

RCI 07-21 Tundra Crewmax Roof Rack Installation Guide

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	HW-00177	53" Aluminum Extrusion	6
2	SM-00851	07-21 Tundra Roof Side Panel	2
3	SM-00853	07-21 Tundra Roof Rear Fairing	1
4	SM-00852	07-21 Tundra Roof Front Fairing	1
5	SM-00854	07-21 Tundra Roof Foot	4
6	HK-00142	07-21 Tundra Roof Rack CrewMax Hardware Kit	1
6.1	HW-00121	1 X 4-1/2 RUBBER BUMPER W/ 2	4
6.2	HW-00017	1/4-20 X 7/8 BUTTON SOC CAP BLACK	32
6.3	HW-00019	1/4 SAE FLAT WASHER	42
6.4	HW-00031	1/4-20 KEPS NUT 18-8 S.S. BLACK	8
6.5	HW-00119	5/16 USS FLAT WASHER BLK ZNC	8
6.6	HW-00176	5/16-18 NYLON INSERT LOCK NUT BLK	8
6.7	HW-00038	5/16-18 X 1 CARRIAGE BOLT BLACK GR-5	8
6.8	HW-00122	M6-1.0 X 45MM HEX FLANGE BOLT	9
6.9	HW-00123	# 14 X 1 OD 20GA BONDED WASHER	16
6.10	HW-00172.	M6-1.0 Plus Nut	8
6.11	HW-00103	58inch Front Fairing Weather Stripping (80 DUROMETER PVC/EPDM SPONGE)	1
6.12	HW-00174	10mm Set Screw Collar	1
6.13	HW-00047	7/16-14 FIN HEX NUT GR-5 ZINC	2
7	BX-00027	73x21x3 TUNDRA 38 GAL FUEL	1



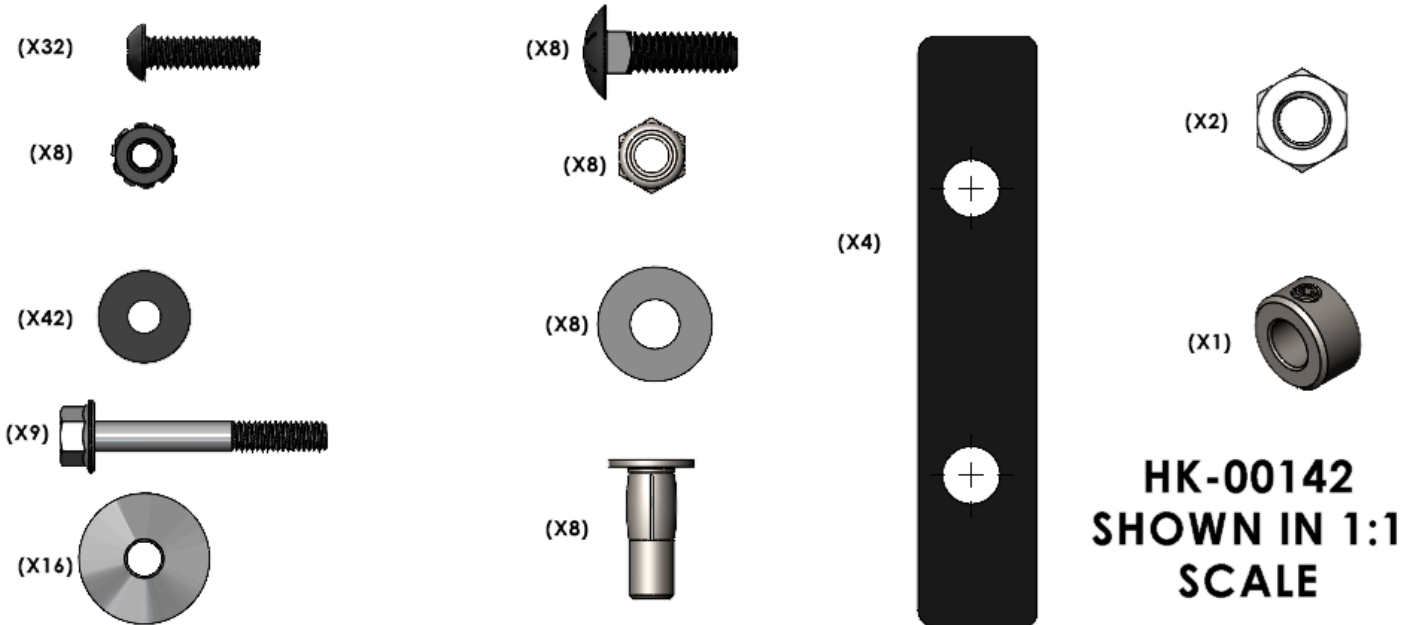
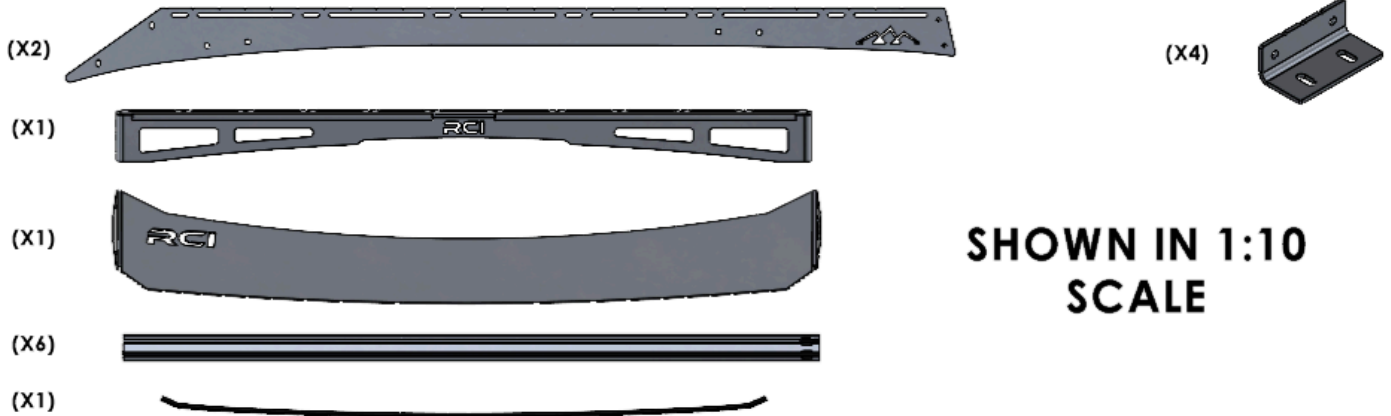
UNLESS OTHERWISE SPECIFIED:	PROPRIETARY AND CONFIDENTIAL	NAME	DATE
DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL: ±0.010 ANGULAR: BEND ±0.5 TWO PLACE DECIMAL ± 0.015 THREE PLACE DECIMAL ± 0.010	THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF RCI Offroad. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF RCI Offroad IS PROHIBITED.	DRAWN KL	09/19/2024
		Export Date	
		9/23/2024	
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TITLE:		TUNDRA-CM-07-ROOFRACK BOM	
Item Number FG-00492			REV 1
DO NOT SCALE DRAWING		SCALE: 1:24 WEIGHT:	SHEET 1 OF 22

THE STEPS OUTLINED IN THIS INSTALL GUIDE ARE CONSIDERED CRITICAL AND INVOLVE DRILLING INTO THE ROOF OF YOUR VEHICLE. BEFORE BEGINNING THE INSTALLATION PROCESS, PLEASE REVIEW ALL STEPS OF THIS INSTALL GUIDE. IF YOU ARE UNCOMFORTABLE PERFORMING ANY STEP LISTED BELOW, SEEK A REPUTABLE LOCAL SHOP TO PERFORM THE INSTALLATION.

