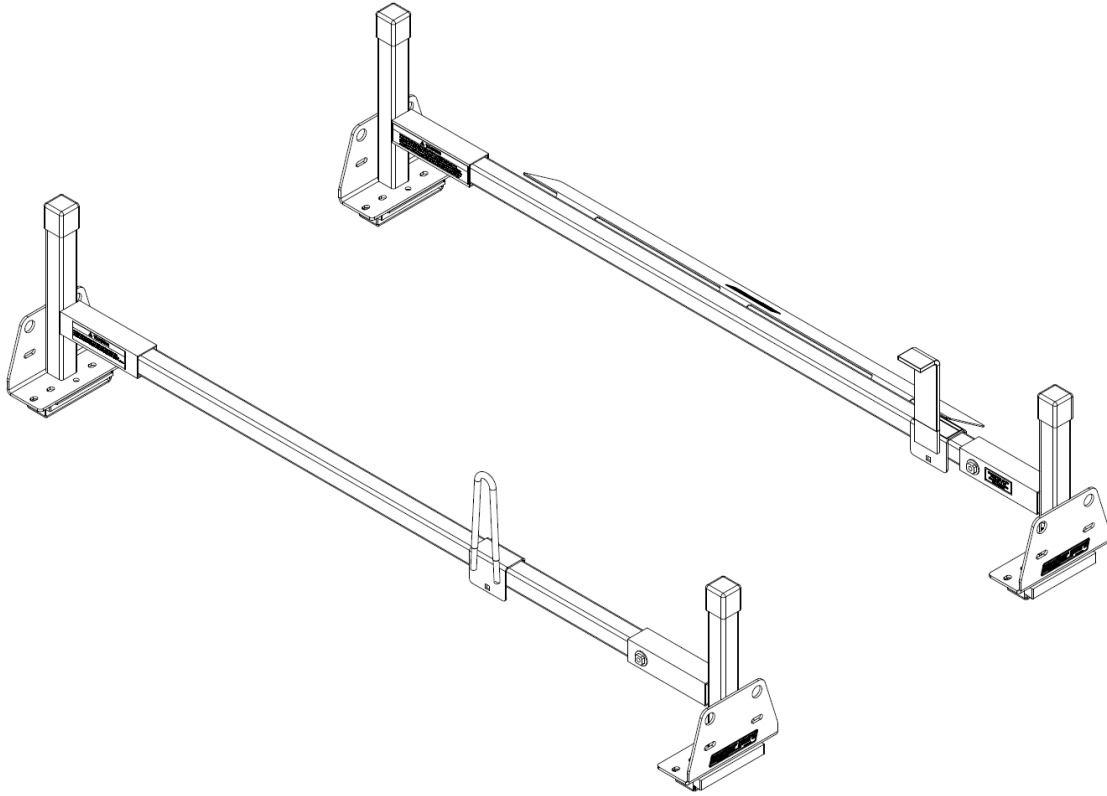




VAN STORAGE SOLUTIONS
FOR THE WAY YOU WORK™

INSTALLATION INSTRUCTIONS for FULL SIZE STEEL VAN RACK & ACCESSORY CROSS MEMBER



MODELS 20501, 21501, AND 22501

**ATTENTION: PLEASE READ AND UNDERSTAND ALL INSTRUCTIONS AND WARNINGS
BEFORE ASSEMBLING, INSTALLING OR USING THIS PRODUCT.**

INSTALLATION GUIDELINES

- WEATHER GUARD® ladder racks are designed to work with OEM mounting points or with WEATHER GUARD® Mounting Channel kits to provide the best support for your ladders and to take advantage of OEM provided roof mounting points. If you intend to, but have not already installed the mounting channel kit to the van roof, install it now before proceeding.
- Review vehicle manufacturer's roof mount recommendation.
- Perform the installation on a level surface.
- Always wear protective eyewear to keep debris out of your eyes when installing WEATHER GUARD® Van Products.
- Tighten all M8 & 5/16" hardware to 17 ft-lb when ready.
- Tighten all M6 & 1/4" hardware to 76 in-lb when ready.
- Warranty will be void if sealant is not applied to all seams and crevices.
- **This product is designed and intended for use on all wheelbases and roof heights of the following vehicles: Ford Transit, Ram ProMaster, Mercedes Sprinter, and Nissan NV.**

OPERATION GUIDELINES

- Ladders transported on a vehicle should be properly supported and the overhang of the ladders beyond supporting points should be limited. Transporting a ladder with excessive overhang can result in reduced ladder life. Inspect your ladder before each use. Follow ANSI 14.2-2007 for direction on securing ladders to ladder racks.
- Load should be approximately centered front to rear and left to right on all vehicles. Failure to do this will cause damage to the rack and/or vehicle roof.
- Follow manufacturer's guidelines for maximum allowable roof load. **Do not overload the vehicle's roof.**
- It is the responsibility of the user to secure the load to the rack before transporting.
- Any modifications made to this product, or use of this product for any other purpose than its intended use, could create a hazardous condition that can cause serious personal injury or property damage.
- **At the end of the first week of use, check all of the fasteners for proper tightness and then check every three months thereafter.**

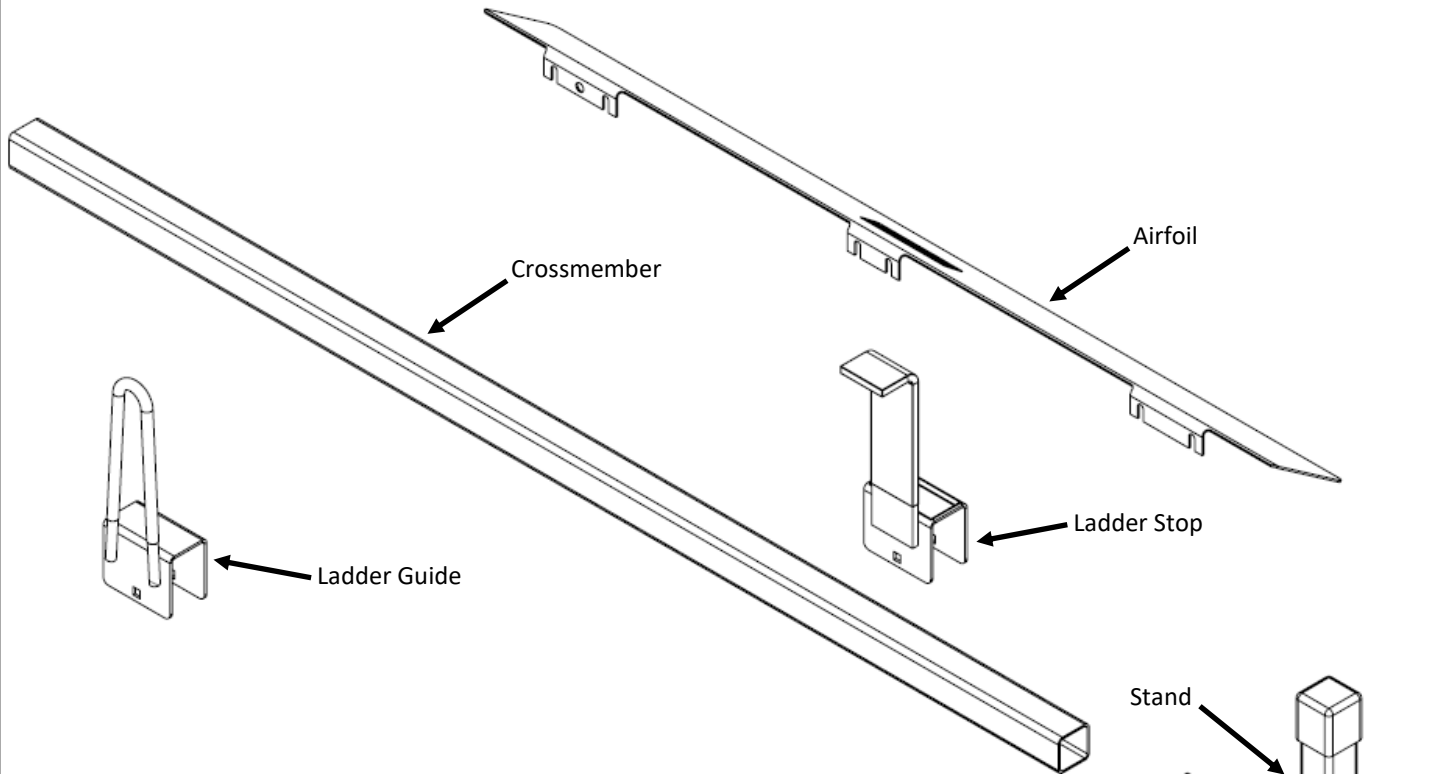
HARDWARE KIT

DESCRIPTION	20501	21501	22501
1/4"-14 x 3/4" Self-Drilling Screw	6	6	
3/8"-16 x 3/4" Thread-Cutting Screw	4	6	2
5/16" Lock Washer	10	15	5
5/16" Washer	34	51	17
5/16"-18 Knob	2	3	1
5/16"-18 Nylon Lock Nut	10	15	5
5/16"-18 x 1-1/4" Carriage Bolt	8	12	4
5/16"-18 x 1-3/4" Carriage Bolt	8	12	4
5/16"-18 x 2-1/4" Carriage Bolt	2	3	1
Blind Fastener Installation Tool	1	1	1
M8-1.25 Blind Fastener	4	6	2
M8-1.25 Nylon Lock Nut	12	18	6
M8-1.25 Square Nut	8	12	4
M8-1.25 x 18mm Bolt	8	12	4
M8-1.25 x 45mm Bolt	4	6	2
M8-1.25 x 65mm Bolt	5	8	3
1/2" Spacer	8	12	4
Mounting Plate	8	12	4

TOOLS REQUIRED

7/16" Socket
 7/16" Wrench
 1/2" Socket
 1/2" Wrench
 9/16" Wrench
 Drill
 1/8" Drill Bit
 Measuring Tape or Ruler
 Painter's or Masking Tape
 Torque wrench

PARTS LIST



DESCRIPTION	20501	21501	22501
Stand	4	6	2
Crossmember	2	3	1
Foot Bracket	4	6	2
Clamp Bracket	4	6	2
Rubber Spacer, 1/8" Thick	4	6	2
Rubber Spacer, Tapered	4	6	2
Spacer Plate, Rail	4	6	2
Ladder Guide	1	2	1
Ladder Stop	1	1	
Airfoil	1	1	
*Sealant	1	1	1
*Velcro Strap	2	2	
*Rubber Tape (70")	2	3	1

*Item not shown

The parts to the right that are labeled with a number are Vehicle-Specific. The un-numbered parts are used on all vans. Refer to the list below to quickly determine which parts will be used for your van.

