UNAKA
GEAR CO

Ram ProMaster Ladder Installation Manual 2/7/22

Warning: Ladders are dangerous and should only be used with appropriate training. Incorrect use of ladders can result in injury or death. The persons that purchase and now own the Unaka Ram ProMaster ladder are responsible for putting together and enforcing an appropriate safety procedure that outlines how the ladder is used, what fall protection is required, what other personal protective equipment is required, and who has access to the ladder.

The Unaka Ram ProMaster ladder is a service ladder used to help access the roof of the van in order to help clean or work on solar panels. If frequent roof access is required or access to other parts of the van roof not safely accessible using this ladder in the location it is installed, additional ladders or methods of access should be used.

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.

The list below outlines a few times when the ladder should not be used. These should be included in addition to any rules documented and put in place by the owner of the ladder:

- Without appropriate fall protection and personal protective equipment
- During storms
- When wet from any source
- Under the influence of drugs or alcohol
- While the van is in motion

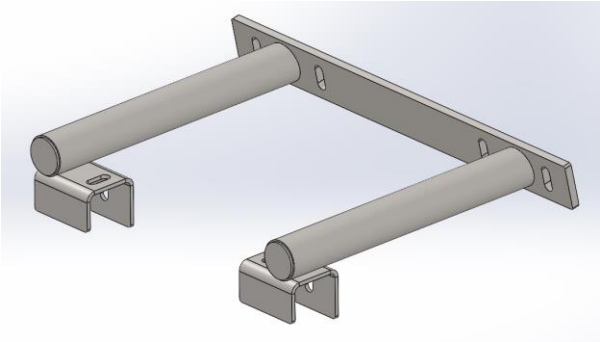
High Level Notes

- **Ladders:** All ladders are extremely dangerous if used improperly. The installation of the Ram ProMaster Ladder requires the use of a separate ladder. Anyone using any ladder should follow the manufactures guidelines with respect to proper usage.

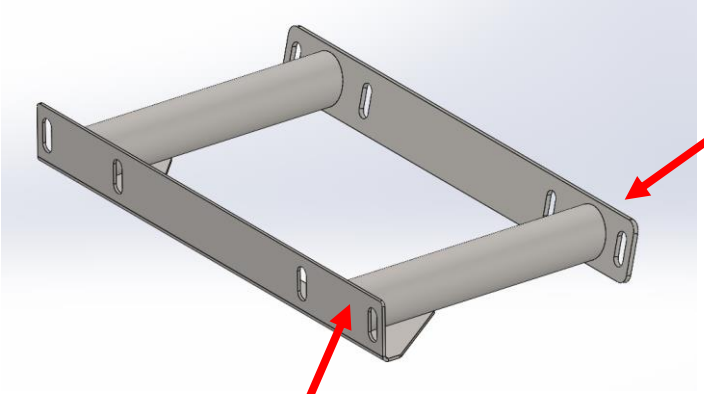
- **Initial Loose Fit:** Due to manufacturing tolerances of the ProMaster vans and these ladders, some hardware may need to be left very loose initially to make installing the hardware easier. This is generally noted but, in some cases, other hardware may need to be loosened up so that all hardware can be installed, then tightened up.

Main Ladder Components

1. Upper Ladder Extension Weldment (Qty 1):
open on one side with 2 U-shaped channels



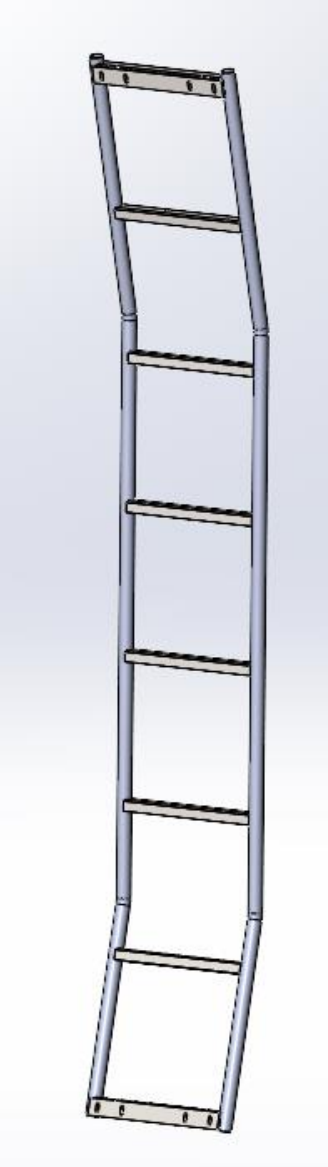
2. Lower Ladder Extension Weldment (Qty 1)