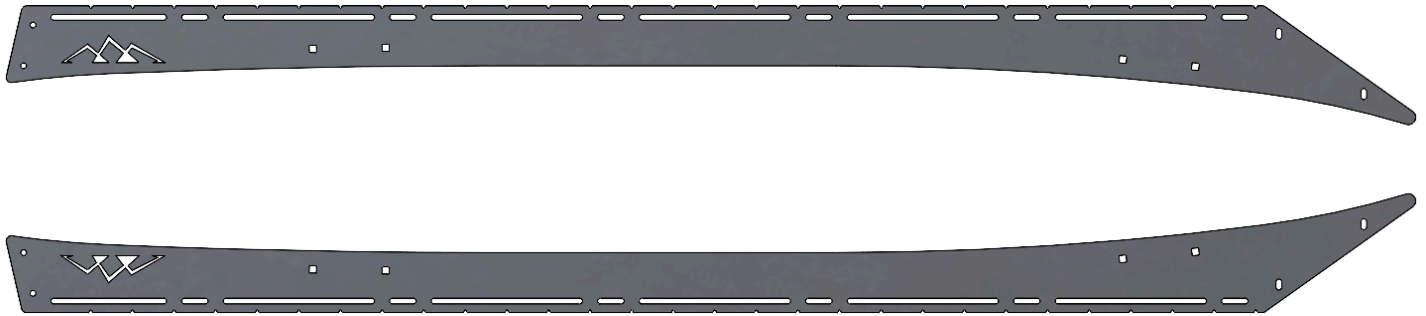
INSTALLATION STEPS:

****Use hand tools, impact wrenches may cause damage if over torqued.**

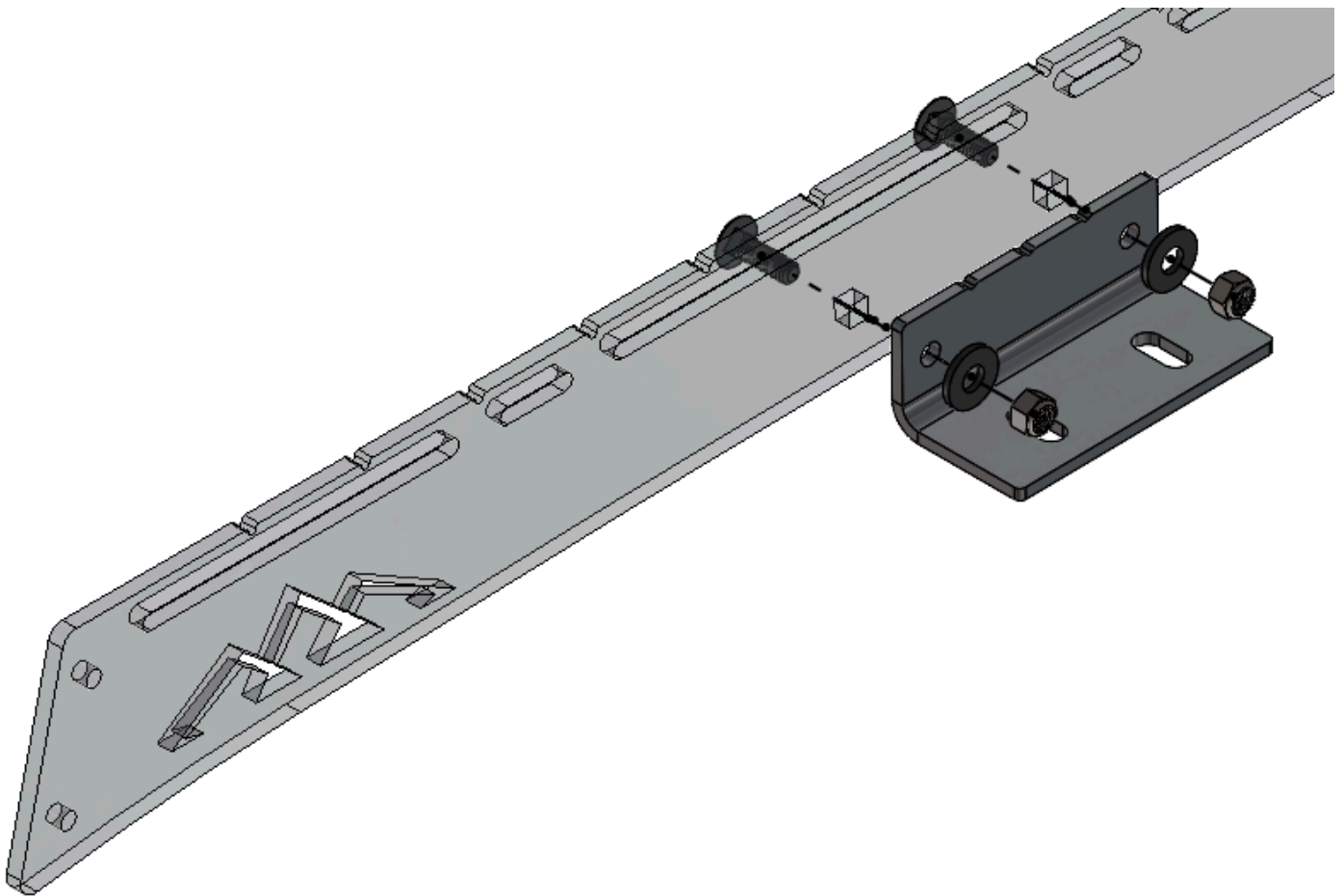
1. Begin by unpacking and removing all components and hardware. Please verify that all hardware, components, and mounting components are present. Please reference your original order invoice and verify all items are accounted for.



2. Lay the side panels out on a work surface as shown.



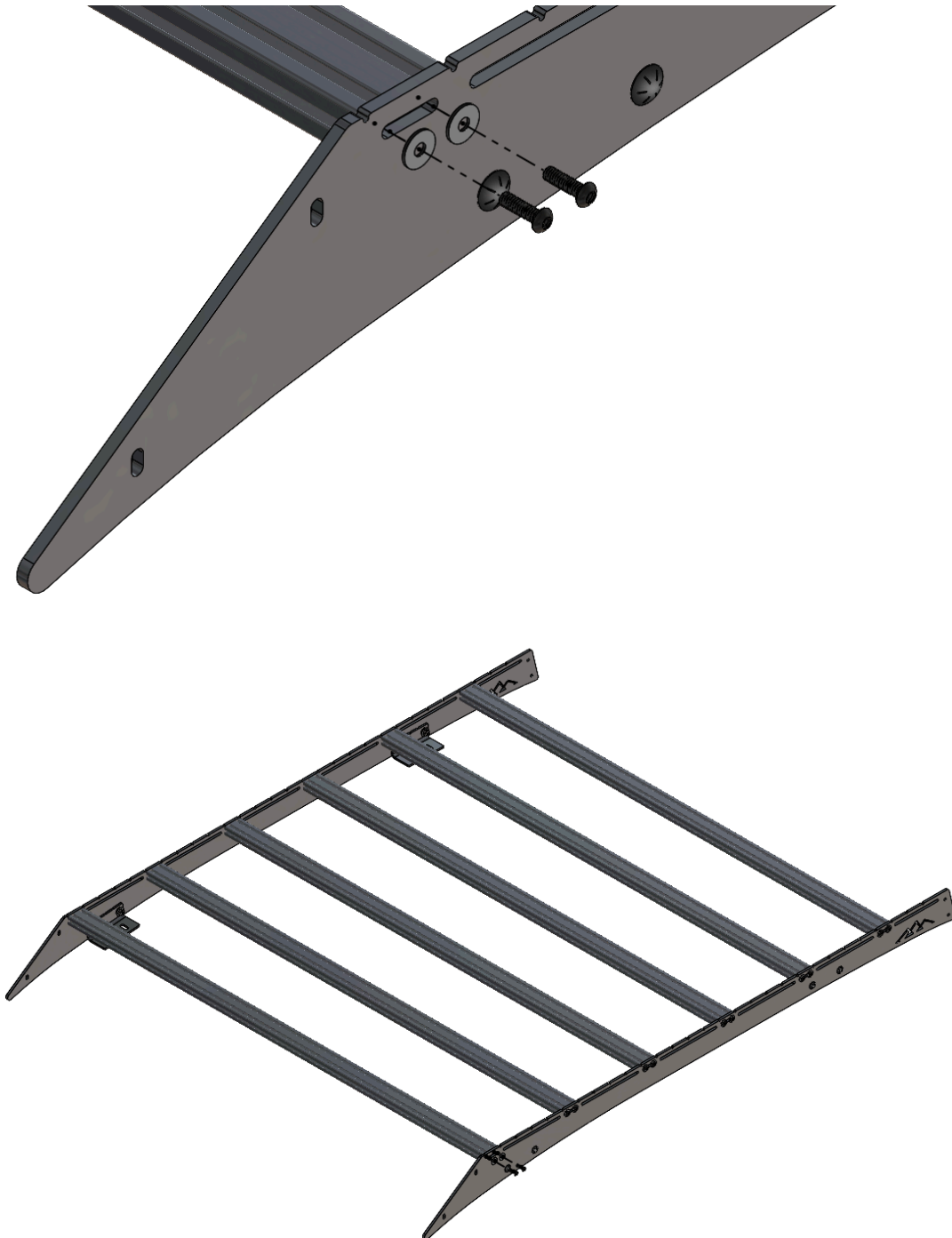
3. Install the 4 included roof rack feet on side panels using the included 5/8" carriage bolts, washers, and nyloc nuts through the square holes on the bottom edge at the front and rear of each side panel.



