

INSTALLATION INSTRUCTIONS

POWER BOARD

**14-18 CHEVY SILVERADO 1500, 15-19 CHEVY SILVERADO 2500/3500 HD CREW/DOUBLE CAB
(Excl. Diesel Models with DEF Tank) (Incl. 2019 1500 LD Models)**

**14-18 GMC SIERRA 1500, 15-19 GMC SIERRA 2500/3500 HD CREW/DOUBLE CAB
(Excl. Diesel Models with DEF Tank) (Incl. 2019 1500 Limited Models)**

Patent No. US 11945405

PART# HW-PB-CW071

14-18 Silverado/Sierra 1500, 15-19 Silverado/Sierra 2500/3500 Crew & Double Cab (Excl. Diesel DEF Tank Models)
(Incl. 2019 Silverado 1500 LD & 2019 Sierra 1500 Limited)

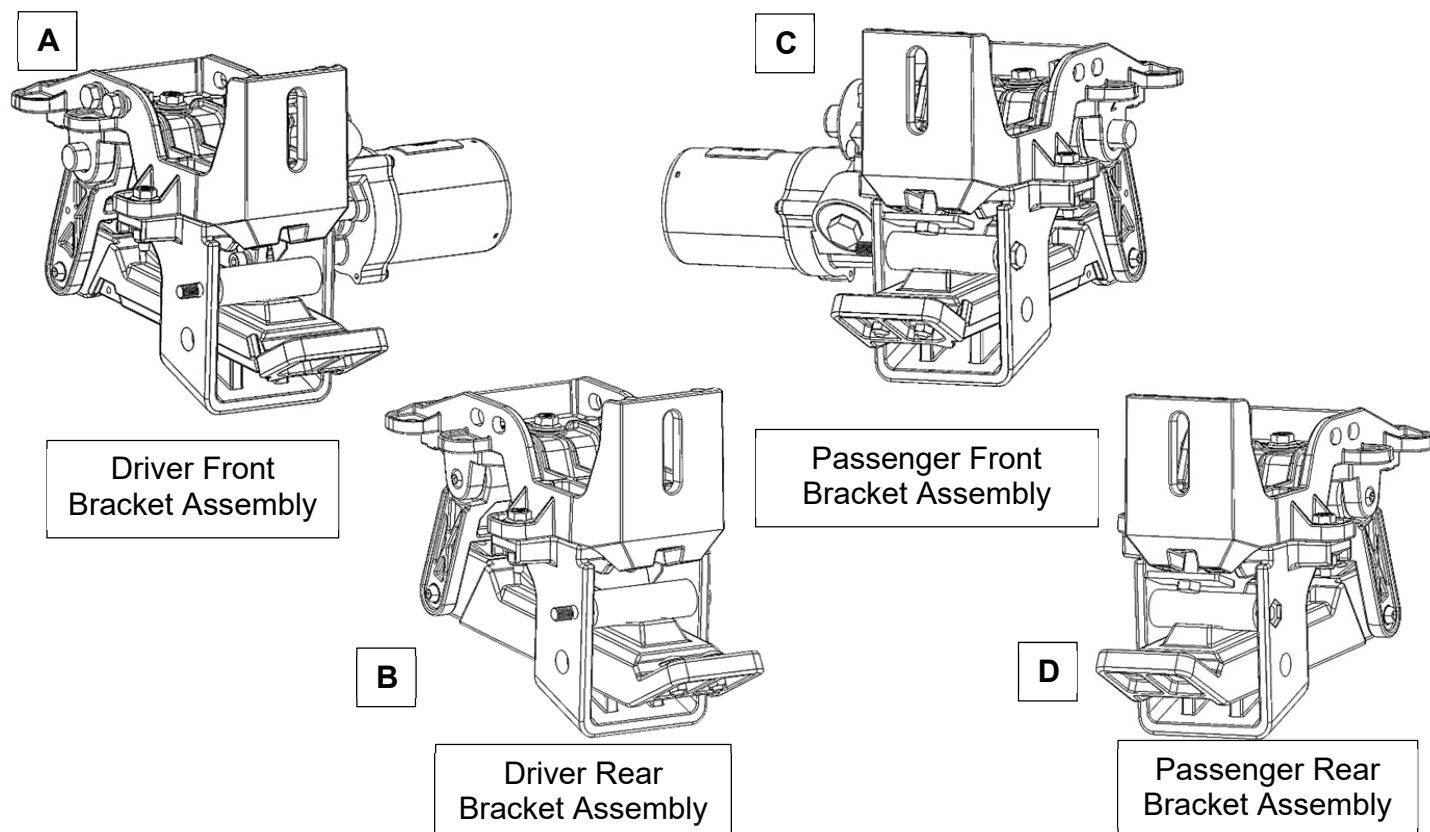
INSTALLATION INSTRUCTIONS

Mechanical PARTS LIST:

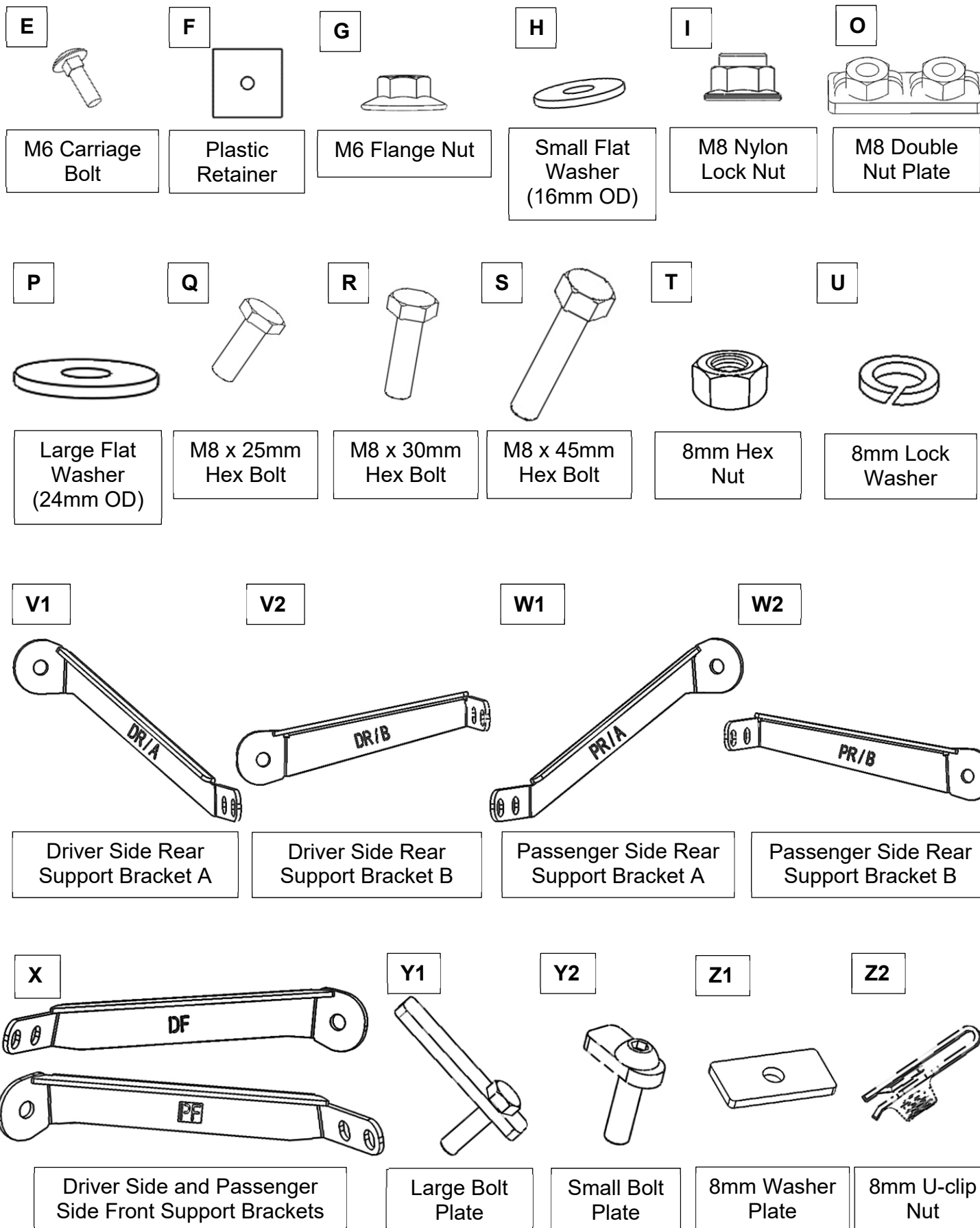
Qty	Item Description	Qty	Item Description
2	Running Boards	8	6-1.0mm x 20mm Carriage Bolts
1	Driver/Left Front Bracket Assembly	8	6mm Flange Nuts
1	Passenger/Right Front Bracket Assembly	8	Plastic Retainers
1	Driver/Left Rear Bracket Assembly	4	8mm Nylon Lock Nuts
1	Passenger/Right Rear Bracket Assembly	8	8-1.25mm x 25mm Hex Bolts
1	Electronic Materials Package	4	8-1.25mm x 30mm Hex Bolts
1	Support Bracket (Driver Side Front)	4	8-1.25mm x 45mm Hex Bolts
1	Support Bracket (Passenger Side Front)	8	8mm x 16mm x 1.6mm Flat Washers
1	Support Bracket (DR/A)	8	8mm x 24mm x 2mm Large Flat Washers
1	Support Bracket (PR/A)	16	8mm Lock Washers
1	Support Bracket (DR/B)	8	8mm Hex Nuts
1	Support Bracket (PR/B)	4	8-1.25mm x 35mm Bolt Plates (Small)
3	Rubber Sleeves	4	8-1.25mm x 30mm Bolt Plates (Large)
15	Zip Ties	4	8mm Washer Plates
1	Adhesive Foam	4	8mm Double Nut Plates
4	8mm Fish Wire	4	8mm U-clip Nuts

Electronic Materials Package PARTS LIST:

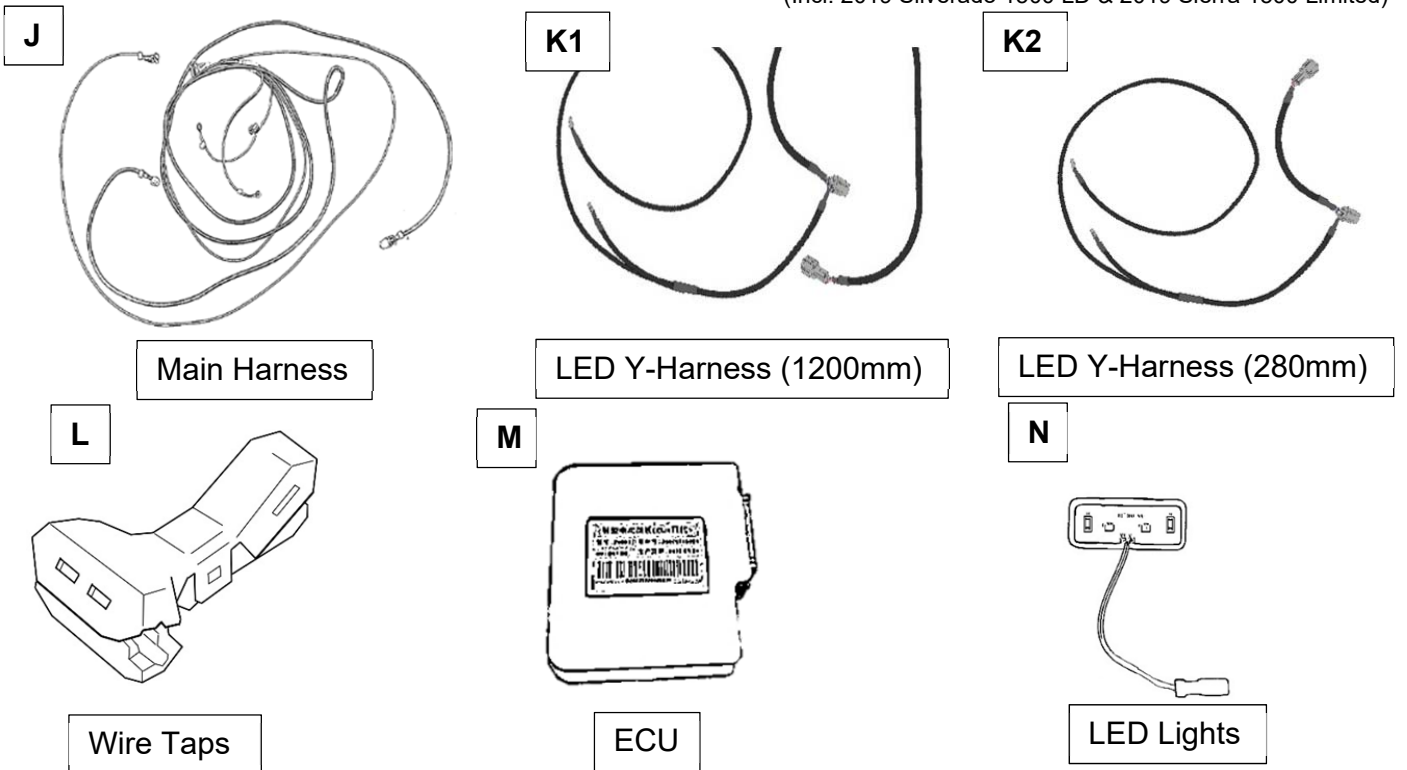
Qty	Item Description	Qty	Item Description
1	Main Harness	1	ECU
2	Wire Taps	4	LED lights
1	LED Y-Harness (280mm)	1	LED Y-Harness (1200mm)



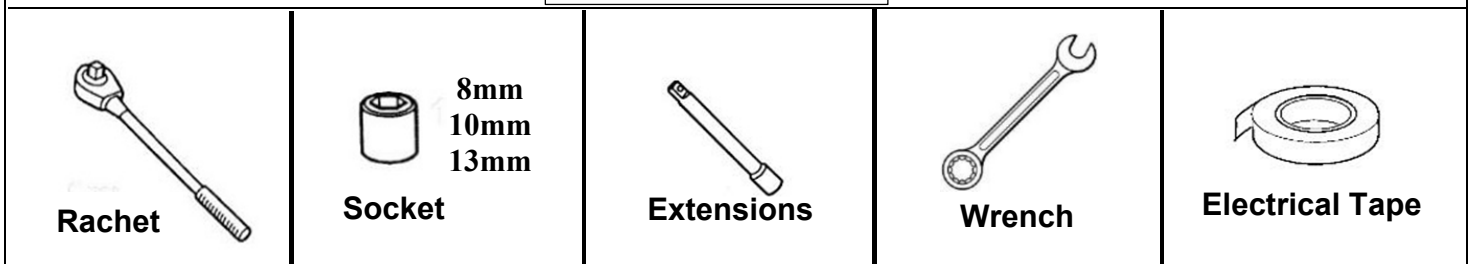
14-18 Silverado/Sierra 1500, 15-19 Silverado/Sierra 2500/3500 Crew & Double Cab (Excl. Diesel DEF Tank Models)
(Incl. 2019 Silverado 1500 LD & 2019 Sierra 1500 Limited)



14-18 Silverado/Sierra 1500, 15-19 Silverado/Sierra 2500/3500 Crew & Double Cab (Excl. Diesel DEF Tank Models)
(Incl. 2019 Silverado 1500 LD & 2019 Sierra 1500 Limited)



TOOLS REQUIRED



- 1 Locate body frame on Driver-side underside of vehicle and identify whether there are OE harnesses near the front body cup. Some vehicles may have different looking harnesses depending on the year, model, and trim.



