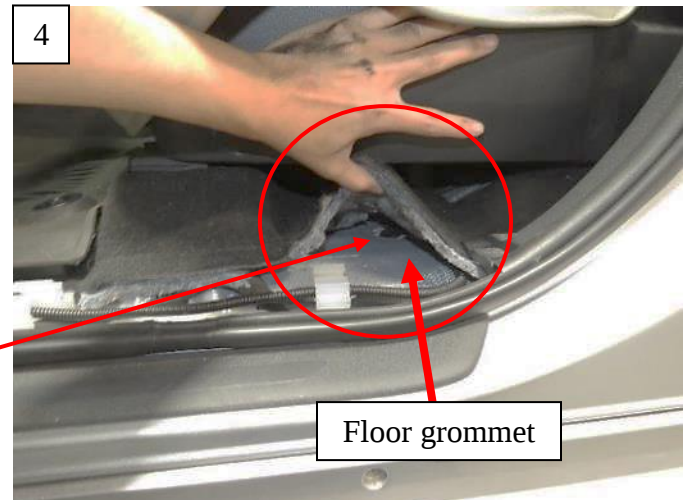
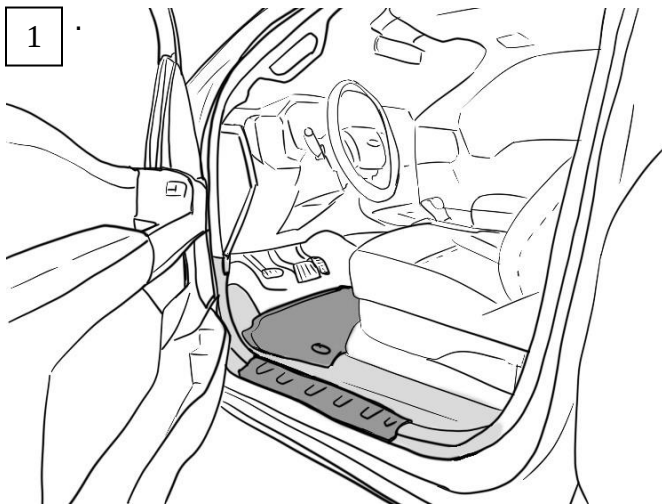


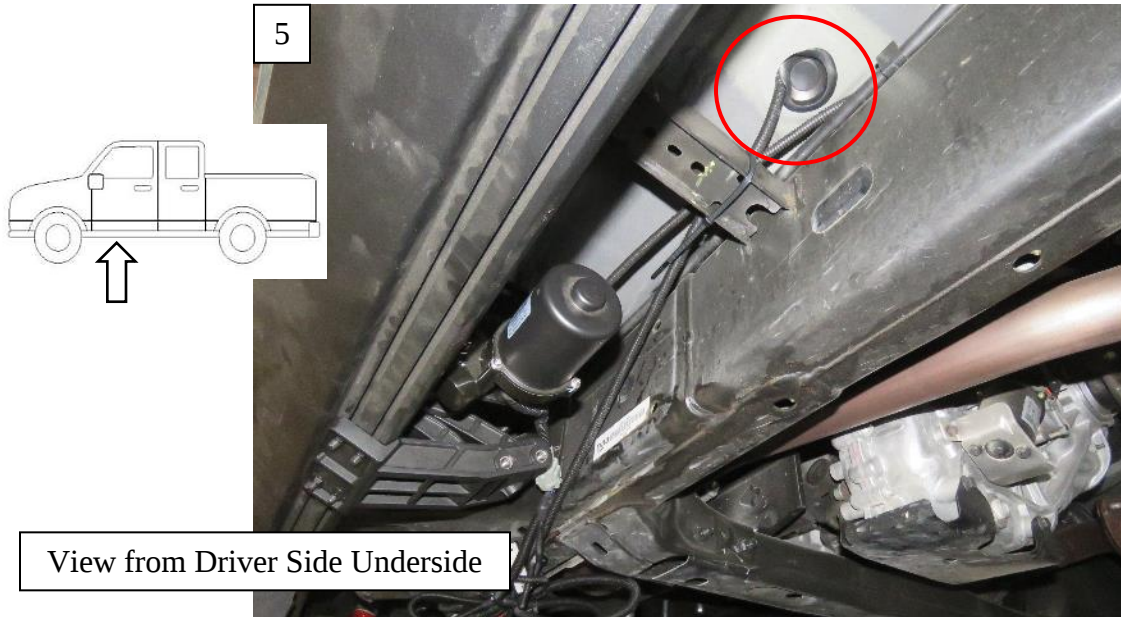
Connect the Long LED Y-harness and route the branch marked "Passenger-side" of the harness to the Passenger Side underside. **Be sure to avoid contact with any moving or hot engine components.** It may be advisable to route along the inside of the cabin, under the carpet. Attach and secure the main harness (M) with supplied cable ties. **Be sure the harness avoids contact with the suspension and steering column.**

