



Ford Transit HSLD Rack Installation Manual

SKU: 1003-MK56-00 REV 1

Date: 3/7/24

Revision: 1

Hidden 15 Series 8020 support rails make this rack stout and give you full length adjustability options

Low profile narrow solar cross bars support your panels without wasting valuable rack space

Rack comes with 1 x 15 Series 8020 cross bar

Comes with 4 cross bars to install 2 solar panels

Rubber bulb seal prevents air from going under your wind fairing
Bulb seal not shown on this image

Unaka's original bi-directional wind fairing looks great and deflects air up and over your rack and solar panels.

Low Profile Precision Cut Aluminum Side Plates that match the profile of your van



Safety and PPE

Ladders: Installation of this roof rack requires two ladders for two people to help with the installation. Make sure that your ladders are tall enough, and that you have a level area to use them on. Accessing the roof of your van will put you at extreme risk to potential falls which can result in injury or death.

Warning: Ladders are dangerous and should only be used with appropriate training. Incorrect use of ladders can result in injury or death.

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.

Required Tools

- 1 to 2 tall sturdy ladders
- Standard set of box wrenches
- Standard socket set
- Torque Wrench

The items below are only required if the Ford Transit roof mounting holes are misaligned in the van frame

- Metal file and or sandpaper (for cleaning holes in van roof after drilling)
- Primer and paint (to protect holes after drilling)

Torque Specs & Notes

- Before installing any Unaka Product, review the most up to date manual completely which can be found on our website here: <https://unakagearco.com/pages/manuals>
- The Torque reference manual does not replace any information found on the individual product manual.
- This torque reference is indented as a quick reference overview of our torque specifications
- Incorrect use of a torque wrench will result in damage to the torque wrench, or bolts tightened to the incorrect torque
- Failure to use Loctite thread locker, anti-seize, or torquing your hardware correctly may result in bolts loosening pre-maturely or seizing during installation
- You are responsible for checking your hardware frequently to ensure all hardware remains tight (1 week after the installation, and every 2 months)
- You are responsible for ensuring the torque wrench you are using has been calibrated recently and correctly

Loctite & Anti-seize

A small tube of Blue Loctite 242 and Loctite anti-seize are provided with each kit. Follow manufactures recommendation for application and safety.

Blue Loctite 242

- Apply this to any bolt that is not used with a nylock nut

Loctite Anti-seize

- Apply a dab of anti-seize to the side of each bolt that will be paired with a nylock nut. Nylock nuts have a small plastic insert to make them vibration resistant.