14-18 Silverado/Sierra 1500, 15-19 Silverado/Sierra 2500/3500 Crew & Double Cab (Excl. Diesel DEF Tank Models)
(Incl. 2019 Silverado 1500 LD & 2019 Sierra 1500 Limited)

On some vehicles, the OE Harness may be in the way of the front mounting area. If so, use a pry tool to unhook the OE Harness from the frame at the indicated spots. Shift the OE Harness out of the way (upwards) and secure it out of the way using wire ties, cable ties, or the pre-existing plastic ribbed shank rivets (AKA Christmas tree rivets) already on the OE harness.

OE Harness near Driver-side Front

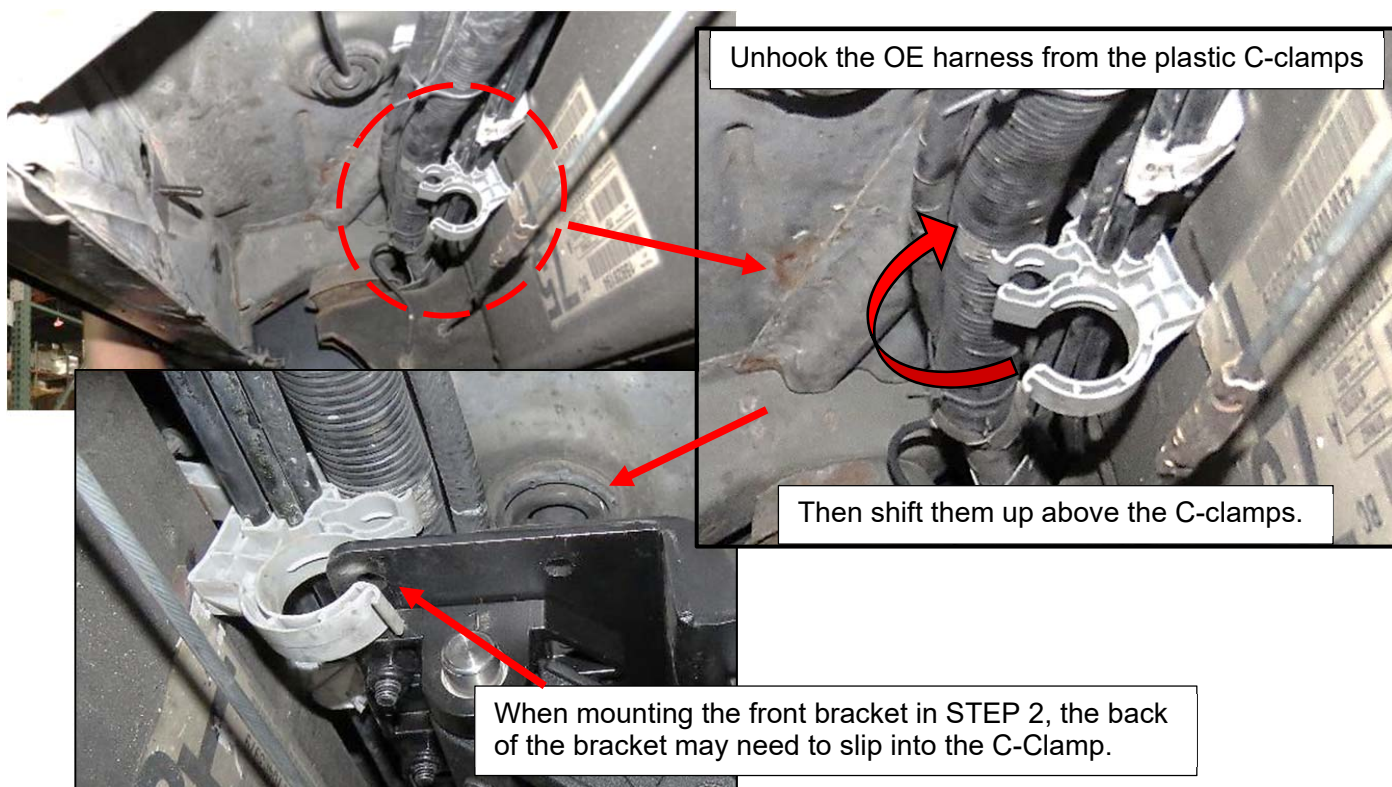


Note: It is recommended to use clip removal pliers to detach the harness from the frame.

Unclip the line from the plastic jaws so that the OE harness can be shifted upwards.

On some vehicles, the OE Harness is secured around the brake cables too (see below for example). For these vehicles, it is recommended to unhook the OE Harness from the large Grey C-Clips and to shift the Harness upwards out of the way.

In later steps, the front bracket will slip between the jaws of the C-Clip (more detail below).



Unhook the OE harness from the plastic C-clamps

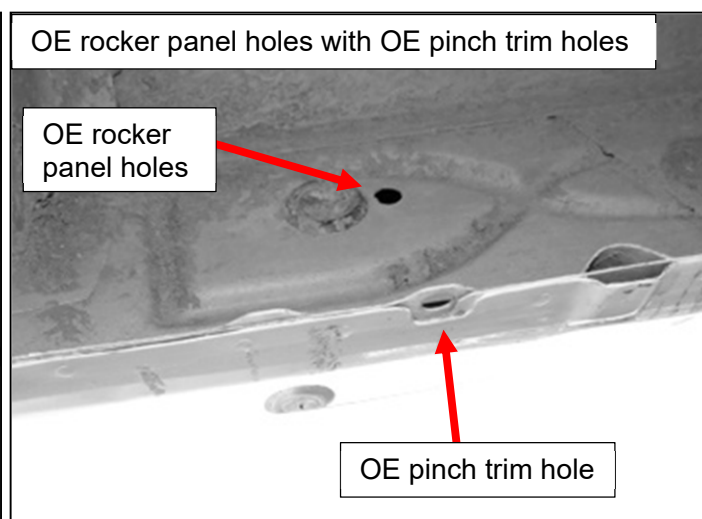
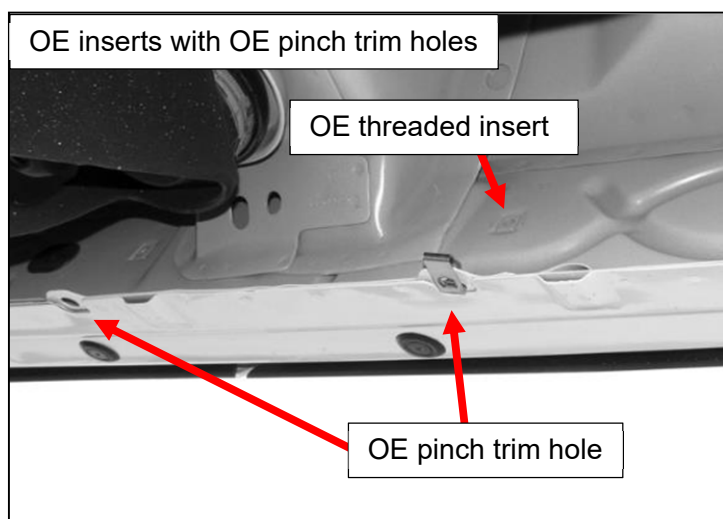
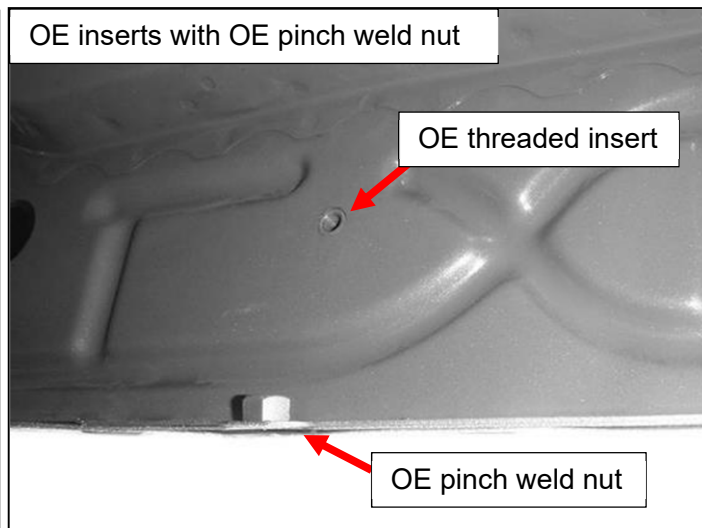
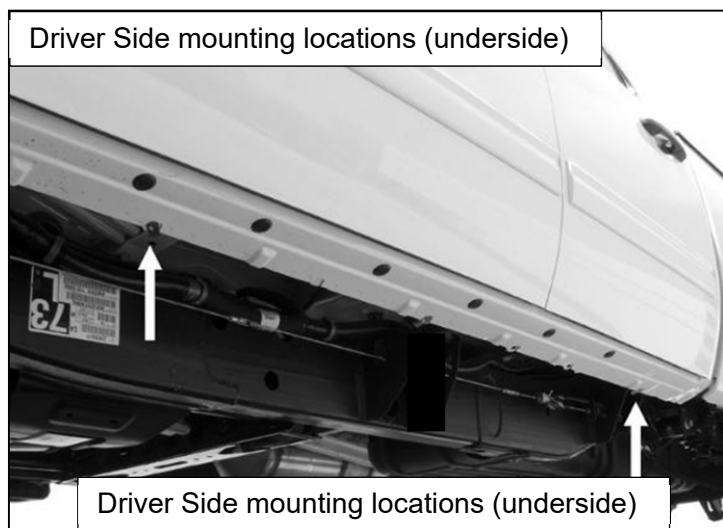
Then shift them up above the C-clamps.

When mounting the front bracket in STEP 2, the back of the bracket may need to slip into the C-Clamp.

14-18 Silverado/Sierra 1500, 15-19 Silverado/Sierra 2500/3500 Crew & Double Cab (Excl. Diesel DEF Tank Models)
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Next, locate the front mounting area. Determine what style of mounting hole is on the vehicle rocker panel and pinch weld. Follow the guide below:

Vehicles may have a combination of the below mounting methods. Use the guide below in combination with what types are appropriate for your vehicle.



For the situation of “**OE threaded insert with OE pinch weld nut**”, follow **step 2A**.

For the situation of “**OE threaded insert with OE pinch trim hole**”, follow **step 2B**.

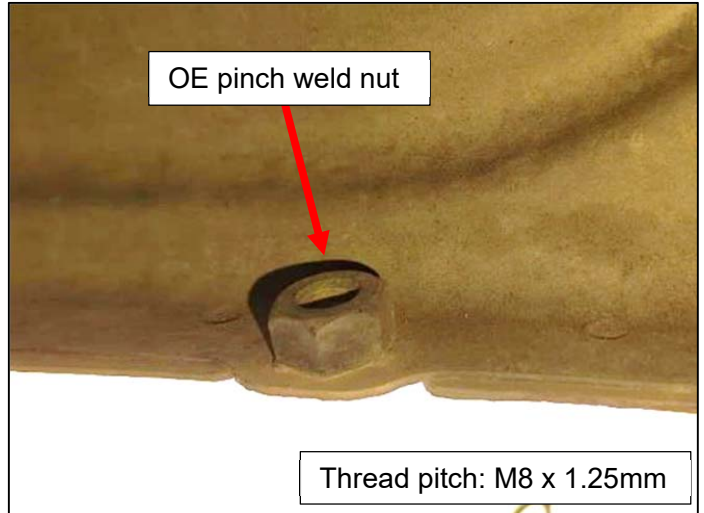
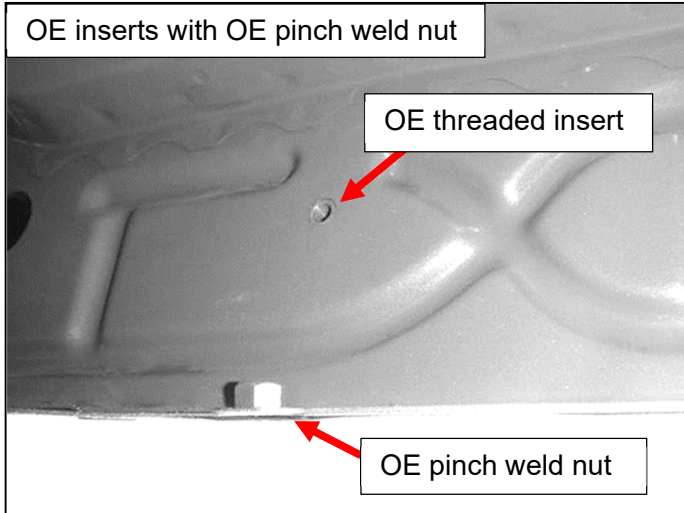
For the situation of “**OE rocker panel holes with OE pinch trim hole**”, follow **step 2C**.

