



Installation Instructions:

Unaka Ford Transit Wind Fairing



Revision: 0

Date: 4-14-21

The Unaka Gear Co Team is here to help. If you have issues or questions, please do not hesitate to contact us at csr@unakagearco.com.

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1. Unaka Ford Transit Wind Fairing

One of our most popular roof rack accessories is our Wind Fairings. An Unaka wind fairing is a great way to finish off your 8020 roof rack kit or your uni-strut rack. Our wind fairing was designed to form fit the exact profile of the Ford Transit roof using 3D scans and CAD software at Unaka. Each wind fairing comes with the five mounting brackets and the hardware required to bolt them to the wind fairing. The cross bar, and all hardware required to install your wind fairing to 8020 or to Uni-strut is sold separately. This manual covers the installation of this wind fairing on an 8020 roof rack. If you plan to install your wind fairing on a Unistrut roof rack, you may have to add some spacers or make some adjustments to get the desired fit on your installation. Any cross bar that the wind fairing is mounted to should be of adequate strength and stiffness to not deflect due to the wind forces imparted on the wind fairing. Our standard cross bars are 15 series (1.5" x 1.5") 8020 extrusion.

2. 1 Piece Versus 2 Piece Wind Fairings

We are currently offering two different types of wind fairings. The 1-piece wind fairing has 1 solid full width piece of acrylic plastic, and the 2 piece design is split in half and joined at the middle as shown in Figure 1. The reason we designed the 2-piece version is that it provides the same great look, feel, and performance but at a lower manufacturing and shipping price which saves you money.

NOTE: The splice on the 2-piece version is not noticeable once the wind fairing is installed.

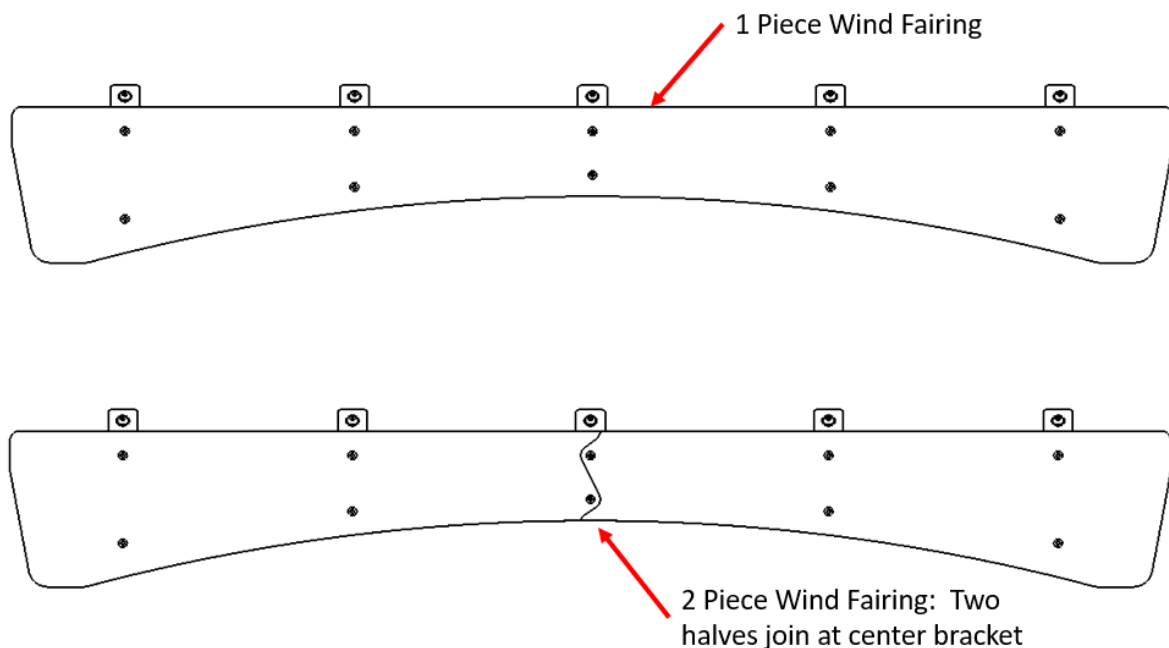


Figure 1: 1 Piece versus 2 Piece Wind Fairing Design

3. Wind Fairing Overview

This set of instructions is a basic guideline on how to install your 1 piece or 2-piece wind fairing. If you have questions or issues with our product do not hesitate to contact us at csr@unakagearco.com.

Figure 2 highlights the overall dimensions for our standard wind fairing.