Transit Mid/High Roof Direct Mount—Item 4

Transit Low Roof Direct Mount—Items 3 & 4

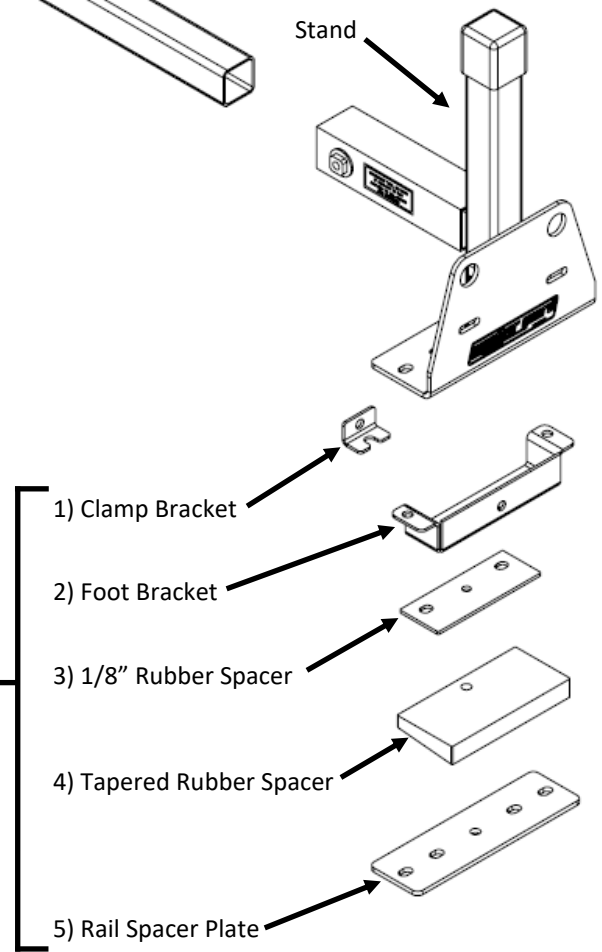
ProMaster Direct Mount—Items 1 & 2

ProMaster 159 & 159 Extended Channel Mount—Items 1, 2, & 5

Sprinter Direct Mount—Items 2 & 3

Sprinter Channel Mount—Item 5

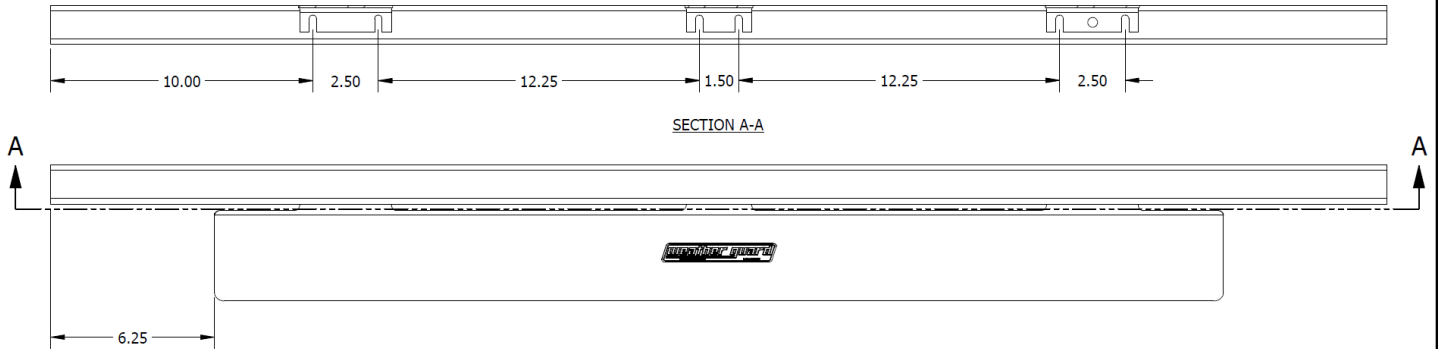
Nissan NV Direct Mount—Item 3



CROSSMEMBER PREPARATION INSTRUCTIONS

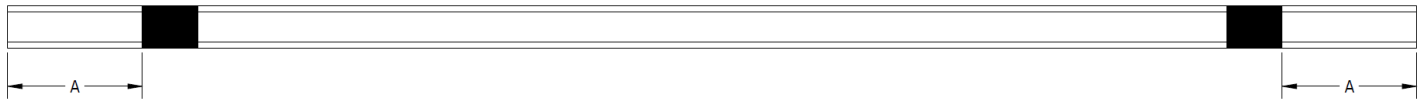
STEP 1. Mount Airfoil to front Crossmember

- Center Airfoil on a Crossmember tube as shown below and using it as a template, mark the centers of the open-ended slots (not the circular hole). Alternately, mark the tube at the corresponding dimensions shown below.
- Use a 1/8" drill bit to drill pilot holes through **one** side of the tube at the center of the tube face at each marked location.
- Drill a 1/4"-14 self-drilling screw into each hole, leaving a gap between the face of the tube and the head of the screw for the Airfoil to slip into.
- Apply a small amount of the provided Sealant at the face of the tube around each screw.
- Slip the Airfoil between the tube and the screws and use a wrench to tighten the screws.



STEP 2. Mark the Crossmember Width

- Use painter's or masking tape to mark the Stand overlap on each end of the Crossmembers as shown below. This will make it much easier to properly center the Crossmembers within the Stands later.
- Follow the table below to determine where to mark your Crossmembers. Be sure to measure to the outside edge of the tape, so that you are able to remove the tape later.



TAPE DISTANCE			
VEHICLE	ROOF HEIGHT	A	
		DIRECT MOUNT	CHANNEL MOUNT
Ford Transit	All	4-7/8"	5-5/16"
RAM ProMaster	All	3-3/4"	3-1/8"
Nissan NV	All	3-3/8"	3-3/8"
MB Sprinter	Std Roof	2-1/2"	3-3/8"
	High Roof	6"	6-7/8"



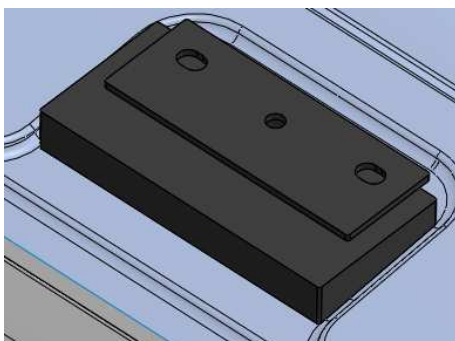
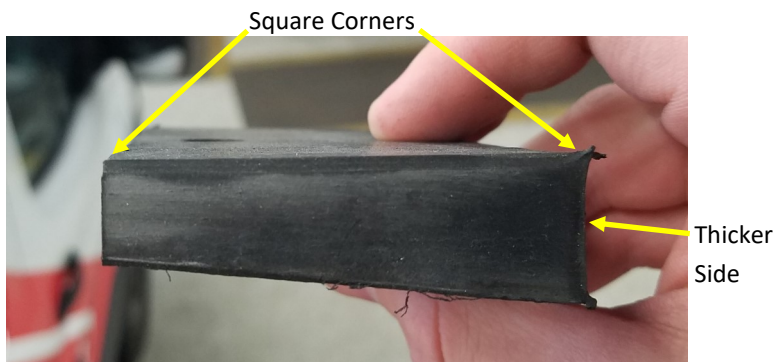
Proper taping of a Crossmember for directly mounting on a Ford Transit (4-7/8")

- For directly mounting to Ford Transit vans, proceed to page 5.
- For directly mounting to RAM ProMaster vans, proceed to page 7.
- For directly mounting to Mercedes Sprinter vans, proceed to page 9.
- For directly mounting to Nissan NV vans, proceed to page 11.
- For mounting to vans with Weather Guard Channels, proceed to page 12.

FORD TRANSIT DIRECT-MOUNT INSTALLATION INSTRUCTIONS

STEP 1. Prepare Transit Van Roof

- Remove circular caps in van roof mounting points. (see page 15 diagrams if suggested locations below are unclear)
 - If installing a 2-bar rack (20501), remove the front 2 and rear 2 caps.
 - If installing a 3-bar rack (21501):
 - On a 130" WB, remove all 6 caps.
 - On a 148" WB, remove the front 4 and rear 2 caps.
 - On a 148" EXT, remove the front 2, middle 2, and rear 2 caps.
 - If adding an accessory crossmember (22501):
 - On a 130" WB, remove the remaining 2 caps.
 - On a 148" WB, remove the first available pair of caps from the front.
 - On a 148" EXT, remove the middle 2 caps.
- Apply the provided Sealant around the now-exposed mounting holes. Ensure roof surface is clean before applying the Sealant.
- Place the Tapered Rubber Spacers on the van roof with the square corners of the Spacer on top, the thicker side of the Spacer toward the outside of the van, and the hole aligned to the mounting hole in the van roof. See top pictures below.
- If installing a 3-Bar Rack on a Low-Roof Transit, it may also be necessary to place a 1/8" Rubber Spacer on each of the front and rear Tapered Spacers with the center hole aligned and more of the Spacer material toward the outside of the van. See bottom left picture below. **Do not place a 1/8" Spacer on the center Tapered Spacers.** This is done to prevent the center crossmember from sitting higher than the front and rear crossmembers due to the slight curvature of the roof.