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



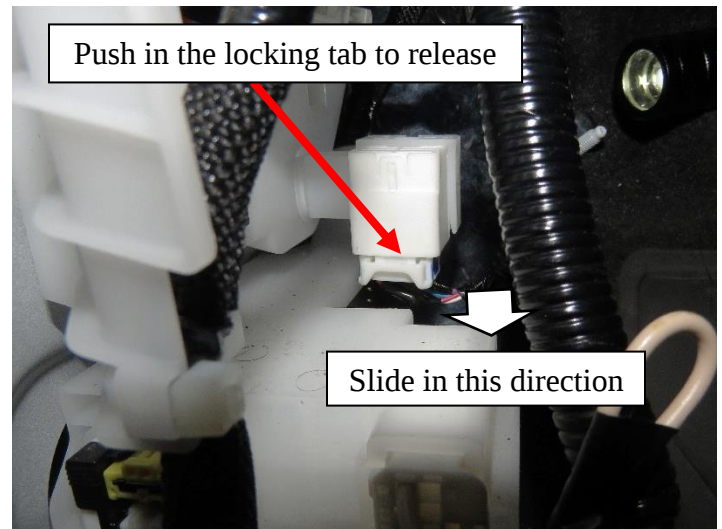
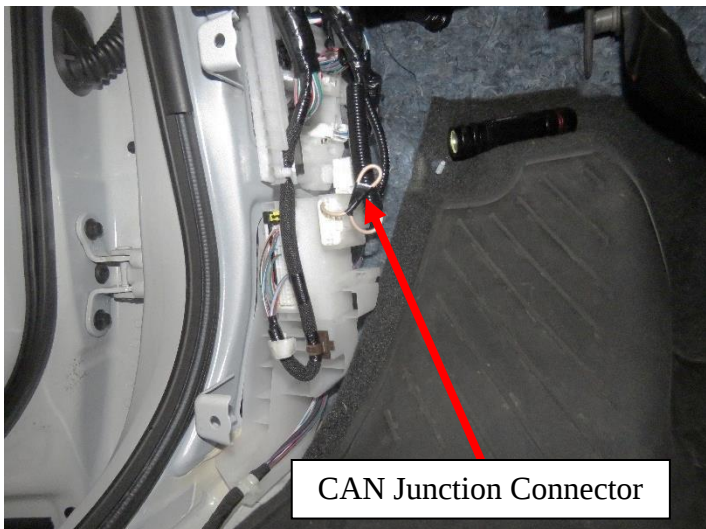
Inside the vehicle cabin, remove the driver-side front kick panel and bottom door sill plate. Peel back the carpet to access the hole where the grommet was removed. Feed the wires through.