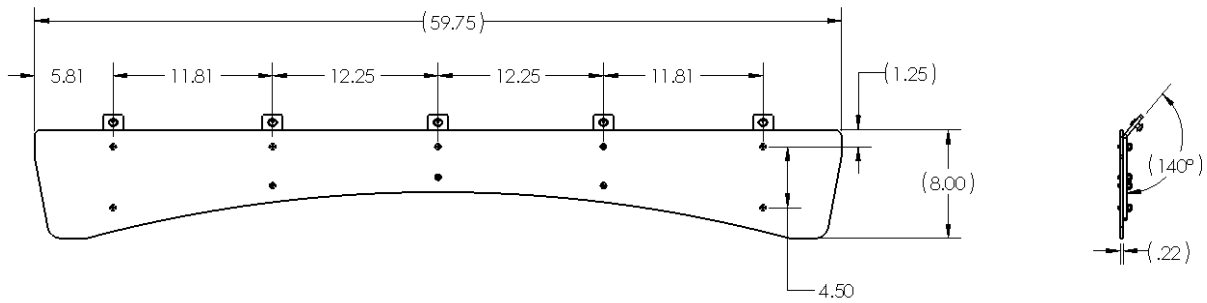


Figure 2: Ford Transit wind fairing dimensions

3.1. Wind Fairing on Narrow Versus Wide Cross Bars

The wind fairing width was designed to cover the standard narrow cross bar configuration. It should be noted that if you are building an 8020 rack using our 59.625" wide cross bars and mount your side rails on the outside of our Unaka 8020 adapters then the corners of your rack will be slightly wider than the wind fairing as shown in Figure 3. If you are using our 56.125" wide cross bars, then the wind fairing will cover the corners of your rack side rails.

Wind Fairing Installed on 56.125" Cross Bars



Wind Fairing Installed on 59.625" Cross Bars

Side rail corners show slightly

Figure 3: Wind fairing shown with both narrow and wide cross bars

4. Safety

Working with tools involves inherent risks that could result in injury or in extreme cases death. It is important to know how to perform the job and perform it safely. Always use the correct tools for the job and wear the required personal protective equipment (PPE) necessary for the job. If you are unsure of how to complete a task safely consult a friend or a professional. Below are some suggestions for PPE

to help stay safe but as individuals may approach a job differently, they may need to adjust the required PPE accordingly.

Suggested PPE:

- Safety Glasses
- Gloves

Sharp Edges: The outside edges of the Wind fairing can be sharp. Use gloves while handling the wind fairing to prevent abrasions or cuts to your hands.

Ladder Safety: Ladders are dangerous and should only be used with appropriate training in addition to following the ladder manufactures usage instructions. Incorrect use of ladders can result in injury or death. Installing a roof rack will require the use of one or more ladders and the location of these ladders will have to be moved to varying positions during the installation. Always take the extra time to move the ladder to appropriate position to ensure that you do not have to lean or reach out while on the ladder. We highly recommend having someone hold or stabilize the bottom of the ladder while someone is working from it.

Fall Protection: Accessing the roof of your van will put you at extreme risk to potential falls which can result in injury or death. Appropriate fall protection should be used when accessing your van roof. For general use situations, OSHA requires that fall protection be provided at elevations of four feet in general industry workplaces.

5. Required Tools

The following tools or a combination of these tools should be used for this installation.

5.1. Tools Required for Unaka Roof Rack Brackets

- Standard Allen Wrench Set (must include 3/16" Allen Key)
- Torque Wrench (Must go up to 180 in-lbs. or 15 ft-lbs. and be compatible to use with 3/16" Allen Key).
 - This torque setting should only be used to torque the button head cap screws that secure your wind fairing to your 8020 cross bar
- Torque Wrench for Acrylic Wind Fairing (Must go up to 75 in-lbs. or 6.25 ft-lbs.)
- Standard socket set or box wrench (must include 7/16" socket)
 - 7/16" Socket is the size required for this job.
 - Note this is only required if you need to remove the ¼-20 nuts that attach the wind fairing to the brackets.

6. Required Materials

- Blue 242 Loctite (For installation to cross bar only)

7. Parts Included

The Wind Fairing comes with the custom profiled High Impact CNC Machined Acrylic Wind Fairing (1 Piece or 2 Piece, 5 wind fairing brackets, and the hardware required to bolt the wind fairing to the brackets. The installation hardware required to bolt the wind fairing plus brackets to your rack cross bar is sold separately. Table 1 lists the parts, part numbers, and quantities of parts required to assemble and install the wind fairing. Figure 4 shows what each part looks like. Please note that Figure 4 is not shown to scale. Please also note that we include some extra hardware with the kit just in case you need it. We included one extra of Items 7 and 9, and two extra of items 8.

