

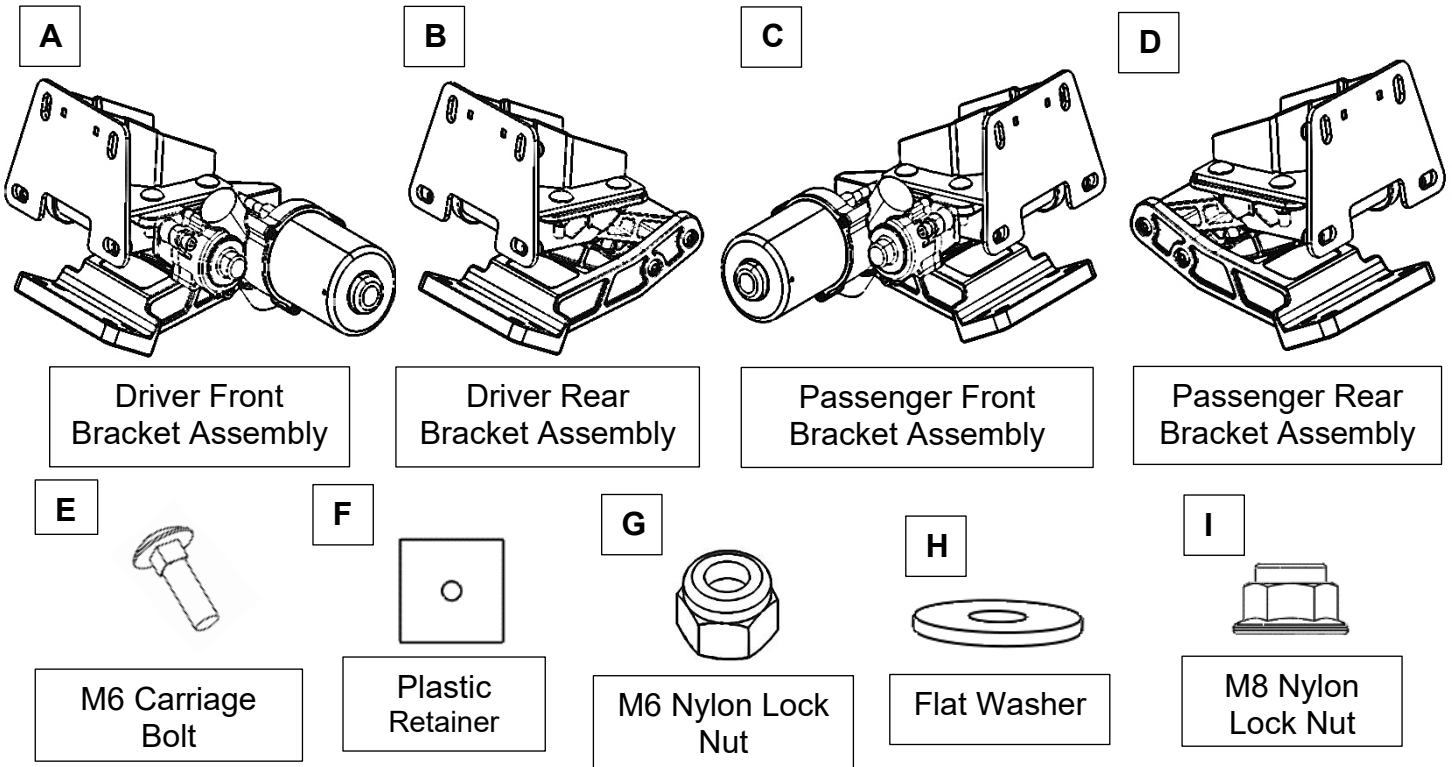
2019-2024 RAM 1500 CREW CAB E-POWER BOARD STEPS PART # DG-4600

MECHANICAL PARTS LIST:

Qty	Description	Qty	Description
2	Running Boards	16	6-1.0x20mm Carriage Bolts
1	Driver/Left Front Linkage Assembly	16	6mm Nylon Lock Nuts
1	Passenger/Right Front Linkage Assembly	16	6mm x 16mm x 1.6mm Flat Washers
2	Rear Linkage Assembly	12	8mm x 24mm x 2mm Flat Washers
1	Electronic Materials Package	24	8-1.25x30mm Carriage Bolts
1	Passenger Side Relocation Bracket	36	8mm Flange Nylon Lock Nuts
1	Driver Side Relocation Bracket	8	Plastic Retainers
4	Steel Mounting Bracket	15	Zip ties
5	Double Sided Adhesive Tapes		

ELECTRONIC PARTS LIST:

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

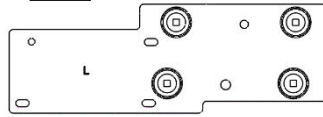


J



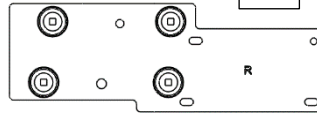
M8 Carriage Bolt

K



Relocation Bracket (Left)

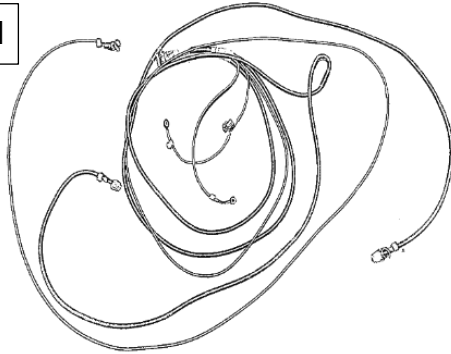
L



Relocation Bracket (Right)

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

M



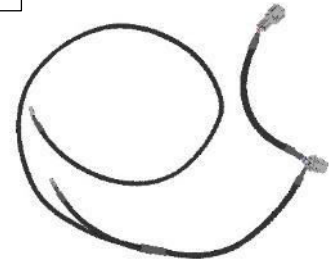
Main Harness

N1



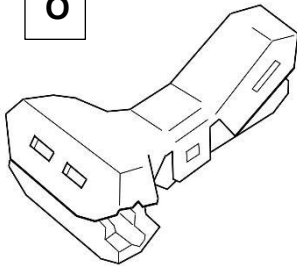
LED Y-Harness (1200mm)

N2



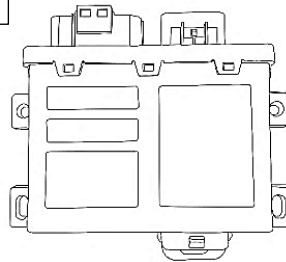
LED Y-Harness (280mm)

O



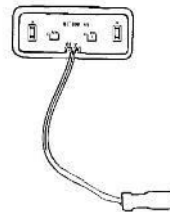
Wire Taps

P



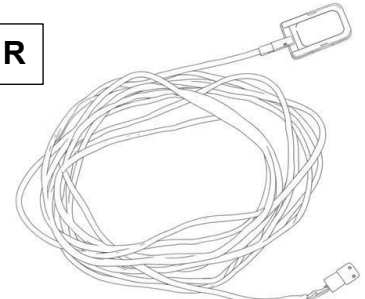
ECU

Q



LED Lights

R



Toggle Switch

This is an optional accessory, not included in standard kit.

TOOLS REQUIRED



Ratchet



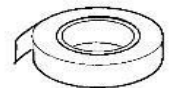
8mm
10mm
13mm
Socket



Extensions



Wrenches



Electrical Tape

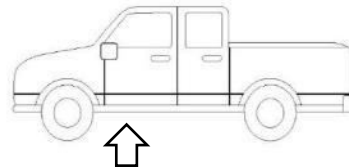
- 1A** Locate body frame on underside of vehicle and identify whether there is a ATMM module. Be sure to check both Driver and Passenger Sides. Some vehicles may not have ATMM modules from the manufacturer.

If vehicle has ATMM Modules, **follow Step 1A**. If vehicle does not have ATMM modules or Mass Dampers on front part of body frame, **proceed directly to Step 1B** instead.