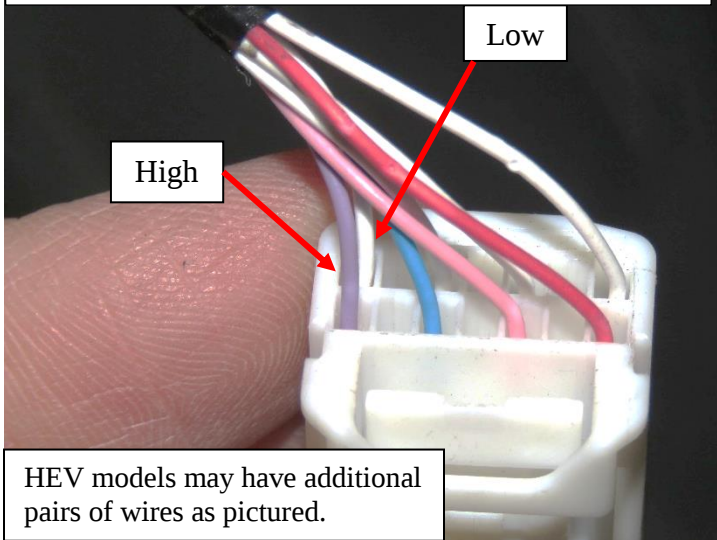
10

Locate the white OEM CAN Junction connector under the steering wheel, behind the kick panel. Be sure vehicle is not powered on. Slide the connector out of the holding junction by pushing the locking tab in the center and pulling downwards for easier access to wires.

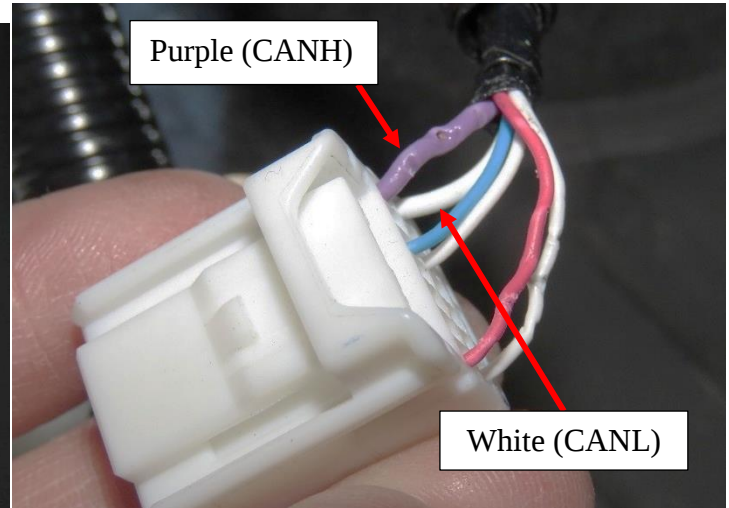


On the white connector, identify the Blue and White wires. Connect the High and Low wires from the main harness (M) using the supplied wire taps (O). After successfully connecting the wires, return the connector back into its place and check that it is secure.

NOTE: Each two-wire column on the plug is a pair.