Table 1: Parts provided with wind fairing

| Item | Description | Part # | Quantity |
|------|--|--------------|----------|
| 1 | 1 Piece Wind Fairing | 1003-MP15-01 | 1 |
| 2 | 2 Piece Wind Fairing (Right Hand Side) | 1003-MP15-03 | 1 |
| 3 | 2 Piece Wind Fairing (Left Hand Side) | 1003-MP15-04 | 1 |
| 4 | Center Bracket | 1003-MB15-02 | 1 |
| 5 | Middle Brackets | 1003-MB15-05 | 2 |
| 6 | Outside Brackets | 1003-MB15-06 | 2 |
| 7 | BHCS, 1/4-20 X 1" LG, 18-8 SS | 92949A542 | 11 |
| 8 | WASHER, 1/4", 0.625" OD, 18-8 SS | 92141A029 | 22 |
| 9 | LOCKNUT, 1/4-20, 18-8 S.S. | 91831A029 | 11 |

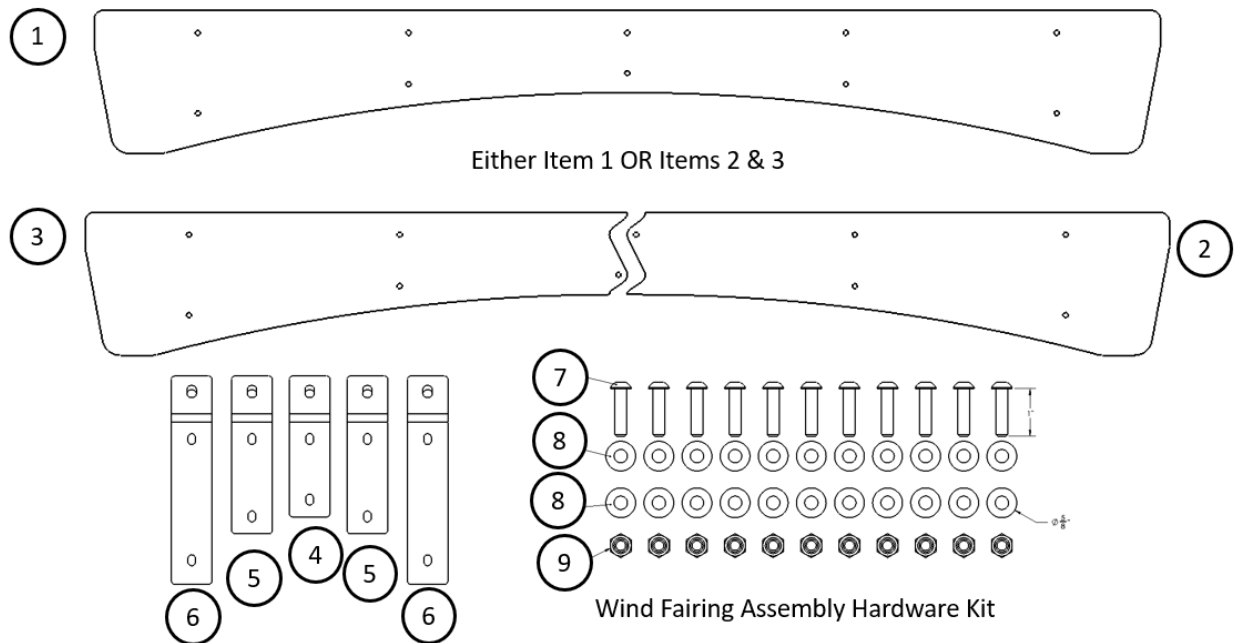


Figure 4: Wind fairing parts provided (Items are not shown to scale)

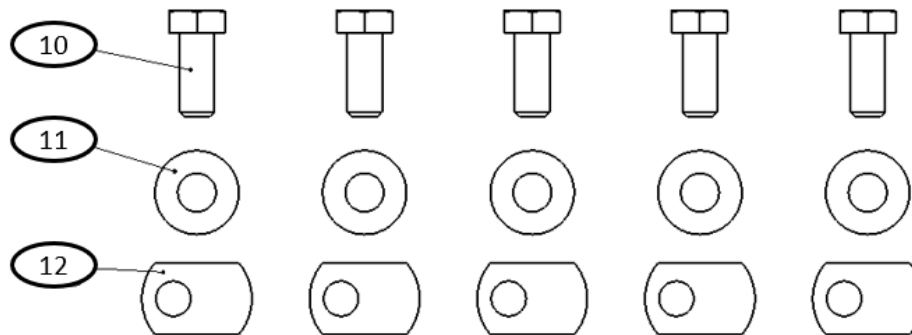
7.1. Cross bar assembly and installation hardware Not included

Our wind fairings do not come with a cross bar to mount them to. These are sold as part of a rack kit or can be purchased separately.

Not every customer chooses to install our wind fairing on an 8020 rack so we sell the installation hardware separately. [Click here to go to the 8020 installation hardware kit.](#) If you choose to buy a Wind Fairing Installation Hardware kit from us, it will include the following items.