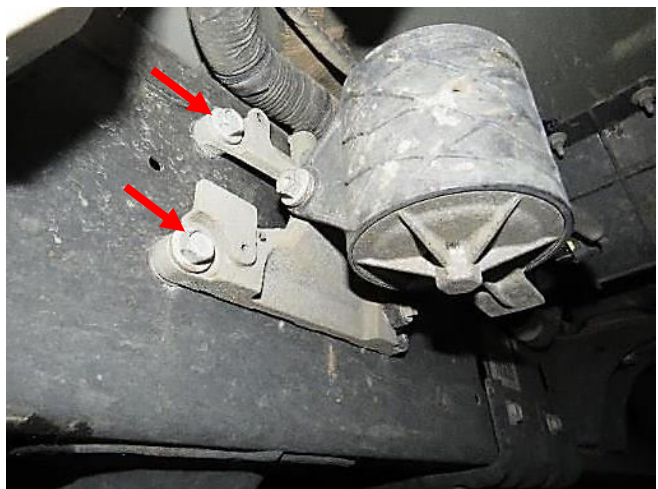
***WARNING:** Removing ATMM may cause excess vibration and noise when driving.



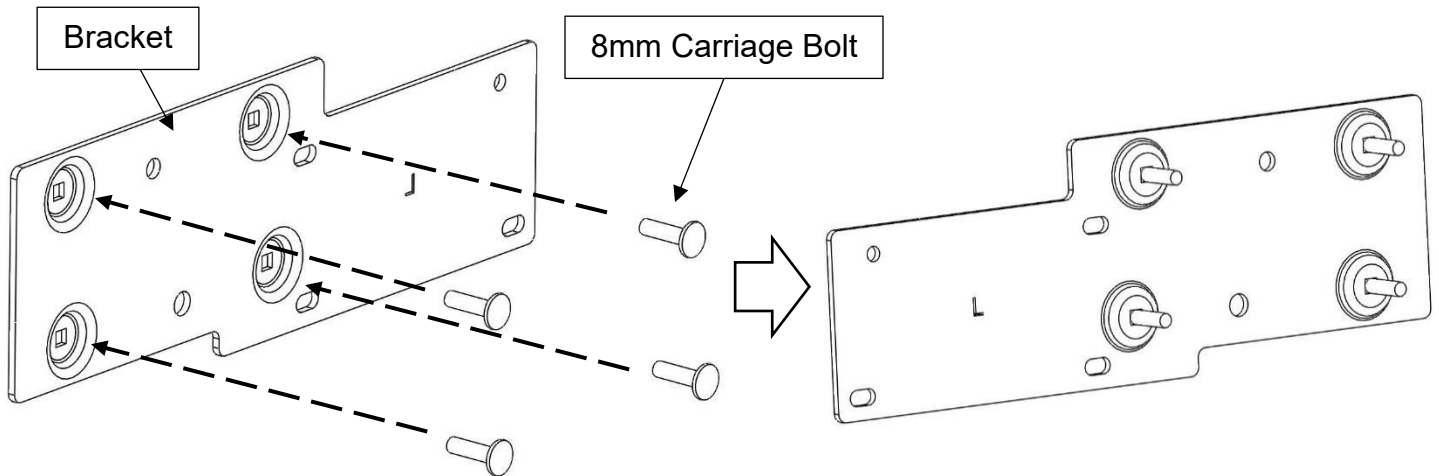
ATMM Module is meant to dampen vibrations on frame.



Locate Driver Side ATMM module on frame. Unplug ATMM module. Remove ATMM module from frame by unbolting fasteners.



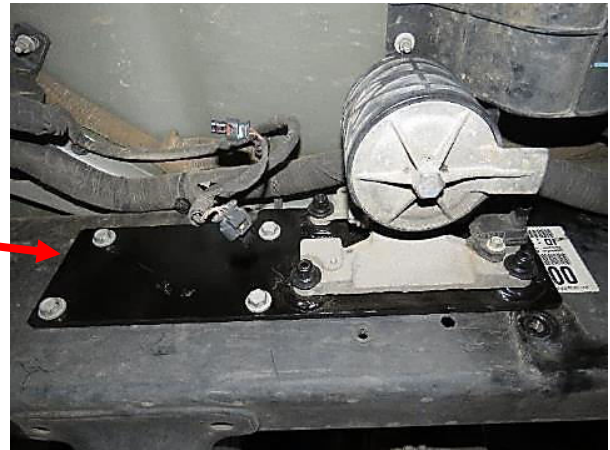
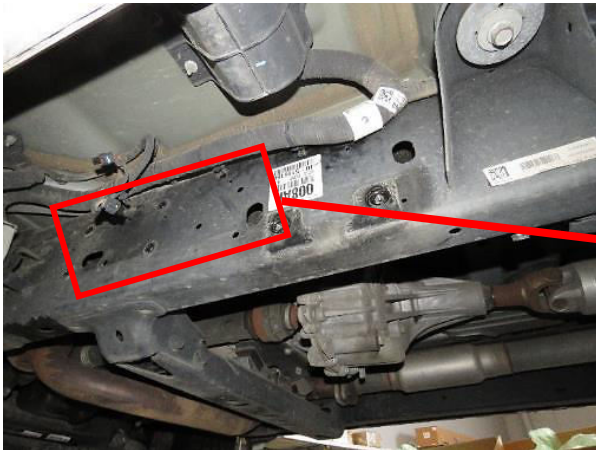
Locate Relocation Bracket (Left) (K) and M8 Carriage bolts. Insert M8 Carriage bolts (J) through the square holes on the Relocation Bracket (K) and secure using Plastic retainers (F). This will keep the carriage bolts from falling out of the holes on the bracket.



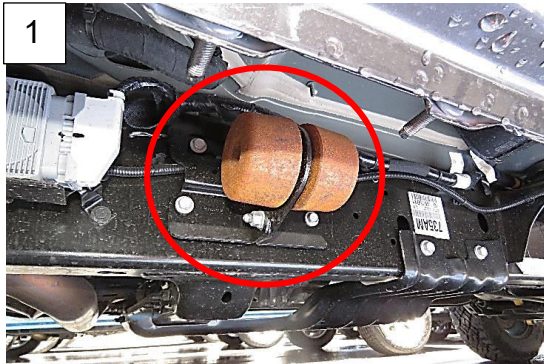
Mount the ATMM onto the relocation bracket and loosely secure into place using the provided M8 Nylon Lock Nuts (I).



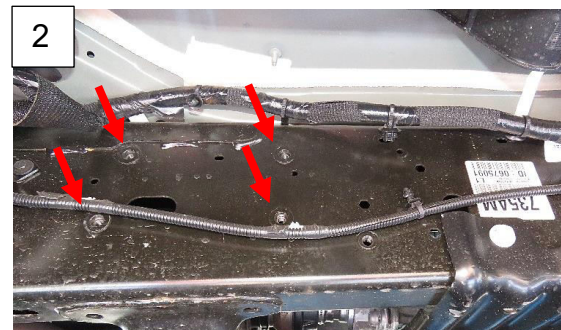
Mount the Relocation Bracket (K) onto the vehicle's Driver Side frame where the ATMM was using the OE flanged bolts. Be sure to fasten all hardware fully. The angle of cylinder housing of the ATMM can be adjusted by loosening the pivot bolt. Repeat step for Passenger Side.



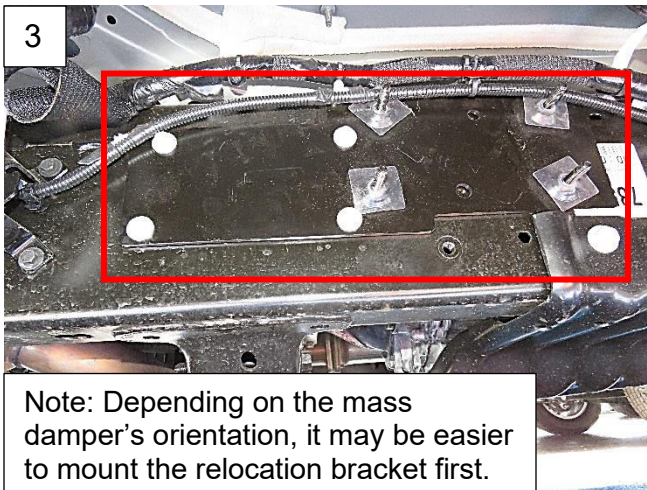
Some vehicles will have a Mass Damper instead of an ATMM. Follow the same steps and relocate the damper using the relocation brackets. Note that some vehicles will only have a mass damper on one side of the vehicle. Whenever that is the case, simply use the one appropriate relocation bracket.