Loctite 242



Loctite C5-A Anti-Seize

Layout of Rack Parts, Iso View

Rear 8020 Rail, 55-5/8" Lg: Qty 2

Roof rack bracket: Qty 8

15 Series 8020 Cross Bar, 61.29": Qty 1

Splice Plates: Qty 2

Front 8020 Rail, 63" Lg: Qty 2

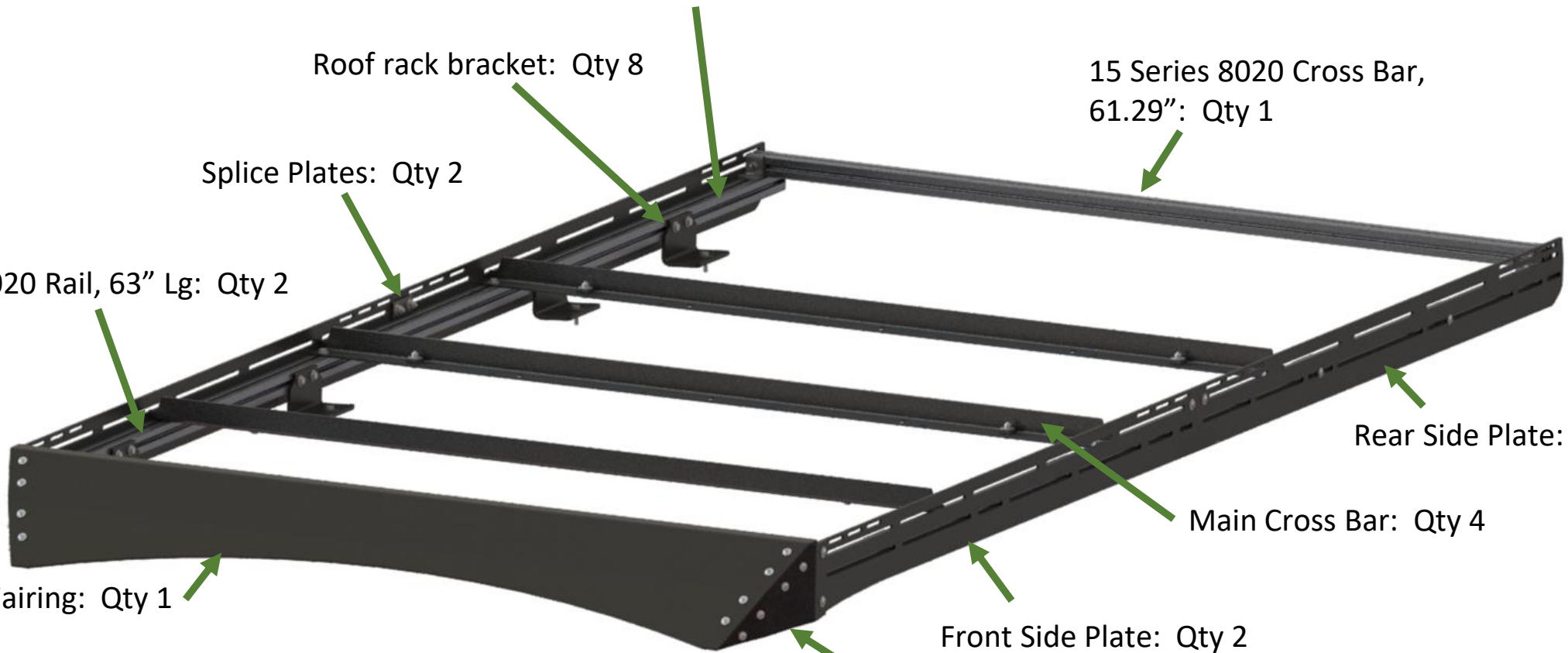
Rear Side Plate: Qty 2

Main Cross Bar: Qty 4

Wind Fairing: Qty 1

Front Side Plate: Qty 2

Wind fairing end cap, drive side & passenger side: Qty 1 each

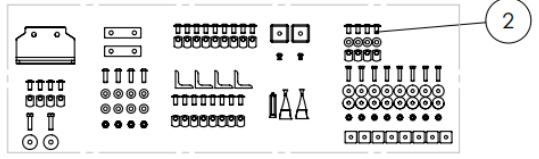
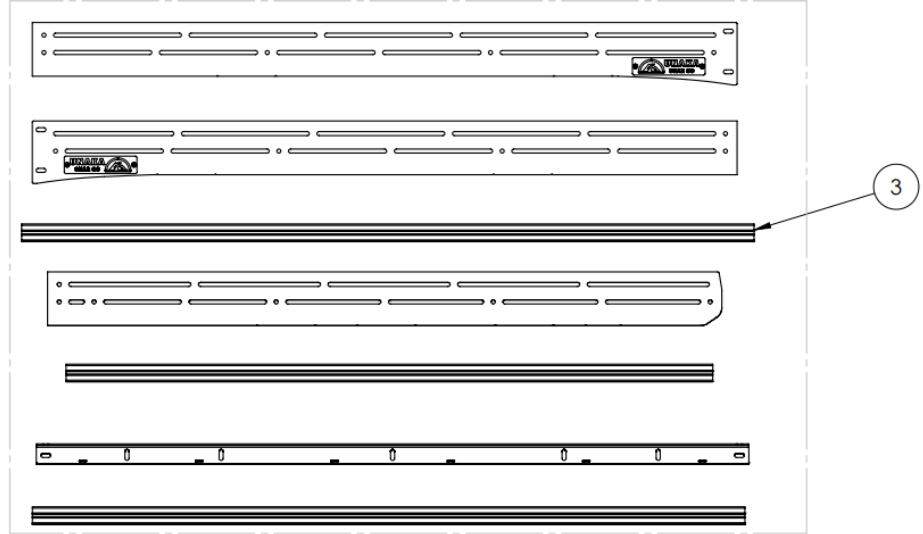
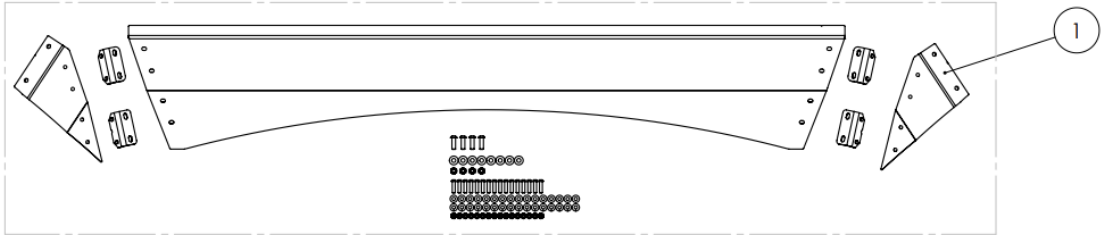


Main Rack Parts

This rack kit is typically shipped in 3 separate boxes

ITEM NO.	Manufacturer	PART NUMBER	DESCRIPTION	MATERIAL	QTY.
1	Unaka Gear Co.	1003-MA52-00 WFB REV 1	TRANSIT HSLD HIGH ROOF WIND FAIRING BOX	ASSEMBLY	1
2	Unaka Gear Co.	1003-MK56-00 HWB REV 1	TRANSIT 148 HSLD HARDWARE BOX	ASSEMBLY	1
3	Unaka Gear Co.	1003-MK56-00 MRB REV 1	TRANSIT 148 HSLD MAIN RACK BOX	ASSEMBLY	1

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	0	BUMPED REVISION FOR REV CONTROL	4/28/2023	JEO
	1	UPDATED FEATURES ON HSLD SIDE PLATES, WIND FAIRING, AND UPDATED HARDWARE KITS	10/30/2023	JEO



SHIPPING NOTES:

1. COMPLETE RACK KIT IS SHIPPED IN 3 SEPERATE BOXES. BOX 1 CONTAINS THE WIND FAIRING & RESPECTIVE HARDWARE, BOX 2 CONTAINS THE BRACKETS / HARDWARE, AND BOX 3 CONTAINS THE SIDE PLATES AND EXTRUSION.

KITTING / PACKAGING NOTES:

1. SEE BILL OF MATERIAL FOR TOTAL KITTING QUANTITIES AS IMAGES OF EVERY INDIVIDUAL ITEM MAY NOT BE SHOWN
2. IMAGES ARE SHOWN FOR PART IDENTIFICATION AND DO NOT REFLECT FULL QUANTITIES OF EACH PARTS, SEE SUB ASSEMBLY DRAWINGS AND BOMS FOR EXACT QUANTITIES

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
 TOLERANCES:
 ANGULAR: ±0.5°
 ONE PLACE DECIMAL: ±0.1
 TWO PLACE DECIMAL: ±0.01
 THREE PLACE DECIMAL: ±0.005

DO NOT SCALE DRAWING		
	NAME	DATE
DRAWN	---	---
CHECKED	---	---

TITLE:
 Ford Transit Roof Rack -
 HSLD - 148 High Roof

PROPRIETARY AND CONFIDENTIAL
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SIZE DWG. NO. REV
B 1003-MK56-00 REV 1 1