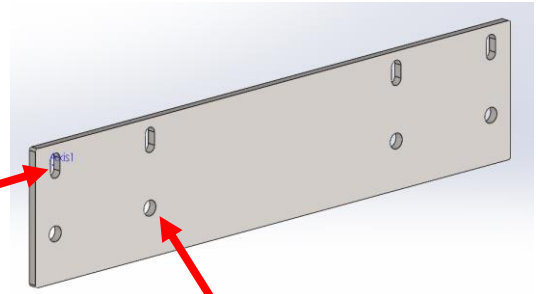
This face bolts to the ladder

This face bolts to the connecting plate

3. Main Ladder Weldment (Qty 1):
Open face of ladder rungs face down



4. Lower Connecting Plate (Qty 1)



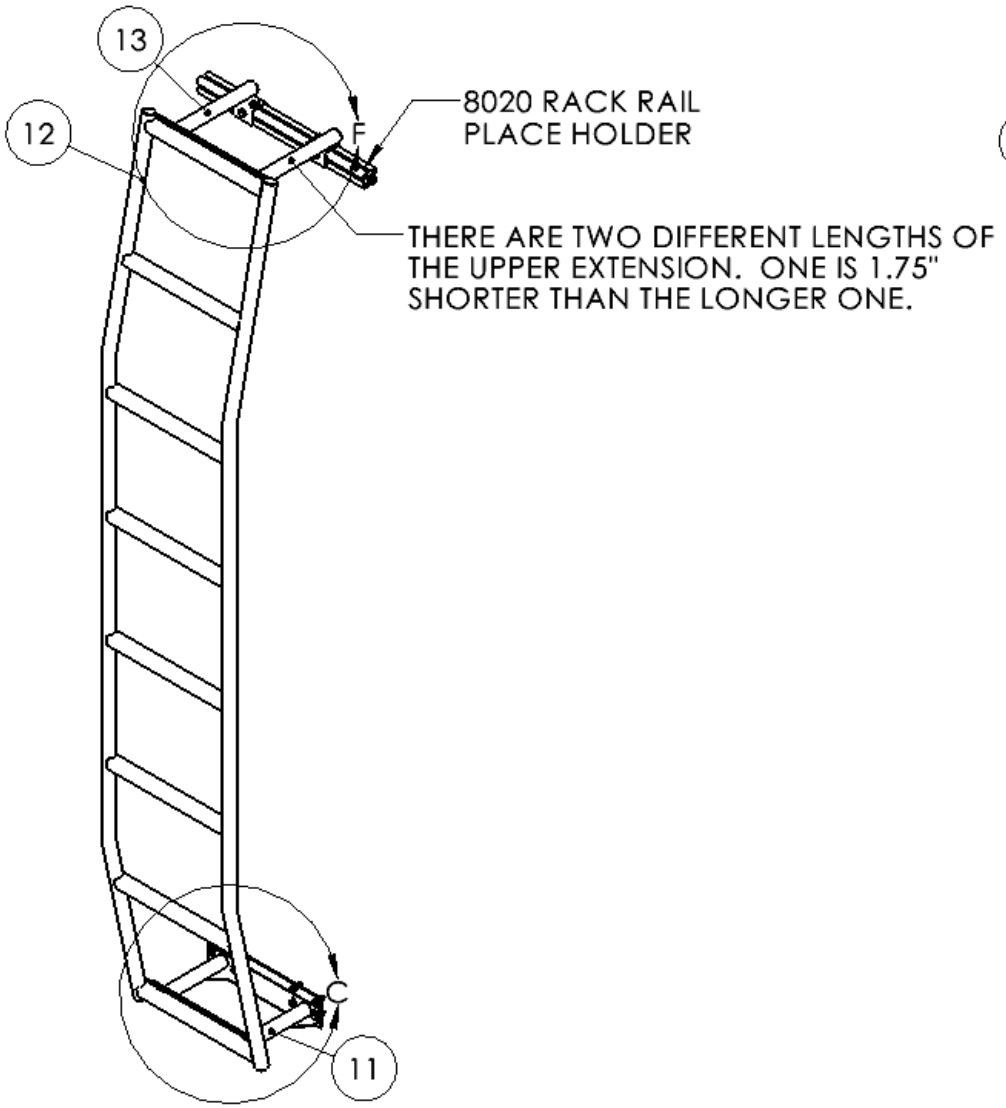
Slots connect to Van Weld Seam

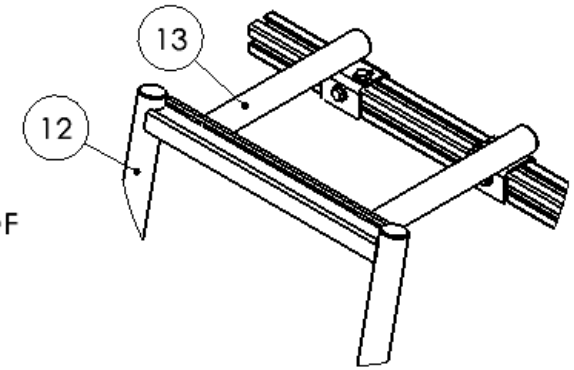
These holes are where lower extension weldment bolts to

Complete Ladder Bill Of Material

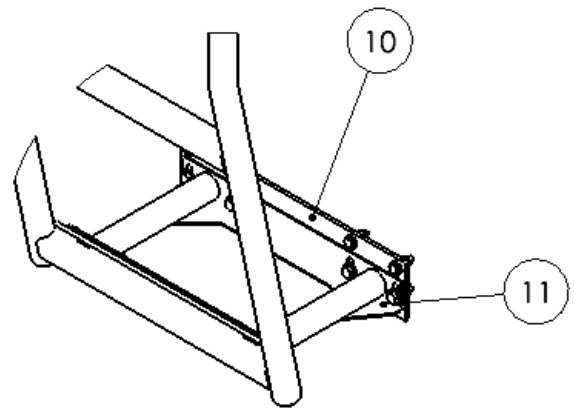
ITEM NO.	Manufacturer	PART NUMBER	DESCRIPTION	MATERIAL	LENGTH	QTY.
1	8020	8020-3678	T-NUT, ECONOMY, 5/16 THREAD, SS	NA		4
2	ANY	91831A029	LOCKNUT, 1/4-20, 18-8 S.S.	NA		4
3	ANY	91831A030	LOCKNUT, 5/16-18, 18-8 S.S.	NA		12
4	ANY	92141A029	WASHER, 1/4", 0.625" OD, 18-8 SS	NA		8
5	ANY	92141A030	FLAT WASHER, 5/16" SCREW SIZE, 0.344" ID, 0.75" OD, 18-8 SS	NA		28
6	ANY	92240A542	HEX BOLT, 1/4-20 X 1" FULLY THREADED, 18-8 S.S.	NA		4
7	ANY	92240A580	HEX HEAD BOLT, 5/16"-18 X 0.625" LG, 18-8 SS	NA		4
8	ANY	92240A583	HEX BOLT, 5/16"-18 X 1" LG, 18-8 SS	NA		8
9	ANY	92240A584	HEX HEAD BOLT, 5/16"-18 X 1.125" LG, 18-8 SS	NA		4
10	UNAKA GEAR CO	Unaka Ladder Lower Connecting Bar	PROMASTER VAN RIB CONNECTING BAR	Plain Carbon Steel		1
11	UNAKA GEAR CO	Unaka Ladder Lower Extension Weldment V2 V4	PROMASTER LOWER LADDER EXTENSION WELDMENT	ASSEMBLY		1
12	UNAKA GEAR CO	Unaka Ladder Main Rung Weldment V4	PROMASTER LADDER MAIN RUNG WELDMENT	ASSEMBLY		1
13	UNAKA GEAR CO	Unaka Ladder Top Extension Weldment TOP V4	PROMASTER LADDER TOP EXTENSION WELDMENT	ASSEMBLY		1
14	UNAKA GEAR CO	Unaka Ladder Top Extension Weldment TOP V4 Wide Rack	PROMASTER LADDER TOP EXTENSION WELDMENT	ASSEMBLY		1