Table 2: Ford Transit 8020 installation hardware kit

| Item | Description | Part # | Quantity |
|------|---|-----------|----------|
| 10 | HEX HEAD BOLT, 5/16-18 X 3/4" LG, 18-8 SS | 92240A581 | 5 |
| 11 | FLAT WASHER, 5/16" SCREW SIZE, 0.344" ID, 0.75" OD, 18-8 SS | 92141A030 | 5 |
| 12 | T-NUT, ECONOMY, 5/16 THREAD, SS | 3678 | 5 |



FORD TRANSIT WIND FAIRING 8020 CROSS BAR INSTALLATION HARDWARE

Figure 5: Wind fairing 8020 installation hardware kit

We also sell an installation hardware kit for Unistrut roof racks which is not covered in this manual.

8. 1 Piece Wind Fairing Initial Assembly

For the 1 Piece Wind Fairing follow the installation process below.

1. Remove the brown protective covering from both sides of the wind fairing Item 1
 - a. Once protective covering is removed, be careful not to scratch or damage the plastic
2. Bolt the wind fairing brackets to the wind fairing using the assembly hardware provided (Items 5, 6, and 7). This is shown in Figure 6 and again but larger in Figure 7. Since the nut used is a nylock nut, no Loctite is required

- a. Use a torque wrench to tighten this hardware to 75 in-lbs force (6.25 ft lbs). Do Not Overtighten or you can crack the acrylic wind fairing
- b. **TIP:** Use a dab of anti-seize on each bolt to prevent galling or the bolt from locking up on the nut. This can be a common problem when working with Stainless Steel Hardware
- c. **TIP 2:** Tighten the hardware slowly which may help prevent it from galling and therefore locking up