If Step 2C does not work, follow **step 2D**.

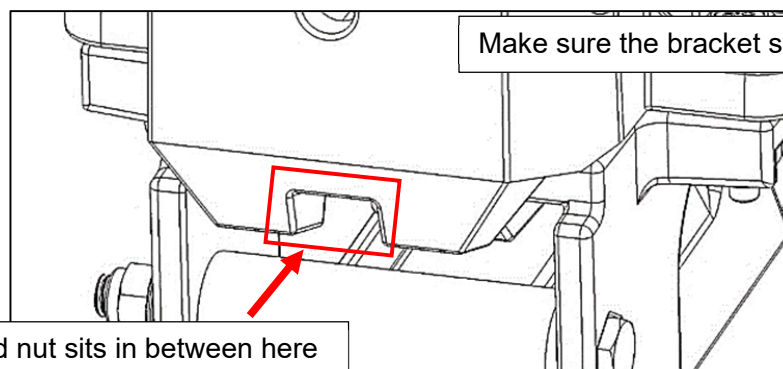
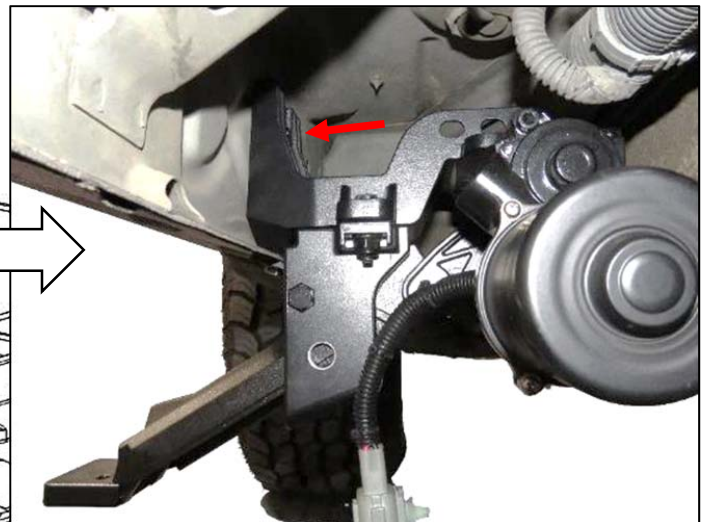
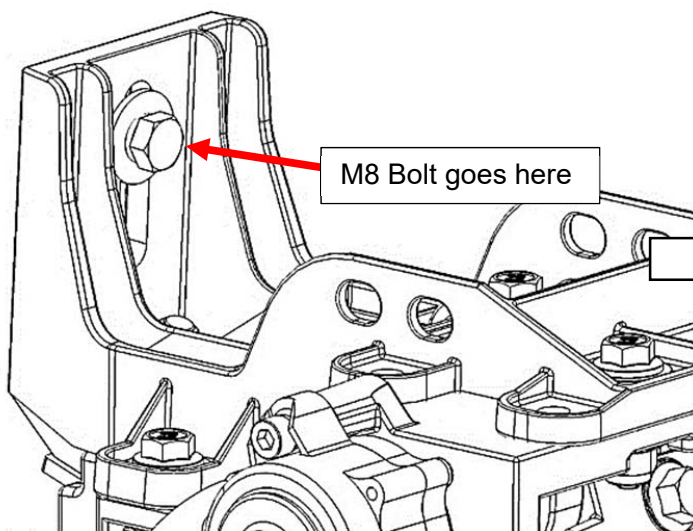
Vehicles may sometimes have a combination of these situations going on at the same time. For these cases refer the appropriate step and proceed with the installation.

14-18 Silverado/Sierra 1500, 15-19 Silverado/Sierra 2500/3500 Crew & Double Cab (Excl. Diesel DEF Tank Models)
(Incl. 2019 Silverado 1500 LD & 2019 Sierra 1500 Limited)

Locate the front mounting points. If the vehicle's vertical rocker panel has threaded inserts, first remove any OE or old hardware already threaded in place. It is recommended to also use a thread tap to clean out the OE threaded insert before attempting to install the bracket assemblies. The same is recommended for the OE pinch weld nut.



Next, line up the front mounting bracket slots to the rocker panel mounting points and place Driver Side/Left Front Bracket Assembly (A) onto rocker panel. Thread the M8 Hex Bolt (30mm length) + M8 Lock Washer + M8 Flat Washer (24mm diameter) (P) into the top threaded insert. Hand tighten the mounting hardware until snug adjust the bracket as needed for the next step.

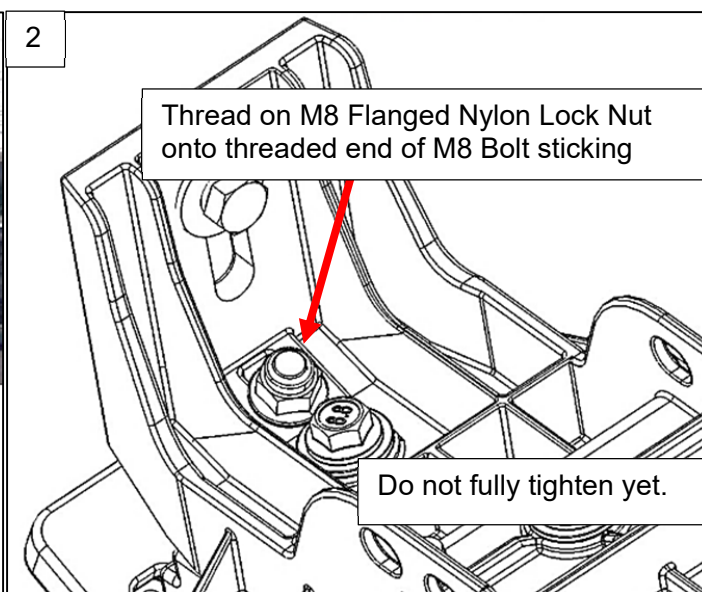
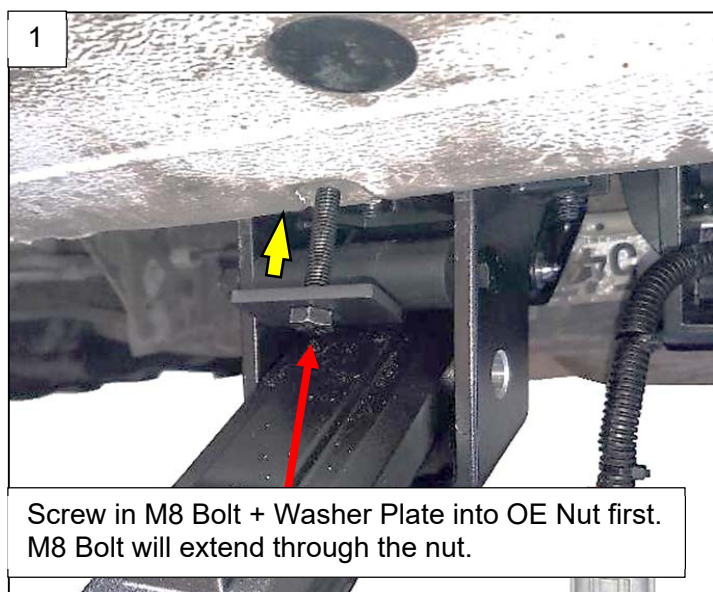


Make sure the bracket sits on top of the OE weld nut.

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Next, thread an M8 Hex Bolt (45mm length) + Washer Plate (Z1) into the OE pinch weld nut from the bottom. Thread the hex bolt all the way through until max.

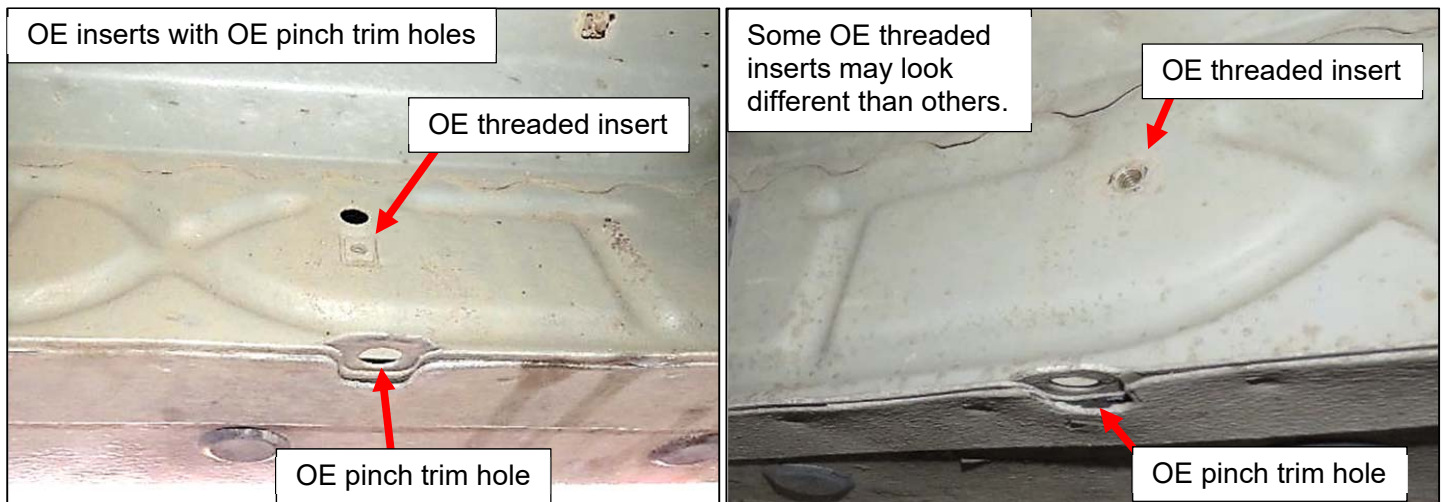
Then take an M8 Flanged Nylon Lock Nut (I) and fasten it onto the threaded end of the hex bolt from the top of the bracket assembly. Make sure the OE pinch weld nut sits neatly in-between the bracket's two lower posts.



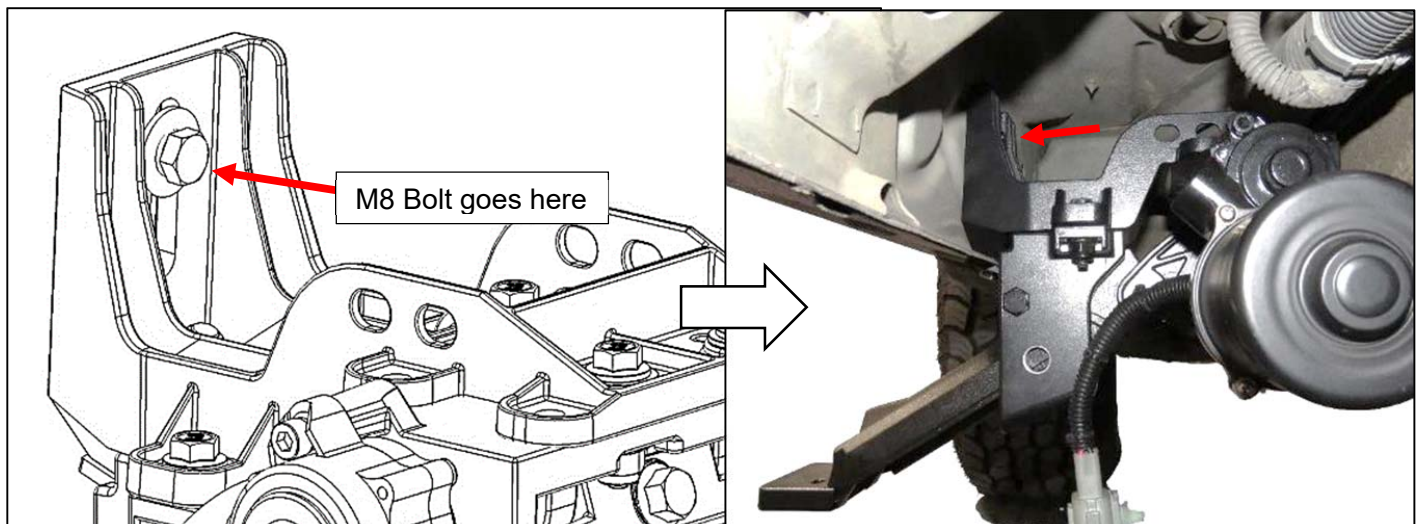
Once the Driver-side Front Bracket Assembly (A) is mounted and secure, move on to step 3.

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Locate the front mounting points. If the vehicle's vertical rocker panel has threaded inserts, first remove any old hardware already in place. It is recommended to also use a thread tap to clean out the OE threaded insert before attempting to install the bracket assemblies.