Low Roof 3-Bar Only—Front and Rear Points Only—As needed



FORD TRANSIT DIRECT-MOUNT INSTALLATION INSTRUCTIONS (Continued)

STEP 2. Install Half of the Stands

- Loosely install Stands atop the Spacers on one side of the van using a M8 x 45mm bolt, 5/16" lock washer, and 5/16" washer through the center hole in the base of the Stand. **Do not install the Stands on the other side of the van yet.**



STEP 3. Install Crossmember & Opposite Stand

- Insert a Crossmember into one of the previously-installed Stands. Note: The Airfoil is to be installed at the front of the van sloping downward.
- Place one of the remaining Stands over the remaining end of the Crossmember and loosely install it to the van roof with an M8 x 45mm bolt, 5/16" lock washer, and 5/16" washer.
- Center the Crossmember between the two Stands using the tape applied earlier as a guide.
- Tighten the Crossmember in place within the Stands using a 3/8"-16 thread-cutting screw in the weldnut in the side of each Stand.
- Tighten the M8 bolts in the Stands.
- Remove the pieces of tape.
- Repeat this process for the remaining Crossmember(s) and then proceed to "Final Installation Instructions" on page 14.



RAM PROMASTER DIRECT-MOUNT INSTALLATION INSTRUCTIONS

STEP 1. Prepare ProMaster Van Roof

- Install Foot Brackets to van roof mounting cleats following the procedure pictured below. (see page 16 diagrams if suggested locations below are unclear)
 - If installing a 2-bar rack (20501), install a Foot Bracket to the front 2 and rear 2 mounting cleats.
 - If installing a 3-bar rack (21501):
 - On a 118" WB or 136" WB, install a Foot Bracket to all 6 mounting cleats.
 - On a 159" WB, install a Foot Bracket to the front 4 and rear 2 mounting cleats.
 - On a 159" EXT, install a Foot Bracket to the front 2, middle 2, and rear 2 mounting cleats.
 - If adding an accessory crossmember (22501):
 - On a 118" WB or 136" WB, install a Foot Bracket to the remaining 2 mounting cleats.
 - On a 159" WB, install a Foot Bracket to the first available pair of mounting cleats from the front.
 - On a 159" EXT, install a Foot Bracket to the middle 2 mounting cleats.

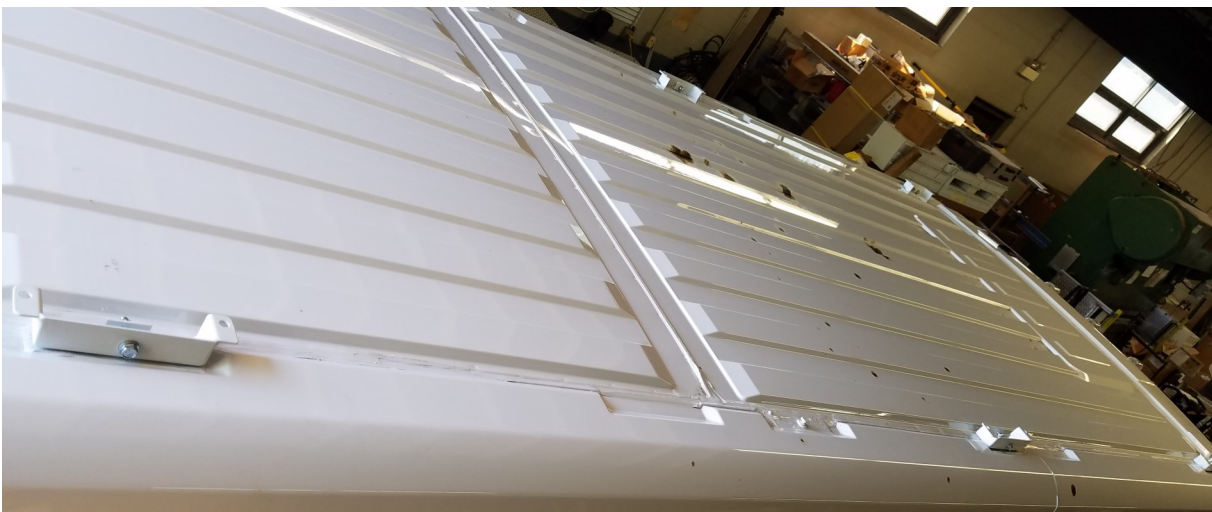
Insert an M8 x 45mm bolt with 5/16" washer through the side hole of the Foot Bracket



Place the Foot Bracket & bolt over the mounting cleat with the head of the bolt pushed against the Foot Bracket.



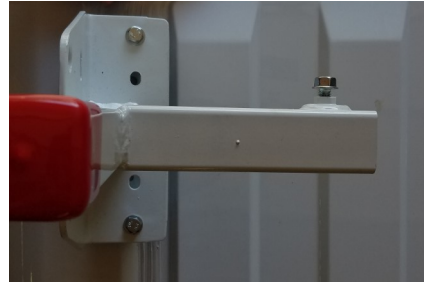
Slide the Clamp Bracket under the mounting cleat and fasten it with an M8 nylon lock nut & 5/16" washer.



RAM PROMASTER DIRECT-MOUNT INSTALLATION INSTRUCTIONS (Continued)

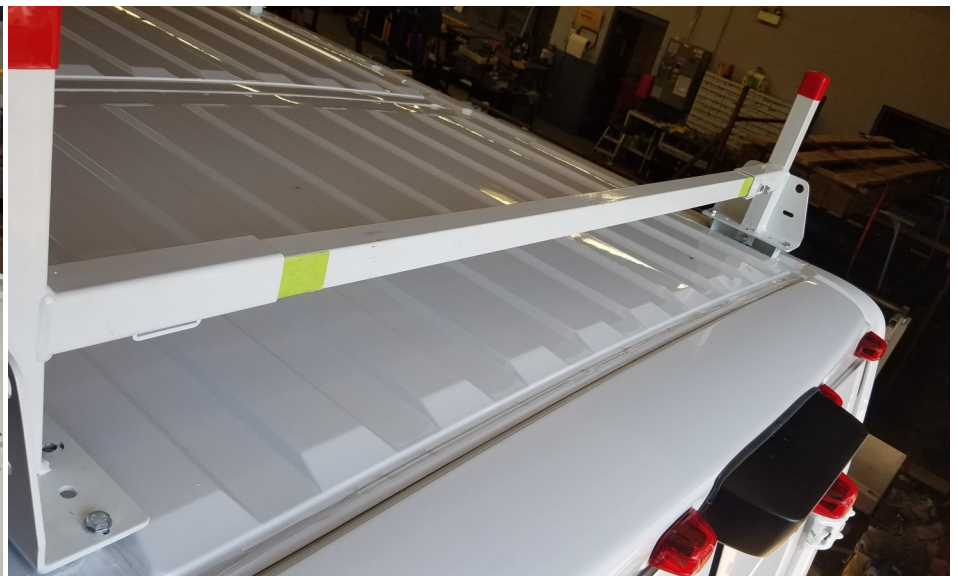
STEP 2. Install Half of the Stands

- Loosely install Stands to Feet Brackets on one side of the van using (2) M8 x 18mm bolts, (4) 5/16" washers, and (2) M8 nylon lock nuts through the outer slots in the base of the Stand. **Do not install the Stands on the other side of the van yet.**



STEP 3. Install Crossmember & Opposite Stand

- Insert a Crossmember into one of the previously-installed Stands. Note: The Airfoil is to be installed at the front of the van sloping downward.
- Place one of the remaining Stands over the remaining end of the Crossmember and loosely install it to the Foot Bracket with (2) M8 x 18mm bolts, (4) 5/16" washers, and (2) M8 nylon lock nuts.
- Center the Crossmember between the two Stands using the tape applied earlier as a guide.
- Tighten the Crossmember in place within the Stands using a 3/8"-16 thread-cutting screw in the weldnut in the side of each Stand.
- Tighten the M8 hardware in the Stands.
- Remove the pieces of tape.
- Repeat this process for the remaining Crossmember(s) and then proceed to "Final Installation Instructions" on page 14.

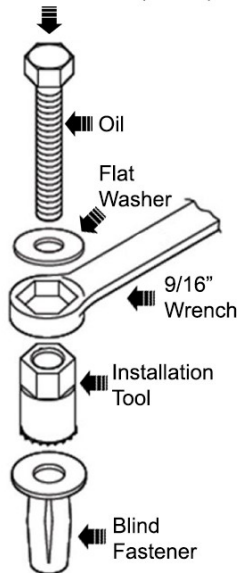


MERCEDES SPRINTER DIRECT-MOUNT INSTALLATION INSTRUCTIONS

STEP 1. Prepare Sprinter Van Roof & Assemble Stands to Foot Brackets

- Determine which mounting points to use for the Crossmembers (one at the center of each Stand).
 - For diagrams with measurements & suggested mounting points, see page 17.
- Remove the caps in the chosen van roof mounting points.
- Install an M8 blind fastener in each of the now-exposed mounting holes using the procedure shown below.
- Apply the provided Sealant around the base and top of the blind fasteners. Ensure roof and blind fastener surfaces are clean before applying the Sealant.
- Place the 1/8" Rubber Spacers on the van roof with the hole aligned to the blind fastener and more of the material toward the outside of the van (the Spacer will only line up and fit within the groove in the van roof in one direction).
- Assemble each Stand to a Foot Bracket using (2) M8 x 18mm bolts, (4) 5/16" washers, and (2) M8 nylon lock nuts. The Foot Bracket should be oriented such that the center hole in base of the Stand lines up with the large hole in the bottom of the Foot Bracket.