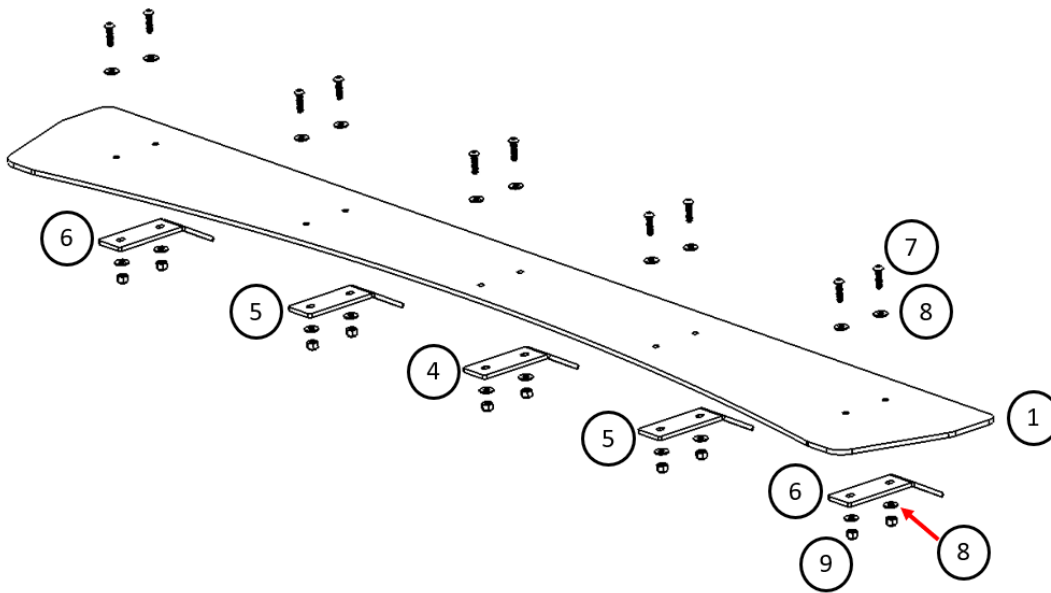


Figure 6: Wind Fairing Part Breakdown

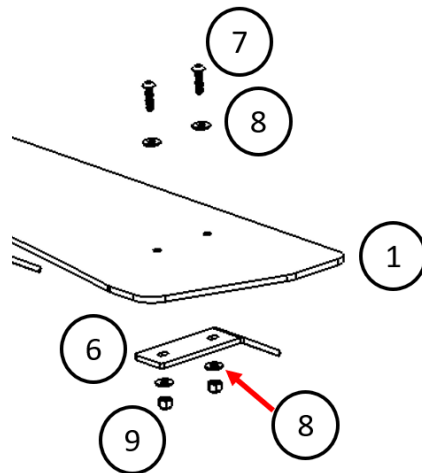


Figure 7: Detailed view showing assembly hardware sequence

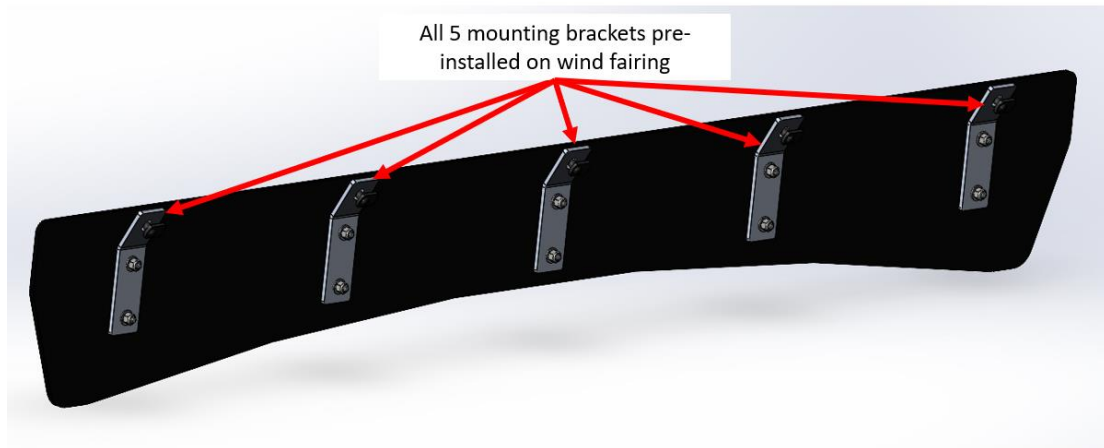


Figure 8: Back view of wind fairing once brackets are installed

3. **CAUTION:** Once assembled, handled the 1-piece wind fairing with care by holding the wind fairing on both sides of the center bracket at the same time. Until the wind fairing is bolted to a cross bar it is flexible. If you pick up the entire wind fairing by one end, the weight of the wind fairing could crack or damage the center splice. Extra care must be taken while raising the wind fairing into position.

9. 2 Piece Wind Fairing Initial Assembly

For the 2 Piece Wind Fairing, it follows a nearly identical process as for the 1-piece wind fairing

1. Remove the brown protective covering from both sides of the wind fairing Item 2 & 3
 - a. Once protective covering is removed, be careful not to scratch or damage the plastic
2. Bolt the wind fairing brackets to the wind fairing using the assembly hardware provided (Items 5, 6, and 7). This is shown in Figure 6 **Error! Reference source not found.** and again but larger in Figure 7.
 - a. Use a torque wrench to tighten this hardware to 75 in-lbs force (6.25 ft lbs). Do Not Overtighten or you can crack the acrylic wind fairing
 - b. **TIP:** Use a dab of anti-seize on each bolt to prevent galling or the bolt from locking up on the nut. This can be a common problem when working with Stainless Steel Hardware
 - c. **TIP 2:** Tighten the hardware slowly which may help prevent it from galling and therefore locking up
3. **CAUTION:** Once assembled, handled the 2-piece wind fairing with care by holding the wind fairing on both sides of the center bracket at the same time. Until the wind fairing is bolted to a cross bar it is flexible. If you pick up the entire wind fairing by one end, the weight of the wind fairing could crack or damage the center splice. Extra care must be taken while raising the wind fairing into position.

10. Wind Fairing Installation on 8020 Racks

The following steps cover the basic wind fairing installation process when used with an 8020 rack. We recommend installing the 1 Piece or 2 Piece wind fairing to its cross bar, then install the cross bar plus wind fairing to the rack as a one-piece assembly. This will help keep the shape of the wind fairing and prevent it from bending or deflecting too much while handling it. This is especially important for the 2-piece wind fairing.

TIP: Before beginning the wind fairing installation, please review the 8020 cross bar assembly and installation process.

TIP: Make sure that before you install the wind fairing to the cross bar, that all other t-nuts required are in place to prevent future re-work.

10.1. Installation Process

1. Slide the 5 T-nuts item 10 into the top slot of the front cross bar extrusion. This should be done before any corner brackets or L-brackets are bolted to the cross-bar assembly.
2. Install any additional t-nuts required for flush mount solar panel brackets or other accessories
3. Loosely install the corner brackets making sure hardware is tight enough to prevent them from sliding off
4. Center the wind fairing assembly on the cross bar
5. Position any additional t-nuts (for flush mount solar panel brackets or other accessories) between the wind fairing brackets
6. Slide the t-nut for each wind fairing bracket under the bracket
7. Apply Blue Loctite 242 to each bolt Item 8
8. Insert Bolt through the washer, through the bracket, and into the t-nut
9. Tighten and torque