POST PROCESSING: ASSEMBLY
 FINISH: None

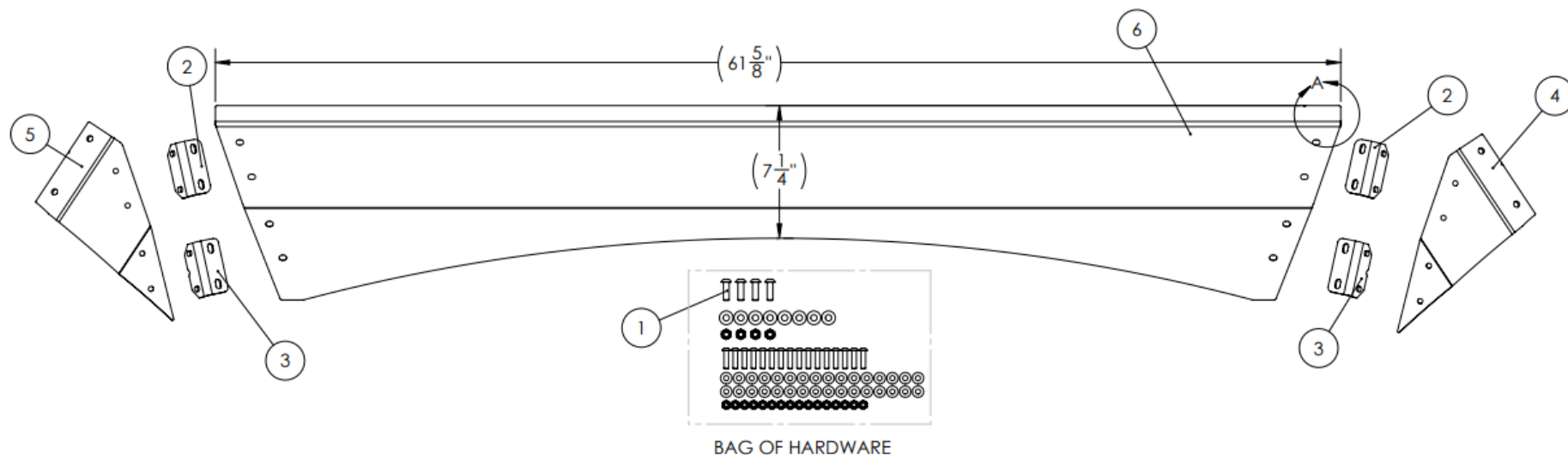
SCALE: NTS SHEET 1 OF 1

HSLD Wind Fairing Box

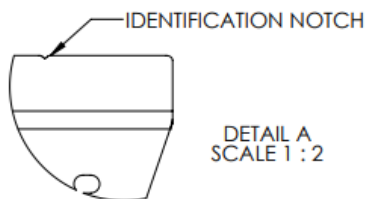
Contains wind fairing pieces, hardware bag, and bulb seal: Box Size: 65 x 13 x 3 in

ITEM NO.	Manufacturer	PART NUMBER	DESCRIPTION	MATERIAL	QTY.
1	Unaka Gear Co.	1003-MA52-00-HW REV 0	HSLD WIND FAIRING HARDWARE KIT	ASSEMBLY	1
2	Unaka Gear Co.	1003-MB52-01 REV 0	FORD HSLD WIND FAIRING TO END CAP, UPPER BRACKET	5052-H32	2
3	Unaka Gear Co.	1003-MB52-02 REV 0	FORD HSLD WIND FAIRING TO END CAP, LOWER BRACKET	5052-H32	2
4	Unaka Gear Co.	1003-MB52-03 REV 1	FORD HSLD WIND FAIRING END CAP DRIVER SIDE	5052-H32	1
5	Unaka Gear Co.	1003-MB52-04 REV 1	FORD HSLD WIND FAIRING END CAP PASSENGER SIDE	5052-H32	1
6	Unaka Gear Co.	1003-MB52-05 REV 1	FORD HSLD WIND FAIRING DEFLECTOR	5052-H32	1

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	0	CREATED REVISION TO START REV CONTROL	4/28/2023	JEO
	1	REMOVED LOGO FROM END CAPS, ADDED IDENTIFICATION NOTCHES, NO ACTUAL CHANGE TO SMALL BRACKETS, OR PROFILES	9/18/2023	JEO



Note: Bulb seal not shown



POST PROCESSING: None
FINISH: None

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCES:
ANGULAR: ±0.5°
ONE PLACE DECIMAL: ±0.1
TWO PLACE DECIMAL: ±0.01
THREE PLACE DECIMAL: ±0.005

DO NOT SCALE DRAWING		
	NAME	DATE
DRAWN BY	JEO	---
CHECKED	---	---

TITLE:
TRANSIT HSLD HIGH ROOF WIND FAIRING BOX

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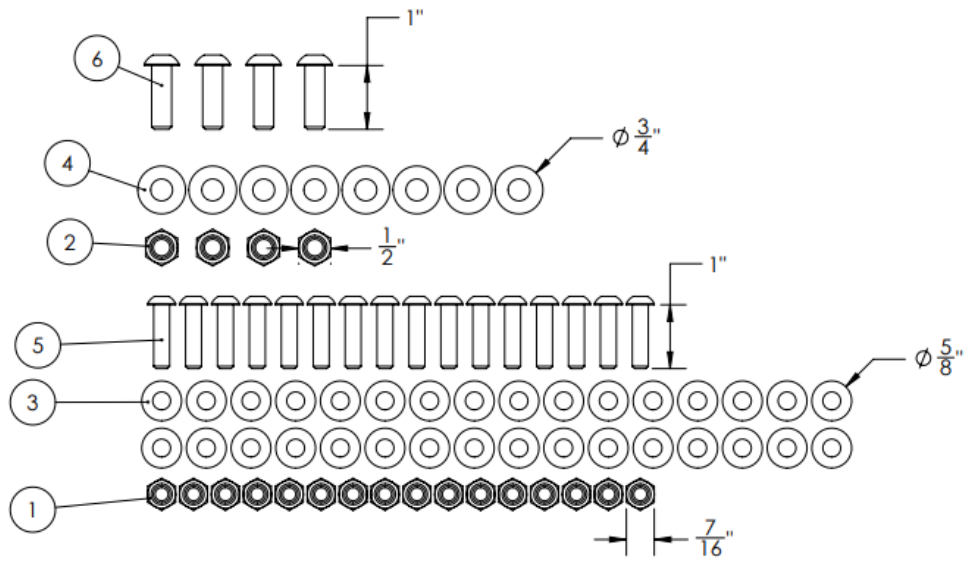
SIZE	DWG. NO.	REV
B	1003-MA52-00 WFB REV 1	1
SCALE: NTS		SHEET 1 OF 1