Use 13mm socket (M8)
or 7/16" socket (1/4-20)



INSTALLATION PROCEDURE USING BLIND FASTENERS

Place a drop of oil on the M8-1.25 x 55mm or 1/4-20 x bolt before assembling as shown on left.

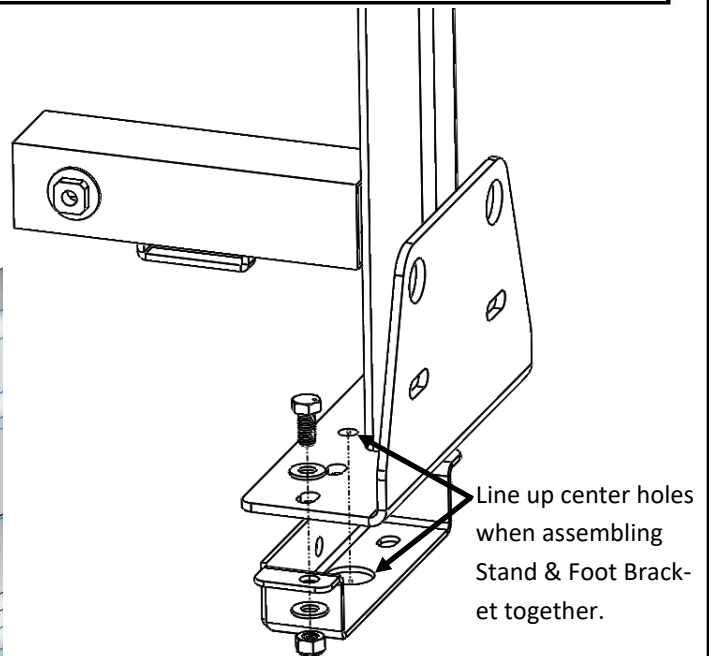
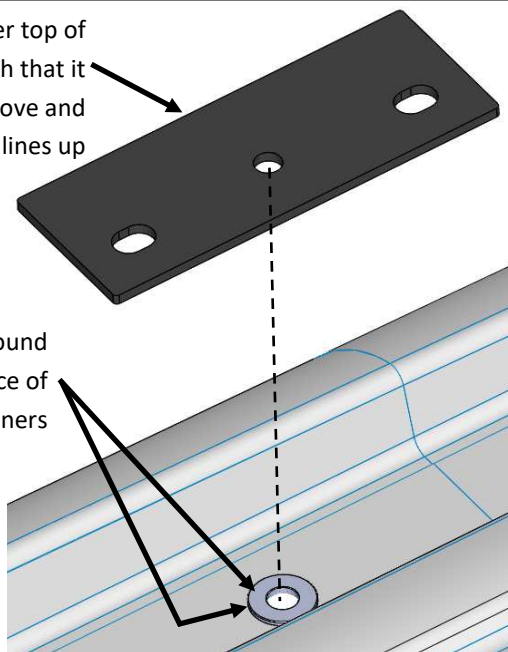
Place the Blind Fastener in the hole and use a 13mm when installing M8 Blind Fastener or 7/16" socket when installing 1/4-20 Blind Fastener and driver to tighten the bolt until the Blind Fastener is fully seated.

When setting the bolt, it will start out tight. As the Blind Fastener "bulbs" out it will get easier, until it bottoms out of sets.

Make sure the Blind Fastener and the installation tool do not slip during the installation.

2) Place Spacer over top of blind fastener such that it fits within roof groove and the center hole lines up

1) Apply Sealant around base and top surface of blind fasteners

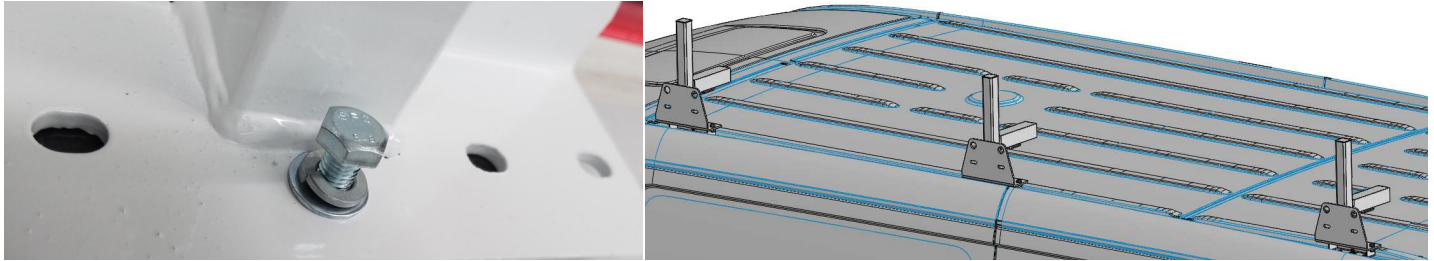


Line up center holes when assembling Stand & Foot Bracket together.

MERCEDES SPRINTER DIRECT-MOUNT INSTALLATION INSTRUCTIONS (Continued)

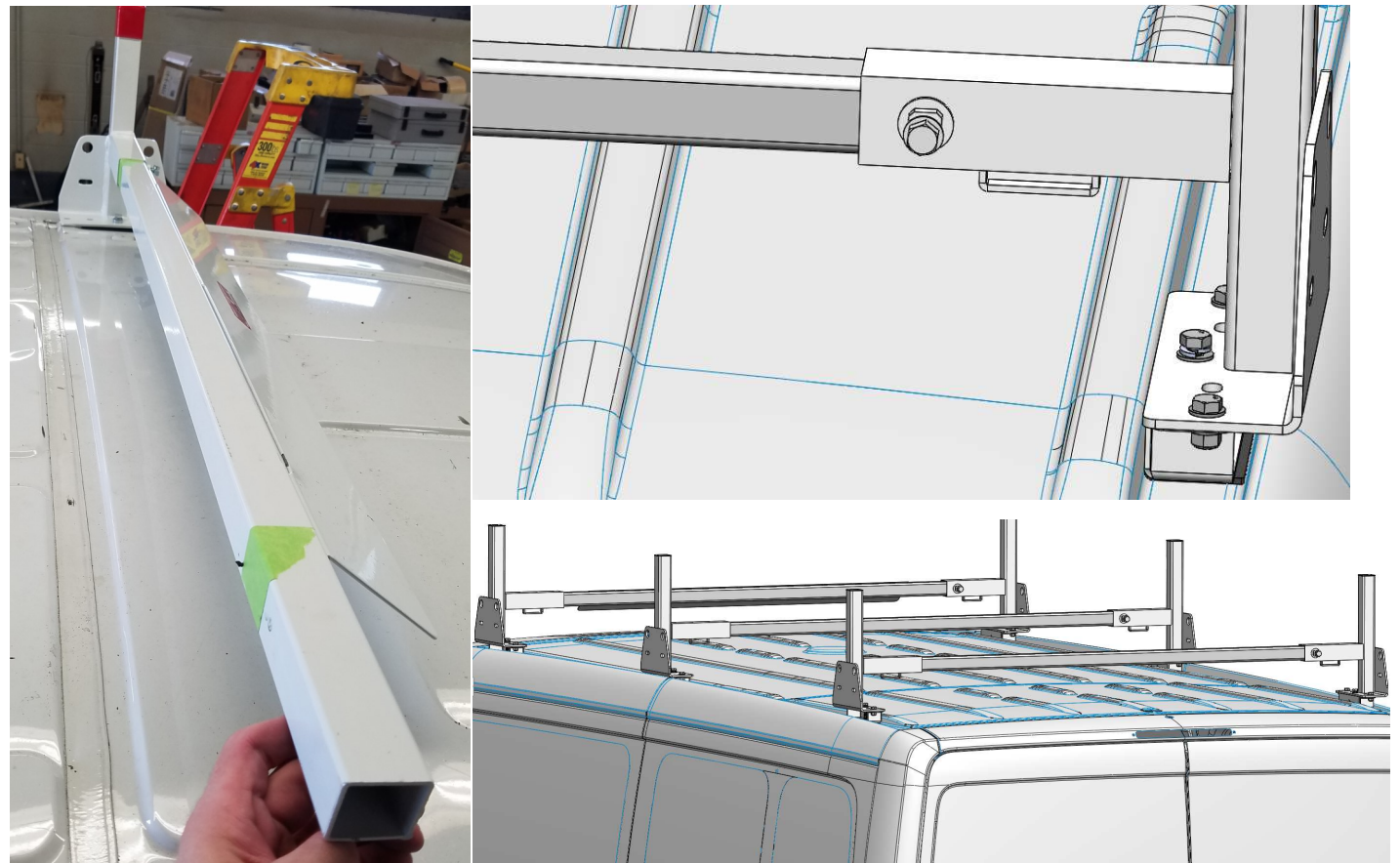
STEP 2. Install Half of the Stands

- Loosely install assembled Stands & Foot Brackets atop Spacers on one side of the van using a M8 x 65mm bolt, 5/16" lock washer, and 5/16" washer through the center hole in the base of the Stand. **Do not install the Stands on the other side of the van yet.**