1
Unbolt the passive mass damper to expose 4 threaded inserts on the frame.



2
Secure the Carriage Bolts onto the Relocation Brackets first using the plastic retainers and then mount the Relocation Bracket to the frame.

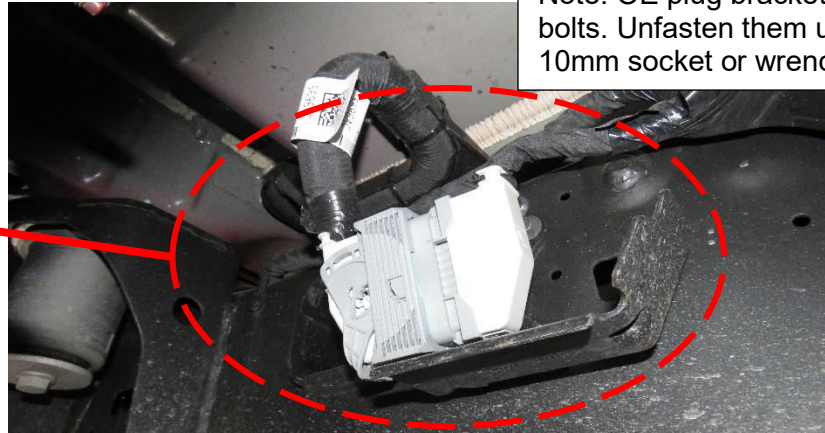


3
Note: Depending on the mass damper's orientation, it may be easier to mount the relocation bracket first.



On some vehicles like the RHO, an OE module plug may be in the way. If so, unbolt the plug's bracket from the frame. Then remove the plug from the bracket. Plug may be located at the front or rear.

OE plug bracket



Note: OE plug bracket has 3 bolts. Unfasten them using a 10mm socket or wrench.

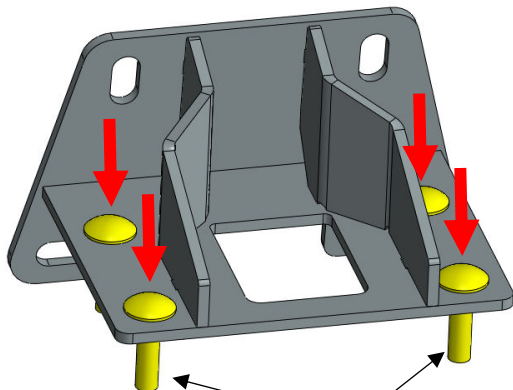
Once removed, re-secure the OE plug to the frame or other OE harness, out of the way of the components using zip ties.

1B

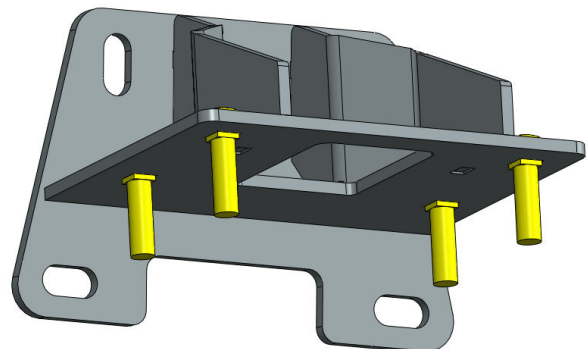
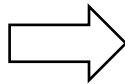
Take the mounting brackets and attach them to the linkage arms.

First, insert the M8 Carriage Bolts into the square slots on the brackets so that the threads are pointing downwards. (see next page for illustrations)

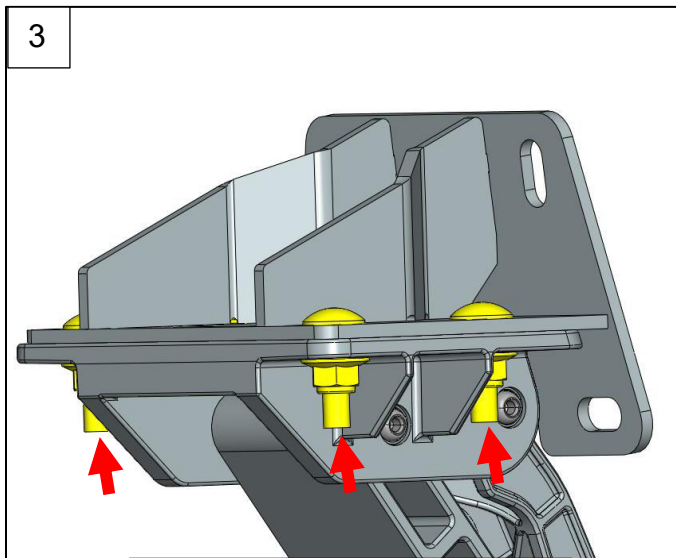
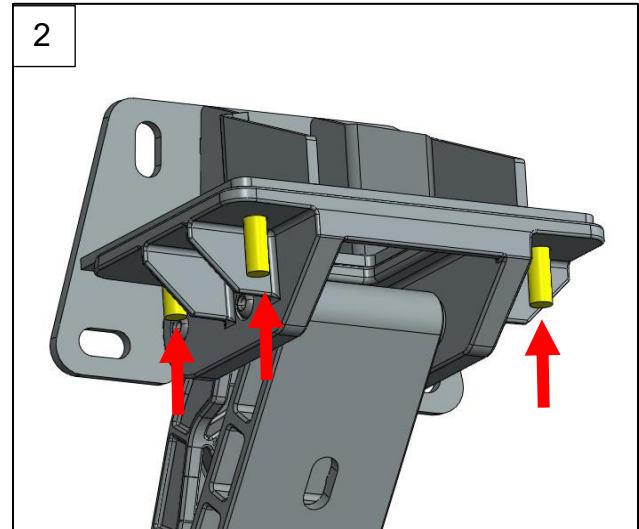
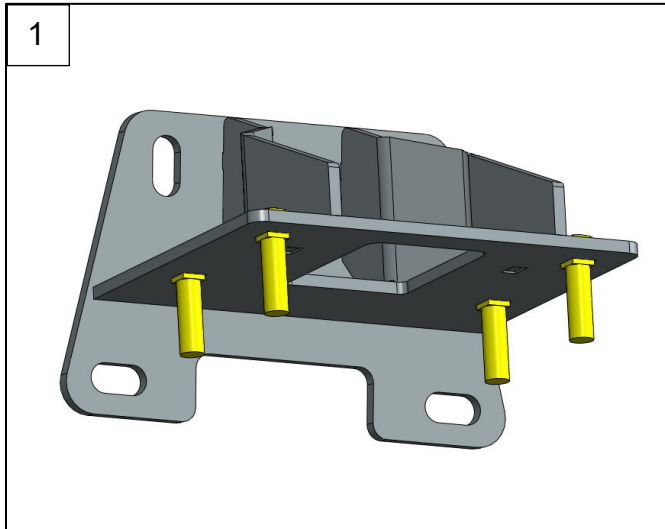
Insert M8 Carriage Bolts downwards.



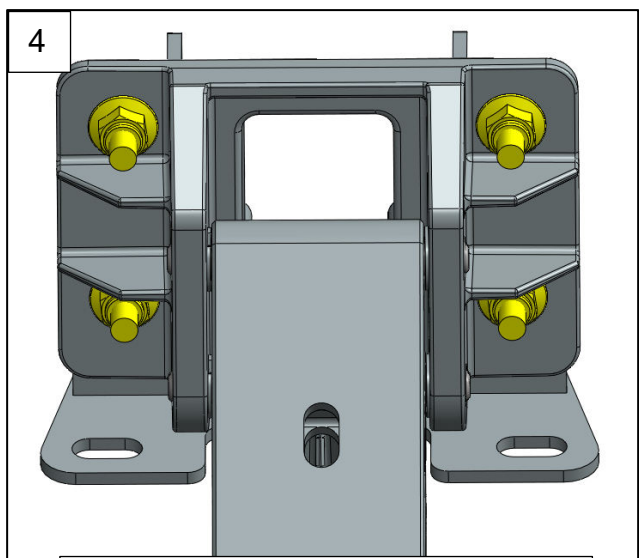
M8 Carriage Bolts



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.