HSLD Wind Fairing Hardware


Hardware required for wind fairing assembly, typically shipped in wind fairing box

ITEM NO.	Manufacturer	PART NUMBER	DESCRIPTION	MATERIAL	QTY.
1	ANY	91831A029	LOCKNUT, 1/4-20, 18-8 S.S.	NA	16
2	ANY	91831A030	LOCKNUT, 5/16-18, 18-8 S.S.	NA	4
3	ANY	92141A029-B	WASHER, 1/4", 0.625" OD, 18-8 SS, BLACK	NA	32
4	ANY	92141A030-B	FLAT WASHER, 5/16" SCREW SIZE, 0.344" ID, 0.75" OD, 18-8 SS, BLACK	NA	8
5	ANY	92949A542-B	BHCS, 1/4-20 X 1" LG, SS, BLACK	NA	16
6	ANY	92949A582-B	BHCS, 5/16-18 X 1" LG, FULLY THREADED, 18-8 S.S., BLACK	NA	4

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	0	ADDED REVISION FOR REV CONTROL	5/18/2023	JEO



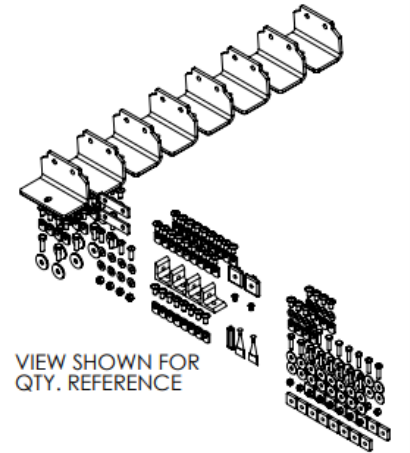
- NOTES:**
1. ALL HARDWARE SHOULD BE BAGGED
 2. HARDWARE BAG/BAGS SHOULD INCLUDE IDENTIFICATION LABEL

<small>UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES</small> TOLERANCES: ANGULAR: ±0.5° ONE PLACE DECIMAL: ±0.1 TWO PLACE DECIMAL: ±0.01 THREE PLACE DECIMAL: ±0.005	<small>DO NOT SCALE DRAWING</small>		TITLE: HSLD WIND FAIRING HARDWARE KIT	
	<small>DRAWN BY</small> JEO	<small>NAME</small> JEO		
<small>PROPRIETARY AND CONFIDENTIAL</small> THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF UNAKA GEAR CO. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF UNAKA GEAR CO. IS STRICTLY PROHIBITED.			<small>SIZE</small> B	<small>DWG. NO.</small> 1003-MA52-00-HW REV 0
	<small>POST PROCESSING:</small> None	<small>FINISH:</small> None	<small>SCALE:</small> NTS	<small>REV</small> 0

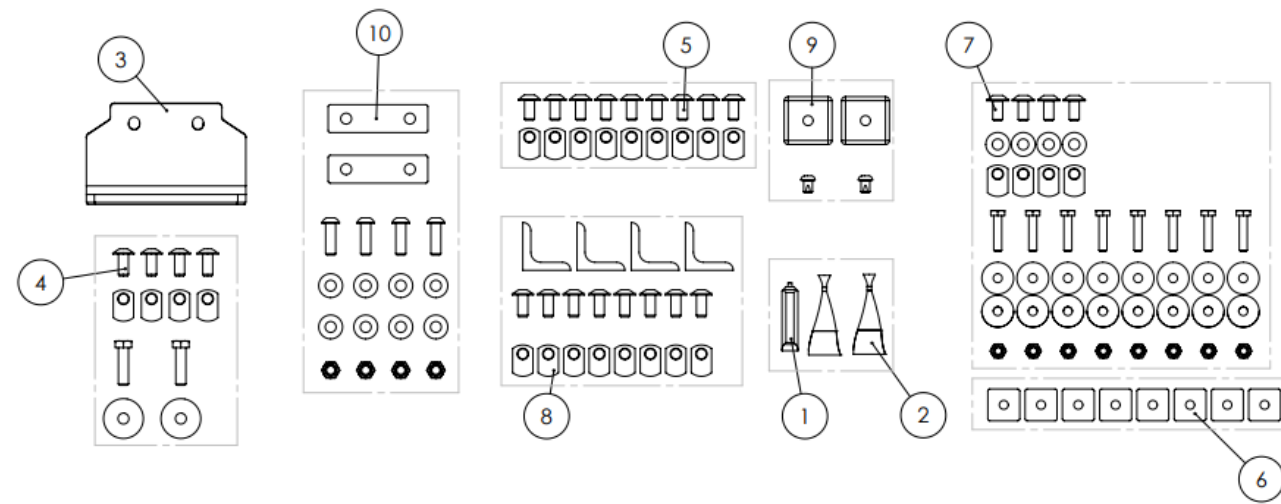
HSLD Hardware Box

All remaining pieces required to assemble and install your roof rack (Typical Box: 10 x 6 x 4 in)

ITEM NO.	Manufacturer	PART NUMBER	DESCRIPTION	MATERIAL	QTY.
1	Loctite	1821A11	Antiseize, lb8008, Electrically Conductive, 0.2 oz. Pack	NA	1
2	Loctite	91458A111	Threadlocker, Loctite® 242, 0.02 FL. oz Capsule	NA	2
3	Unaka Gear Co.	1003-MA51-00 REV 1	FORD TRANSIT HSLD MAIN ROOF RACK BRACKET W/RUBBER ONLY	ASSEMBLY	8
4	UNAKA GEAR CO.	1003-MK10-00-HW REV 1	Transit Roof Rack Bracket - Set of 2, Hardware Kit	ASSEMBLY	4
5	Unaka Gear Co.	1003-MK50-00-HW2 REV 1	HSLD 148 NON EXT. SIDE RAIL HARDWARE KIT	ASSEMBLY	2
6	Unaka Gear Co.	1003-MK53-00-HW2 REV 1	HSLD SOLAR PANEL SPACER, QTY 8 X 1/4" SPACERS	ASSEMBLY	2
7	Unaka Gear Co.	1003-MK53-00-HW REV 1	HSLD FORMED CROSS BAR HARDWARE KIT	ASSEMBLY	2
8	Unaka Gear Co.	1005-MK06-00-HW REV 0	CROSS BAR HARDWARE KIT: QTY 4 X 2 HOLE BRACKETS & HARDWARE	ASSEMBLY	1
9	Unaka Gear Co.	1005-MK08-00 REV 0	8020 STYLE 15 SERIES END CAPS, SET OF 2	ASSEMBLY	1
10	Unaka Gear Co.	1005-MK07-00-HW REV 0	HSLD SIDE RAIL SPLICE PLATE HARDWARE KIT, SET OF 2	ASSEMBLY	1