Ladder Overview





DETAIL F
SCALE 1 : 8

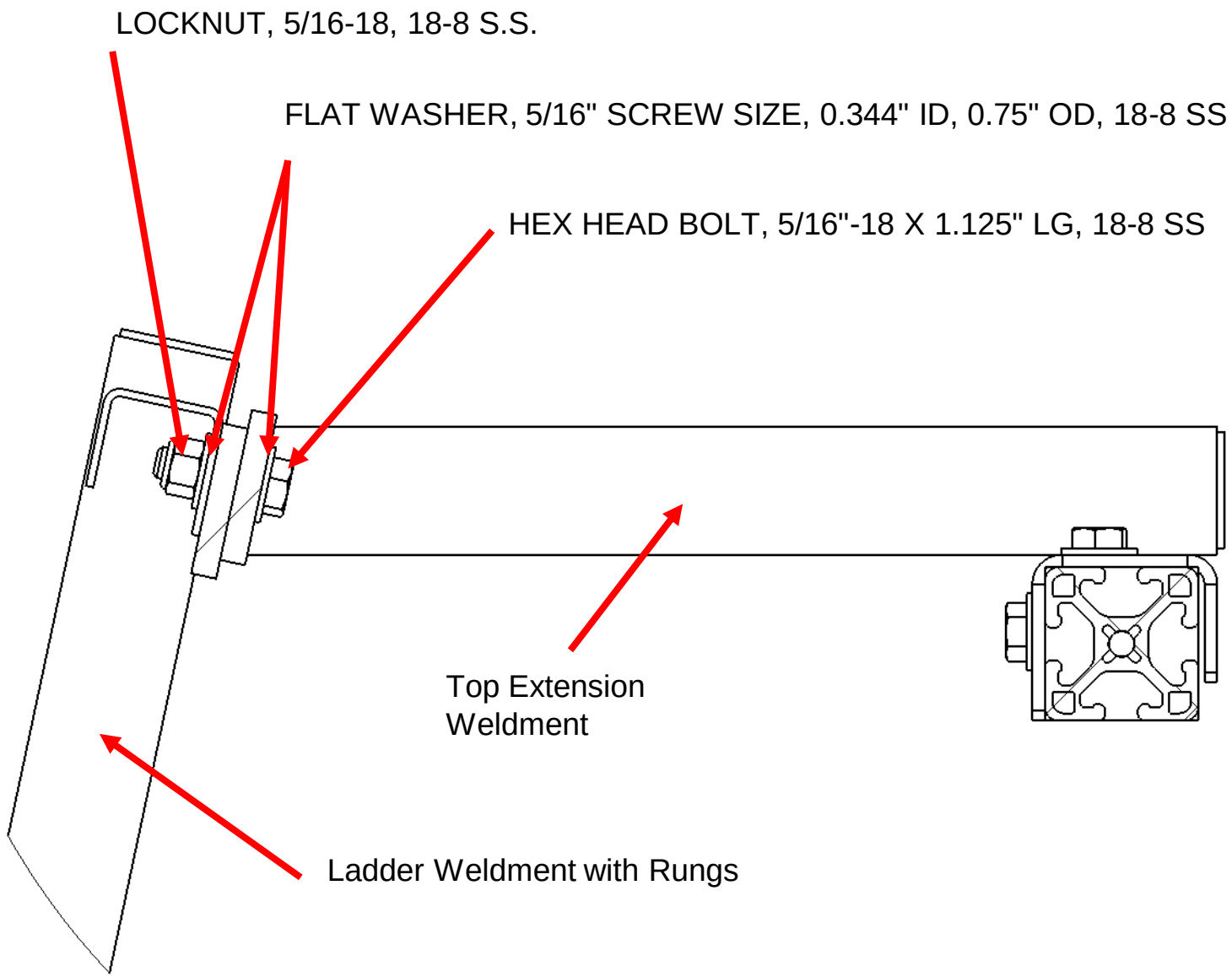


DETAIL C
SCALE 1 : 8

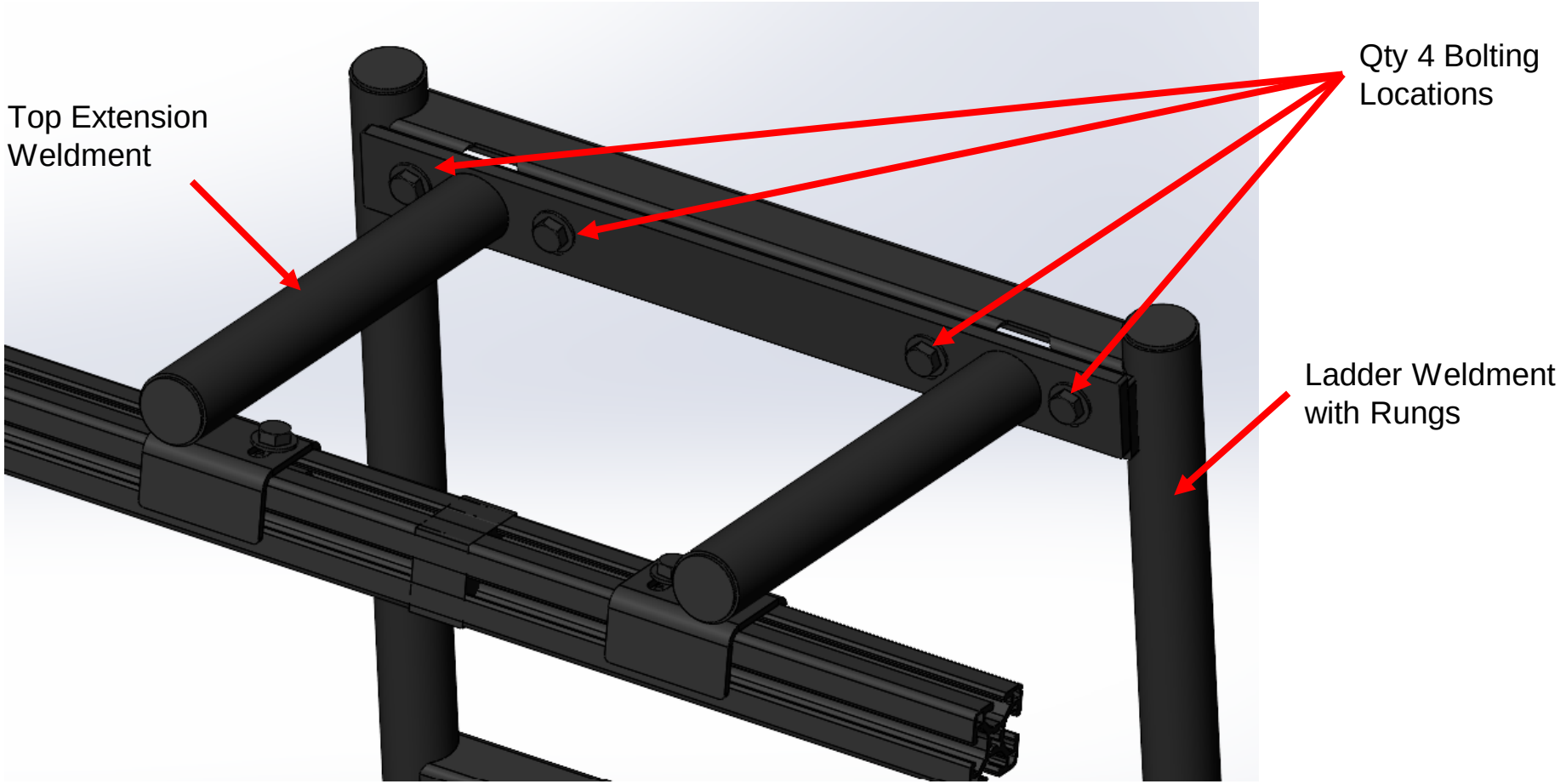
Bolt Top Extension To Ladder

1. Loosely bolt the top extension weldment to the top of the ladder.
2. Leave this slightly loose, so that the relative position can be adjusted as needed during final install (items have slots)