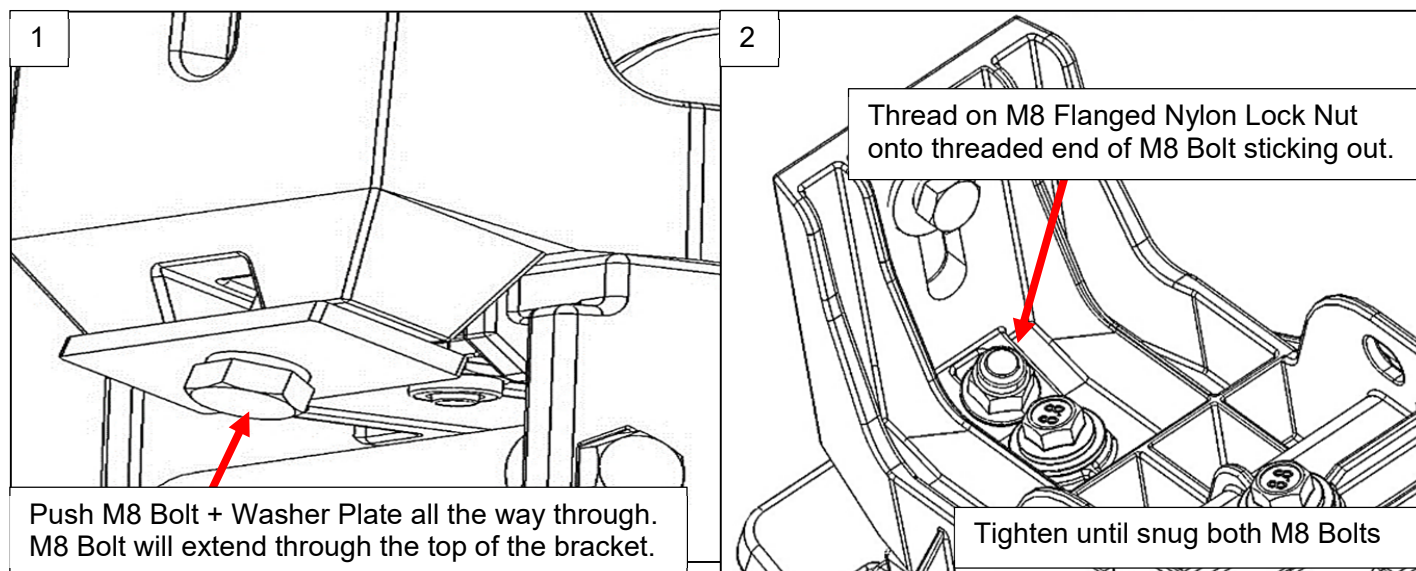


Next, line up the front mounting bracket slots to the rocker panel mounting points and place Driver Side/Left Front Bracket Assembly (A) onto rocker panel. Thread the M8 Hex Bolt (30mm length) + M8 Lock Washer + M8 Flat Washer (24mm diameter) (P) into the top threaded insert. Do not tighten all the way yet. Hand tighten the mounting hardware until snug.



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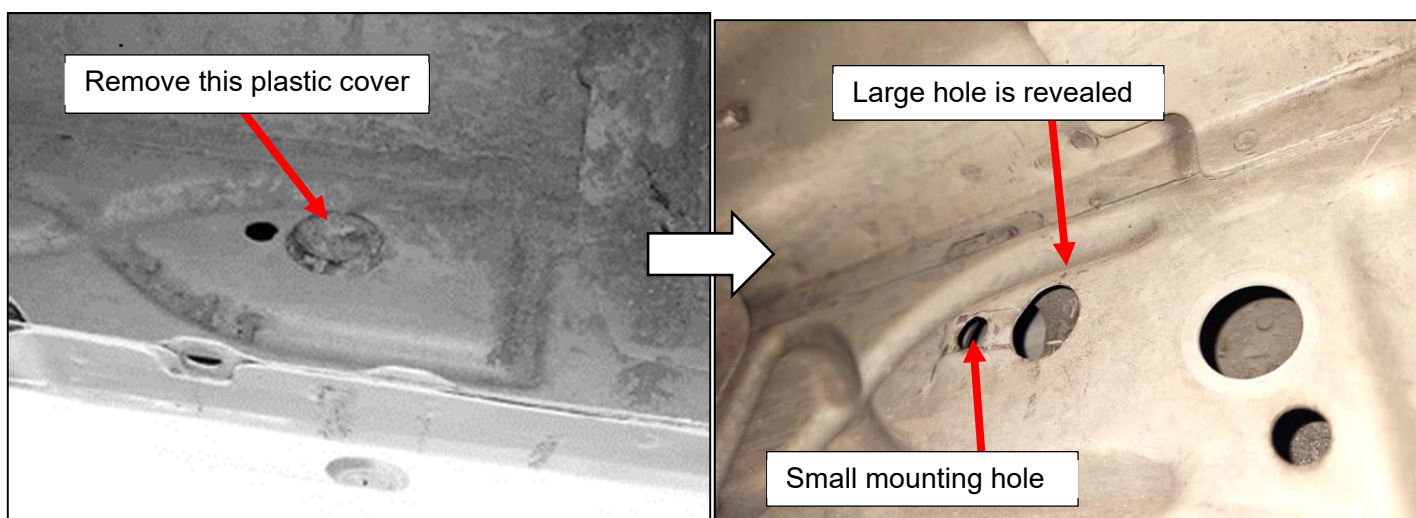
Push the hex bolt all the way through the hole in the pinch weld (on vehicle) and through the spacer block and bracket. Then take an M8 Flanged Nylon Lock Nut (I) and fasten it onto the threaded end of the hex bolt from the top of the bracket assembly. Tighten until snug and adjust the bracket assembly as needed.



Once the Bracket Assembly is mounted, proceed to Step 3.

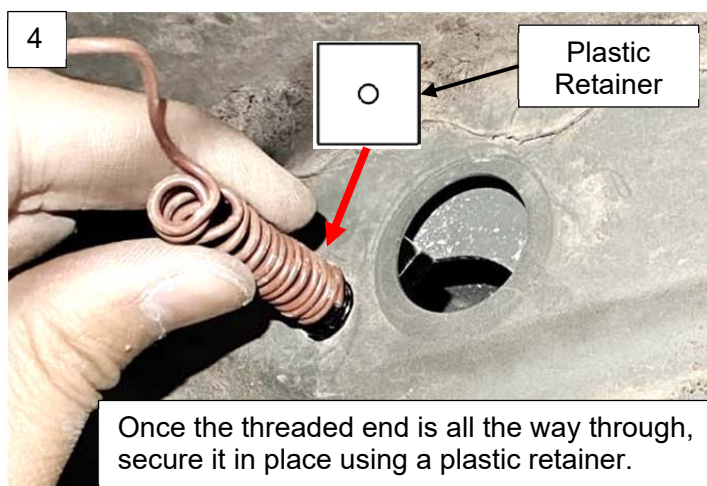
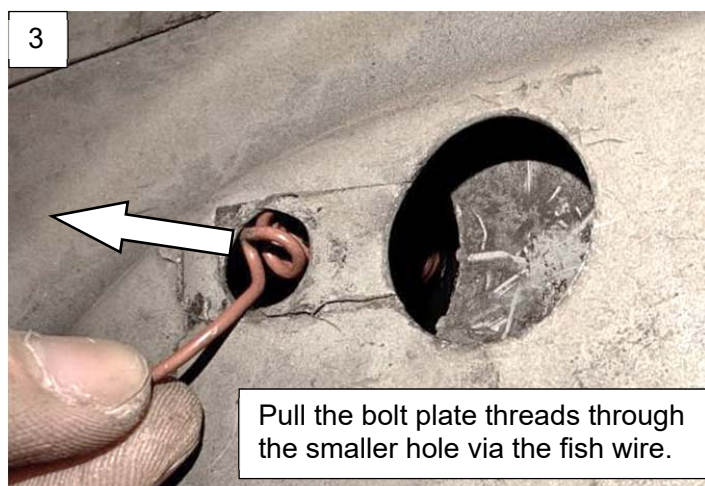
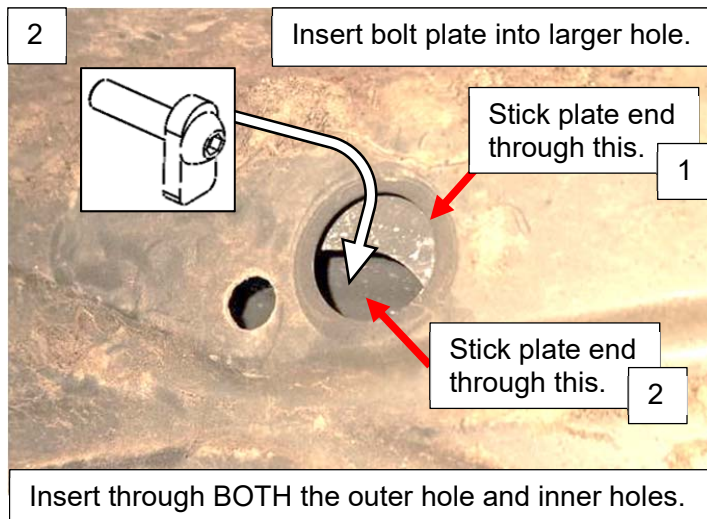
2C

Locate the front mounting points. Remove the circular plastic cover next to the upper rocker panel hole using a thin pry tool. A larger hole will be revealed after removing the cover



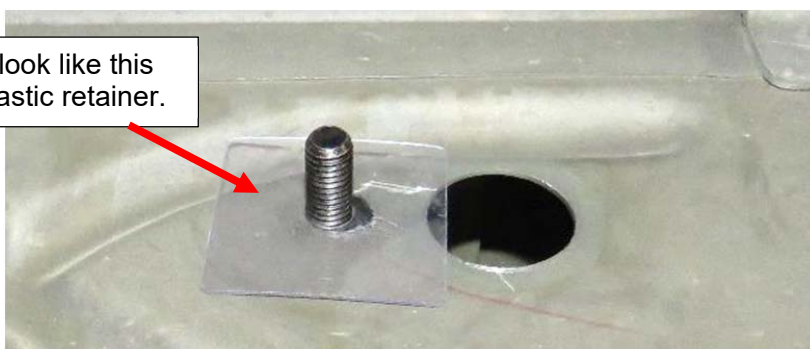
14-18 Silverado/Sierra 1500, 15-19 Silverado/Sierra 2500/3500 Crew & Double Cab (Excl. Diesel DEF Tank Models)
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Take an 8-1.25mm x 35mm Small Bolt Plate (Y2) and thread on the curled end of the fish wire onto the threaded portion of the bolt plate. Then, using the fish wire, insert the bolt plate into the larger hole on the rocker panel and fish the bolt plate into place at the small mounting hole.



Once the bolt plate is through the small mounting hole, secure it using a plastic retainer (F). On some vehicles, depending on if it is a crew or extended cab configuration, the inner hole may be slightly more difficult to reach, and in these cases, it is recommended to use a flathead screwdriver as an assisting guide tool. If the bolt plate accidentally comes loose of the fish wire and falls into the inner rocker panel cavity, it is recommended to use a flexible magnet to retrieve the bolt plate.

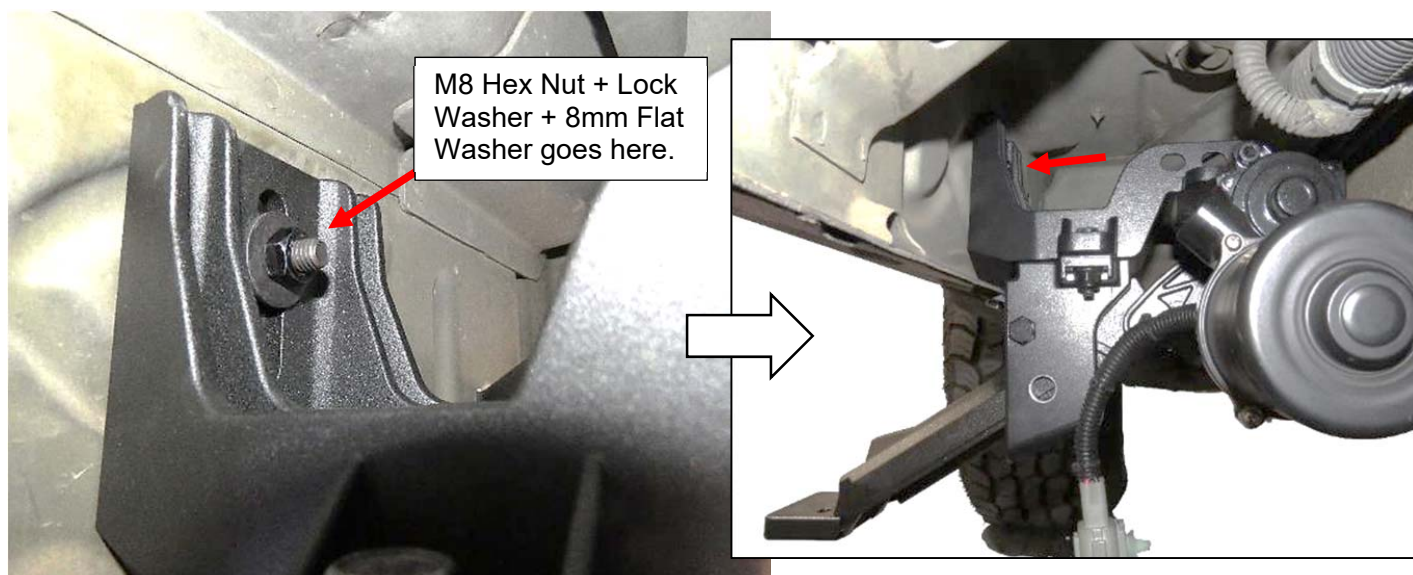
The bolt plate should look like this when secured by a plastic retainer.



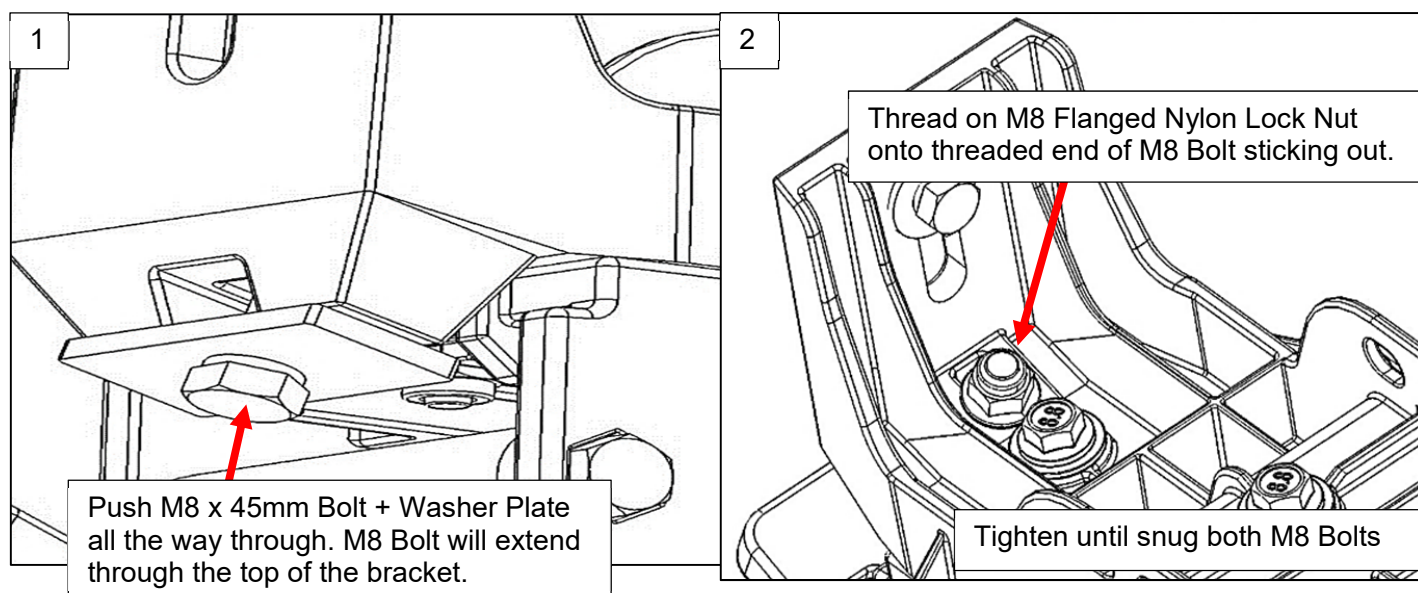
14-18 Silverado/Sierra 1500, 15-19 Silverado/Sierra 2500/3500 Crew & Double Cab (Excl. Diesel DEF Tank Models)
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Next, place the Driver Side/Left Front Bracket Assembly (A) onto rocker panel and line up the mounting points. Place the Front Bracket Assembly (A) onto the threads of the bolt plate and be careful to not push the bolt plate into the rocker panel.