VIEW SHOWN FOR QTY. REFERENCE



NOTES:

1. DASHED LINES REPRESENT SUB KIT EITHER BAGGED OR BOXED
2. SEE BILL OF MATERIAL FOR TOTAL KITTING QUANTITIES AS IMAGES OF EVERY INDIVIDUAL ITEM MAY NOT BE SHOWN
3. IMAGES ARE SHOWN FOR PART IDENTIFICATION AND DO NOT REFLECT FULL QUANTITIES OF EACH PARTS, SEE SUB ASSEMBLY DRAWINGS AND BOMS FOR EXACT QUANTITIES

PACKAGING NOTES

1. ALL ITEMS SHOULD BE PACKAGED CAREFULLY IN A SINGLE BOX.
2. ALL ITEMS SHOULD BE PACKAGED IN A WAY THAT WILL PREVENT DAMAGE OR MOVEMENT DURING SHIPPING
3. BOX SHOULD BE LABELED WITH SKU AND DESCRIPTION

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	0	BUMPED REVISION FOR RELEASE	4/28/2023	JEO
	1	CHANGED HARDWARE KIT SUB ASSEMBLIES, MOSTLY ADJUSTING HARDWARE TYPE OR QUANTITY.	10/30/2023	JEO

POST PROCESSING: None
FINISH: None

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCES:
ANGULAR: ±0.5°
ONE PLACE DECIMAL: ±0.1
TWO PLACE DECIMAL: ±0.01
THREE PLACE DECIMAL: ±0.005

DO NOT SCALE DRAWING		
NAME	DATE	
DRAWN BY: JEO	---	
CHECKED: ---	---	

TITLE: TRANSIT 148 HSLD HARDWARE BOX

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SIZE: NTS	DWG. NO.: 1003-MK56-00 HWB REV 1	REV: 1
SCALE: NTS		SHEET 1 OF 1

HSLD Rack Bracket

Brackets required for bolting to van roof rails and 8020 side rails

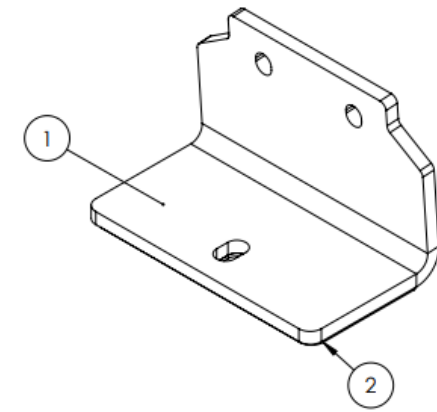
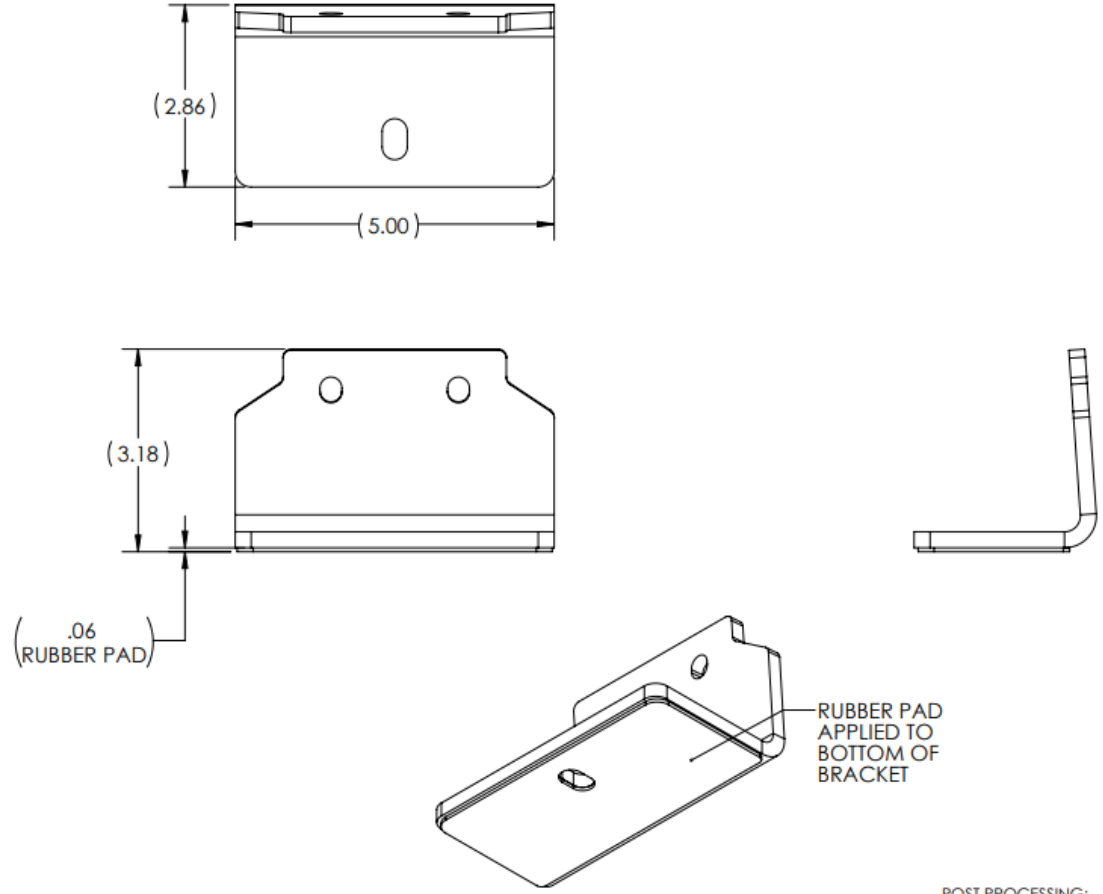
ITEM NO.	PART NUMBER	DESCRIPTION	MATERIAL	QTY.
1	1003-MB51-01	FT EXLIFE RACK BRACKET	5052-H32	1
2	1003-MP51-02	FT EXLIFE RACK BRACKET RUBBER PAD	EPDM 60 Durometer	1