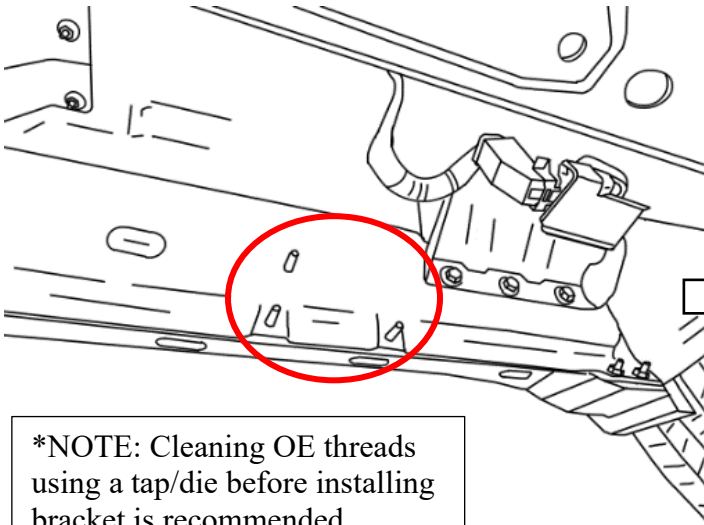


M8 Flanged Nylon Lock Nut



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

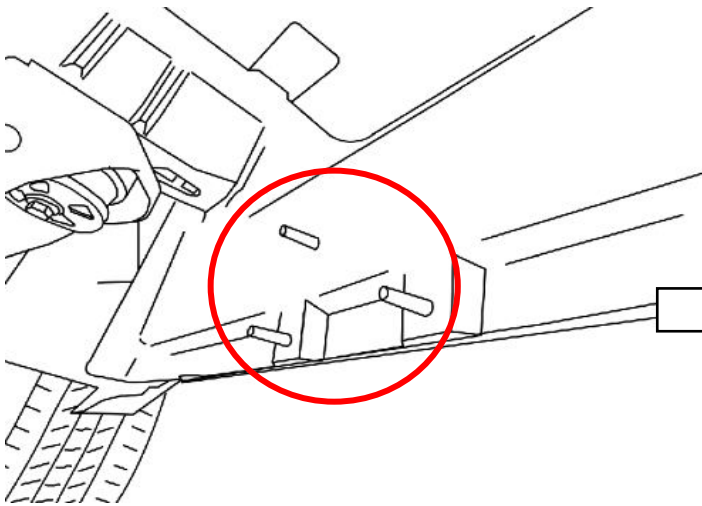
- 2** Next, line up front mounting bracket slots to the studs and place Driver Side/Left Front Bracket Assembly (A) onto rocker panel. Then fasten Nylon Lock Nuts (I) and washers (H). Do not tighten all the way yet. If the vehicle has Mass Dampers that are in the way, remove the mass damper before installing the bracket assembly.



*NOTE: Cleaning OE threads using a tap/die before installing bracket is recommended.

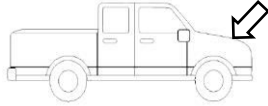


- 3** Locate rear mounting points. Next, line up rear mounting bracket slots to the studs and place Driver Side/Left Rear Bracket Assembly (B) onto rocker panel. Then fasten Nylon Lock Nuts (I) and washers (H). Do not tighten all the way yet.

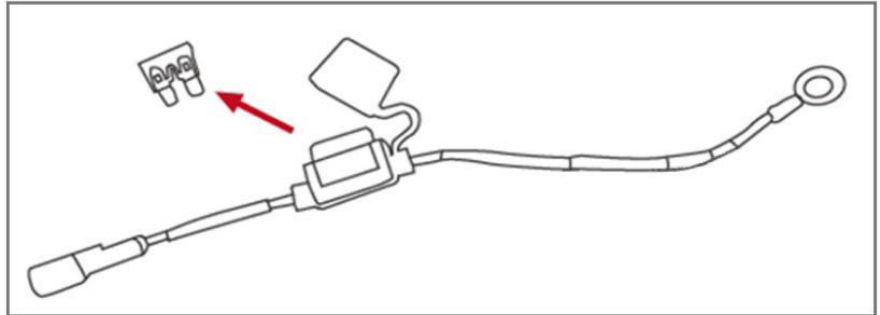


- 4** Repeat steps 1 – 3 for the Passenger Side.

- 5** Start from the engine compartment by opening the front hood of the vehicle. Remove the 25A fuse from the fuse box that comes with the main harness (M).

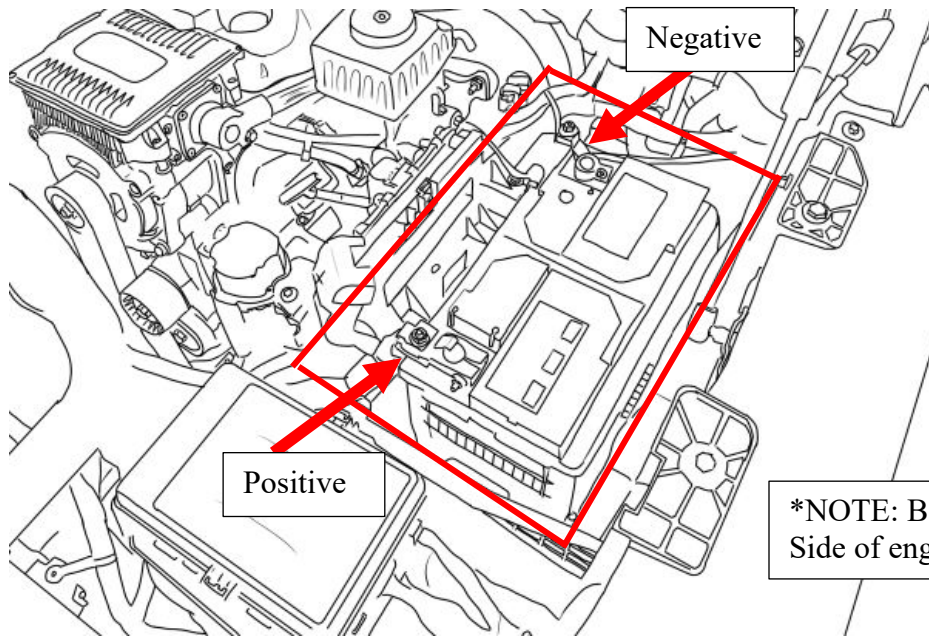


***WARNING:** Keeping the fuse connected to the fuse box may result in electrical sparks and risk of shorting when working with the battery.



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

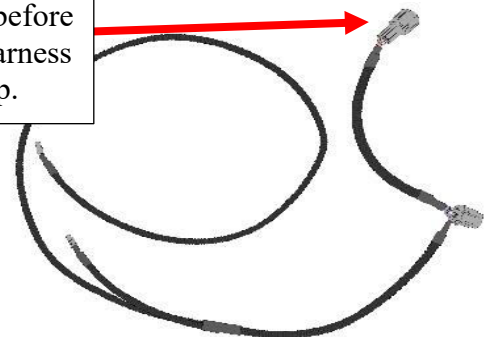


***NOTE:** Battery is on Driver Side of engine compartment.

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.