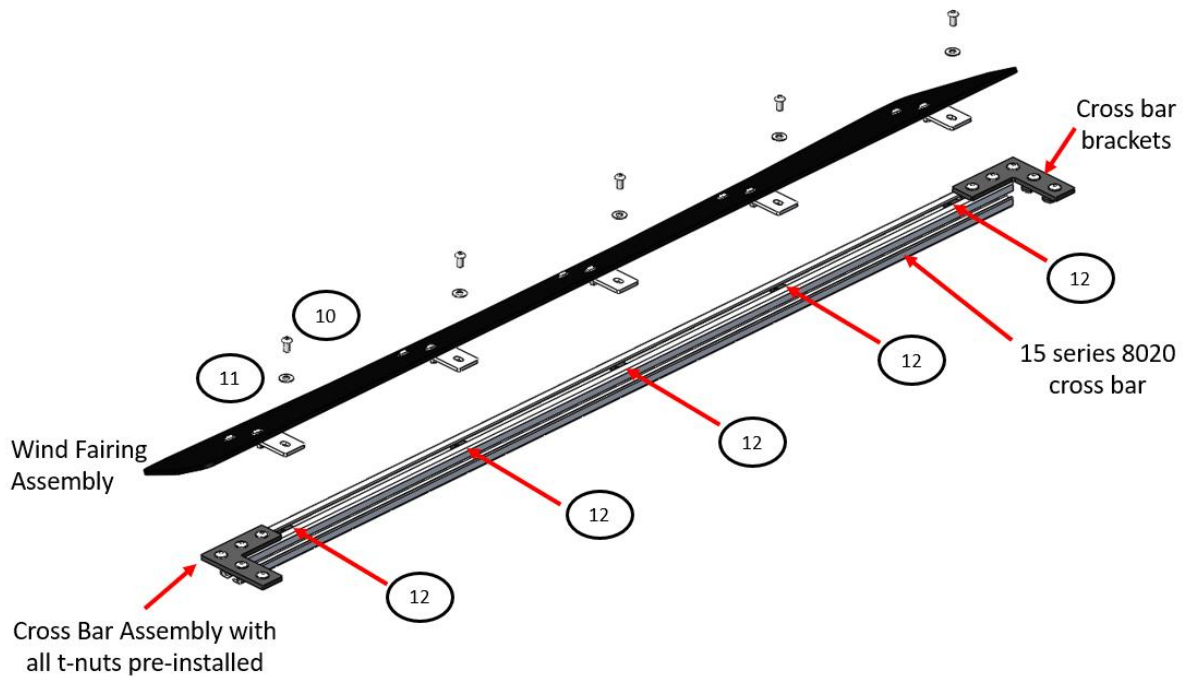


Figure 9: Bolting the wind fairing to an 8020 cross bar

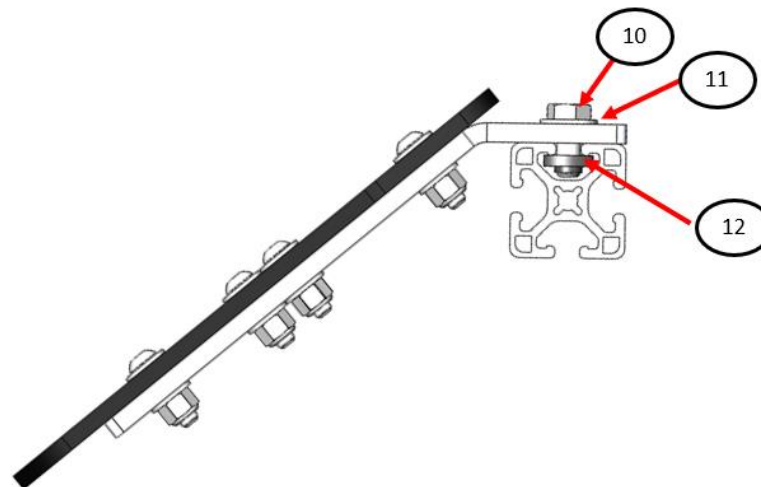


Figure 10: Installation hardware as shown on 8020

10.2. Install the cross bar with the wind fairing to your roof rack

1. Next loosely install the front cross bar and wind fairing. Adjust the cross-bar position as needed to achieve the desired installation position with respect to the van roof contour. We typically suggest setting the front of the cross bar roughly 6.25" from the front face at the top of the forward most roof rack bracket to start with but this can be adjusted forward or backward as desired. An example showing the initial 6.25" mounting position is shown in Figure 11.