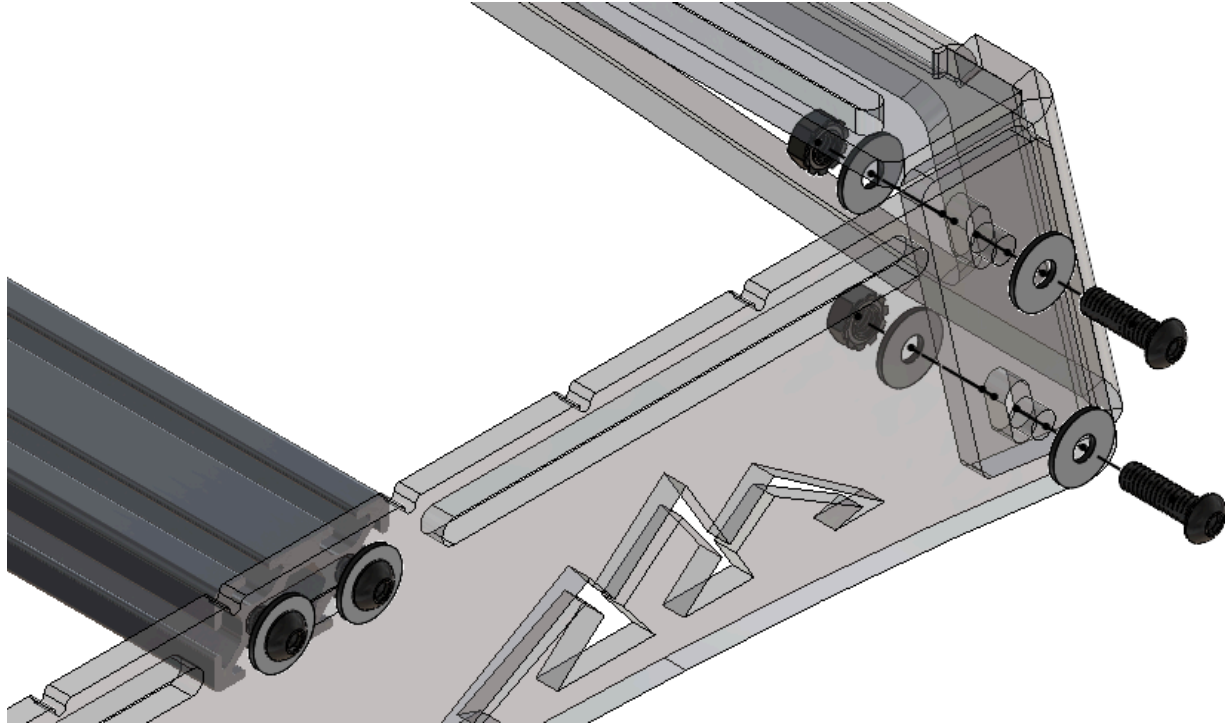


4. With the feet installed, lay out the side panels and place the 53" T-slot cross bars in between them. Install the 6 crossmembers to the side panels using the provided 1/4-20 button heads and 1/4 " black washers.
 - a. NOTE: It is recommended to have the T-Slot top opening on the same side of the vehicle on all cross bars to make it easier to install accessories.

5. It is recommended to install the crossbars in the 1" slots to ensure equal spacing
 - a. NOTE: Use hand tools to prevent stripping the heads of the 1/4-20 button heads.



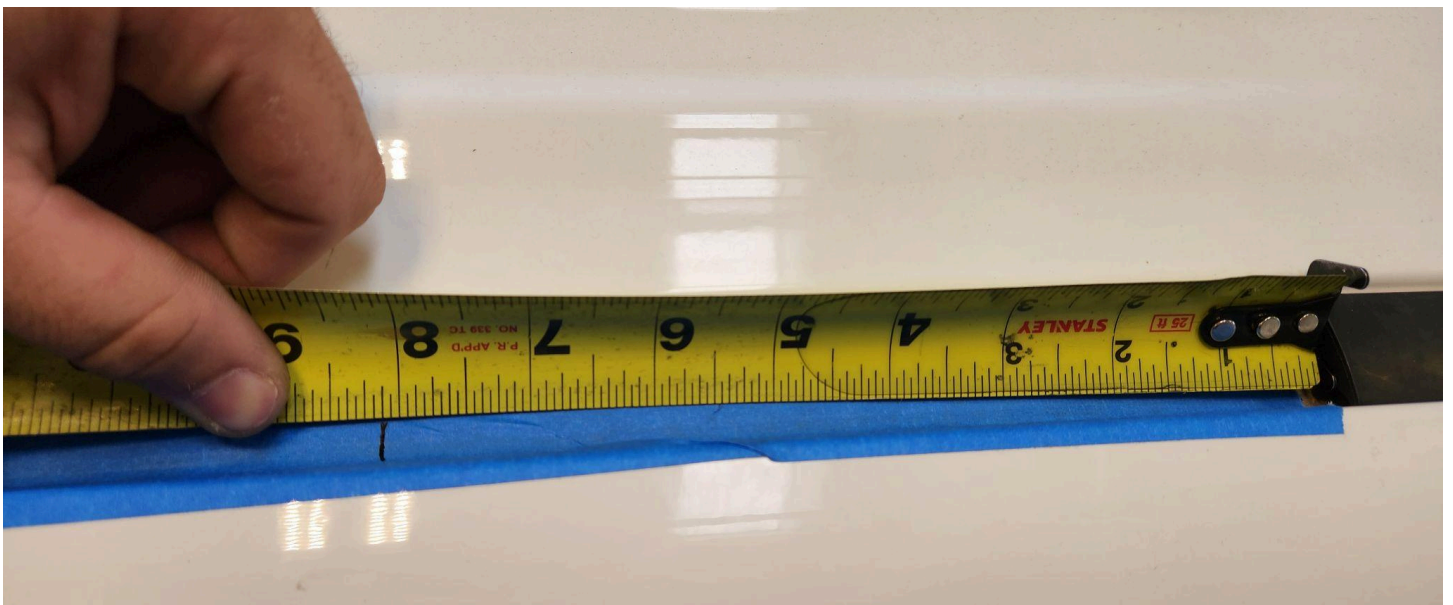
6. Install the rear fairing using the included 1/4" button heads, washers, and keps nuts.
 - a. Center the bolts in the slots of the rear fairing. These will be adjusted on the truck as necessary