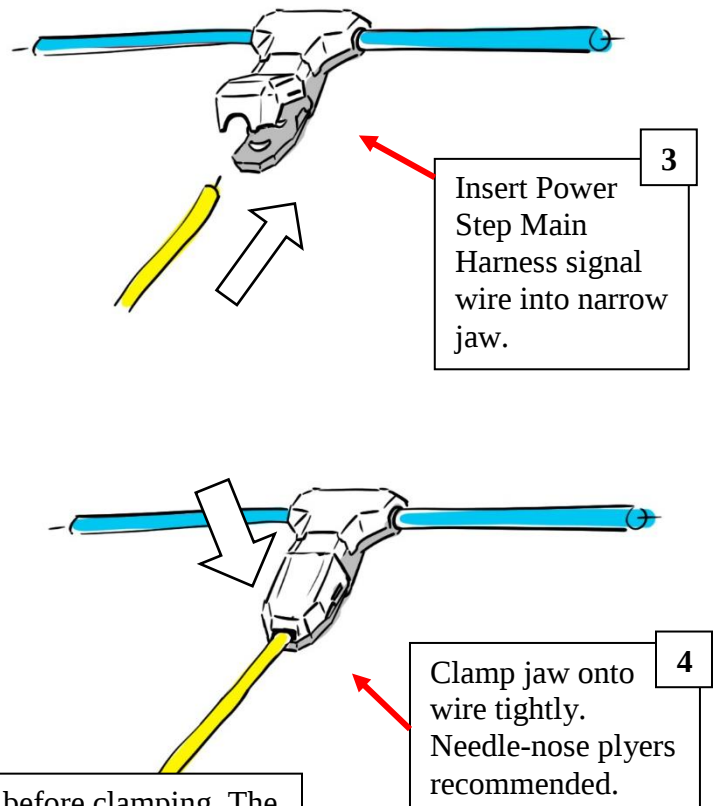
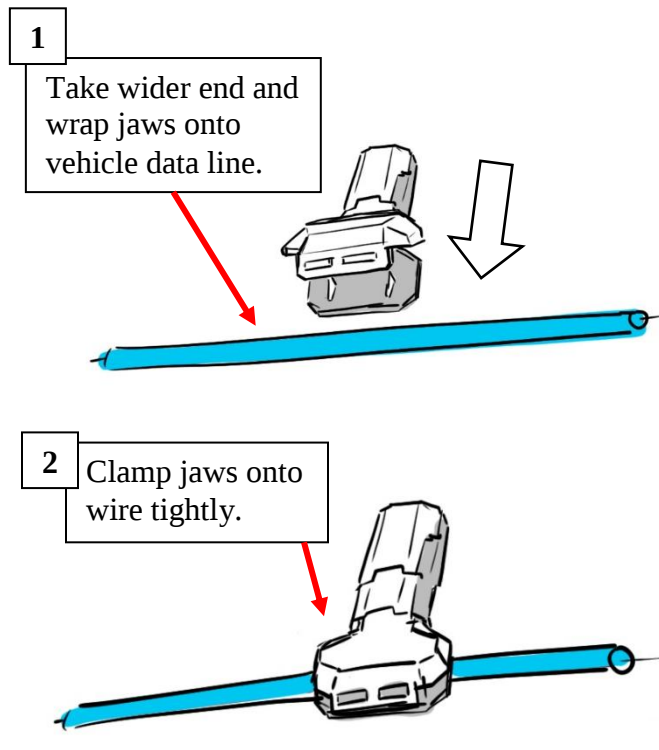
HEV models may have additional pairs of wires as pictured.



*NOTE: On some vehicle trims, the colors of the wires may be different. In these cases, tap any of the paired wires (example: blue and white/red and white). **White wires** away from the locking tab, **are always "CAN Low"**.

Factory CAN Wire/ Data Line	Power Step Main Harness Wire Color
Blue (High)	White (CAN-H)
White (Low)	Yellow (CAN-L)

The kit comes supplied with wire taps called "shark taps". Follow the guide below to tap the wire using the "shark tap":



NOTE: Make sure wire is seated properly in the jaws before clamping. The wire being tapped must be centered on the "teeth" to make a proper tap.

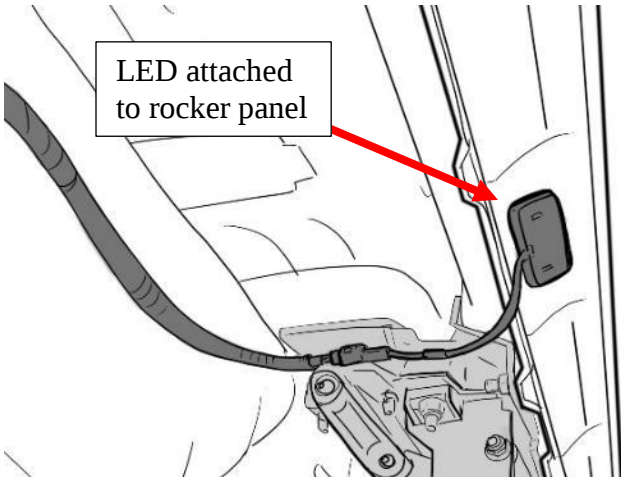
Attach the main harness (M) to the LED Y-Harness (N). Then attach the LED Y-Harness (N) to the motor on the Driver Side. Repeat for Passenger Side. The shorter LED Y-Harness should connect to the motor that is on the same side as the ECU.