STEP 3. Install Crossmember & Opposite Stand

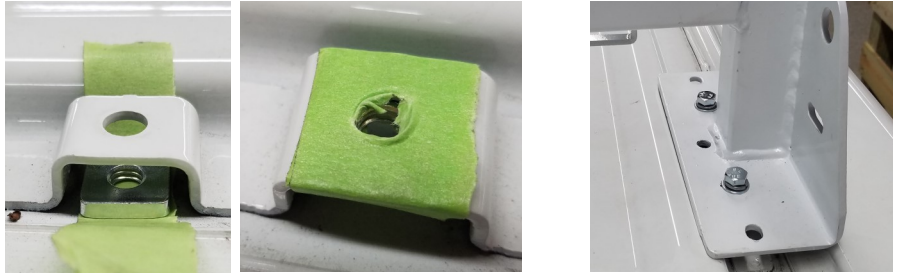
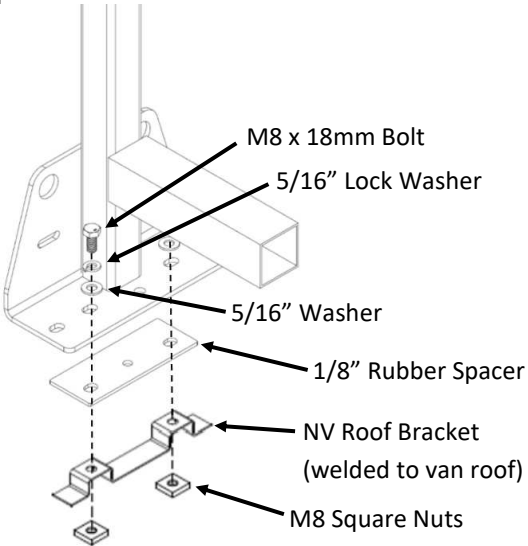
- Insert a Crossmember into one of the previously-installed Stands. Note: The Airfoil is to be installed at the front of the van sloping downward.
- Place one of the remaining Stands over the remaining end of the Crossmember and loosely install it to the van roof with an M8 x 65mm bolt, 5/16" lock washer, and 5/16" washer.
- Center the Crossmember between the two Stands using the tape applied earlier as a guide.
- Tighten the Crossmember in place within the Stands using a 3/8"-16 thread-cutting screw in the weldnut in the side of each Stand.
- Tighten the M8 bolts in the Stands.
- Remove the pieces of tape.
- Repeat this process for the remaining Crossmember(s) and then proceed to "Final Installation Instructions" on page 14.



NISSAN NV DIRECT-MOUNT INSTALLATION INSTRUCTIONS (Continued)

STEP 1. Install Half of the Stands

- Determine which mounting brackets to use—for a diagram with measurements & suggested mounting points, see page 18 diagrams.
- Loosely install Stands atop 1/8" Rubber Spacers to the brackets on the van roof on one side of the van using (2) M8 square nuts inserted into the brackets, (2) M8 x 18mm bolts, (2) 5/16" lock washers, (2) 5/16" washers through the inner slots in the base of the Stand. Note: The square nuts may need to be taped to the bottom of the roof bracket to hold them in place (see middle top 2 images below). **Do not install the Stands on the other side of the van yet.**



STEP 2. Install Crossmember & Opposite Stand

- Insert a Crossmember into one of the previously-installed Stands. Note: The Airfoil is to be installed at the front of the van sloping downward.
- Place one of the remaining Stands over the remaining end of the Crossmember and loosely install it to the van roof with (2) M8 square nuts, (2) M8 x 18mm bolts, (2) 5/16" lock washers, and (2) 5/16" washers.
- Center the Crossmember between the two Stands using the tape applied earlier as a guide.
- Tighten the Crossmember in place within the Stands using a 3/8"-16 thread-cutting screw in the weldnut in the side of each Stand.
- Tighten the M8 bolts in the Stands.
- Remove the pieces of tape.
- Repeat this process for the remaining Crossmember(s) and then proceed to "Final Installation Instructions" on page 14.



WG CHANNEL-MOUNT GENERAL INSTALLATION INSTRUCTIONS

NOTE: For ProMaster & Sprinter channel mounting, first see vehicle-specific instructions on the next page.

STEP 1. Assemble & Place Mounting Plates

- Determine the rough locations where you would like your Crossmembers placed within the channels.
- Decide if you are using the two innermost slots (recommended) in the Stands or the center hole.
 - If using the slots, assemble and insert two mounting plates per Stand as shown below.
 - If using the center hole, assemble and insert one mounting plate per Stand as shown below.
- When inserting the Mounting Plates into the channels at the desired locations, keep in mind that they will not be able to slide past the heads of the bolts that hold the channels to the roof.

Insert a 5/16"-18 x 1-1/4" carriage bolt into each Mounting Plate with the word "TOP" facing the threads.



Insert the Mounting Plates and carriage bolts into the channels near the desired Crossmember locations.

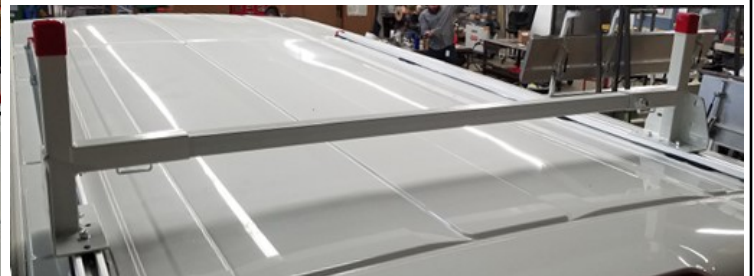


Rotate the Mounting Plates 90° clockwise.



STEP 2. Install Half of the Stands (left picture below)

- Loosely install Stands on one side of the van using a 5/16" washer and 5/16"-18 nylon lock nut per mounting plate. **Do not install the Stands on the other side of the van yet.**



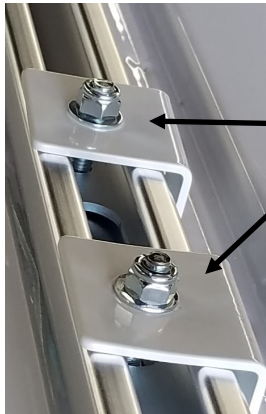
STEP 3. Install Crossmember & Opposite Stand (center & right pictures above)

- Insert a Crossmember into one of the previously-installed Stands. Note: The Airfoil is to be installed at the front of the van sloping downward.
- Place one of the remaining Stands over the remaining end of the Crossmember and loosely install it to the channel with a 5/16" washer and 5/16"-18 nylon lock nut per mounting plate.
- Center the Crossmember between the two Stands using the tape applied earlier as a guide.
- Tighten the Crossmember in place within the stands using a 3/8"-16 thread-cutting screw in the weldnut in the side of each Stand.
- Finalize the desired location of the Crossmember and tighten the nuts on the Stands.
- Remove the pieces of tape.
- Repeat this process for the remaining Crossmember(s)

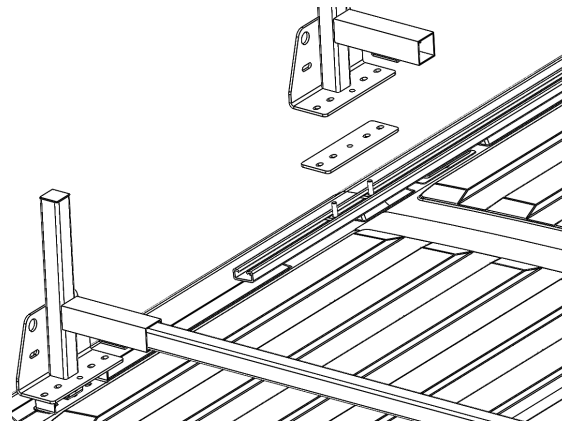
WG CHANNEL-MOUNT VEHICLE-SPECIFIC INSTALLATION INSTRUCTIONS

PROMASTER-SPECIFIC WG CHANNEL MOUNTING INSTRUCTIONS

- For All ProMaster vans:
 - If you would like to install a Stand at the points where the channel brackets are located, remove the brackets and use the Stand in place of the channel brackets. See left picture below. (This may require replacing the channels' carriage bolts with the 1-3/4" carriage bolts provided in this kit).
- For 159" wheelbase and extended ProMaster vans:
 - The channel will not extend to the rear mounting point of the vehicle. So, the rear Crossmember will mount directly using the Foot and Clamp Brackets. See "RAM ProMaster Direct-Mount Installation Instructions" on page 7 for details on this process.
 - When mounting the remaining Crossmember(s) to the channels, a Rail Spacer Plate will need to be installed under each Stand to account for the height difference between the top of the channels and the top of the Foot Brackets at the rear. See right picture below.

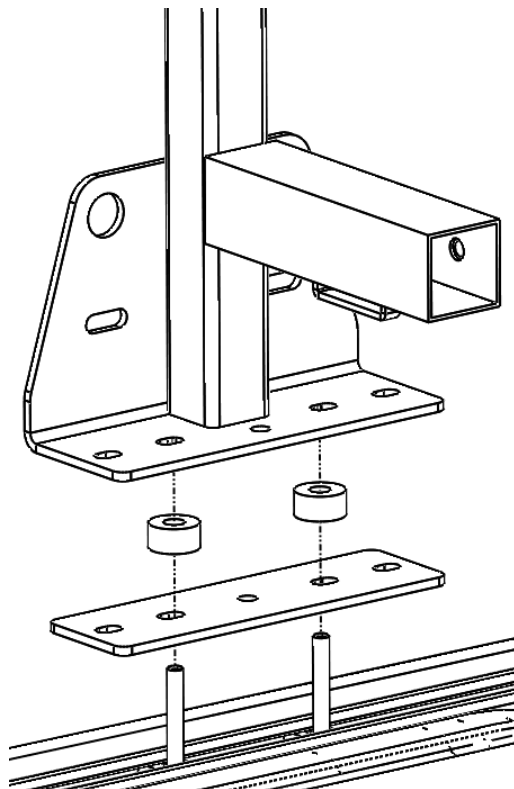


Use Stand in place of these white brackets if necessary (may require longer carriage bolts).