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	1	CREATED PART NUMBER TO SHOW BRACKET + RUBBER ASSEMBLY LEVEL. HARDWARE IS SHOWN ON 2ND SHEET FOR ASSEMBLY INSTRUCTIONS ONLY (NO HARDWARE INCLUDED WITH THIS PART NUMBER)	10/23/2023	JEO

Quantity 8 Total

******HARDWARE IS NOT INCLUDED WITH THIS PART NUMBER. HARDWARE IS INCLUDED IN TOP LEVEL KITTING******

THIS PART NUMBER ONLY INCLUDES THE RACK BRACKET (1) AND RUBBER PAD (2)



NOTES:

- RUBBER PAD (2) SHOULD BE APPLIED TO THE BOTTOM OF BRACKET (1).
- BRACKET + RUBBER COMBO SHOULD BE PACKAGED PER UPPER LEVEL INSTRUCTIONS
- SHEET 2 OF THIS DRAWING SHOWS HOW THE HARDWARE (NOT PROVIDED WITH THIS PART NUMBER) WOULD BE INSTALLED

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		DO NOT SCALE DRAWING		TITLE:	
TOLERANCES: ANGULAR: ±0.5° ONE PLACE DECIMAL: ±0.1 TWO PLACE DECIMAL: ±0.01 THREE PLACE DECIMAL: ±0.005		NAME	DATE	FORD TRANSIT HSLD MAIN ROOF RACK BRACKET W/RUBBER ONLY	
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POST PROCESSING: ASSEMBLY FINISH: None		CHECKED	---	B	1003-MA51-00 REV 1
		UNAKA GEAR CO		REV	1
				SCALE: NTS	SHEET 1 OF 2

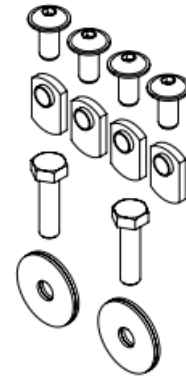
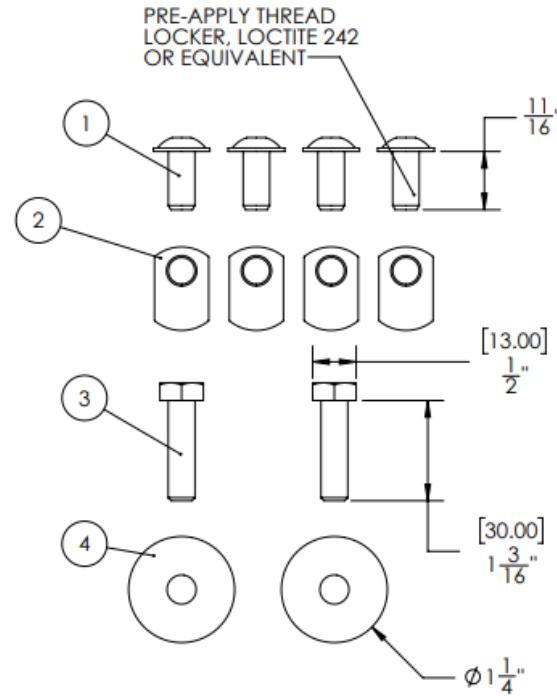
HSLD Rack Bracket Hardware

Hardware required for bolting brackets to van roof rails, and brackets to 8020 side rails

Quantity 4 Total

ITEM NO.	Manufacturer	PART NUMBER	DESCRIPTION	MATERIAL	QTY.
1	Any	3607-B	BHCS, FLANGED, 5/16 X 0.687" LG., S.S., BLACK	NA	4
2	ANY	3678	T-NUT, ECONOMY, 5/16 THREAD, SS	NA	4
3	ANY	91287A154	HEX BOLT, M8 X 30MM, 18-8 SS	NA	2
4	Unaka Gear Co.	1003-MA10-00 HW	BONDED WASHER, 1.25 OD, 0.34 ID, EPDM RUBBER 1 SIDE	ASSEMBLY	2

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	1	UPDATED 3607 TO 3607-B, ADDED NOTES	10/27/2023	JEO



KITTING NOTES:

- ALL HARDWARE SHOULD BE BAGGED
- ALL TYPES OF HARDWARE CAN BE BAGGED IN A SINGLE BAG, OR IN INDIVIDUAL BAGS BASED ON HARDWARE SIZE THEN PLACED IN A LARGER BAG
- MAIN HARDWARE BAG SHOULD INCLUDE IDENTIFICATION LABEL

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES

TOLERANCES:
 ANGULAR: $\pm 0.5^\circ$
 ONE PLACE DECIMAL: ± 0.1
 TWO PLACE DECIMAL: ± 0.01
 THREE PLACE DECIMAL: ± 0.005

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DO NOT SCALE DRAWING

	NAME	DATE
DRAWN	---	---
CHECKED	---	---

UNAKA GEAR CO

TITLE:
Transit Roof Rack Bracket - Set of 2, Hardware Kit

SIZE	DWG. NO.	REV
B	1003-MK10-00-HW REV 1	1

SCALE: NTS

SHEET 1 OF 1

POST PROCESSING: ASSEMBLY
 FINISH: None

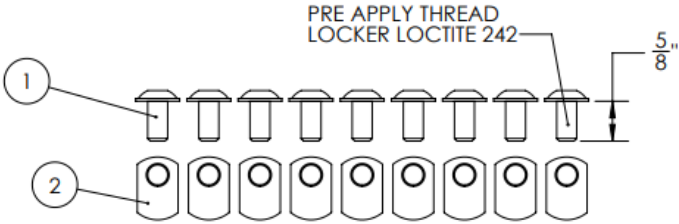
HSLD Side Rail Hardware

Hardware required for assembling side rails

ITEM NO.	Manufacturer	PART NUMBER	DESCRIPTION	MATERIAL	QTY.
1	ANY	97654A304-B	BHCS, FLANGED, 5/16 X 0.625" LG., S.S., BLACK	NA	9
2	ANY	3678	T-NUT, ECONOMY, 5/16 THREAD, SS	NA	9