Driver side



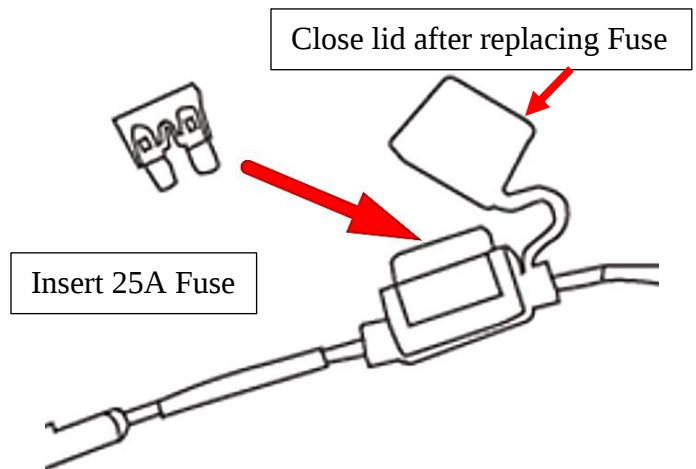
Plug in LED lights (Q) into LED Y-Harness (N) and attach them to the bottom of the rocker panel. Use provided 3M double sided adhesive tape on back of LED light (Q). Replace Fuse into Fuse Box.

LED attached to rocker panel



Close lid after replacing Fuse

Insert 25A Fuse

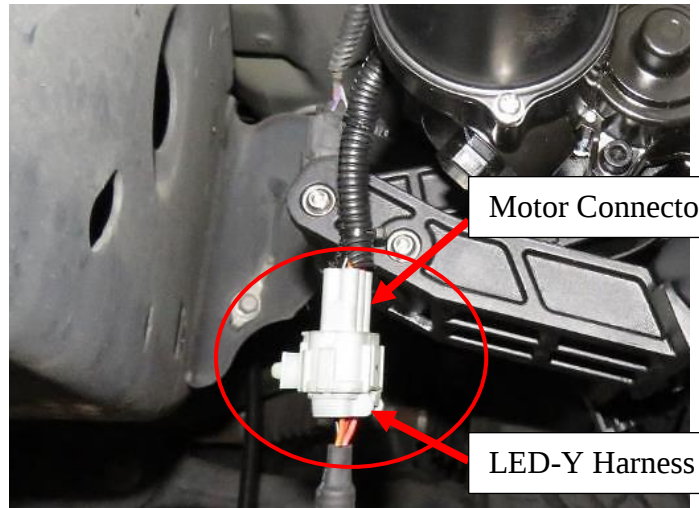


Check to make sure the harnesses on the Driver Side/Left Front Bracket Assembly (A) and Passenger Side Front Bracket Assembly (C) are connected to the main harness (M) via the LED-Y harnesses (N).