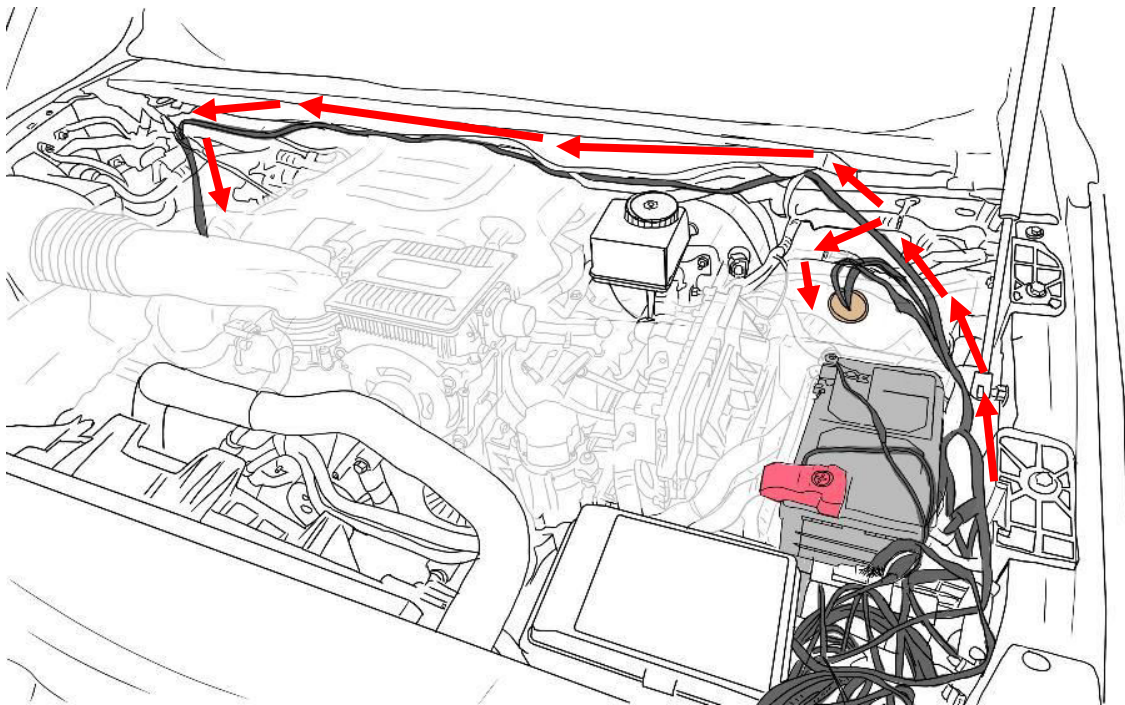
Connect leads before routing main harness legs in next step.



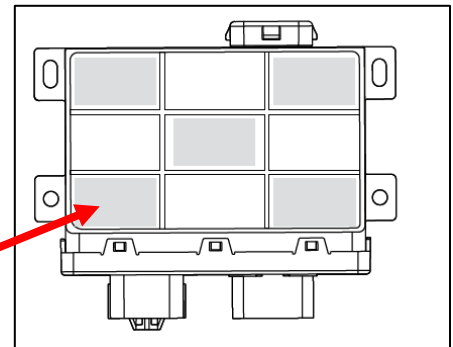
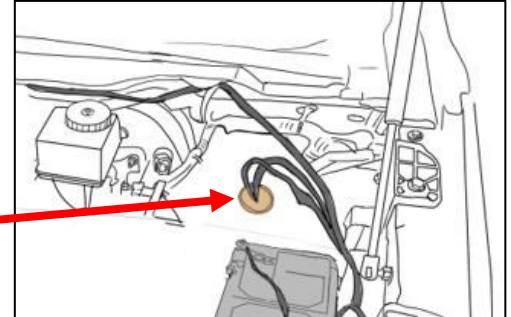
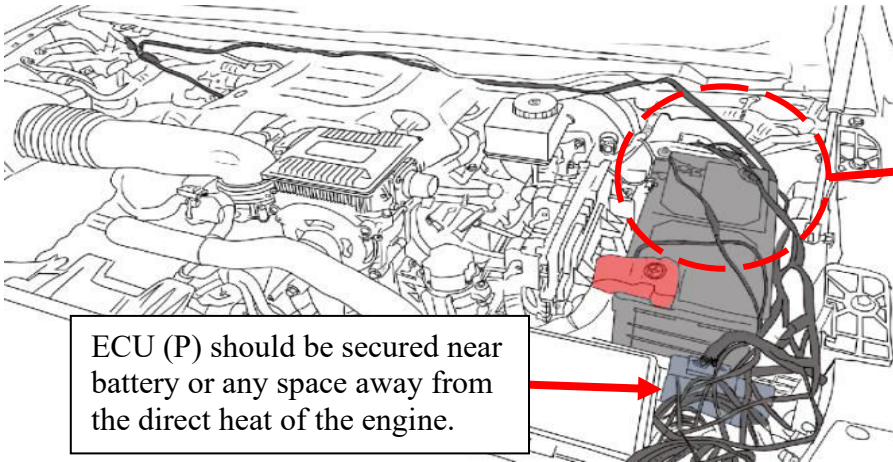
7

Route the main harness (M) around the battery, up along the rear of the engine compartment. The longer motor Driver-side branch of the main harness must route down the backside, against the fire wall, and down past the steering column towards the vehicle frame. **Be sure to avoid contact with the steering column.**

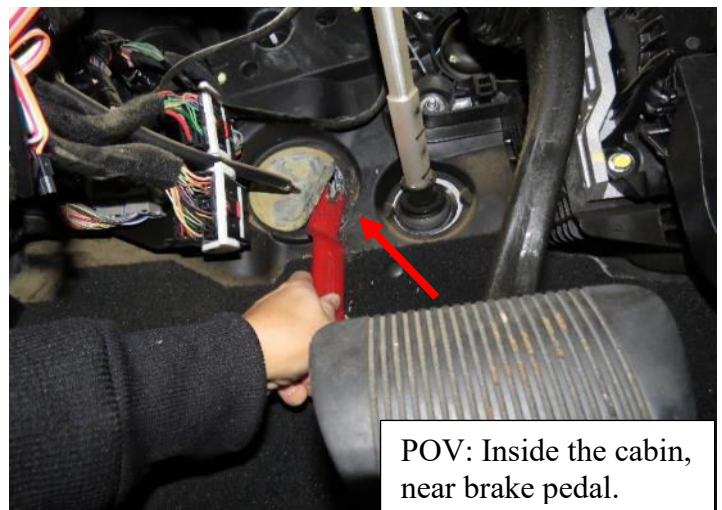
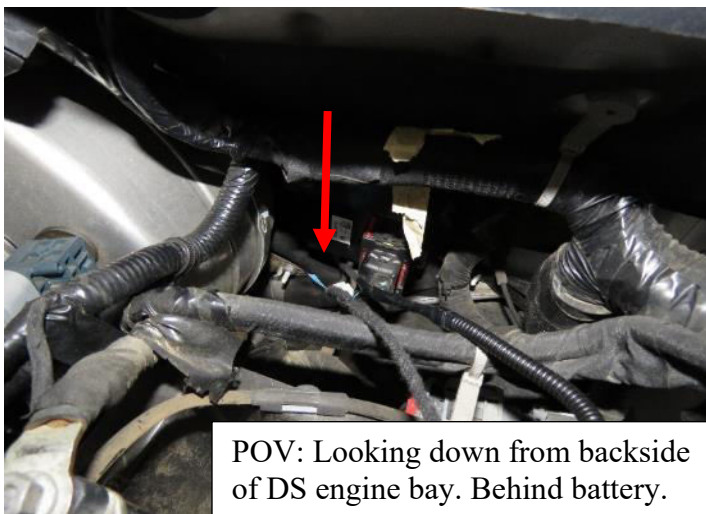
Route the shorter motor (marked "Passenger-side") leg of the harness down the Passenger-side wheel well. **Be sure to avoid contact with any moving or hot engine components.** Attach and secure the main harness (M) with supplied cable ties.