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	0	BUMPED REVISION FOR REV CONTROL	4/28/2023	JEO
	1	ADJUSTED QUANTITY, MOVED SPLIE PLATE AND END CAP HARDWARE TO SEPARATE KITS	10/27/2023	JEO

Quantity 2 Total



- KITTING NOTES:**
- ALL HARDWARE SHOULD BE BAGGED
 - ALL TYPES OF HARDWARE CAN BE BAGGED IN A SINGLE BAG, OR IN INDIVIDUAL BAGS BASED ON HARDWARE SIZE THEN PLACED IN A LARGER BAG
 - MAIN HARDWARE BAG SHOULD INCLUDE SKU IDENTIFICATION LABEL

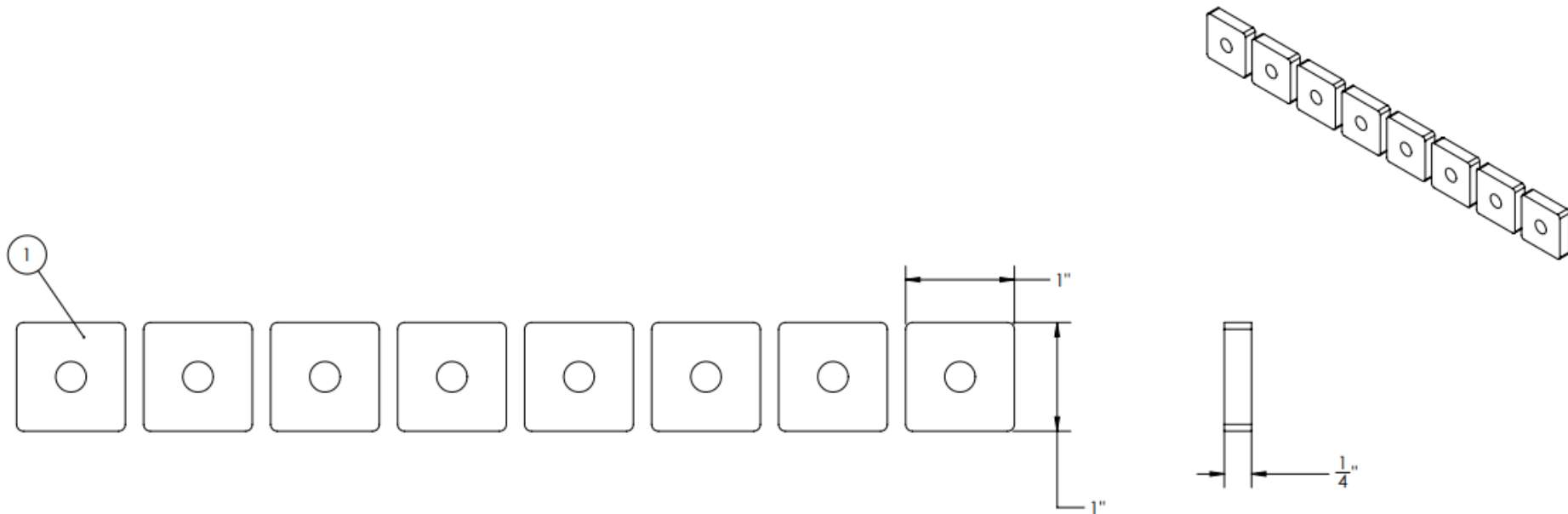
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		DO NOT SCALE DRAWING		TITLE:	
TOLERANCES: ANGULAR: ±0.5° ONE PLACE DECIMAL: ±0.1 TWO PLACE DECIMAL: ±0.01 THREE PLACE DECIMAL: ±0.005		NAME	DATE	HSLD 148 NON EXT. SIDE RAIL HARDWARE KIT	
PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF UNAKA GEAR CO. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF UNAKA GEAR CO. IS STRICTLY PROHIBITED.		DRAWN BY	JEO		
POST PROCESSING: None FINISH: None		CHECKED	---		
		SIZE	DWG. NO.	REV	
		B	1003-MK50-00-HW2 REV 1	1	
		SCALE: NTS			SHEET 1 OF 1

HSLD Solar Panel Hardware

Hardware required for solar panel spacing

ITEM NO.	Manufacturer	PART NUMBER	DESCRIPTION	MATERIAL	QTY.
1	Unaka Gear Co.	1003-MB53-02 REV 0	HSLD 0.25" SOLAR PANEL SPACER	5052-H32	8

Quantity 2 Total



- KITTING NOTES:**
1. PLACE ALL PARTS IN A SMALL BAG
 2. LABEL BAG WITH SKU

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	1	SET REVISION TO 1 FOR INITIAL RELEASE	10/27/2023	JEO

POST PROCESSING: Assembly
FINISH: None

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES

TOLERANCES:
ANGULAR: ±0.5°
ONE PLACE DECIMAL: ±0.1
TWO PLACE DECIMAL: ±0.01
THREE PLACE DECIMAL: ±0.005

DO NOT SCALE DRAWING		
NAME	DATE	
DRAWN BY JEO	---	
CHECKED	---	

TITLE:
HSLD SOLAR PANEL
SPACER, QTY 8 X 1/4"
SPACERS

PROPRIETARY AND CONFIDENTIAL
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DRAWING IS THE SOLE PROPERTY OF
UNAKA GEAR CO. ANY
REPRODUCTION IN PART OR AS A WHOLE
WITHOUT THE WRITTEN PERMISSION OF
UNAKA GEAR CO. IS STRICTLY
PROHIBITED.