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

Motor Connector

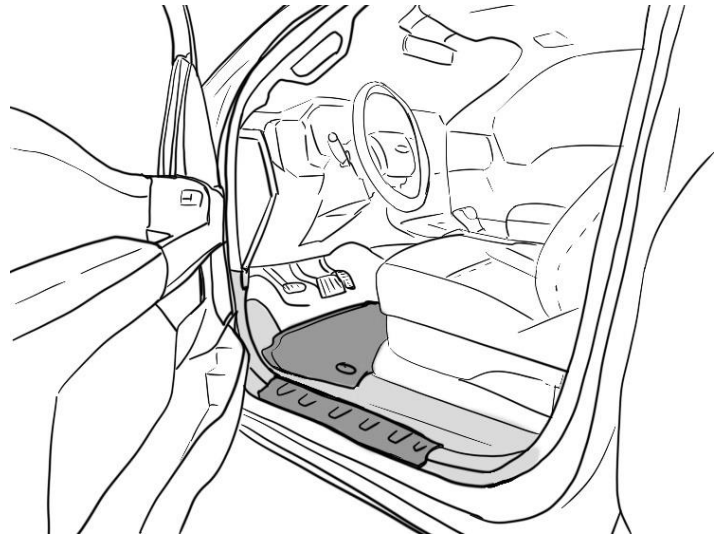
LED-Y Harness



14

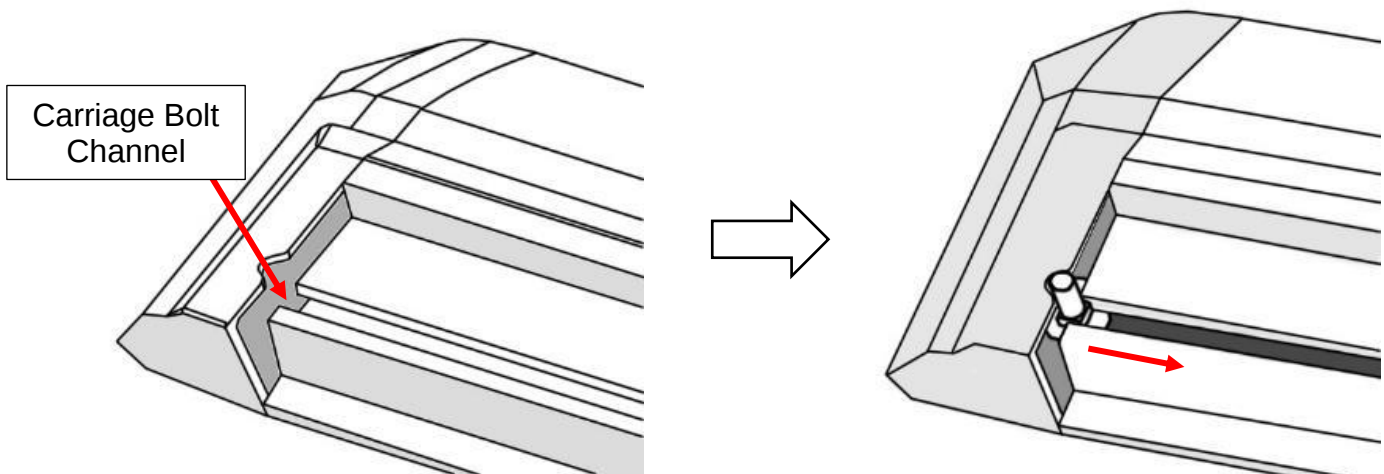
Seal the grommet with RTV Silicone Sealant.