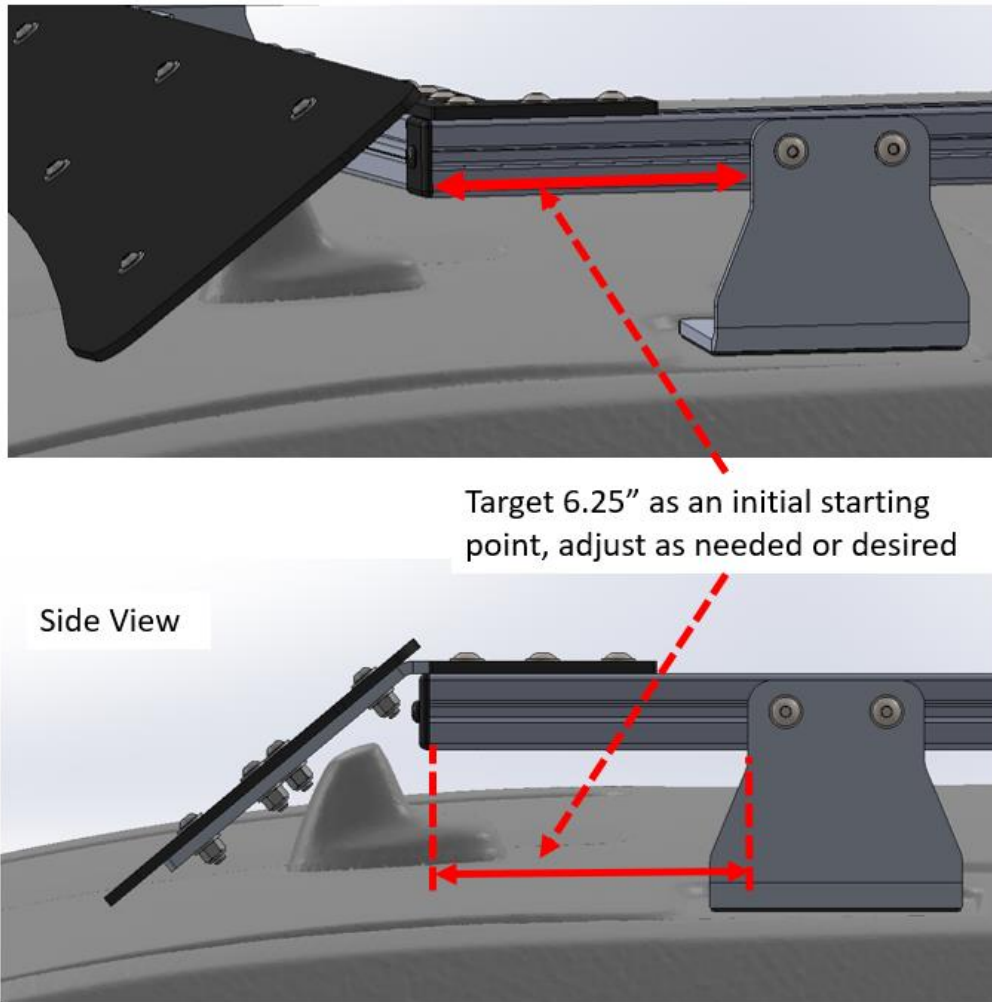


Figure 11: Wind fairing cross bar initial mounting location

10.3. Wind Fairing Installation on Uni-Strut or other Custom Roof Racks

The Unaka wind fairing was designed so that it can be installed on Unistrut or other custom racks. Since there are so many ways to build custom racks, we cannot cover all the possibilities, but we will at least outline the information you need to achieve a clean successful installation. The most important aspect is that the front cross bar that supports the wind fairing is sufficiently strong so that it does not deflect due to the force of the wind on the wind fairing.

The main trick to installing our wind fairing on a custom rack is to get the position and the height right with respect to the van to make sure there is no physical interference with the van roof.

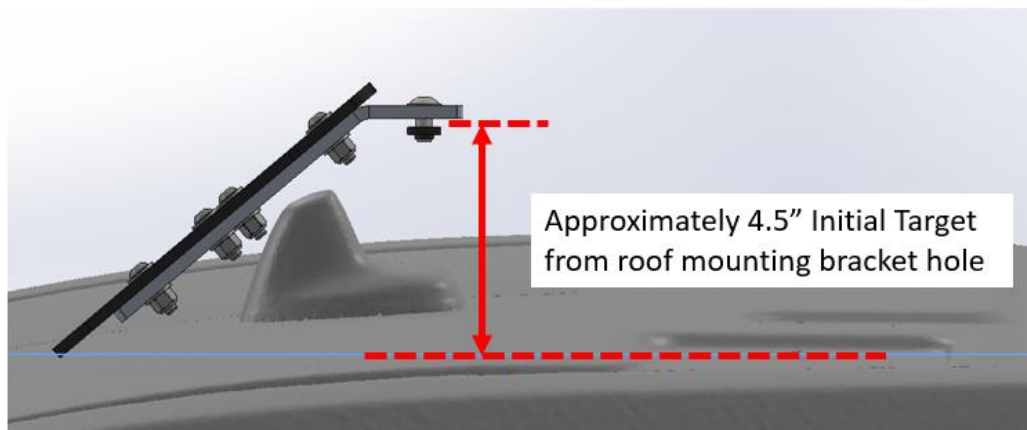
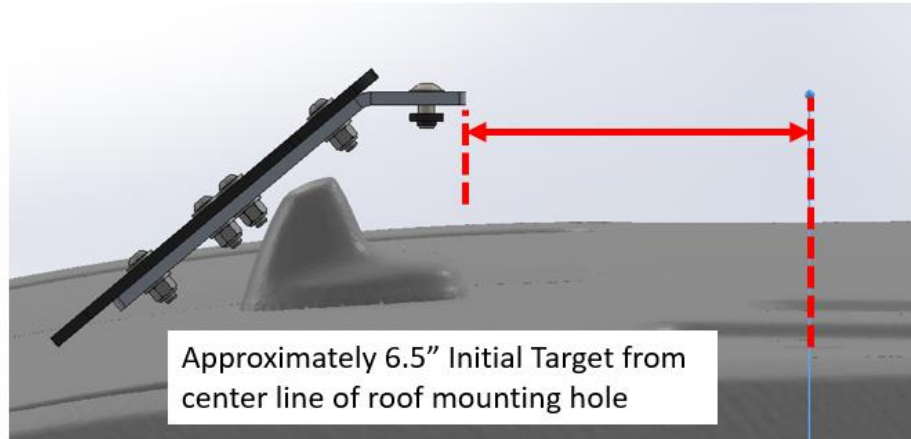