3. **During initial fit up it may be easier to start with just the outside most bolts, washers, and nuts, then go back and add the middle 2 after everything is in place

**The view to the right is a cut away view showing top extension hardware assembly sequence



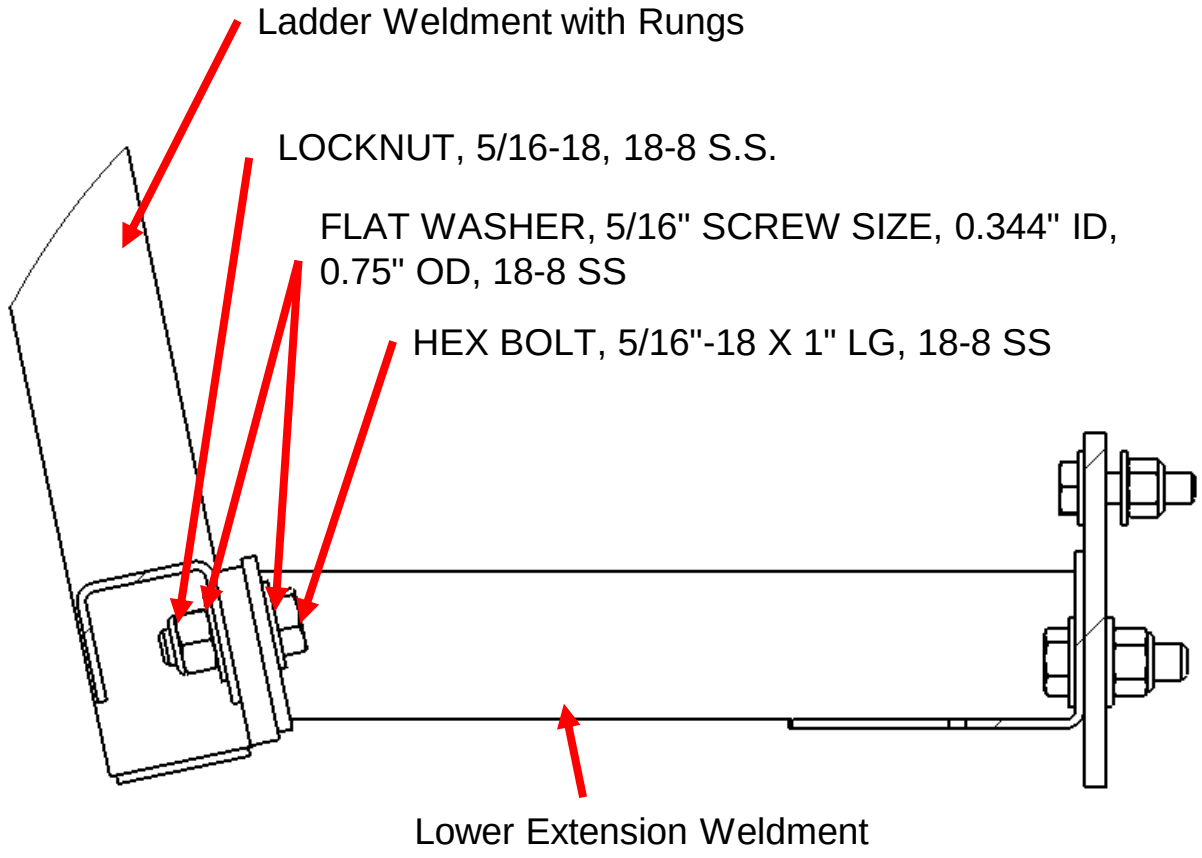
Bolt Top Extension To Ladder: 4 Hardware Locations