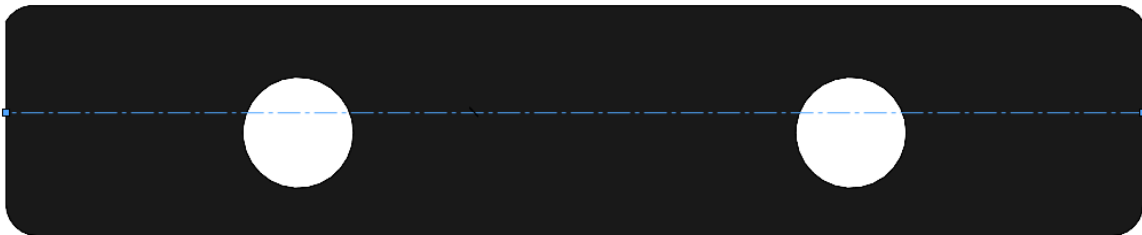
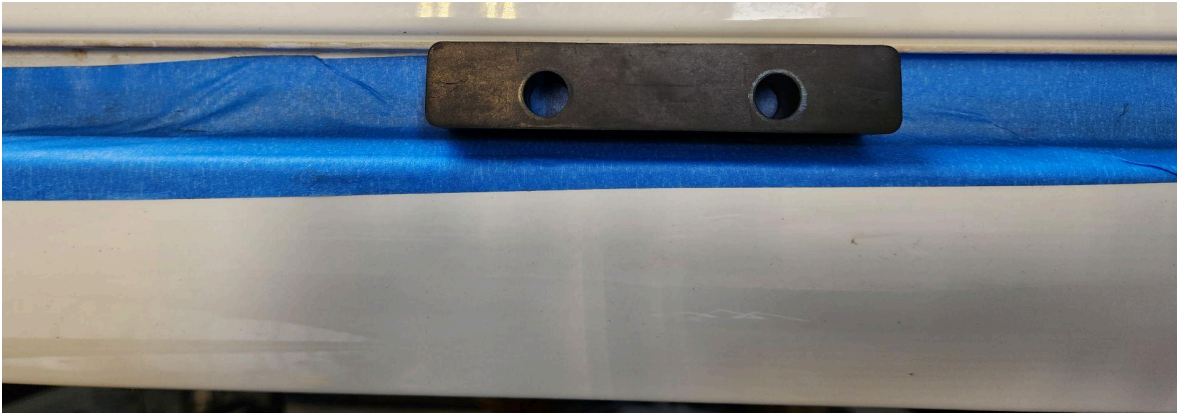
7. Remove the rubber weather stripping on either side of the top of the roof.
 - a. Clean the rain gutter, too. We didn't, but you definitely should.
8. Place a strip of painter tape along the rain gutter on both sides of the vehicle.



9. From the rear of the roof, measure 8-1/8" and mark



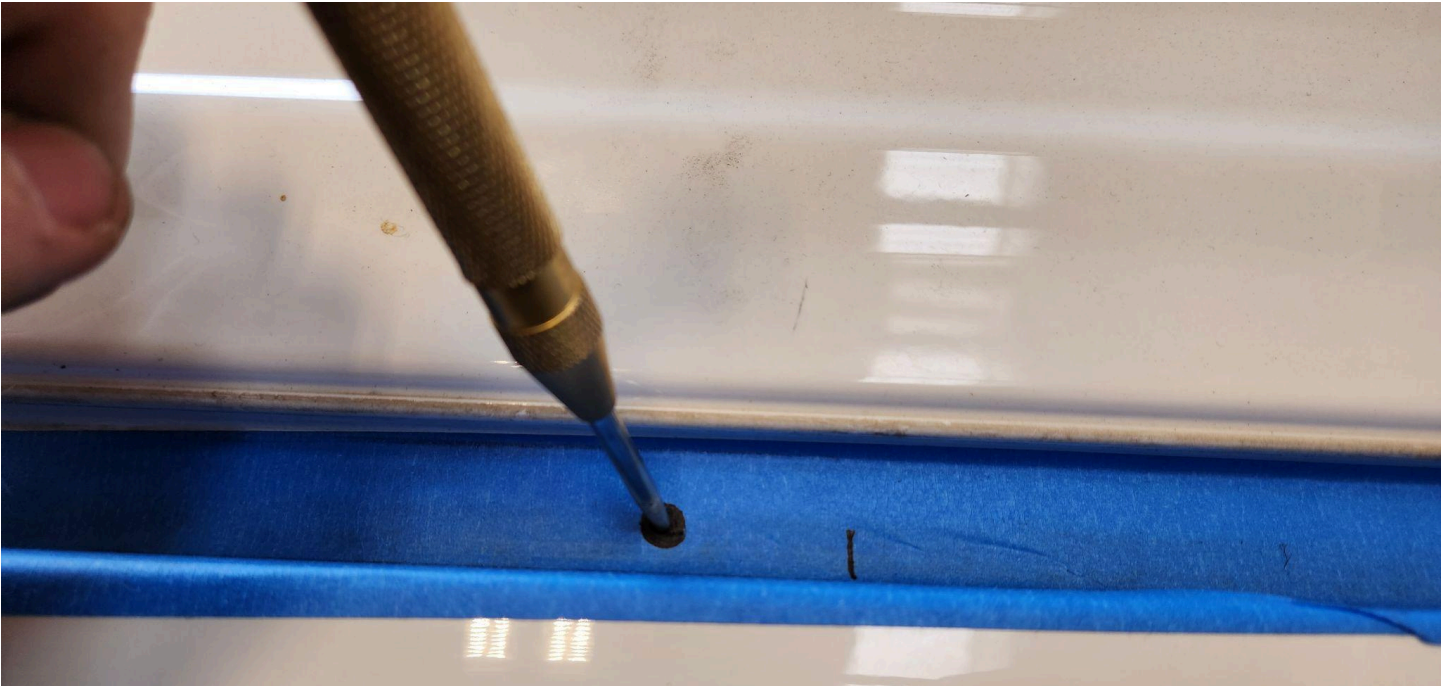
10. Place the rear edge of the included rubber block with the mounting holes biased towards the outer side of the vehicle.



11. Ensure that the rear edge of the block remains aligned with the mark on the tape while using a pen to circle and transfer the mounting location to the tape.
 - a. FUN FACT: a Pilot G2 ballpoint pen fits nearly perfectly within the hole of the rubber block. A larger/tighter fitting pen will work best for this task as the resulting transferred hole will be smaller and more precise.



12. Using a center punch, mark the center of the transferred circle.



13. Use a drill stop, tape around the bits, or some other method to ensure that the drill does not penetrate over 3/8" from the top surface.

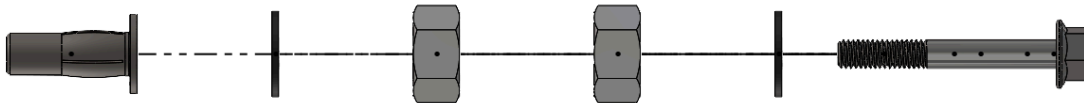
14. Use a small bit to create a pilot hole in the center of the transferred circle. Then, use a 10mm drill bit to chase the pilot hole.

- a. Use a vacuum near the drilling location while you drill to remove as much of the drilled material as possible.
- b. Clean the mounting area so that it is free of debris and dirt after drilling.



15. Use the included hardware to create a tool to set the plus nuts as shown.

- a. The assembly shown consists of an M6 bolt, a 1/4" washer, two 7/16" nuts, a 1/4" washer, and finally the M6 plus nut.



16. Apply a generous amount of sealant around the mounting flange and slotted area of the stem.

- a. We highly recommend using [Lexel Clear Caulk](#) typically available at most hardware and home improvement stores.