Figure 12: Positioning wind fairing on a custom roof rack

10.4. Wind Fairing Plus Flush Mount Brackets

If the front cross bar is also being used to support a solar panel, we recommend first laying out the solar panel, the solar panel mounting brackets, and the wind fairing to see if there will be any interference between the brackets. If there is no interference add the required t-nuts to install the wind fairing and the flush mount solar panel brackets and proceed with your installation and the remainder of this section can be skipped.

Figure 13 shows an example of possible interference between a flush mount bracket and a wind fairing bracket. If there is an interference due to the fixed mounting holes in either the wind fairing or the solar panels then adjustments will be required. If this happens, try some of the following methods to eliminate the interference.

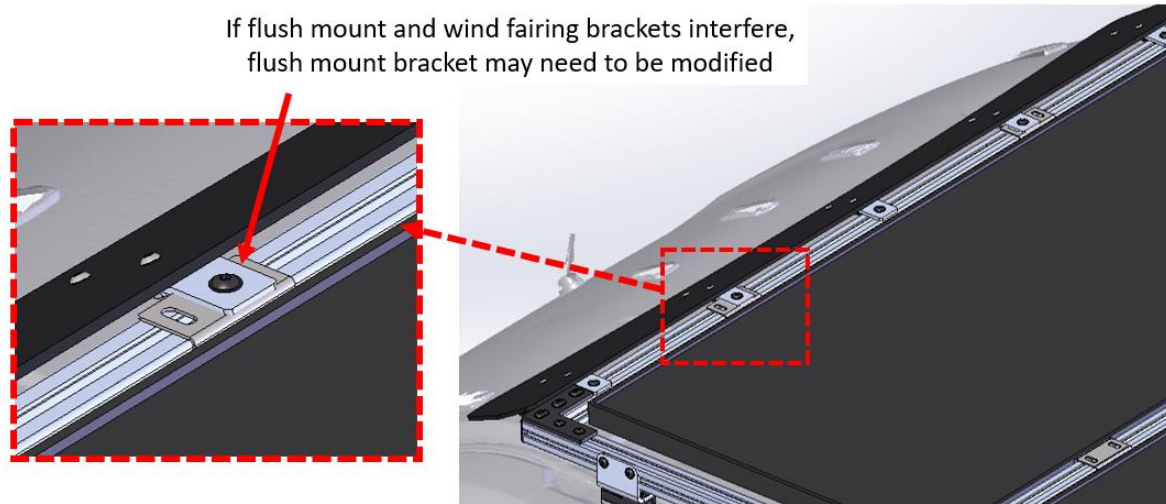


Figure 13: Possible flush mount and wind fairing bracket interference

- Slide the solar panel to eliminate the interference.
 - If the solar panel does not take up the entire space between your side rails, you may be able to slide your solar panel slightly left or right off the van centerline to eliminate the interference.
- Move the flush mount brackets that are interfering.
 - If there are other mounting holes in the solar panel frame that can be used that will not interfere or will interfere less with the wind fairing brackets.
 - If no other holes exist, some customers choose to add alternative holes in their solar panels. ***CAUTION: If you choose to do this it may void the warranty on your solar panel. There is also significant risk in damaging your solar panel if this is done incorrectly.
- Bolt the wind fairing bracket to the top of the flush mount bracket.
 - If you are lucky the solar panel may be able to be slid one way or another so that one of the slots in the flush mount solar panel bracket is below the mounting hole in the wind fairing bracket. Then a bolt can be inserted through both brackets.
- Add a hole or modify the slot in the flush mount bracket.
 - If the flush mount bracket is nearly centered under the wind fairing bracket, mark the hole location on the flush mount bracket, remove the bracket, and then drill a new mounting hole in the flush mount bracket using a 3/8" drill bit.
 - If the hole in the wind fairing bracket is too close to the slots in the flush mount bracket, opening the slot may be easier than drilling a new hole. The slot can be opened as needed using a file or a die grinder.
- Trim or notch the flush mount bracket.

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- Assuming at least 1 slot in the flush mount bracket is not interfering with the wind fairing bracket, mark the material that needs to be removed.
 - Remove the bracket and use a metal cutting blade to remove the interfering material.

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