Thread the M8 Hex Nut + M8 Lock Washer + M8 Flat Washer (24mm diameter)(P) onto the threads of the bolt plate. Tighten the mounting hardware until snug. Adjust the bracket assembly as needed for the next step.



Push the hex bolt all the way through the hole in the pinch weld, spacer block, and bracket. Then take an M8 Flanged Nylon Lock Nut (I) and fasten it threads of the hex bolt from the top of the bracket assembly. Tighten until snug and adjust the bracket assembly as needed.

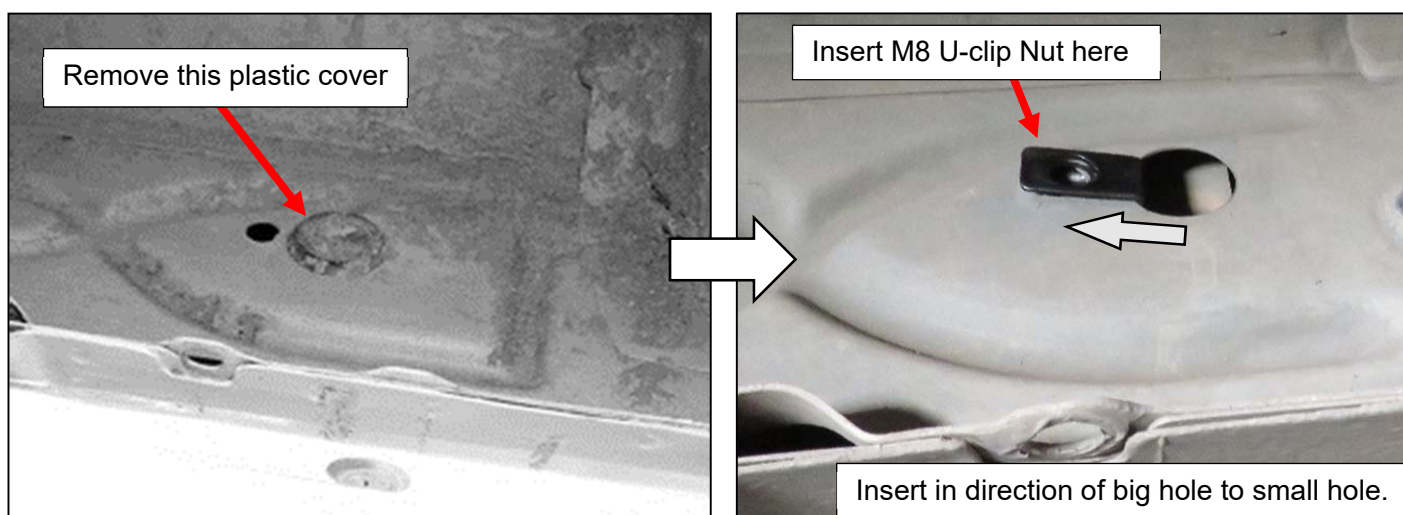


Once the Bracket Assembly is mounted, proceed to Step 3.

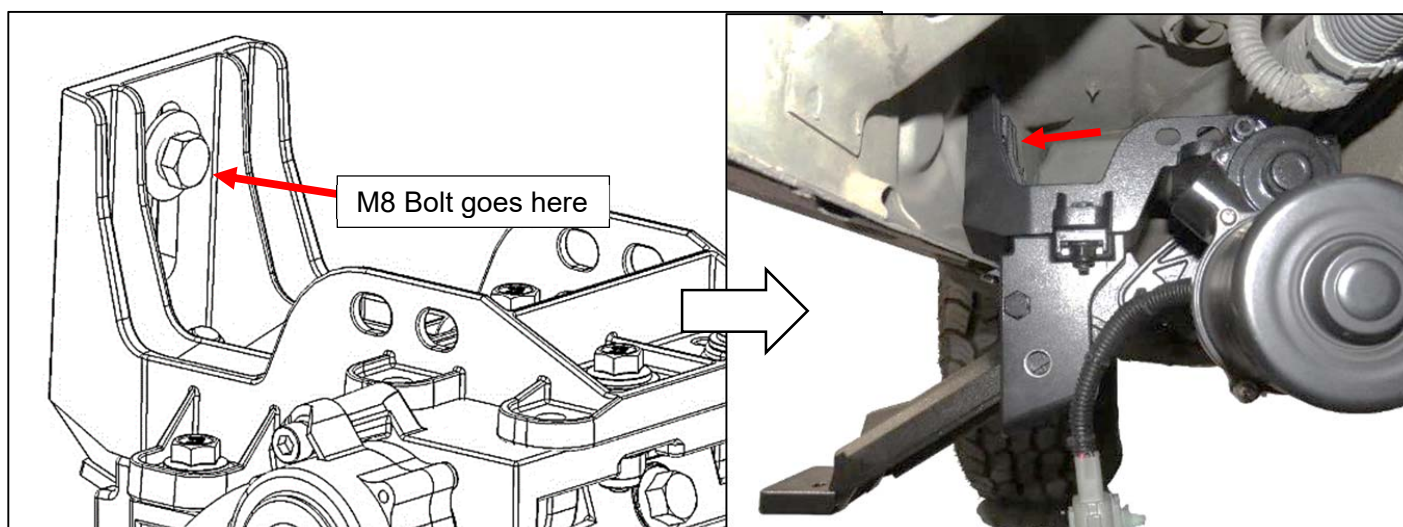
2D

Locate the front mounting points. Check and see if your rocker panel's structural integrity is in good enough condition to continue. If the rocker panel is flaking apart and rust holes are visible in the vehicle body, it is recommended to perform an inspection on the condition of the metal around the mounting areas before continuing. If the rocker panel is in good condition, proceed.

Remove any old hardware such as U-clip nuts from the mounting holes. Remove the circular plastic cover next to the upper rocker panel hole using a thin pry tool. Then insert an M8 U-clip Nut (Z2) into the upper hole as shown.

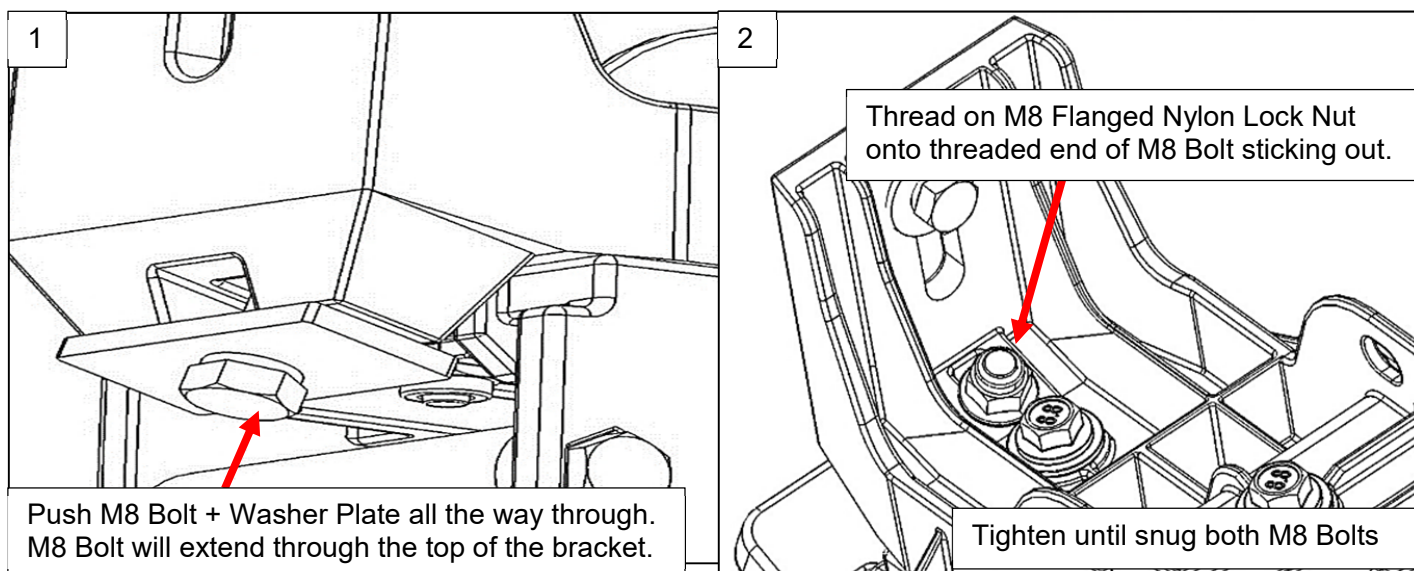


Next, place the Driver Side/Left Front Bracket Assembly (A) onto rocker panel and line up the mounting points. Thread the M8 Hex Bolt (30mm length) + M8 Lock Washer + M8 Flat Washer (24mm diameter) into the M8 U-clip Nut (Z2). Tighten the mounting hardware until snug. Adjust the bracket assembly as needed for the next step.



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Push the hex bolt all the way through the hole in the pinch weld, spacer block, and bracket. Then take an M8 Flanged Nylon Lock Nut (I) and fasten it threads of the hex bolt from the top of the bracket assembly. Tighten until snug and adjust the bracket assembly as needed.

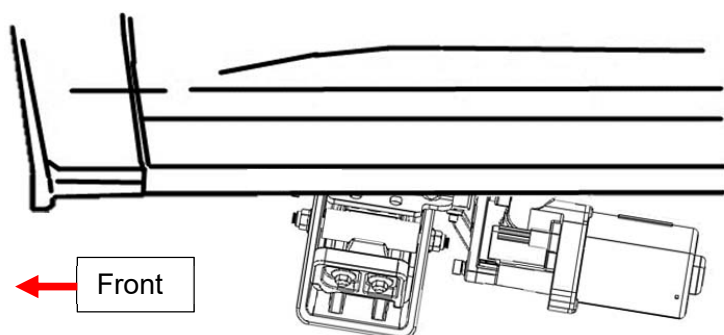


It is normal for the washer plate to bend slightly as the long M8 bolt is being tightened.

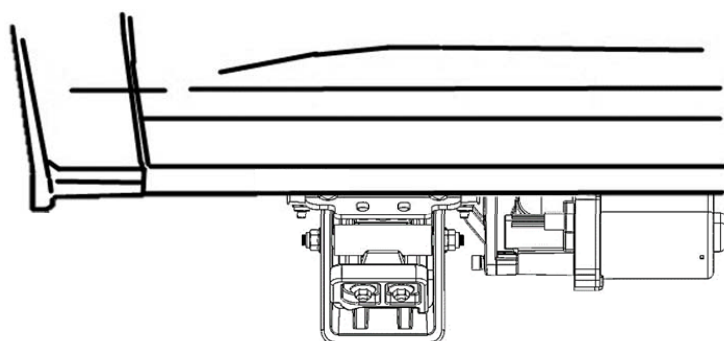
Proceed to step 3.

3

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



Bad Alignment
to vehicle body.



Good Alignment
to vehicle body.

4

Locate rear mounting points. Repeat the procedure of step 2. Identify the style of mounting points the rocker panel matches and proceed with mounting the Rear Bracket Assembly (B).