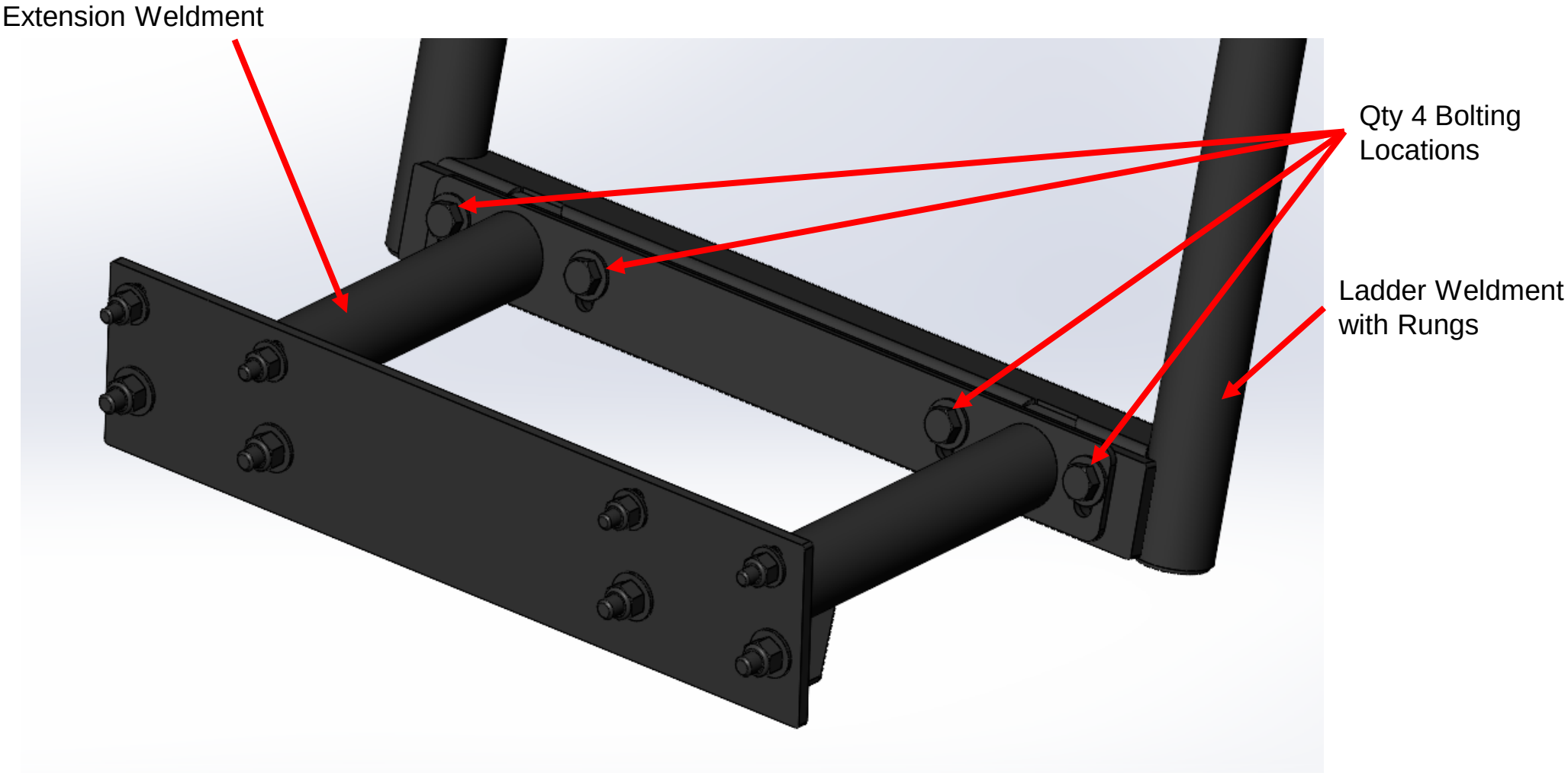
Loosely Bolt Lower Extension To Ladder

1. Very Loosely bolt the lower extension weldment to the top of the ladder ***Barley Start the Bolts & Nuts so that the lower extension is dangling at an angle.**
2. Leaving this part Very loose makes alignment and final fit up easier
3. During initial fit up it may be easier to start with just the outside most bolts, washers, and nuts, then go back and add the middle 2 after everything is in place

**The view to the right is a cut away view showing top extension hardware assembly sequence. Note this does not show the part hanging loose