SPRINTER-SPECIFIC WG CHANNEL MOUNTING INSTRUCTIONS

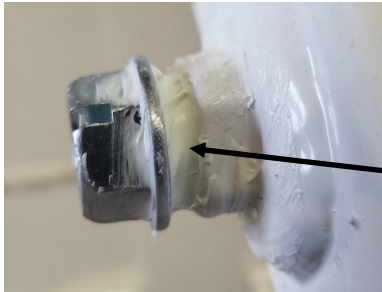
- On Sprinter vans, it will be necessary to use the Rail Spacer Plates, 1/2" spacers, and the 1-3/4" long carriage bolts when mounting the Stands to the channels in order to clear the outer lip of the groove in the van roof.



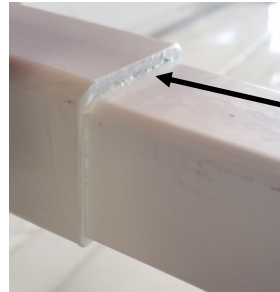
FINAL INSTALLATION INSTRUCTIONS

STEP 1. Apply Sealant

- Apply provided Sealant around the 3/8"-16 thread-cutting screws in the Stands.
- Apply provided Sealant around the Crossmembers where they meet the Stands.



Seal These
Crevices
All Around



Seal These
Joints All
Around

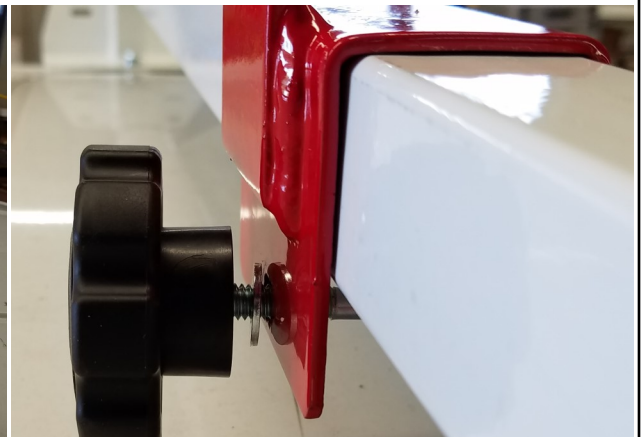
STEP 2. Apply Rubber Tape

- Cut two 6-3/4" pieces from each strip of Rubber Tape. Apply these pieces to the top of the crosspost of each Stand.
- Measure the distance on the Crossmember between the two stand crossposts and cut a piece of Rubber Tape accordingly. Apply the piece of Rubber Tape to the top of the Crossmember. Repeat for remaining Crossmember(s).
- **Note: Ensure the tops of the crossposts and Crossmembers are clean before applying the Rubber Tape.**



STEP 3. Install Ladder Stop and Ladder Guide(s)

- Slip the Ladder Stop/Guide over the top of the Crossmember.
- Use a 5/16"-18 x 2-1/4" carriage bolt, 5/16" washer, and Knob to clamp the Stop/Guide in place in the location you desire. The Knob will allow you to adjust its position or remove it by hand later.
 - A lock washer is also provided in case the knob wants to loosen by itself over time.
 - Alternately, a 5/16"-18 nylon lock nut (provided) can be used in place of the Knob for a more permanent placement.

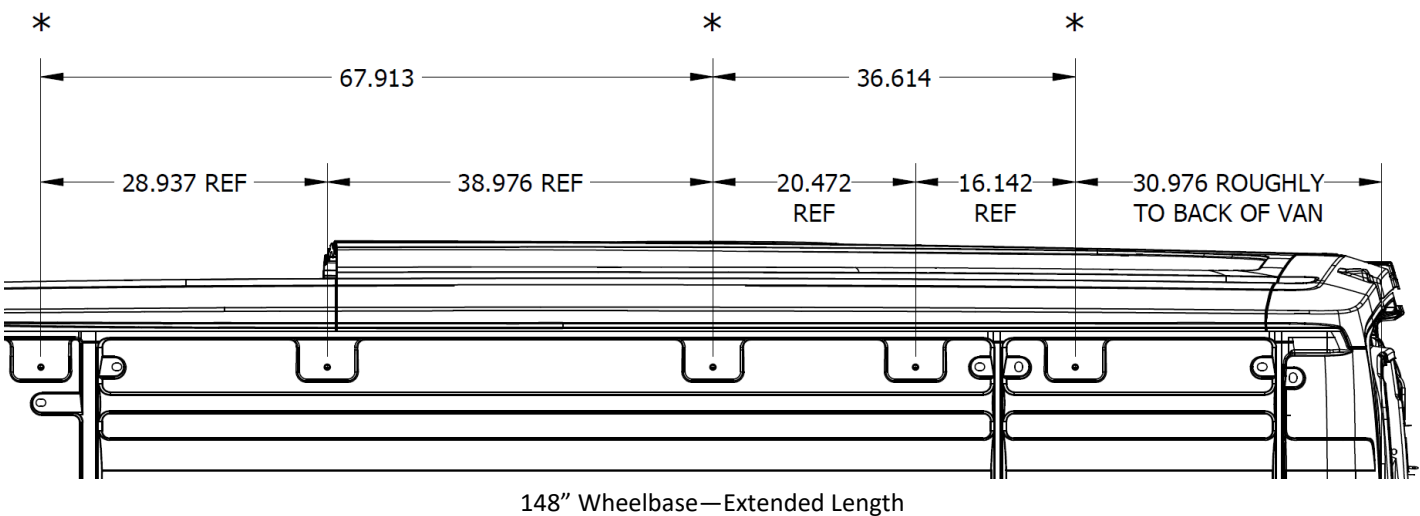
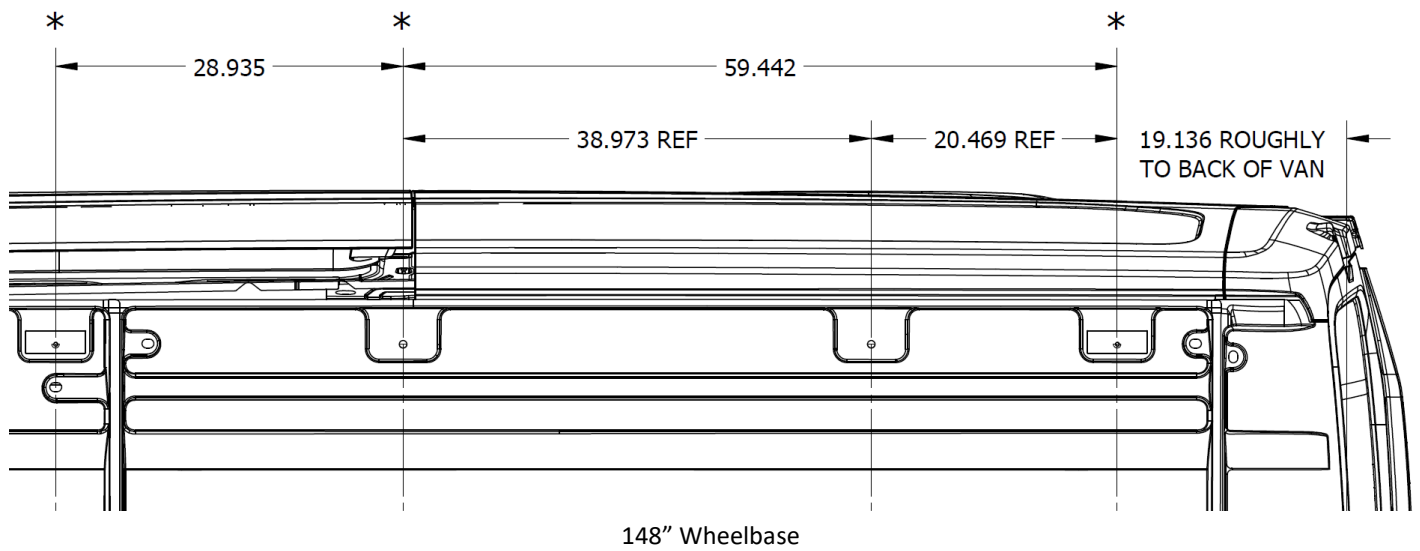
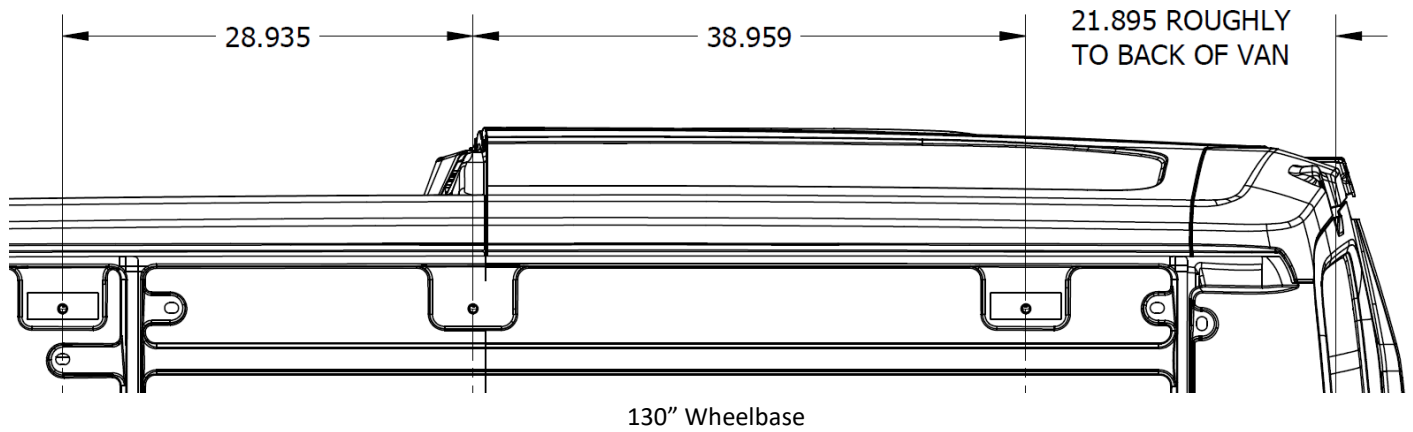


STEP 4. Attach Velcro Straps through the Stand loops

FORD TRANSIT ROOF MOUNTING POINT REFERENCE DIAGRAMS

* Asterisks denote suggested positions of Crossmembers for complete roof utilization. Other mounting points may be used if material being carried is shorter than the spacing between the suggested points.