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

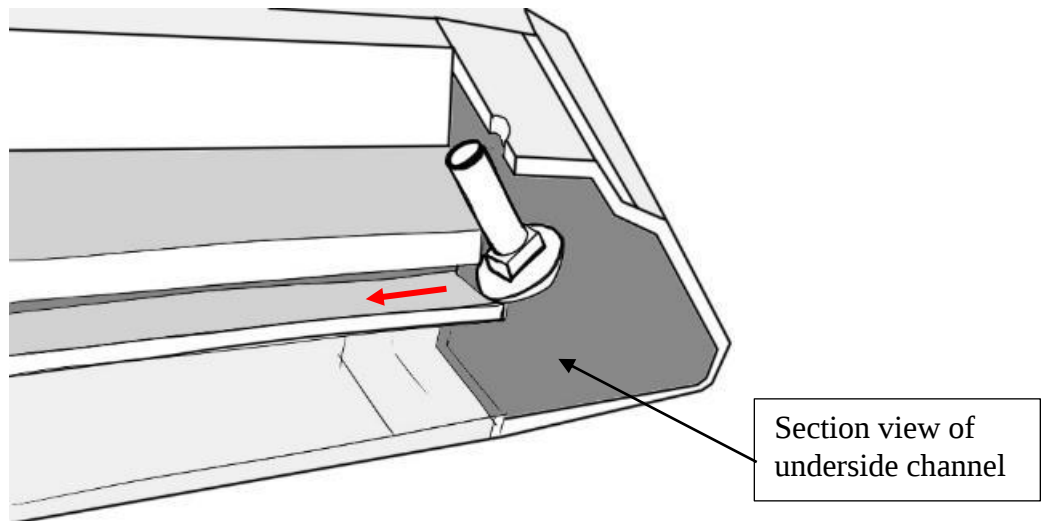


15

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



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

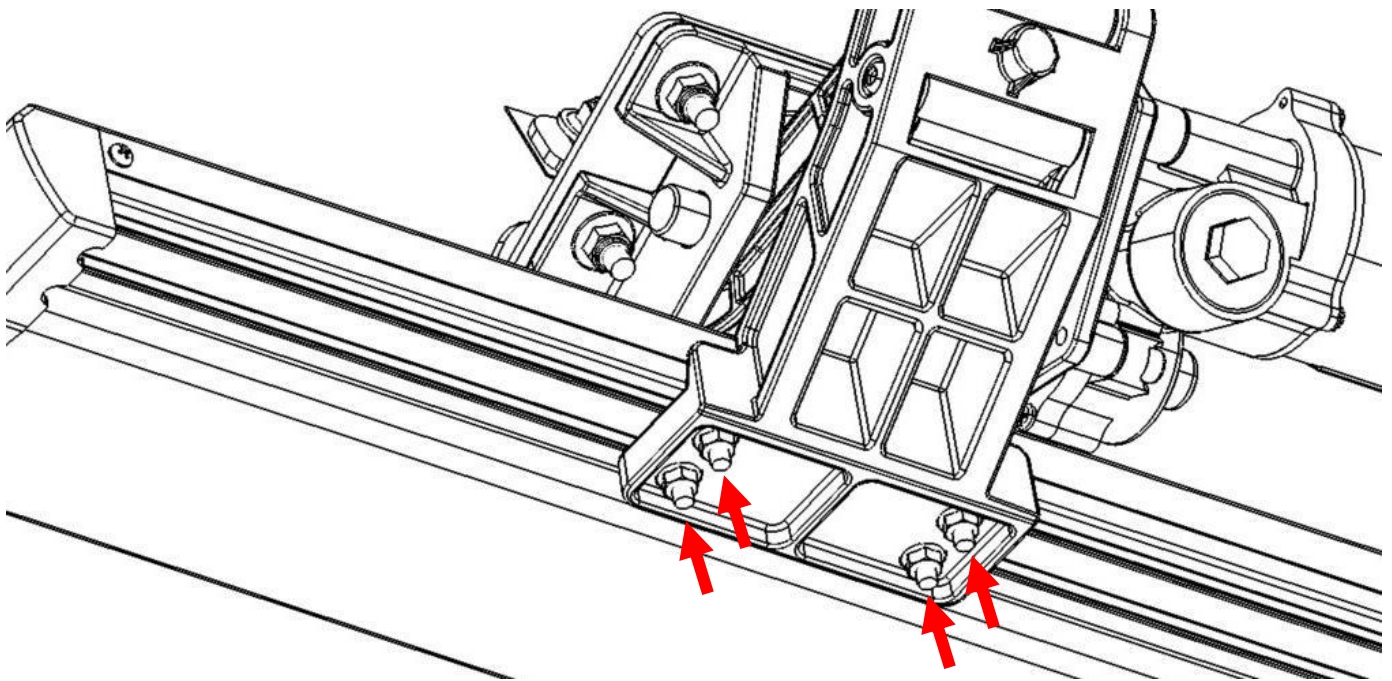


16

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.

17

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.

18

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 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.

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 stable and secure.
- Check and ensure that the fuse is placed into the main harness.
- Check and ensure that the CAN tap connections are fully engaged and are seated completely.
- 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.