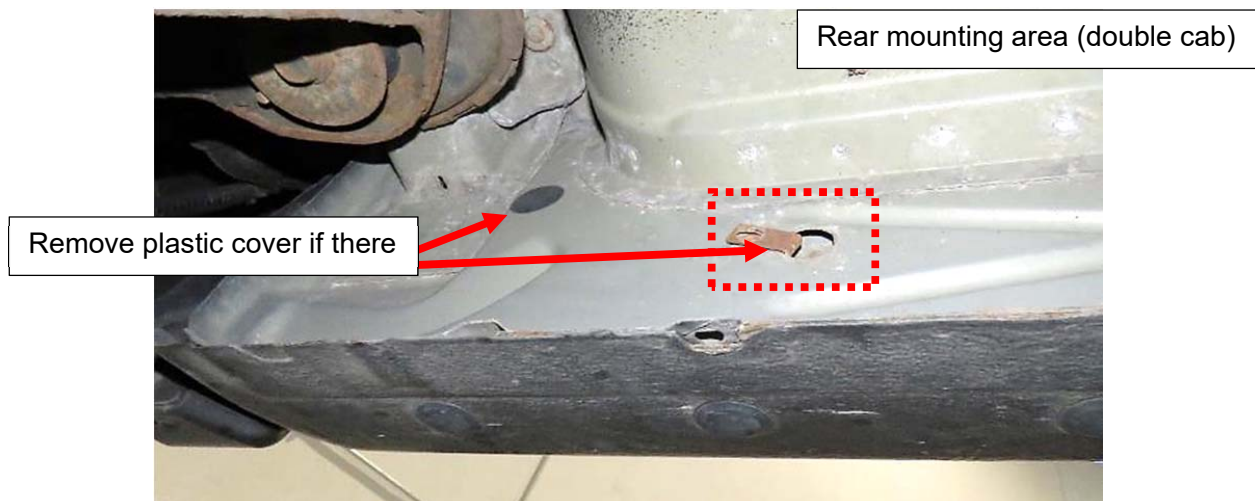
Rear mounting area (crew cab)

Remove plastic covers



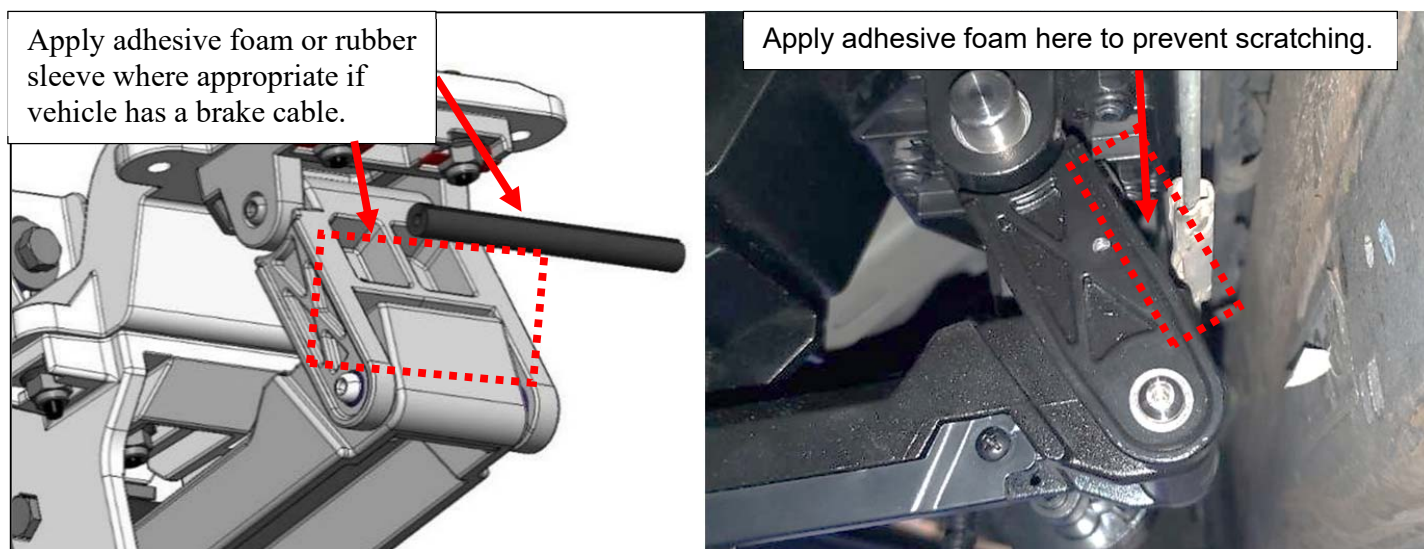
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Repeat step 3 to check alignment of rear bracket assembly. Then proceed to step 5.
For Extended/Double Cab vehicles, the plastic plug will be near the upper part of the rocker panel instead of the lower area. A thin pry tool is recommended for this.



5

On some vehicles, the brake line or OE harness may touch the back of the bracket assemblies. For these instances, apply adhesive foam to the rear of the arms in the places that may touch the brake line to prevent scratching of the arm.



6

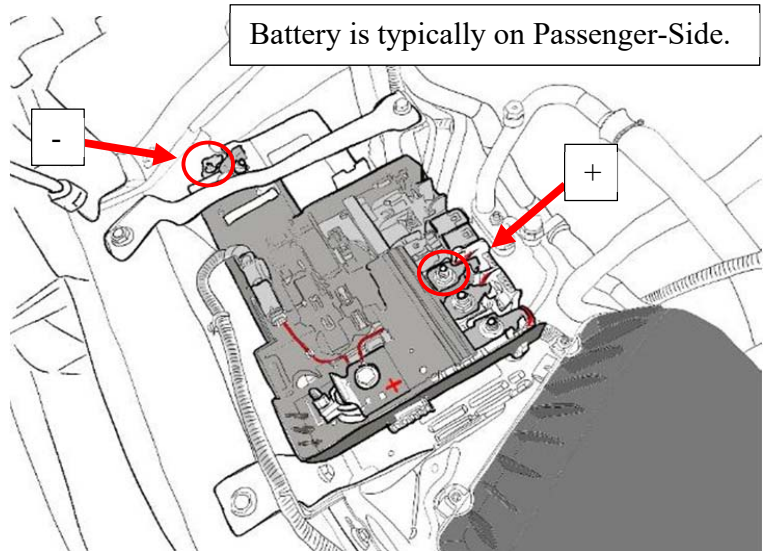
Repeat steps 2 through 5 for the Passenger Side.

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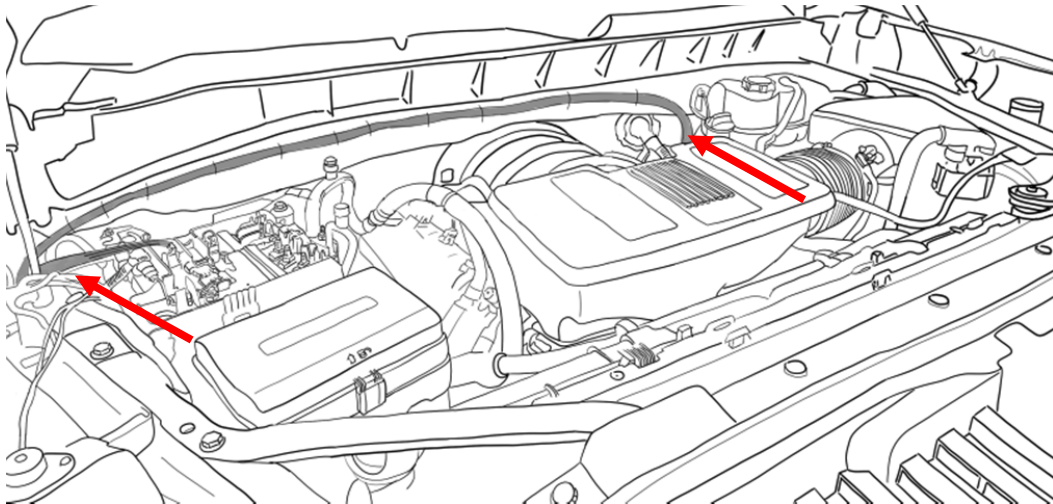
Connect the positive power lead on the main harness (M) to the positive battery terminal. Connect the negative lead to the negative battery terminal. Make sure both power leads are fully secured. Connect the ECU (P) to the main harness.

Connect the Short LED Y-Harness (N2) to the branch of the harness that leads to the same side as the battery.
(In this case, Passenger-Side)

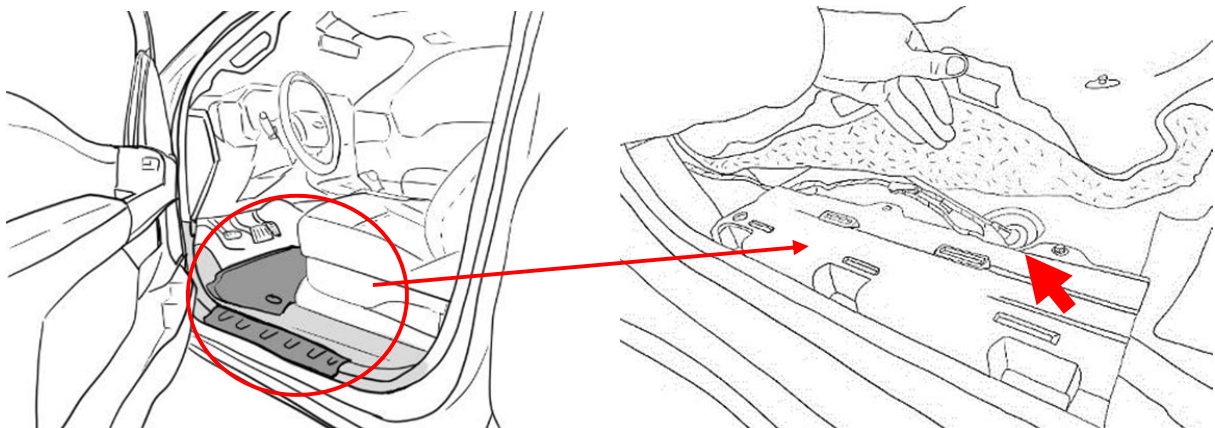
Connect the Long LED Y-Harness (N1) to the opposite side branch of the main harness.



Route the main harness (M) around the battery, up along the rear of the engine compartment, and down the Driver-side wheel well. Route the shorter 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, 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.

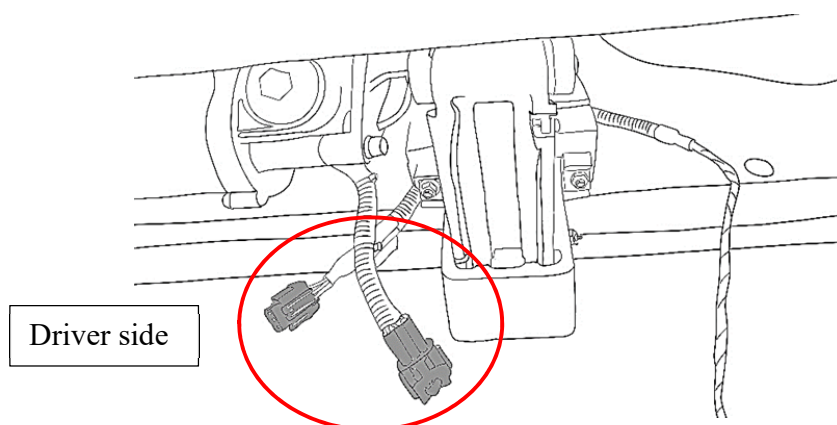


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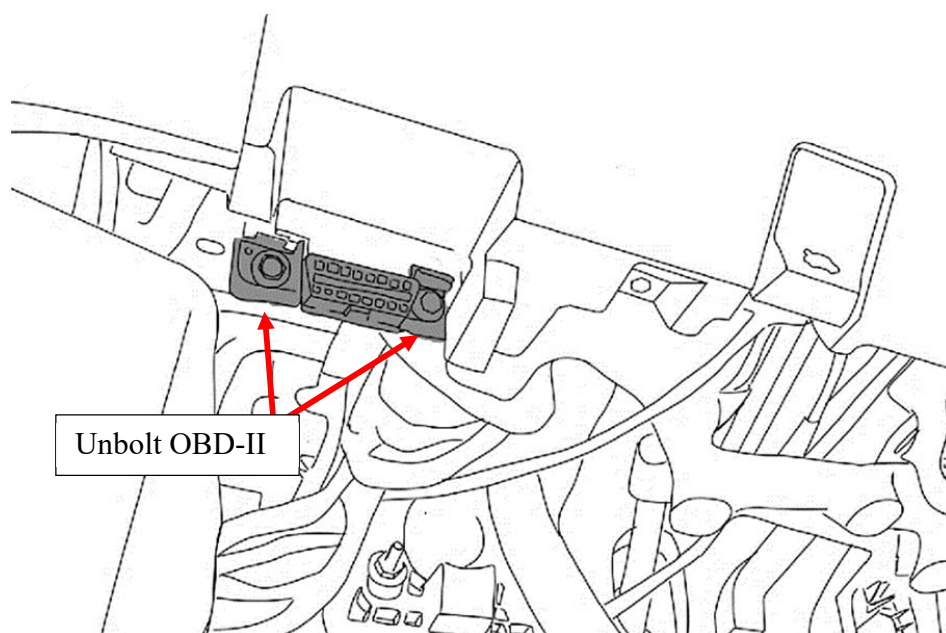
On the underside of the driver side, locate and remove the floor grommet in the floor panel behind the front wheel well. The grommet will be close to the front linkage arm. Poke a hole through the grommet and thread the two signal wires through and up into the vehicle cabin.

10

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.

**11**

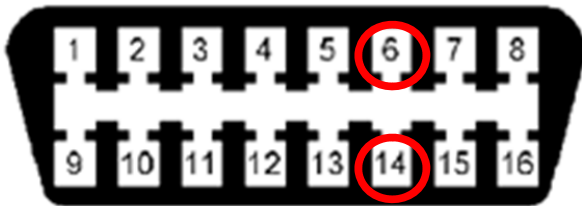
Locate the OBD-II Port under the steering wheel, near the front hood release lever. Unbolt the two bolts using a socket for easier access to the rear side of the plug.



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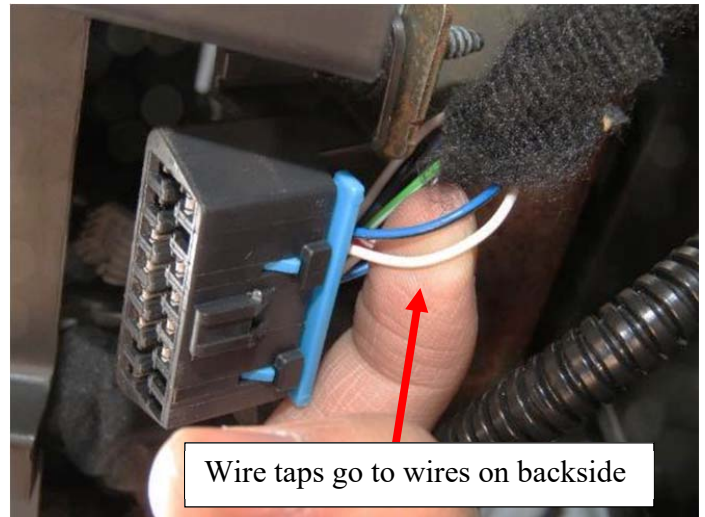
Connect the High and Low wires from the main harness (M) using the supplied wire taps (O). Identify wires from back of the OBD-II Connector.

OBD-II Connector Pin Layout



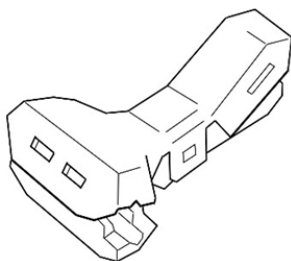
Find and use wire taps on corresponding wires for Pin 6 and 14 on backside of OBD.