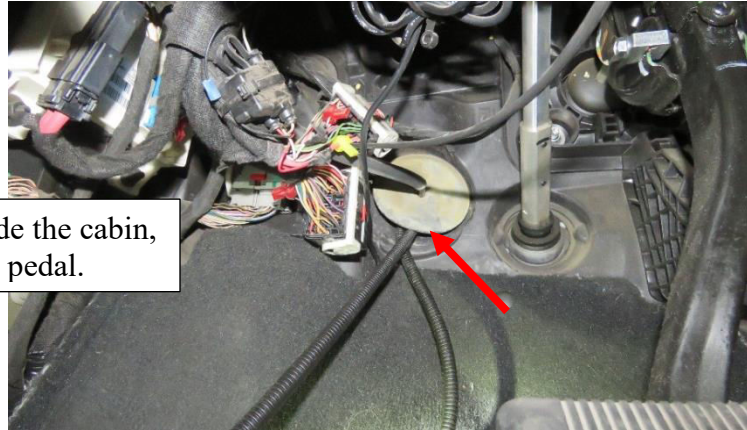
Route the CAN signal (has 2 wires with labels “High” & “Low”) branch of the main harness through the double-sided rubber boot against the backside of the engine bay. The boot can be clearly seen from the inside of the cabin. **Be sure to avoid contact with the steering column.**



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



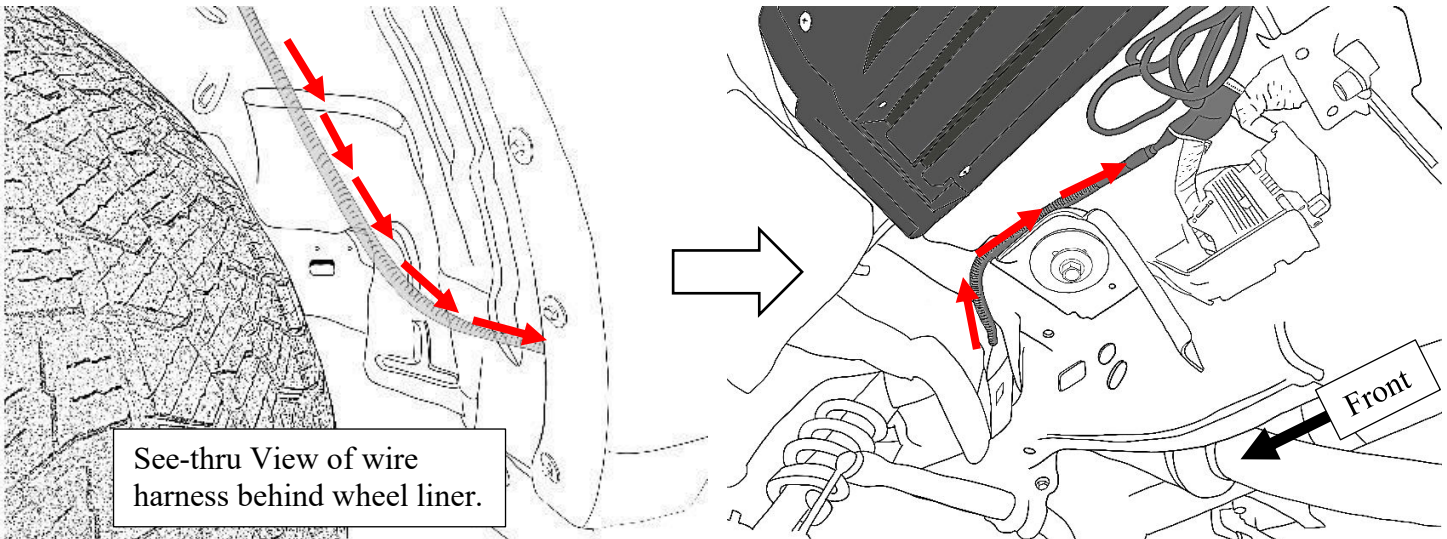
Inside the cabin, the rubber boot access is located under the steering wheel, behind the brake pedal. A pry-tool is recommended when peeling back the boot flap from the inside of the cabin.



POV: Inside the cabin, near brake pedal.

8

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



9

After routing all branches of the Main Harness (M), check to make sure the wires are secure with cable ties. **Be sure to avoid contact with any moving or hot engine components.** When routing wires through the wheel well area, **it is important to avoid the vehicle suspension.**

Confirm model year before proceeding (some 2025 models were made in 2024).

INSTALLATION INSTRUCTIONS

CAUTION: CHECK and ENSURE your vehicle model year and trim are correct before proceeding!

Proceed only if you are sure of your truck year and model!

For 2019-2024 RAM 1500



Please scan for video explanation for finding CAN wires.

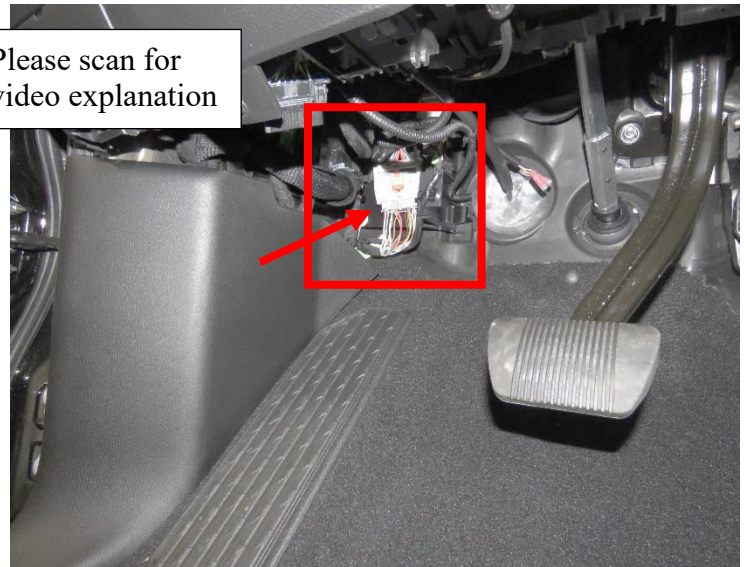
If you are unsure of your model year, check the VIN number or the manufacturer sticker on the body behind the front driver door. If you have the wrong version, contact the manufacturer.

10

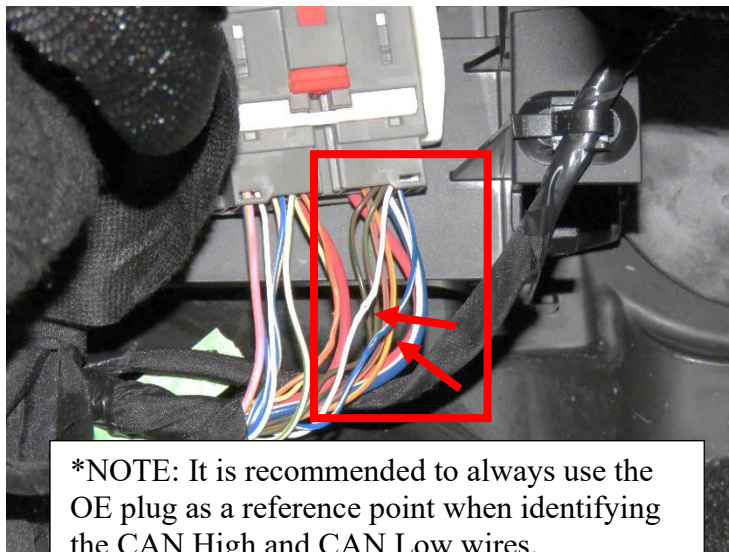
On the Driver Side (under the steering wheel, near the kick panel), locate the large CAN bus connector close to the firewall.



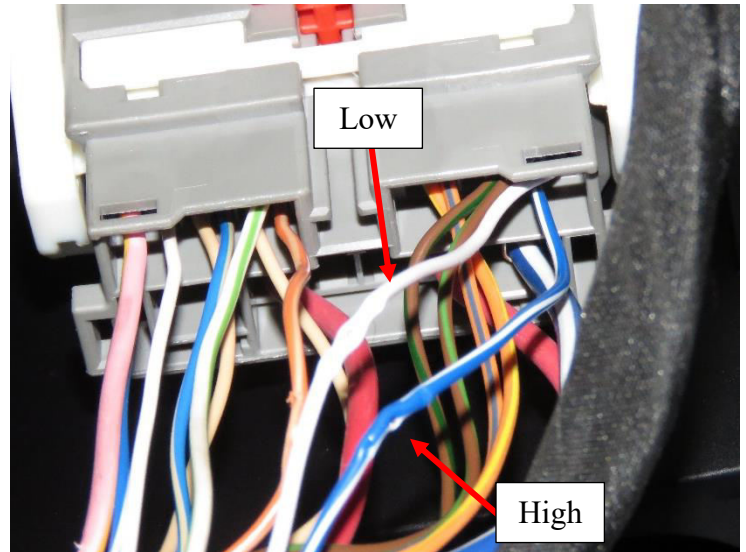
Please scan for video explanation



Identify the configuration of the wires on the bottom side of the CAN Bus plug. On the right side, select the twisted pair of wires colored **White** and **Blue with White stripe**.