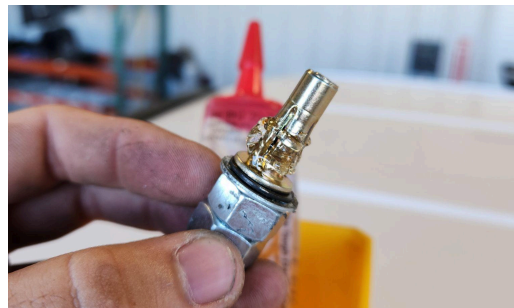
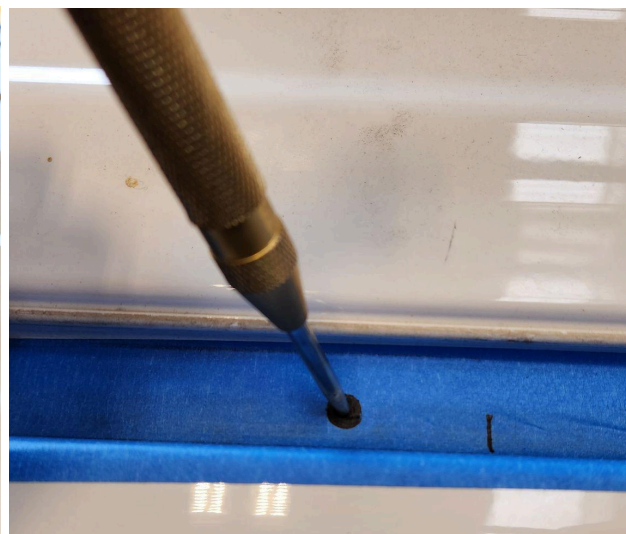
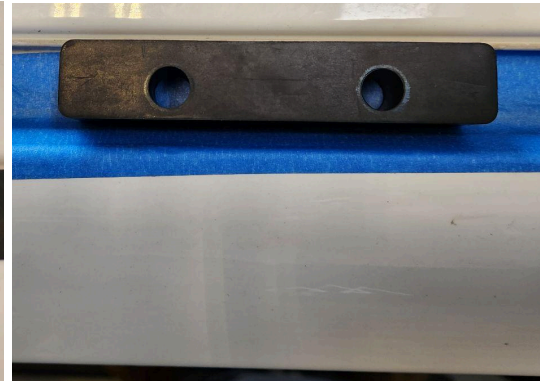
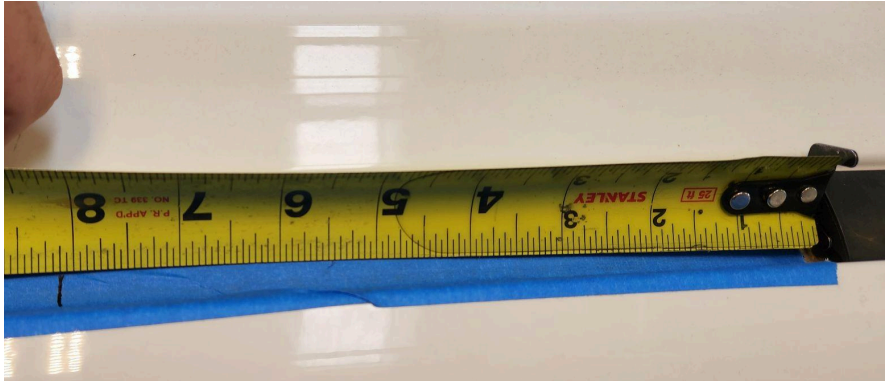


17. Insert the plus nut installation tool assembly into the hole in the roof and torque the bolt to 120 in-lbs while securing one of the 7/16" nuts with an open ended wrench.
 - a. Using an impact driver or drill sparingly to get the plus nut started can speed up this process significantly.
 - b. Taping off the end of the wrench can help minimize the risk of scratching the roof.



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18. Repeat the process of measuring, marking, punching, drilling, and installing the rear plus nut on the opposite side of the vehicle.
 - a. Don't forget to apply sealant and torque to 120 in-lbs.





19. Loosely secure the rubber mounting blocks to their corresponding mounting feet using a strip of tape.
 - a. The front rubber blocks should be secured with their mounting holes biased towards the inside of the vehicle. The rear rubber blocks should be secured with their mounting holes biased towards the outside of the vehicle.
 - b. The goal is for the rubber blocks to be able to move independent of the mounting feet slightly, but stay secured well enough that they don't fall off.
 - c. Taping the rubber blocks to the feet also ensures that the feet never directly contact the roof, regardless of where you put it down. This will minimize the risk of scratches.
20. With the help of a friend, lift the roof rack assembly onto the roof of the truck.
 - a. Align the rear-most mounting locations with the two plus nut installed at the rear of the roof and that the rack sits exactly where you'd like it mounted before proceeding.
 - b. Ensure the rubber blocks seat securely within the rails of the roof rain gutter.
21. DOUBLE CHECK EVERYTHING.
 - a. Again, ensure that the rear-most mounting locations are aligned, the rack is straight, and even with the roof of the vehicle.
 - b. Verify that the front mounting blocks are oriented with the mounting holes biased towards the inside/centerline of the vehicle and are aligned with the front mounting feet.
 - c. Verify the mounting blocks are seated within the rails of the roof rain gutter.
22. Mark the rear mounting locations of the front feet on either side of the roof of the vehicle.
 - a. Ideally, use an appropriately sized transfer punch to mark the mounting location on the roof.
 - i. We did not have an appropriately sized transfer punch, so I used an appropriately sized drill bit and a mallet to mark the mounting location. Not at all recommended, but it did work.
 - b. A marker or ball point pen can also be used to mark the hole location, if necessary.
23. Remove the rack from the vehicle.
24. Use a center punch to further recess the center of the mounting location to be drilled.

25. Use a small bit to create a pilot hole in the center of each of the transferred circles. Then, use a 10mm drill bit to chase the pilot hole.
- A drill stop, tape, or other depth gauge should still be used to ensure the drill bit does not penetrate deeper than 3/8".
 - Clean the mounting area so that it is free of debris and dirt before and after drilling.



26. Apply a generous amount of sealant to the mounting flange and slotted area of the stem of a plus nut.



27. Use the installation tool used previously to install the plus nuts in the new mounting locations on either side of the vehicle.
 - a. Torque the plus nuts to 120 in-lbs.



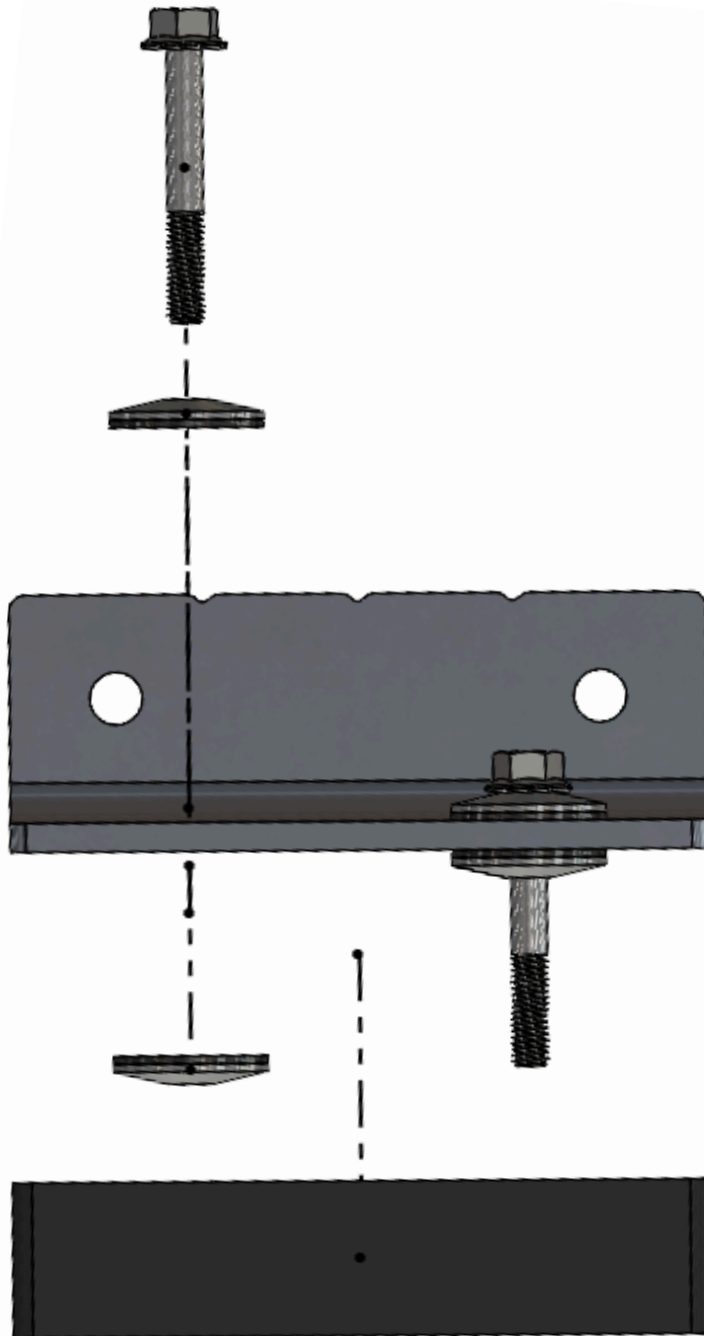
28. Seat each of the mounting blocks in the rain gutter of the roof with the rear mounting holes concentric/aligned with the new mounting locations in the roof.
29. Lift the rack assembly onto the roof of the vehicle again.
 - a. Align the mounting feet with the new mounting locations present on the roof.
30. Verify the mounting locations align before loosely installing one of the M6 mounting bolts in each available location.
 - a. Again, ensure that the rear-most mounting locations are aligned, the rack is straight, and even with the roof of the vehicle.
31. Mark the remaining four mounting locations.
 - a. Ideally, use an appropriately sized transfer punch to mark the mounting location on the roof.
 - i. We did not have an appropriately sized transfer punch, so I used an appropriately sized drill bit and a mallet to mark the mounting location. Not at all recommended, but it did work.
 - b. A marker or ball point pen can also be used to mark the hole location, if necessary.
32. Remove the rack assembly from the roof of the vehicle.