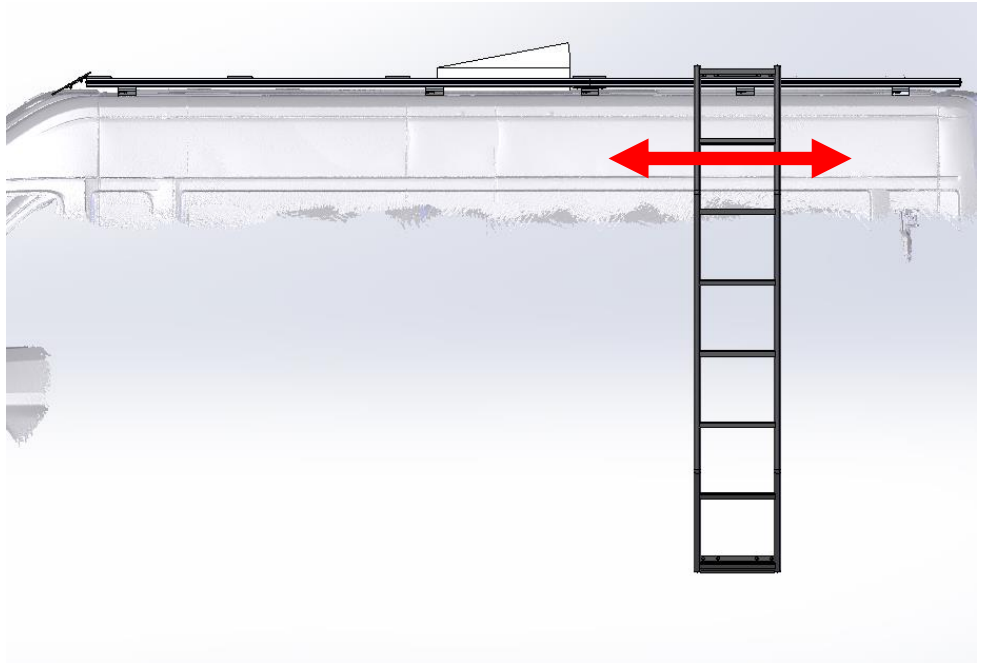


Loosely Bolt Lower Extension To Ladder: 4 Hardware Locations



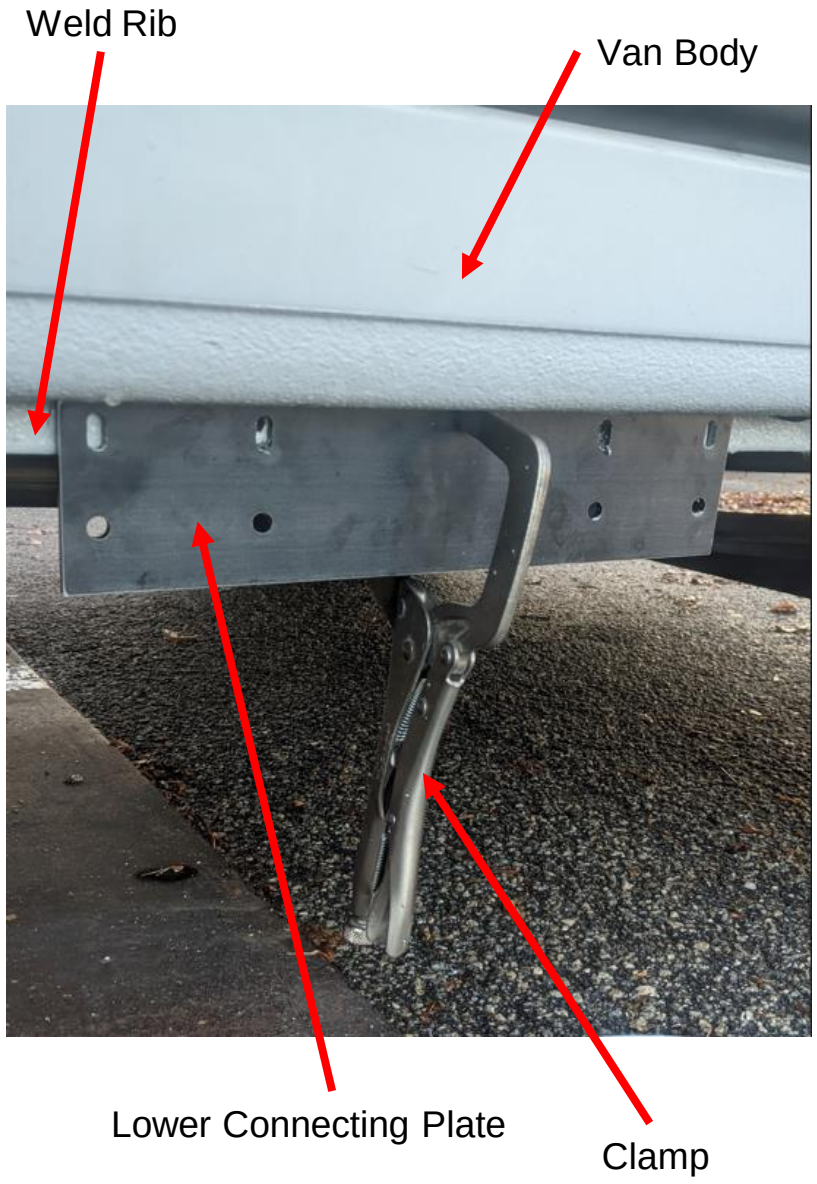
Initial Ladder Position and Lower Connecting Plate Locating:

1. Using another ladder, find a position on the driver side of the van in front of the wheel where the top extension channels can hang onto the side rail without interfering with any cross bars or other rack items.
2. Make sure you leave some extra clearance, if possible, in case the lower connecting plate moves the ladder slightly forward or backward during installation
3. Check to make sure the lower connecting plate has room to bolt to the lower weld rib of the van
4. Mark the location on the outside of the rack side rail with some painter's tape, so the position can be seen from the ground, **Do not bolt the ladder in place yet
5. Mark the location of the lower connecting plate on the weld seam using more painters tape, or a marker
6. Remove the ladder and sit this to the side



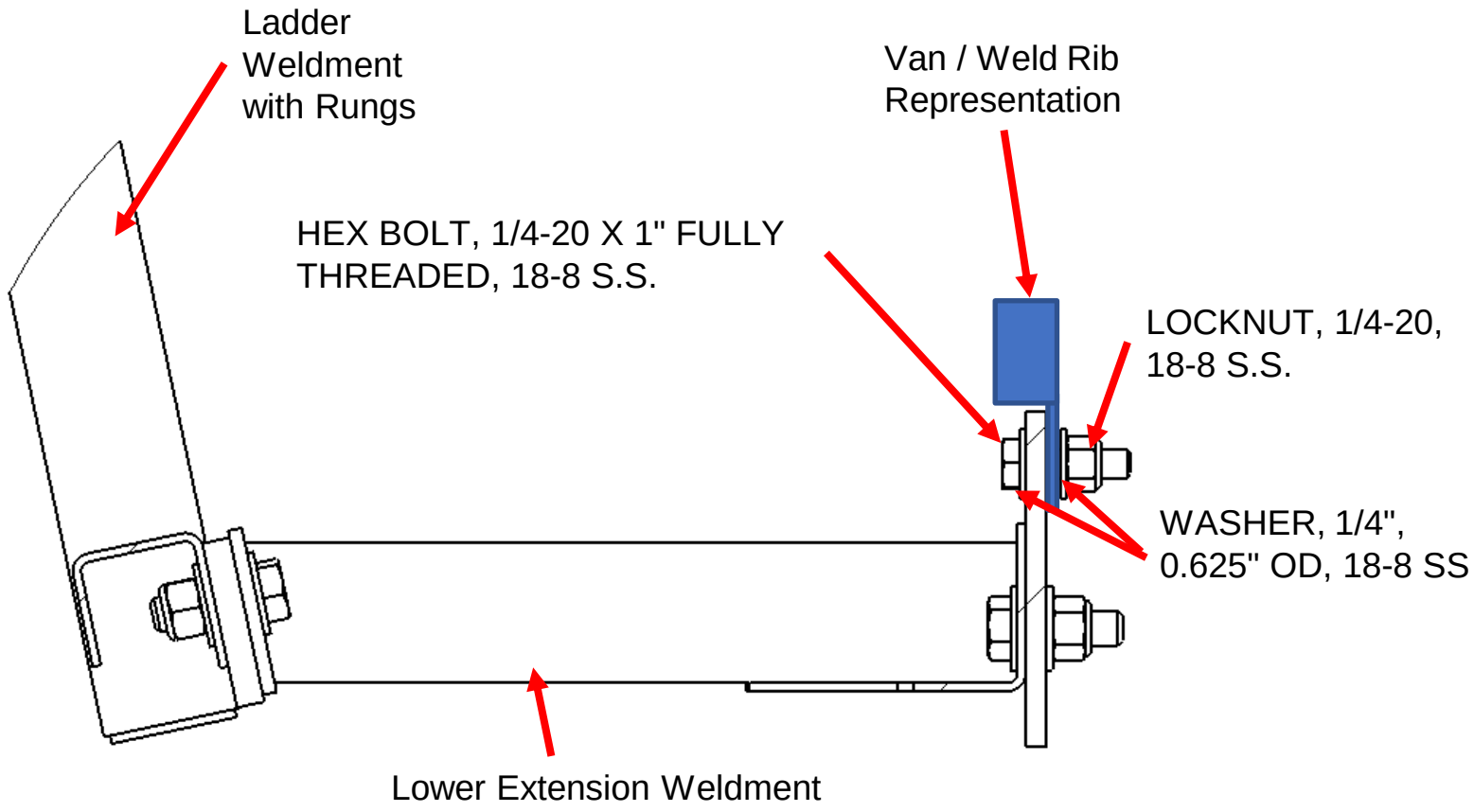
Lower Connecting Plate Mounting Holes:

1. Clamp or secure the lower connecting plate to the van rib in the location marked on the previous page. Locate the connecting plate as high on the weld rib as possible where it can still bolt flat.
2. Check the back side of the van rib to ensure drilling through will not damage or interfere with anything. If it does repeat the previous steps and mark a new ladder location
3. The goal is to drill the holes as high as possible to maximize the amount of metal left on the weld rib below the bolt hole so keep this in mind during the following steps.
4. Mark 1 hole location, then use a center punch to set a drill tip location
5. Use a 1/8” drill bit to drill an initial pilot hole in that 1 location
6. Use a drill bit larger than ¼” to open up the 1/8” hole so that it is a clearance hole for a ¼” bolt.
7. Use a file or sandpaper to clean up any burs from the drilling operation.
8. Test the first bolt, washer, and nut combinations to ensure that all hardware fits as expected
9. If adjustments need to be made, do so before marking, center punching, and drilling the 1/8” then ¼” clearance holes for the remaining locations
10. Once all the clearance holes are in place, clean, prep, prime, and paint the drill holes to prevent the chance of rust in the future



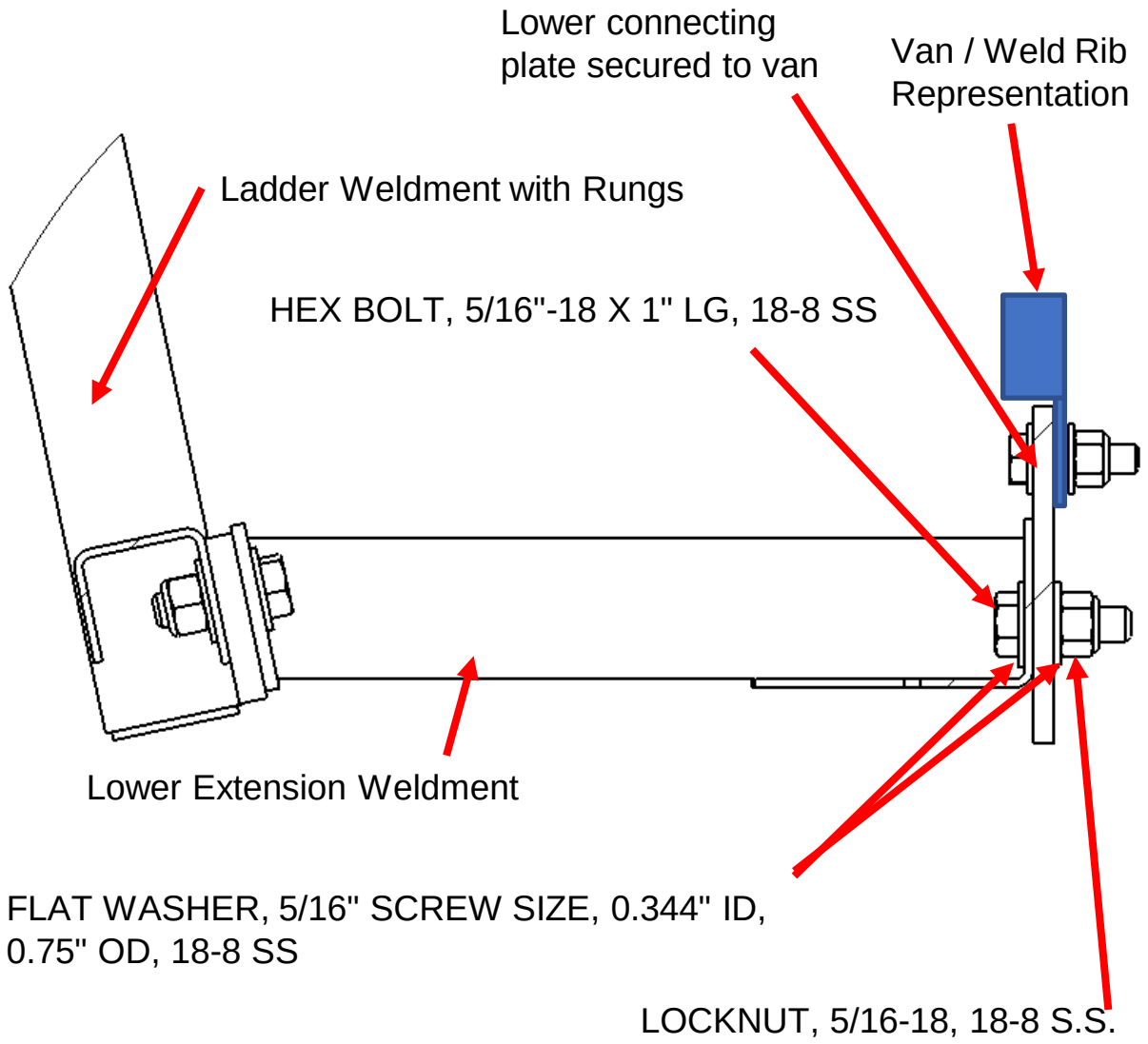
Bolt Lower Connecting Plate to Van Weld Seam

1. After all paint is dry, the lower connecting plate can be installed.
2. Insert install and tighten the ¼” hardware with the connecting plate as high on the weld seam as possible