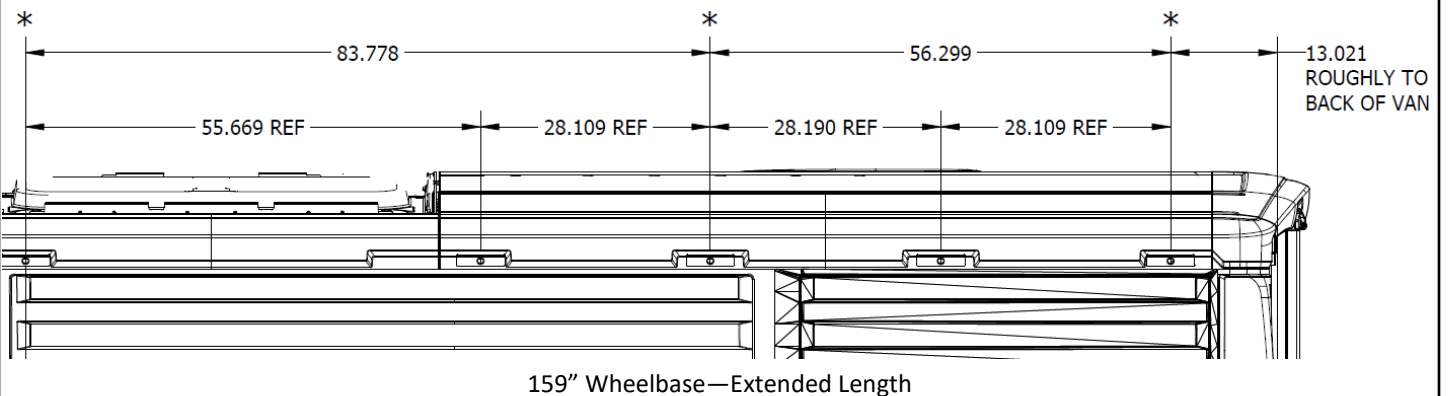
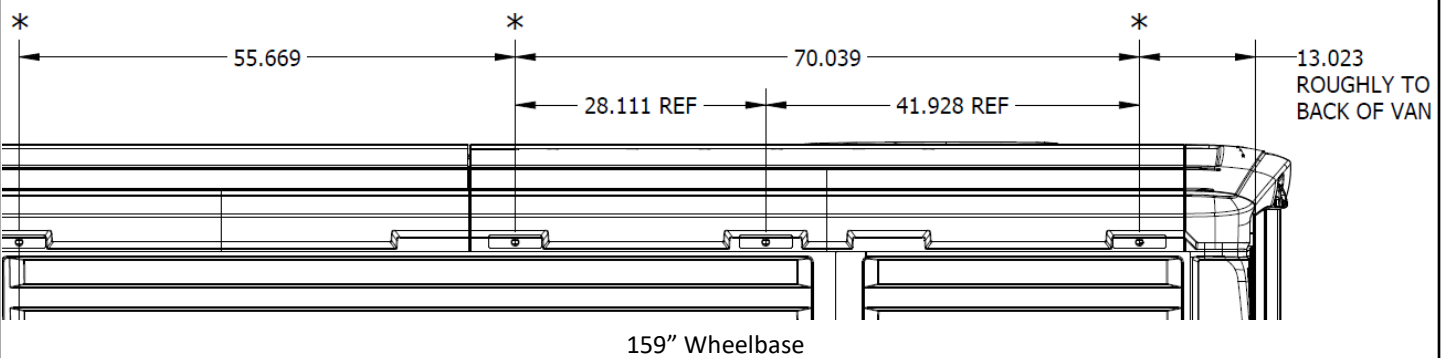
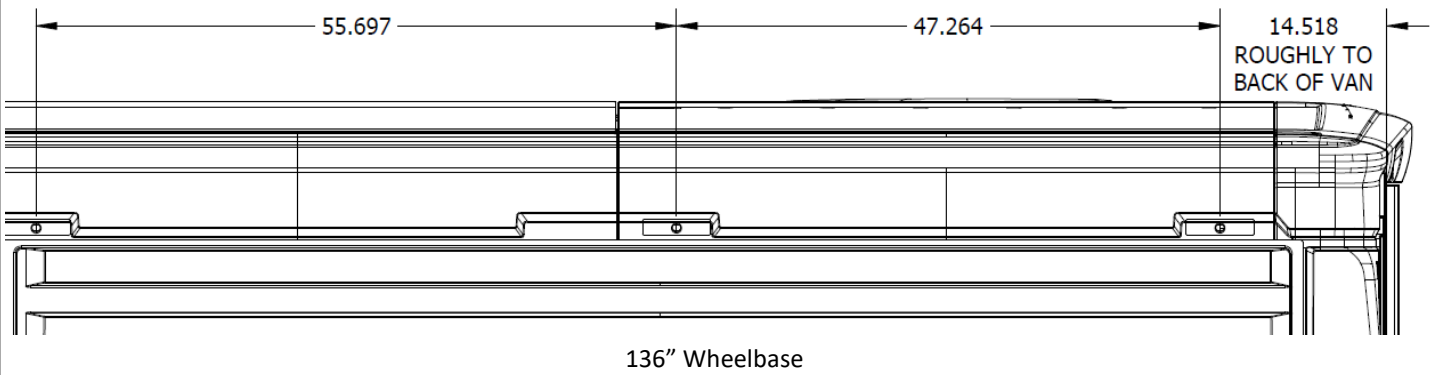
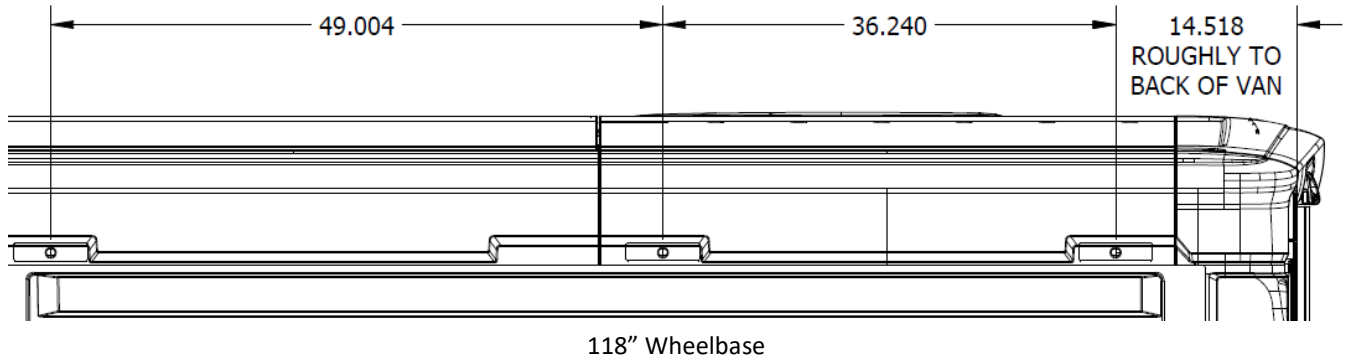
Passenger Side shown with Rear of van to the right. All dimensions are for reference only and may vary slightly.



RAM PROMASTER ROOF MOUNTING POINT REFERENCE DIAGRAMS

* Asterisks denote suggested positions of Crossmembers for complete roof utilization. Other mounting points may be used if material being carried is shorter than the spacing between the suggested points.