33. Repeat the process of punching, drilling, and installing the plus nuts in the four remaining mounting locations.



34. With the help of a friend, lift the roof rack assembly onto the vehicle a final time.

35. Align the rubber mounting blocks with the feet of the roof rack and loosely install the M6 bolts and bonded washers in all of the mounting locations.
- Install the M6 bolt through a bonded washer, the roof rack foot, another bonded washer, and finally the rubber mounting block before threading the bolt into the plus nut. Refer to the drawing below:

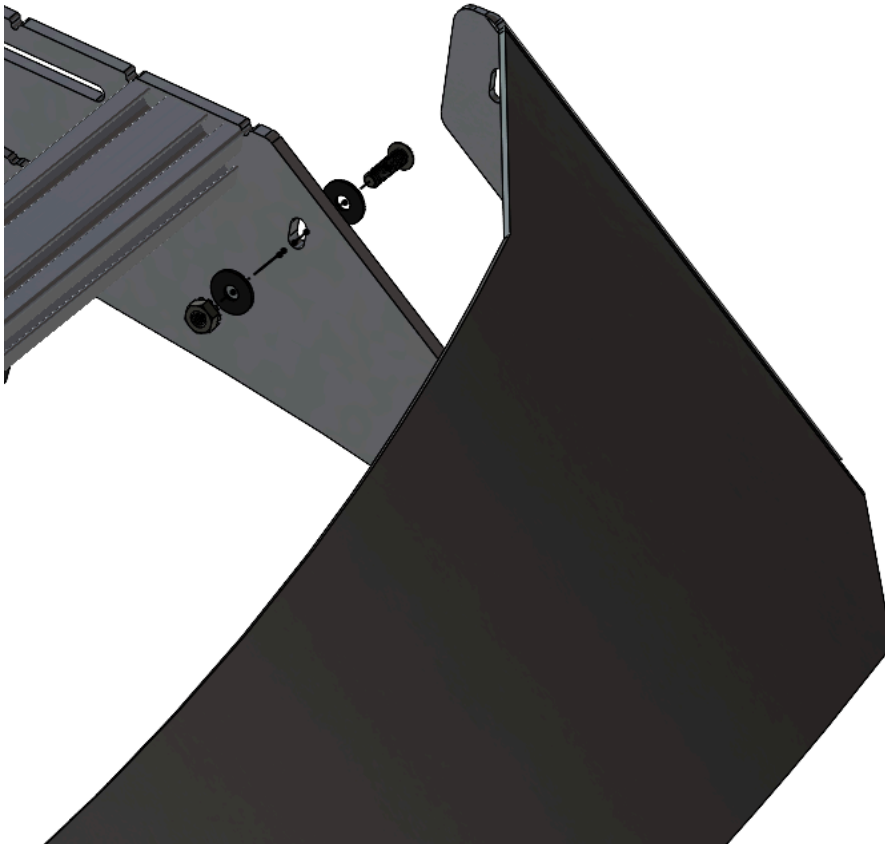


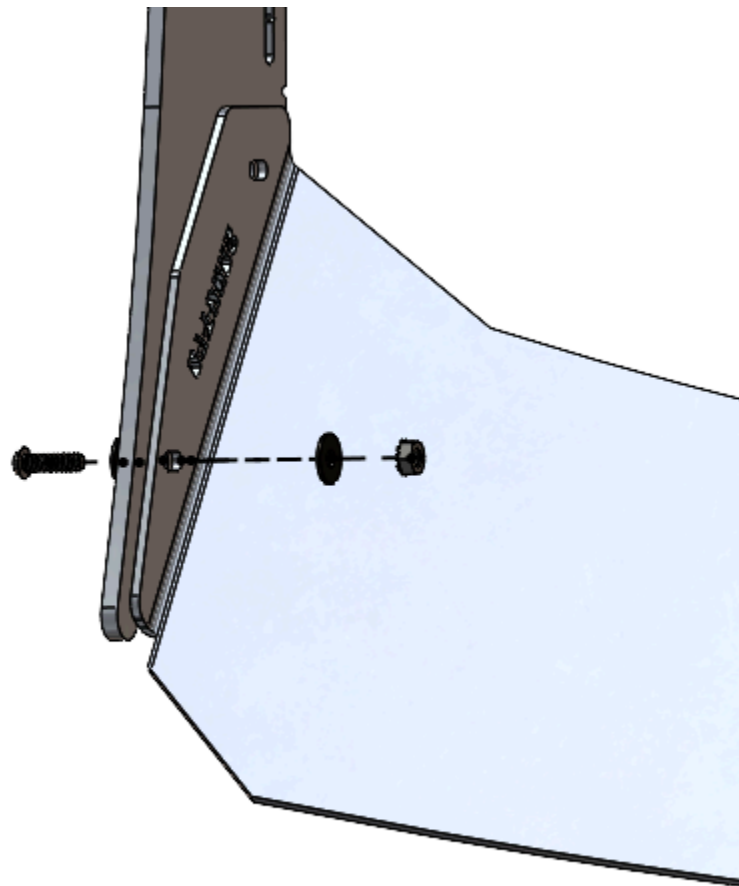
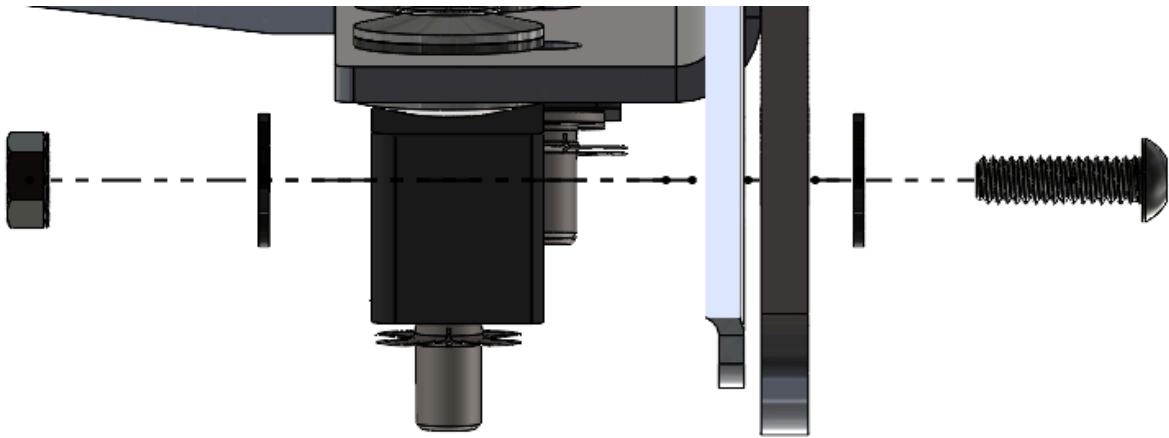
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36. Install the included weather stripping on the front edge of the front fairing. Trim the excess weather stripping to match the edge of the front fairing as shown.