Pin 6 = CAN-H
Pin 14 = CAN-L

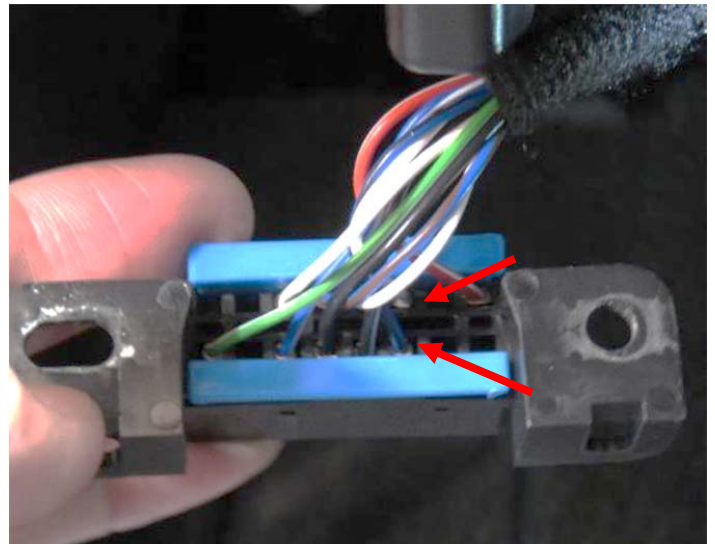


***NOTE:** On some vehicles, wires may have different colors than depicted here.

Factory CAN Wire	Main Harness wire color
3rd from right (lower), Pin 14	Yellow (Low)
3rd from right (upper), Pin 6	White (High)



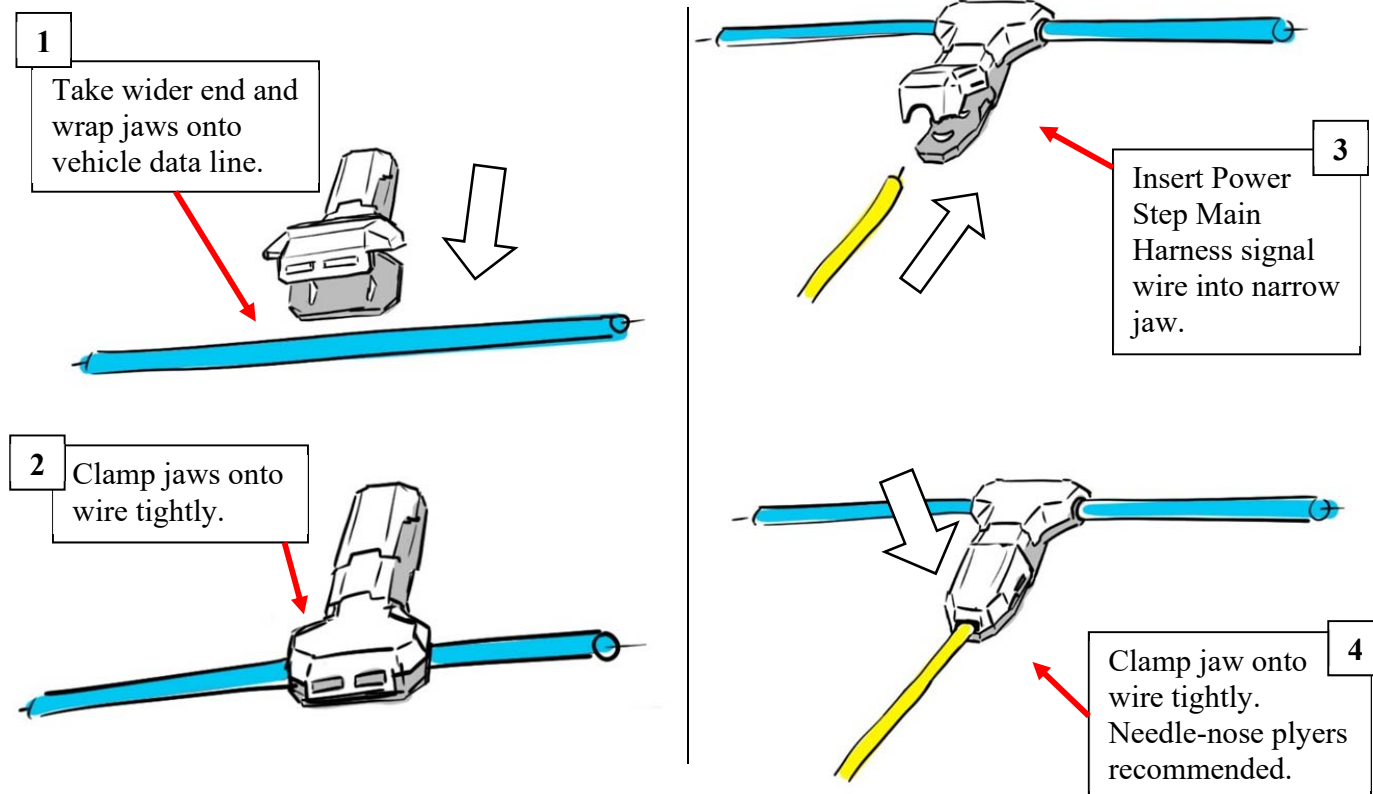
NOTE: Wire taps supplied with kit. Please see next page for guide.



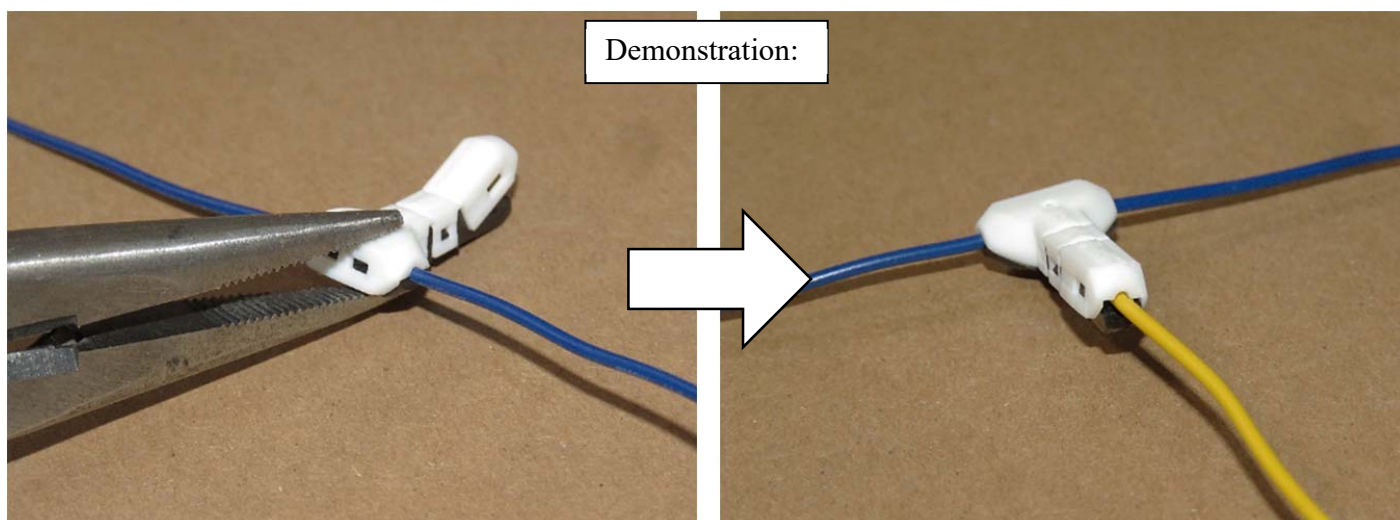
After successfully connecting the wires, return the module back into its place, tighten the previously removed nuts, and check that it is secure on the bracket.

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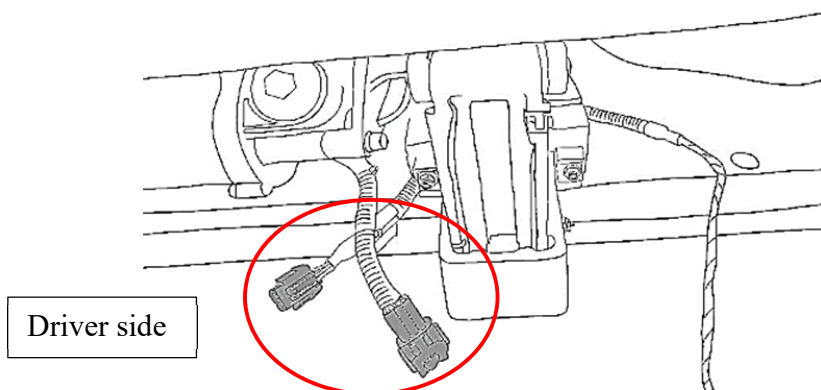
The kit comes supplied with wire taps called “shark taps”. Follow the guide below to tap the wire using the “shark tap”:



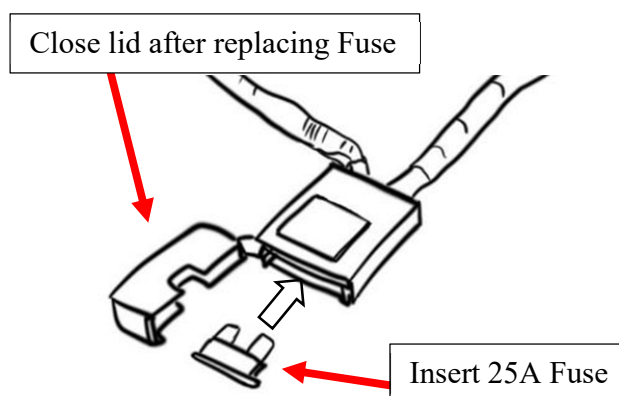
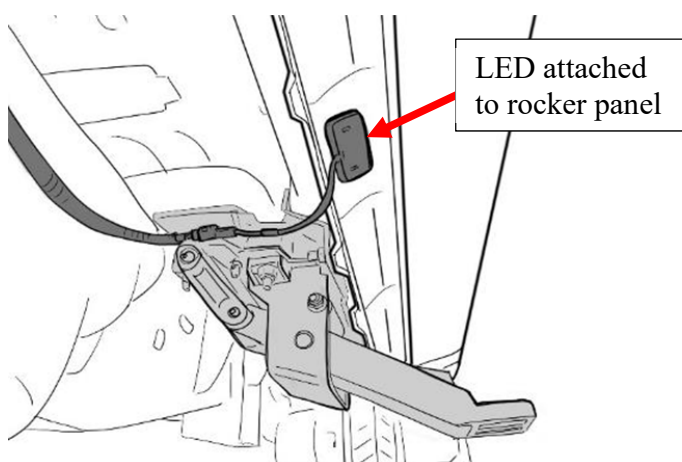
NOTE: Make sure wire is seated properly in the jaws before clamping. The wire being tapped must be centered on the “teeth” to make a proper tap.



- 12** Be sure the main harness (J) is connected to the appropriate length LED Y-Harness (K). Then attach the LED Y-Harness (K) to the motor on the Driver Side. Repeat for Passenger Side.

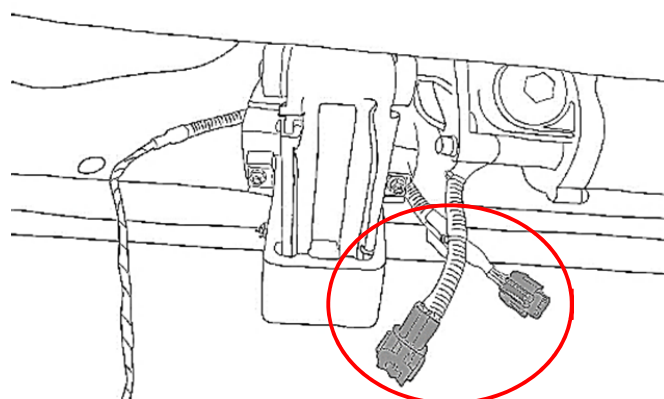


- 13** Plug in LED lights (N) into LED Y-Harness (K) and attach them to the bottom of the rocker panel. Use provided 3M double sided adhesive tape on back of LED light (N). Replace Fuse into Fuse Box.



- 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 (J) via the LED-Y harnesses (K).

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



15

Seal the rubber boot with RTV Silicone Sealant if needed.

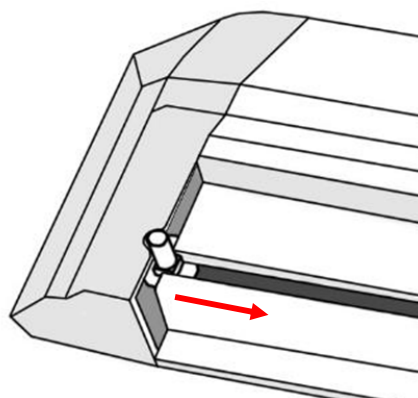
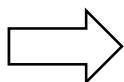
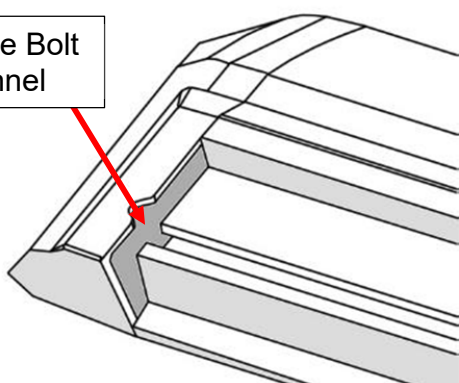
Hide wires and reattach the interior panels with the carpet fully unfurled in its original position. Reattach the door sill weather strip.

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

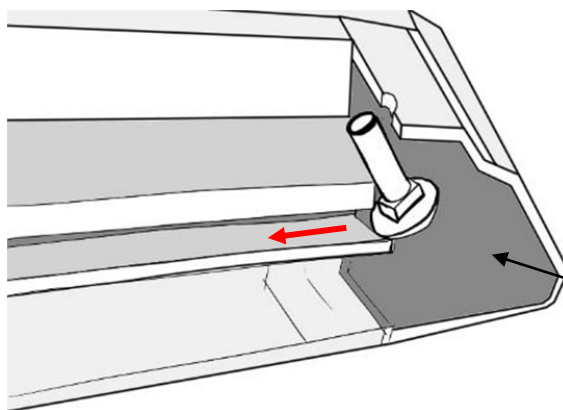
**16**

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 4 carriage bolts (E).