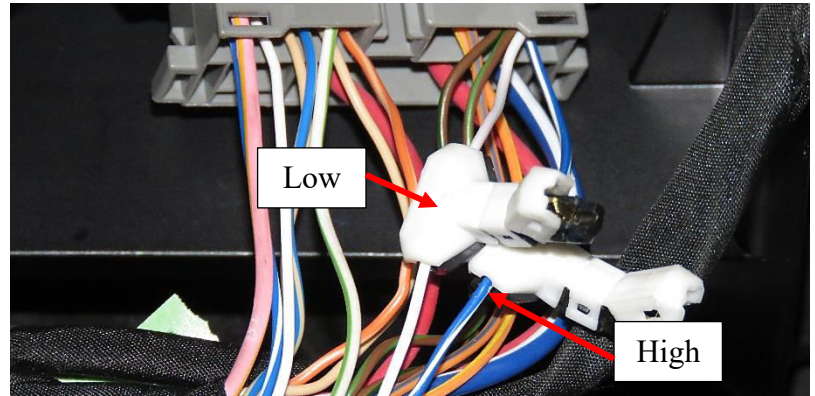
*NOTE: It is recommended to always use the OE plug as a reference point when identifying the CAN High and CAN Low wires.



Confirm that the truck is powered off. Connect the High and Low wires from the main harness (M) using the supplied wire taps (O). After successfully connecting the wires, secure the wires so that they do not interfere with the brake pedal. Proceed to step 11.

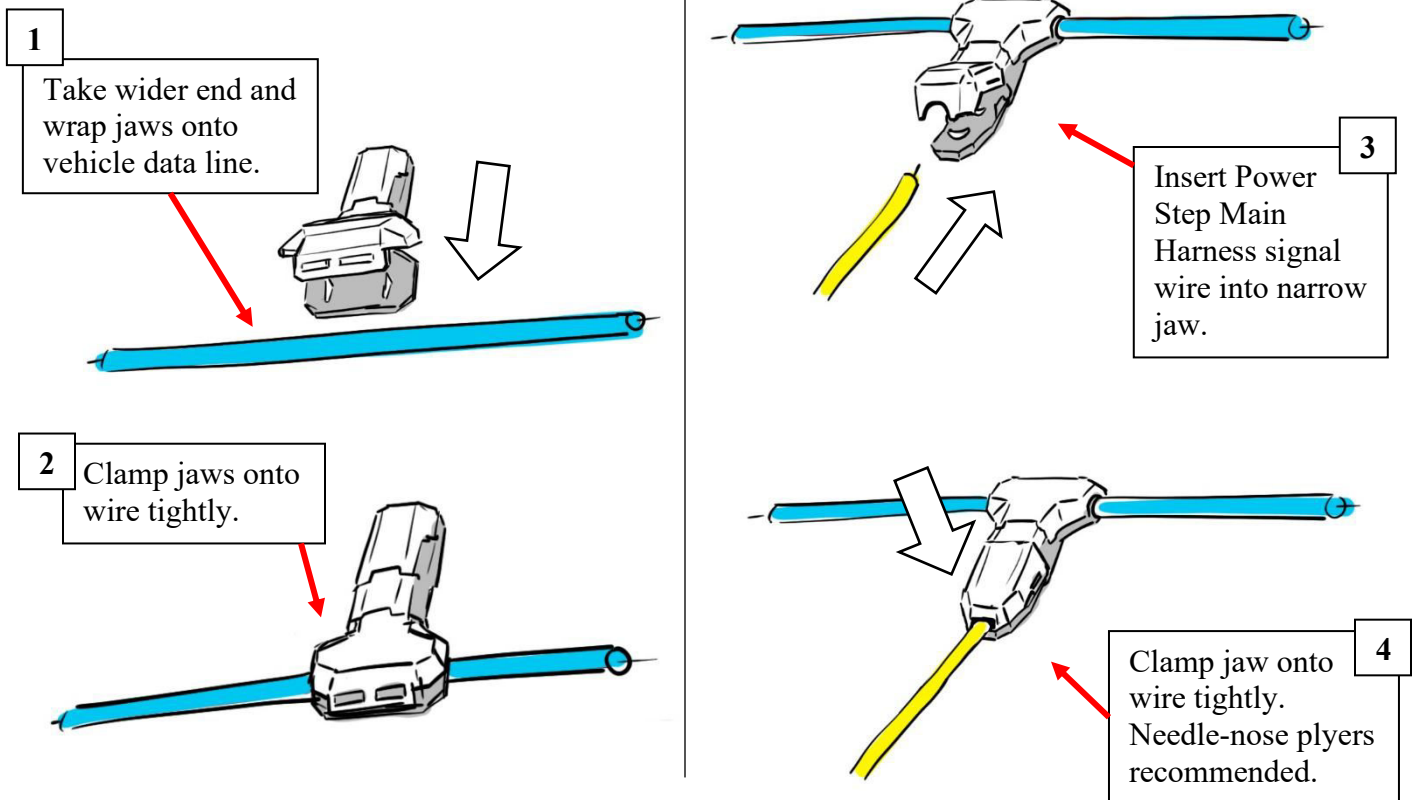
Factory CAN Wire	Main Harness wire color
White (CAN-L)	Yellow (Low)
Blue w/ White Stripe (CAN-H)	White (High)

Wire taps supplied with kit.
Please see **step 11** for guide.



11

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.

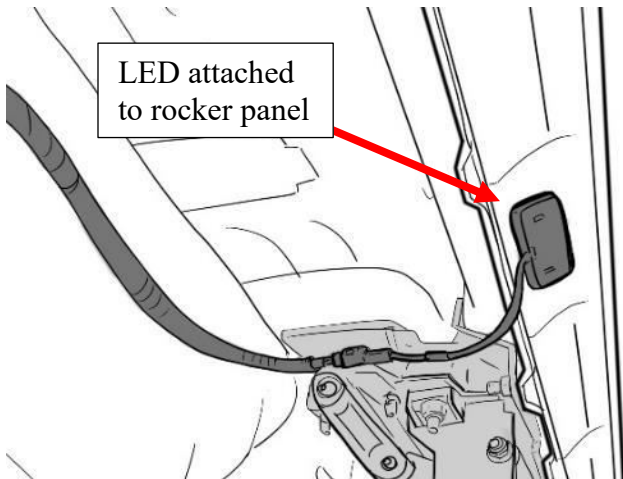
12

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

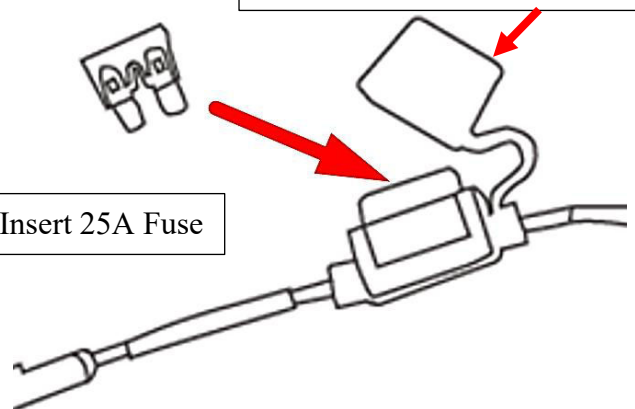
**13**

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). Place Fuse into Fuse Box.

LED attached
to rocker panel

Close lid after placing Fuse

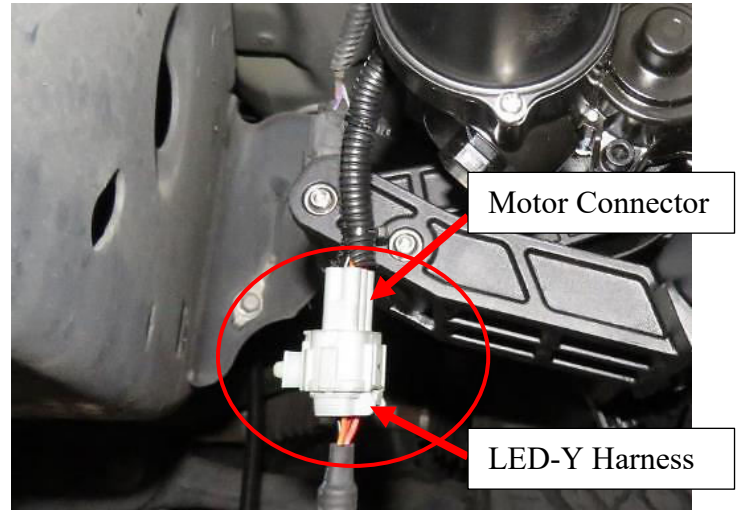
Insert 25A Fuse



14

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).