37. Use the included 1/4" washers, button head bolts, and keps nuts to loosely secure the front fairing to the rack assembly.

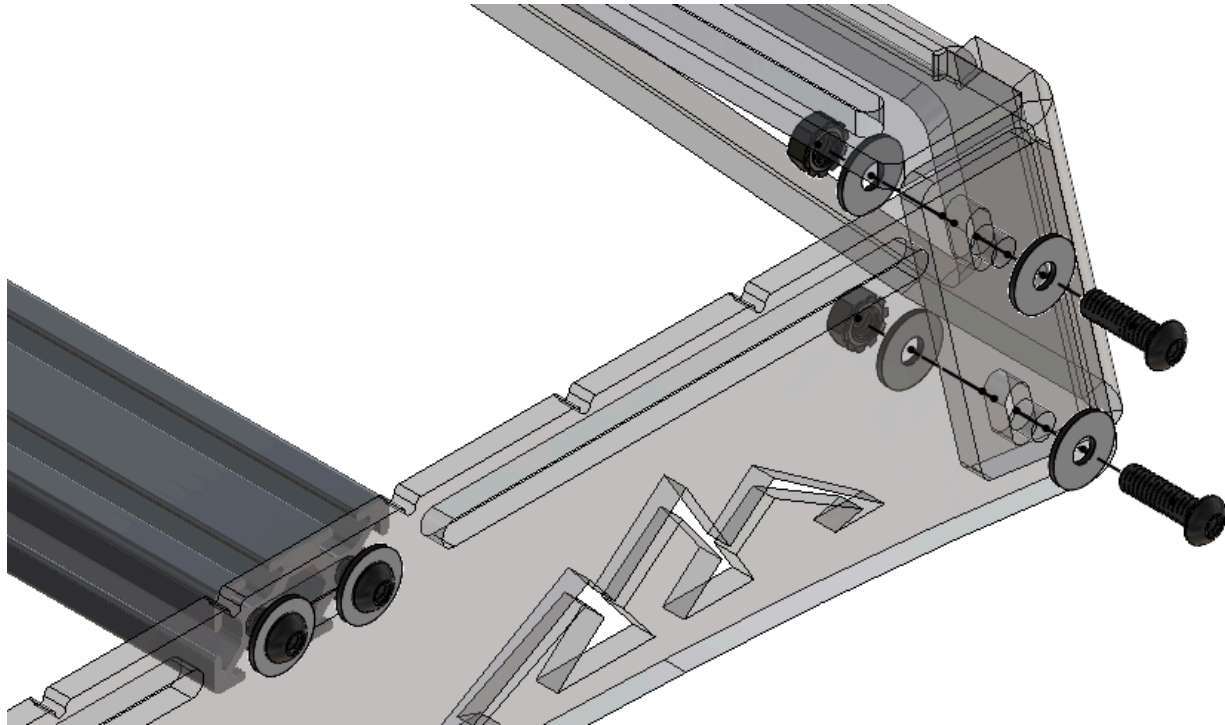




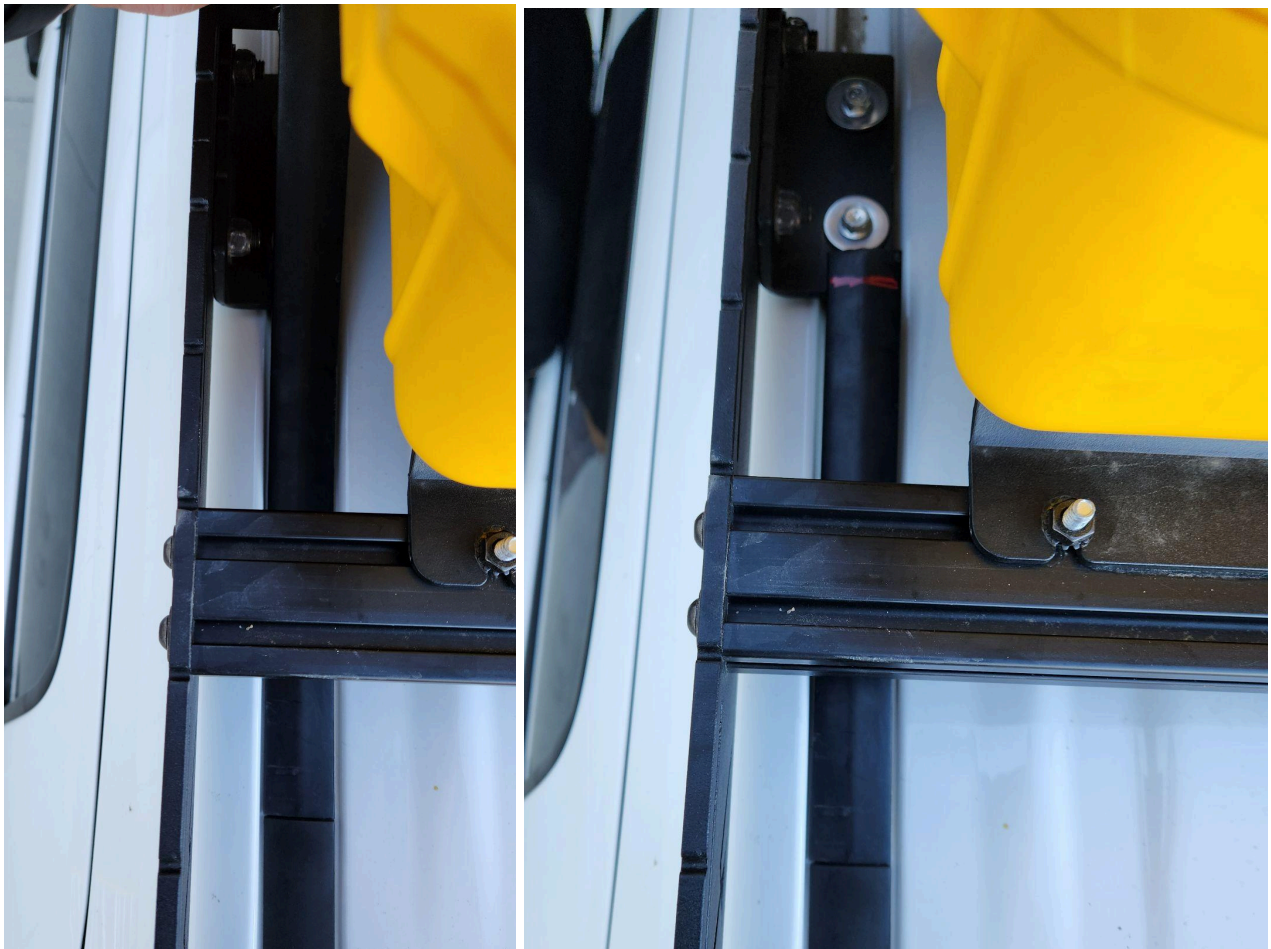
38. While applying downward pressure to the front fairing, tighten the hardware from the previous steps to secure it.
 - a. The goal is to push the fairing down into the roof of the vehicle, creating a loose but even seal between the vehicle and front fairing.
39. Tighten the M6 mounting hardware to 50 in-lbs to secure the roof rack to the vehicle.

40. Readjust the rear fairing height as necessary.

- a. With the roof rack successfully installed on the roof of the vehicle, loosen the four sets of rearmost 1/4-20 hardware to allow the rear fairing to be adjusted to the preferred gap between the roof of the vehicle and lower edge of the fairing.