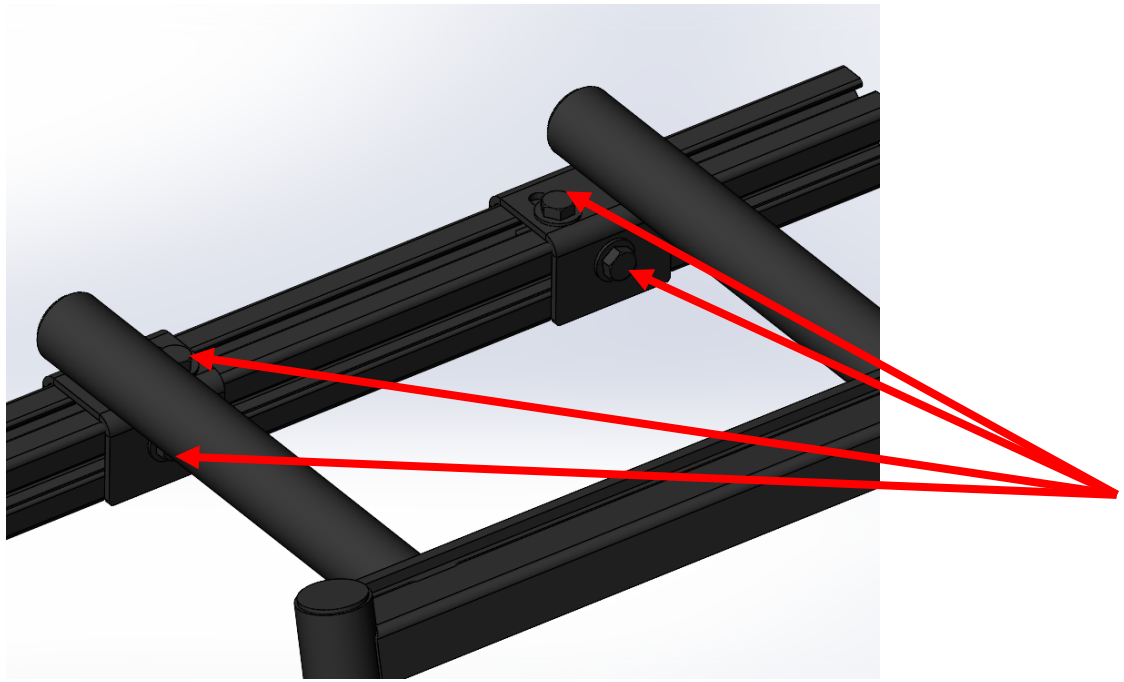
Hang Ladder from rack side rail

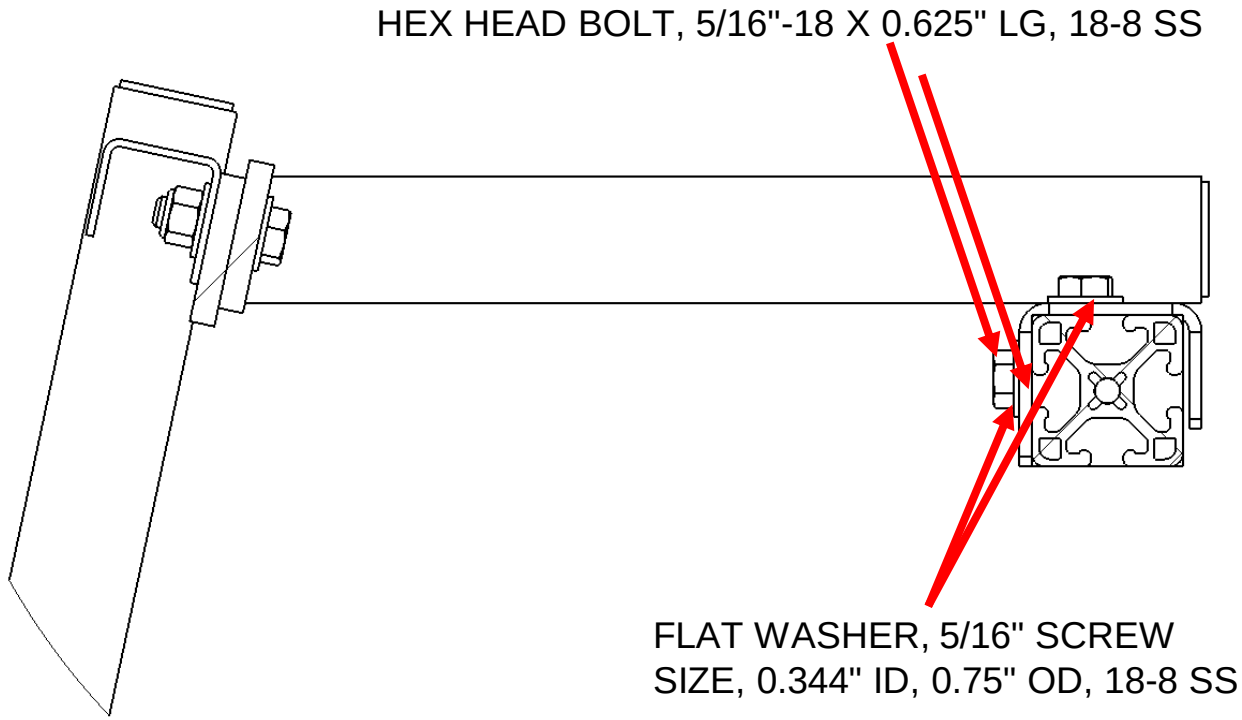
1. Using another ladder, hang the ProMaster ladder from the side rail at the location previously marked
2. Confirm position lines up with mounting holes in lower connecting plate, adjust as needed
3. With the bolts going from the lower extension to the ladder still barely started, loosely install hardware that secures lower ladder extension weldment to lower connecting plate ***Barley Start the Bolts & Nuts so that the lower extension is loose
4. Once all 4 bolts, washers, and nuts are in place, slowly start tightening up the hardware to pull the ladder into place



Install T-nuts and bolts to secure ladder to rack side rail

1. Install regular 5/16-18 SS t-nuts into the top of the side rail, and into the outside face of the side rail. If drop in t-nuts are not used, this may require partial disassembly of the rack.
2. Complete this installation for all 4 locations, but do not fully tighten, only snug these up





Final Steps

1. Install any remaining hardware that may have been left out in earlier steps
2. Go back and tighten all hardware
3. Test Ladder