Carriage Bolt
Channel



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



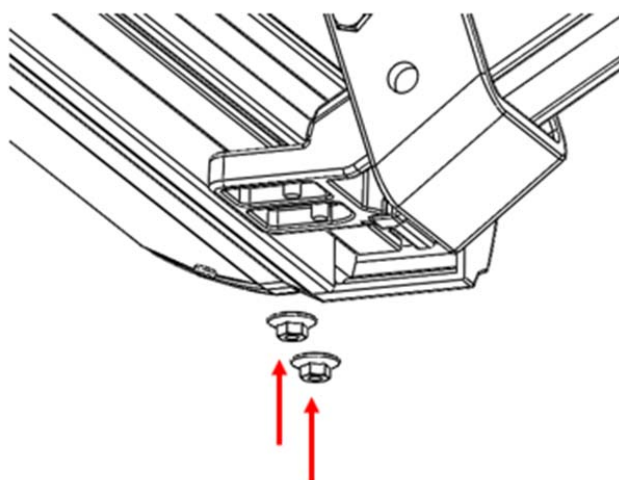
Section view of
underside channel

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 main harness connector while front door is open to hold the board in the deployed position for running board installation.

Line up the carriage bolts (E), under the power step boards, with the slots on the linkage arms (A & B). Insert the 4 carriage bolts (E) into the slots on front and rear linkage arms. Adjust board to desired position. Moderately hand tighten the flange nuts (G) onto the carriage bolts.



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

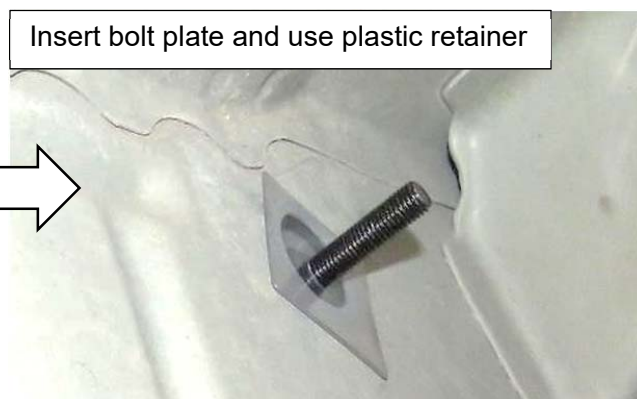
Once the board is adjusted, plug in main harness (J) connector to return power to the linkage arms. Open and close doors several times to deploy and retract the steps to settle the steps into their natural alignment. After cycling the step, tighten all hardware on the board and brackets.

18

Some further adjustment may be required for desired step position. Repeat for passenger side. Locate the secondary hole in front of the Front Bracket Assembly and remove the plastic plug covering the hole. Then insert the M8 Bolt Plate (Y1) into the hole and place a plastic retainer on it to keep it in place.



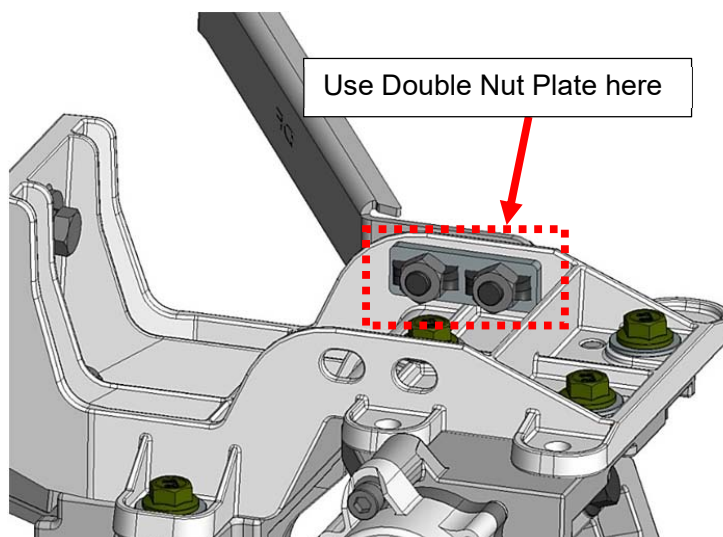
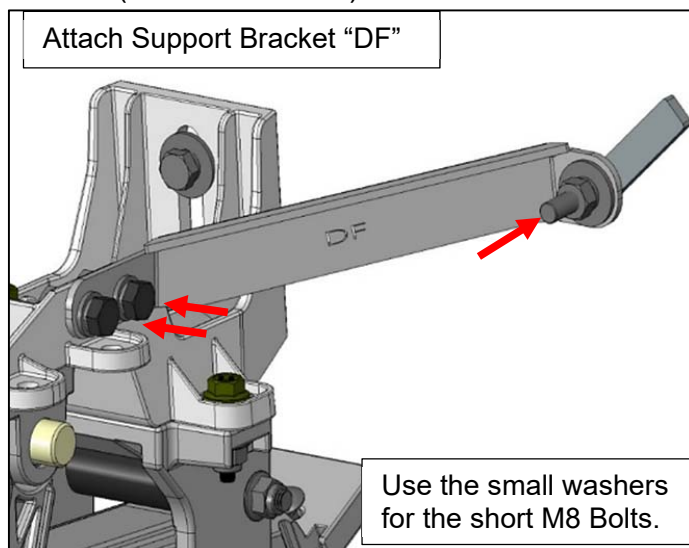
Remove plastic cover



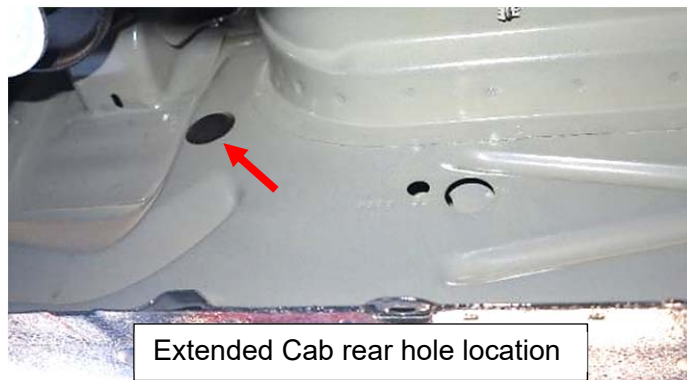
Insert bolt plate and use plastic retainer

14-18 Silverado/Sierra 1500, 15-19 Silverado/Sierra 2500/3500 Crew & Double Cab (Excl. Diesel DEF Tank Models)
(Incl. 2019 Silverado 1500 LD & 2019 Sierra 1500 Limited)

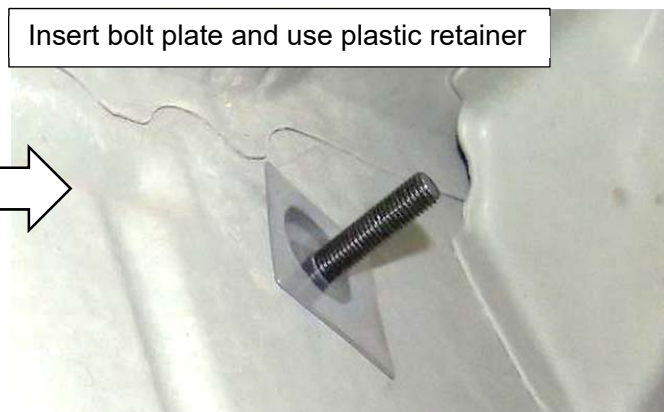
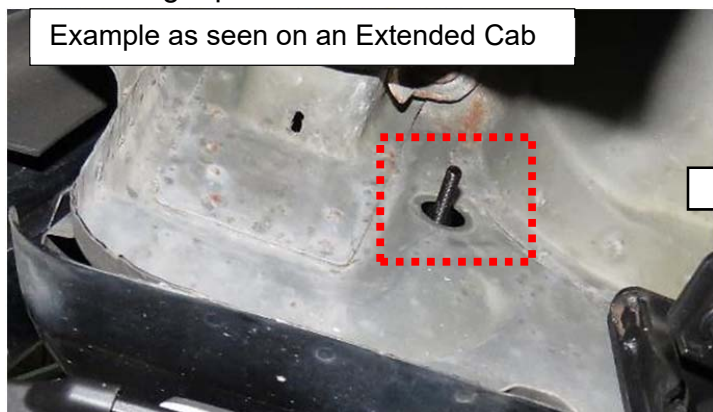
Take the support bracket (X) labeled "DF" and attach it to the bolt plate. Thread onto the bolt plate the appropriate M8 Hex Nut + M8 Lock Washer + M8 Flat Washer (24mm OD) (P). Then use the Double Nut Plate (O) and 25mm M8 Hex Bolts (Q) + M8 Lock Washers + M8 Flat Washers (16mm OD) to connect the support bracket to the Front Driver-side Bracket Assembly (as shown below).



- 19** Locate the rear secondary hole behind the rear bracket. The hole position may depend on whether the vehicle is an Extended Cab or Crew Cab.



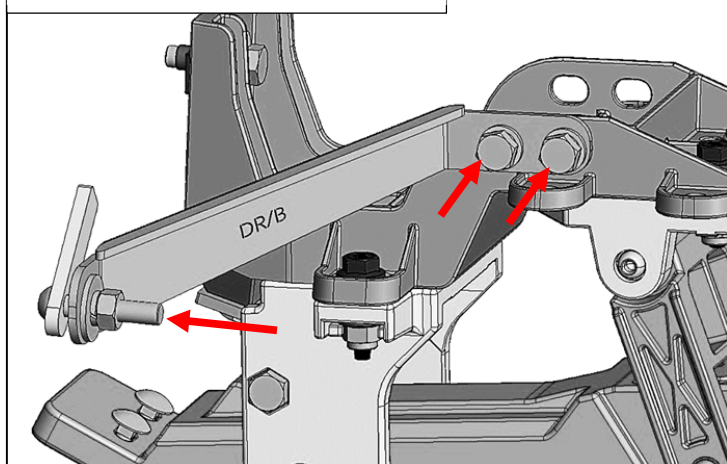
After removing the plastic plug, insert the M8 bolt plate (Y1) into the hole and keep it in place using a plastic retainer.



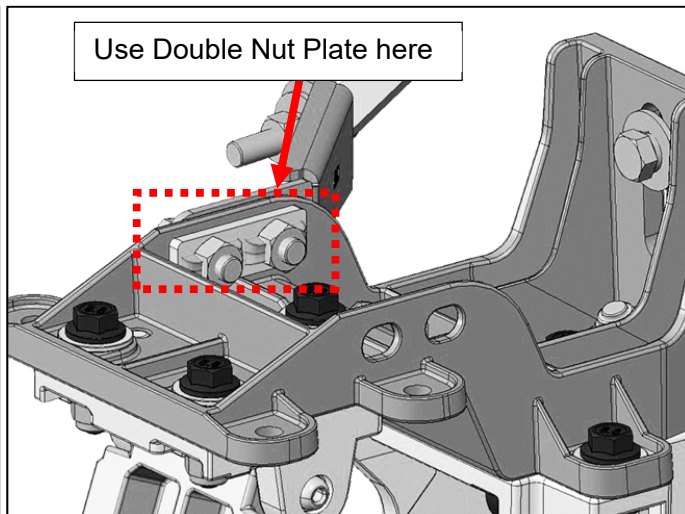
14-18 Silverado/Sierra 1500, 15-19 Silverado/Sierra 2500/3500 Crew & Double Cab (Excl. Diesel DEF Tank Models)
(Incl. 2019 Silverado 1500 LD & 2019 Sierra 1500 Limited)

For **Crew Cab** models, take the support bracket labeled “DR/B” and attach it to the bolt plate. Thread onto the bolt plate the appropriate M8 Hex Nut + M8 Lock Washer + M8 Flat Washer (24mm diameter).

Attach Support Bracket “DR/B”



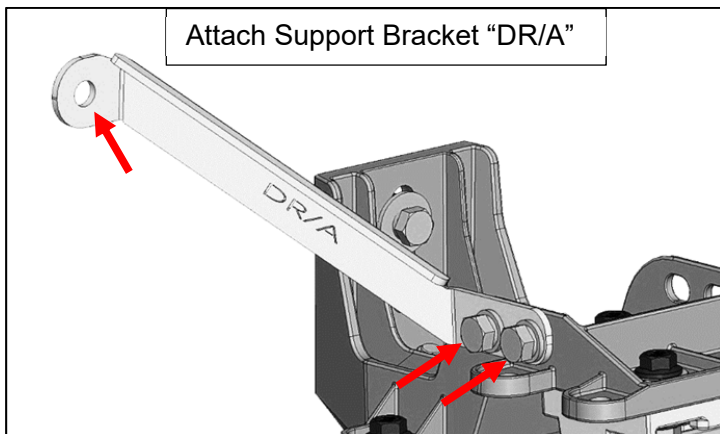
Use Double Nut Plate here



Then use the Double Nut Plate and short M8 Hex Bolts + M8 Lock Washers + M8 Flat Washers (16mm diameter) to connect the support bracket to the Rear Driver-side Bracket Assembly (as shown above).

For **Extended Cab** models, instead take the support bracket labeled “DR/A” and install it the same way as you would for a crew cab.

Attach Support Bracket “DR/A”



Example of Support Bracket “DR/A”



20

Once the support brackets for the Driver-Side are mounted, repeat steps 18 and 19 for the Passenger-Side.

To prevent misidentification, note that the rear support bracket that attaches at an upward angle is always for Extended Cab models.

21

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

- a) With board deployed loosen 6mm flange nuts under board.
- b) Leave the flange 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 flange 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 support brackets, loosen the board, and realign brackets before attempting steps “a” to “d” once again.

22

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 tap connections or flip the CAN Signal High and Low wires.

*NOTE: May need to remove (not just loosen) support brackets to adjust bracket assemblies.

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