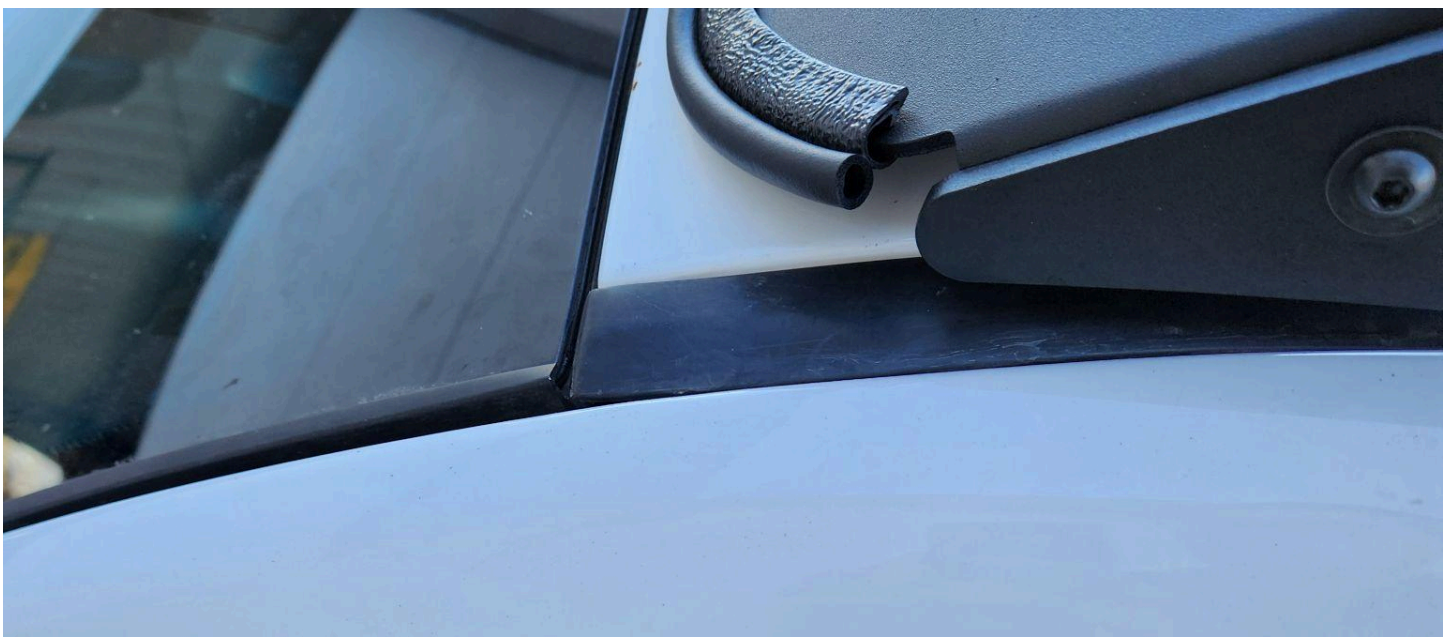
41. Trim the factory weather stripping to fit within the roof rain gutter on either side and between the feet of the roof rack as shown.
- a. Our measurements are listed below to give you an idea of what your trimmed weather stripping might look like. However, please follow the below steps to ensure that your weather stripping fits your exact vehicle and your exact roof rack installation.
 - i. Front stripping: 12.875"
 - ii. Center stripping: 34.1875"
 - iii. Rear stripping: 8.875"
 - b. Starting at the rear of the vehicle, slide the rear tab of the weather stripping into its mounting location at the rear of the cab. Lay the stripping into the track and mark the edge of the foot on the stripping. Trim just above the marked line.
 - i. A pair of sharp shears works well for trimming the stripping. A pair of sharp scissors achieved a cleaner cut through the rubber but struggled to cut through the steel strip within the stripping. I tried both tools and either worked with acceptable results.



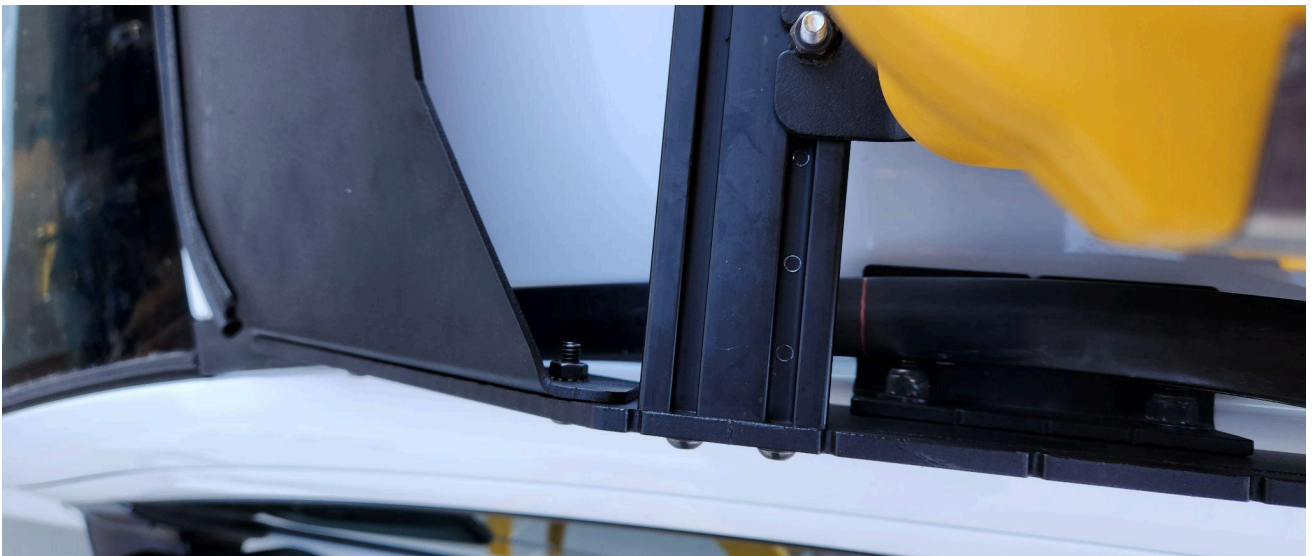
- c. Lay the rear stripping back in the channel and trim the stripping little by little until the stripping fits perfectly.



- d. Lay the remaining strip within the channel at the front of the vehicle, aligning the tab on the underside of the stripping with the locating "clamps" within the channel. Repeat the process of marking and trimming the stripping to fit.

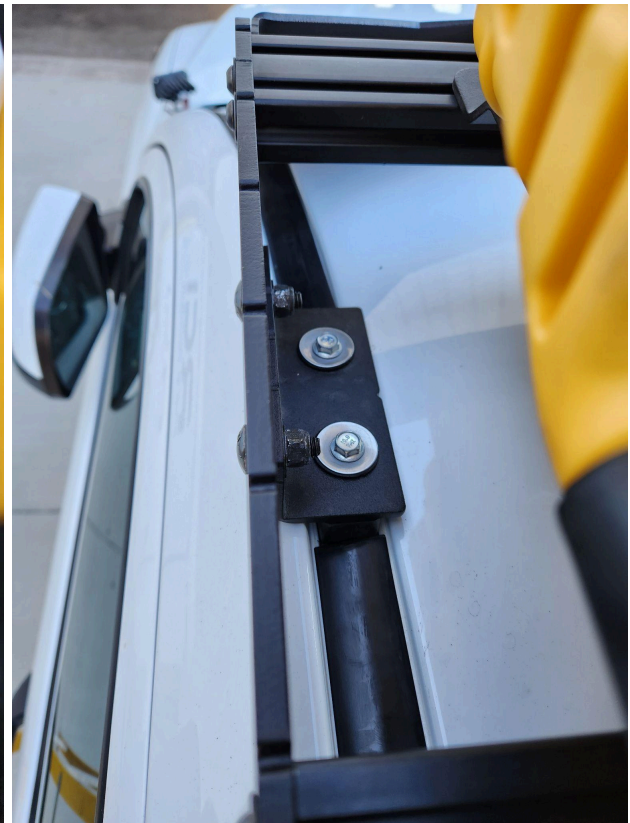


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- e. Lay the remaining section of the weather stripping between the feet of the rack, butting up and end to one of the feet. Repeat the process of marking and trimming the stripping to fill the channel between the feet.



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