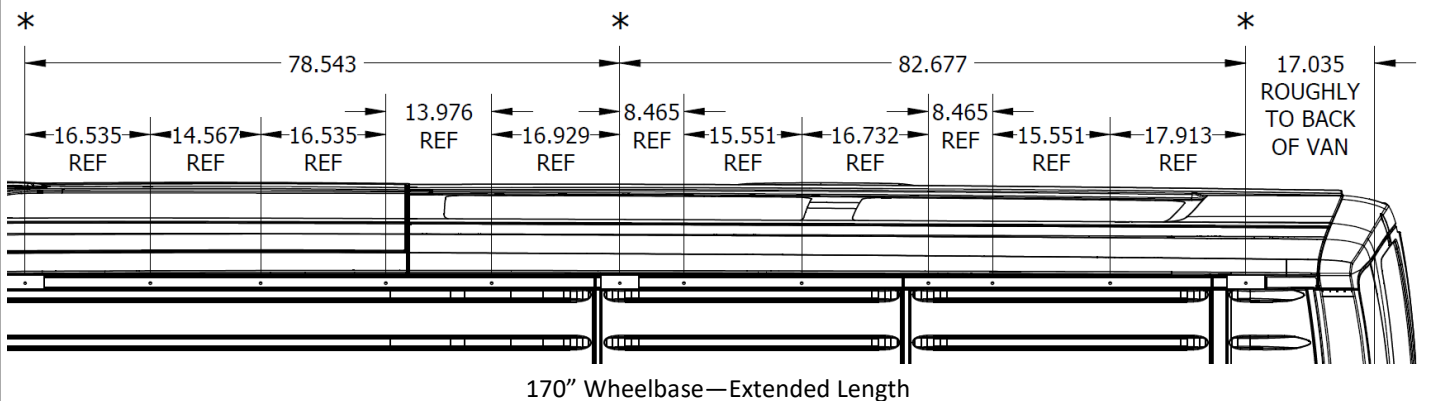
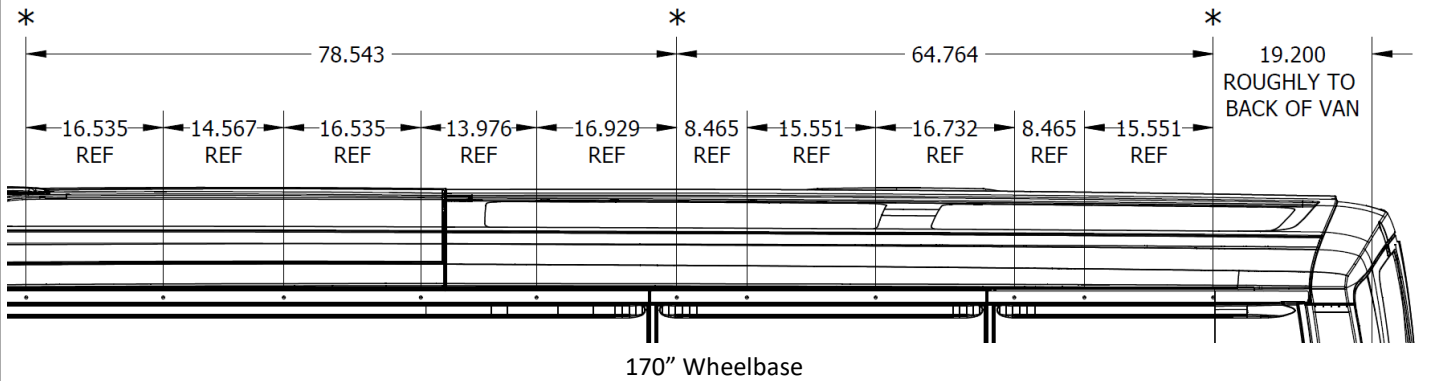
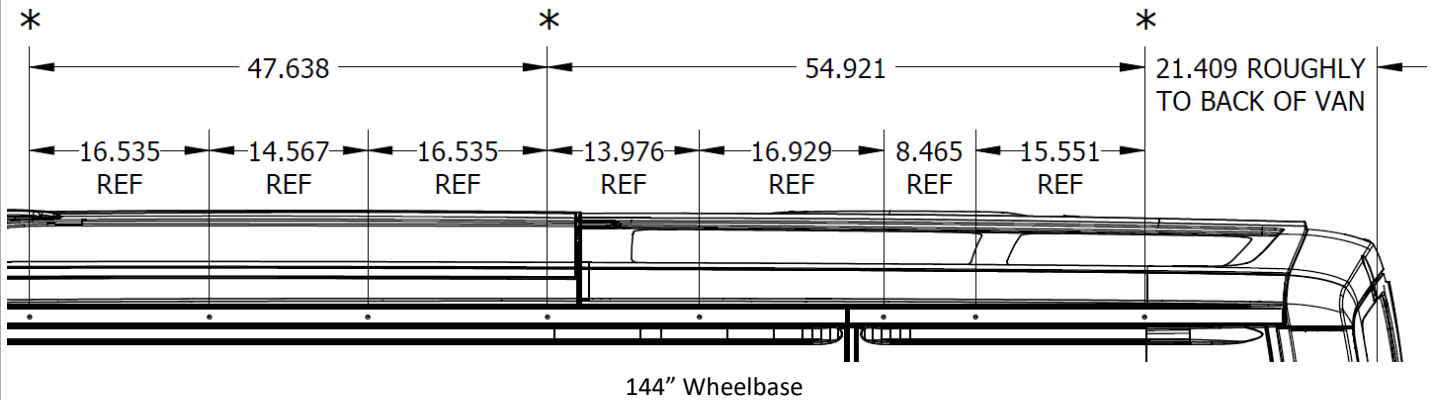
Passenger Side shown with Rear of van to the right. All dimensions are for reference only and may vary slightly.



MERCEDES SPRINTER ROOF MOUNTING POINT REFERENCE DIAGRAMS

* Asterisks denote suggested positions of Crossmembers for complete roof utilization. Other mounting points may be used if material being carried is shorter than the spacing between the suggested points.

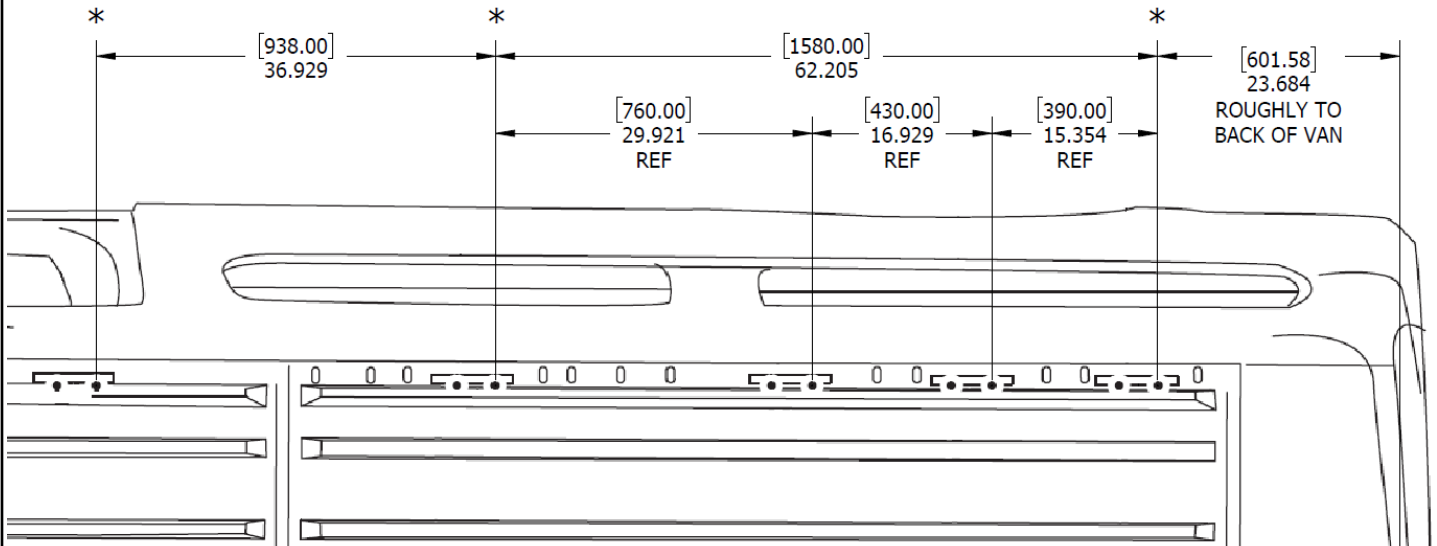
Passenger Side shown with Rear of van to the right. All dimensions are for reference only and may vary slightly.



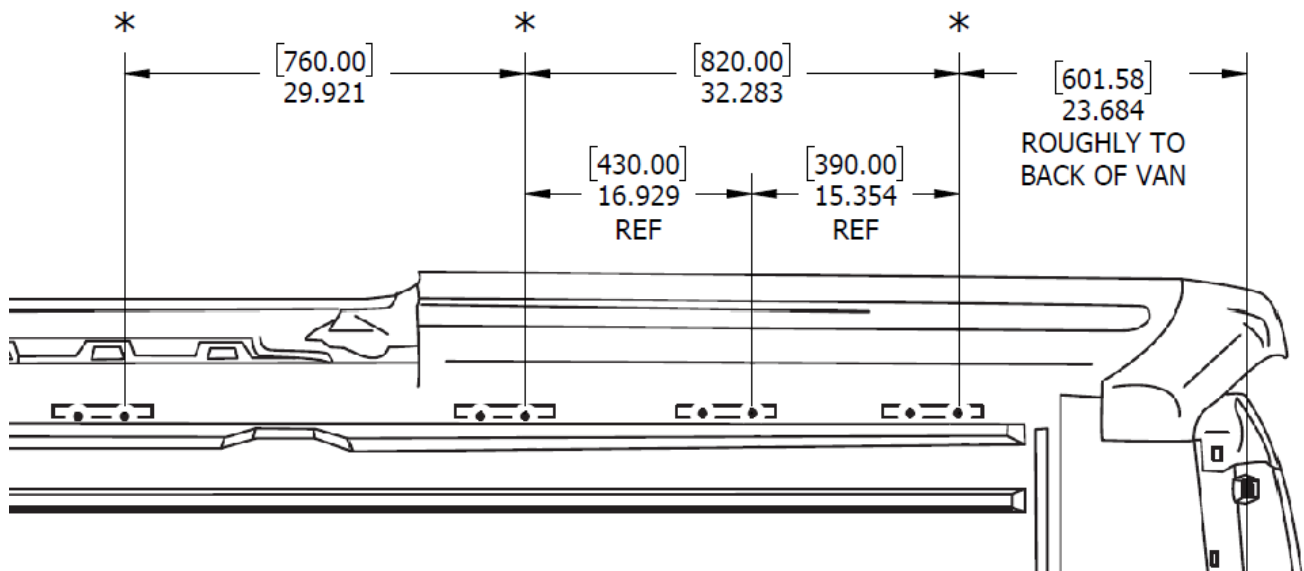
NISSAN NV ROOF MOUNTING POINT REFERENCE DIAGRAMS

* Asterisks denote suggested positions of Crossmembers for complete roof utilization. Other mounting points may be used if material being carried is shorter than the spacing between the suggested points.

Passenger Side shown with Rear of van to the right. All dimensions are for reference only and may vary slightly.



146" Wheelbase—Low Roof



146" Wheelbase—High Roof