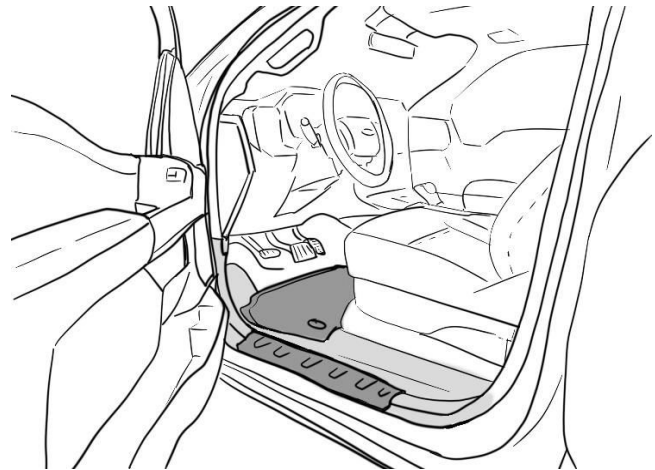
*NOTE: The linkage arms on the front bracket assemblies will not move unless both motors are connected.



15

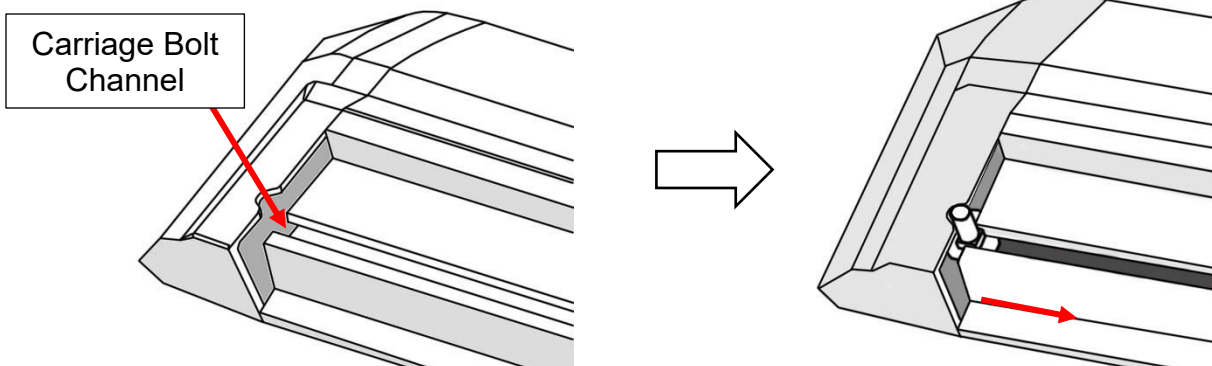
Seal the grommet with RTV Silicone Sealant.

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.

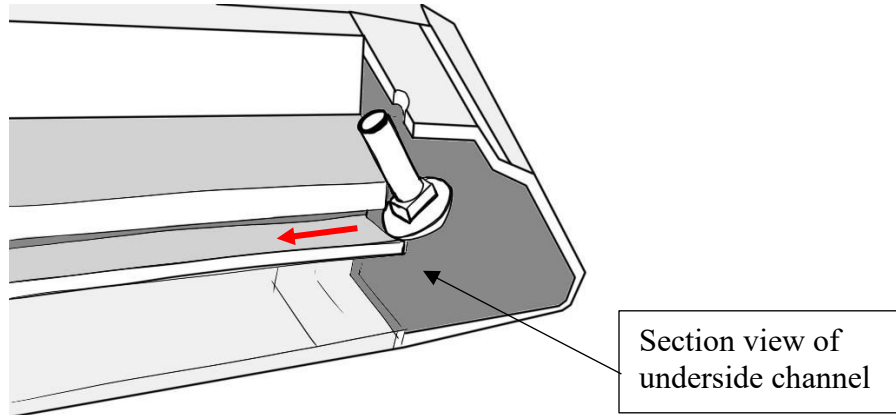


16

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).



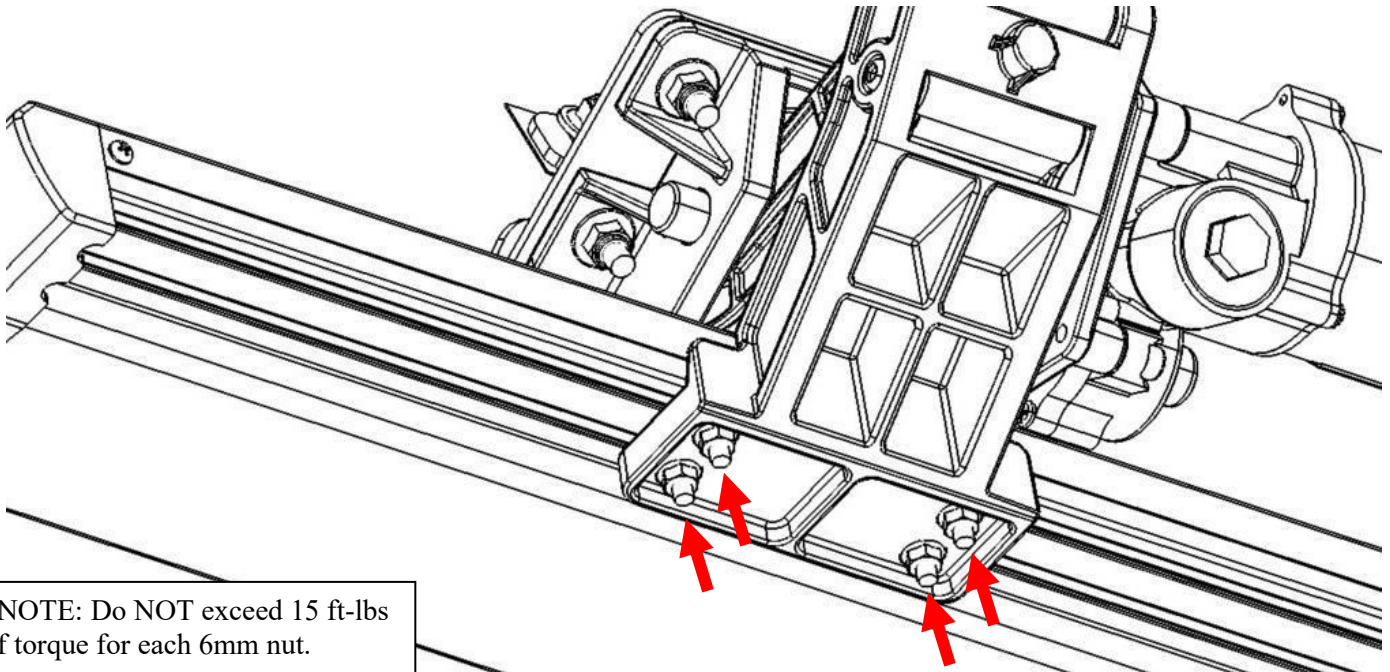
Use the notch in the board's end caps to feed the bolts into the channel.

**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 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.



*NOTE: Do NOT exceed 15 ft-lbs of torque for each 6mm nut.

Once the board is adjusted, plug in the motor connector to the LED-Y harness (to return power to the linkage arms), making sure that the door remains open. Proceed to open and close doors several times to deploy and retract the steps to settle the steps into their natural alignment. After cycling the step, tighten all hardware on the board and brackets.

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

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”.

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.

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 does not move during troubleshooting, check the CAN Signal High and Low wires. It may also be necessary to check all other wiring connections or flip the CAN High and Low wires.

Toggle Switch Optional Accessory

If you purchased the toggle switch accessory, please refer to the detailed instruction sheet included with the toggle switch kit.

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.



INSTALLATION INSTRUCTIONS

- 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.