SIZE DWG. NO. REV
B 1003-MK53-00-HW2 REV 1 **1**

SCALE: NTS SHEET 1 OF 1

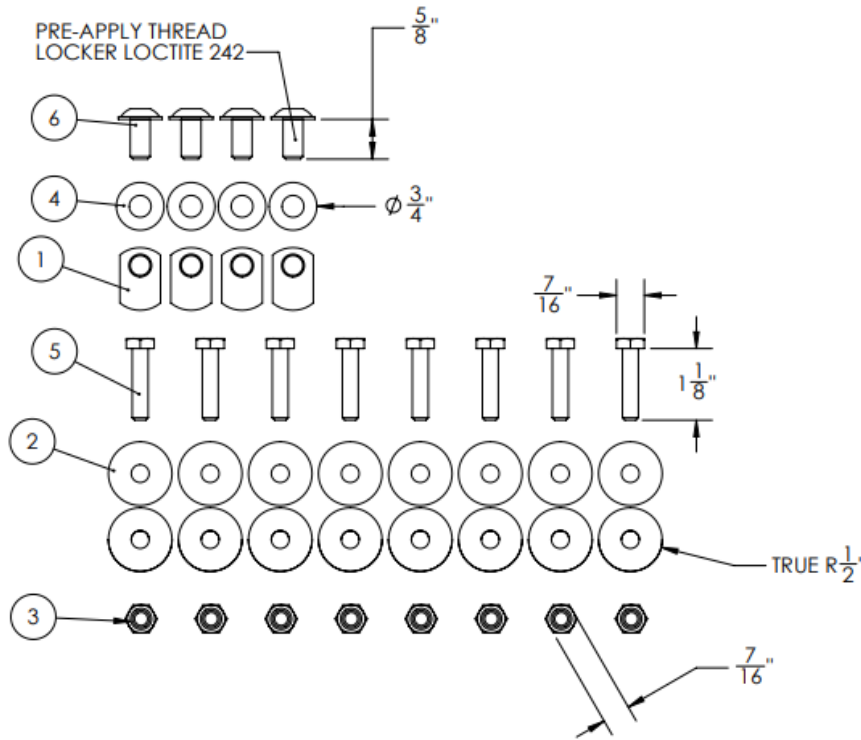
HSLD Cross Bar Hardware

Cross bar hardware kit

Quantity 2 Total

ITEM NO.	Manufacturer	PART NUMBER	DESCRIPTION	MATERIAL	QTY.
1	ANY	3678	T-NUT, ECONOMY, 5/16 THREAD, SS	NA	4
2	ANY	90313A107	WASHER, 1/4" X 1" OD, 18-8 SS	NA	16
3	ANY	91831A029	LOCKNUT, 1/4-20, 18-8 S.S.	NA	8
4	ANY	92141A030-B	FLAT WASHER, 5/16" SCREW SIZE, 0.344" ID, 0.75" OD, 18-8 SS, BLACK	NA	4
5	ANY	92240A545	HEX BOLT, 1/4-20 X 1-1/8" FULLY THREADED, 18-8 S.S.	NA	8
6	ANY	97654A304-B	BHCS, FLANGED, 5/16 X 0.625" LG., S.S., BLACK	NA	4

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	0	BUMPED REVISION FOR REV CONTROL	4/28/2023	JEO
	1	CHANGED HEX BOLT TO FLANGED BHCS, CHANGED 1/4" HEX BOLT FROM 1" TO 1-1/8" LG, CHANGED QUANTITIES, REMOVED SPACERS.	10/27/2023	JEO



KITTING NOTES:

1. ALL HARDWARE SHOULD BE BAGGED
2. ALL TYPES OF HARDWARE CAN BE BAGGED IN A SINGLE BAG, OR IN INDIVIDUAL BAGS BASED ON HARDWARE SIZE THEN PLACED IN A LARGER BAG
3. MAIN HARDWARE BAG SHOULD INCLUDE SKU IDENTIFICATION LABEL

INSTALL NOTE: REQUIRED TOOLS

1. 3/16" ALLEN
2. 7/16 BOX AND OR SOCKET WRENCH
3. APPLY ANTISIEZE TO ITEM (5) DURING INSTALL
4. KIT REQUIRES SPACERS TO INSTALL WITH SOLAR PANELS, SEE TOP LEVEL ASSEMBLY FOR DETAILS

POST PROCESSING: None
FINISH: None

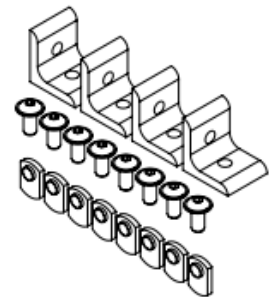
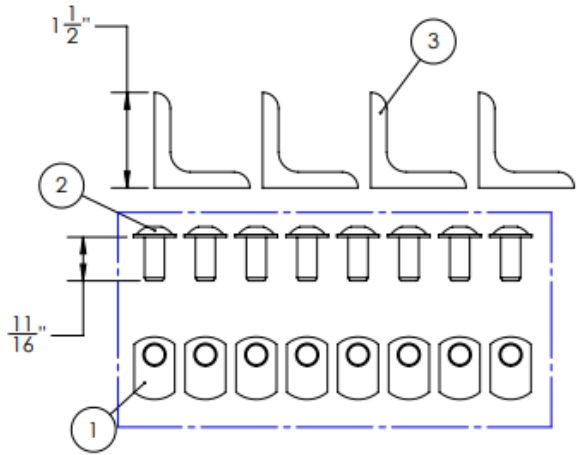
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		DO NOT SCALE DRAWING		TITLE:	
TOLERANCES: ANGULAR: ±0.5° ONE PLACE DECIMAL: ±0.1 TWO PLACE DECIMAL: ±0.01 THREE PLACE DECIMAL: ±0.005		NAME	DATE	HSLD FORMED CROSS BAR HARDWARE KIT	
PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF UNAKA GEAR CO. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF UNAKA GEAR CO. IS STRICTLY PROHIBITED.		DRAWN BY	JEO	SIZE	DWG. NO.
UNAKA GEAR CO		CHECKED	---	B	003-MK53-00-HW REV 1
				REV	1
				SCALE: NTS	SHEET 1 OF 1

HSLD Cross Bar Hardware

Cross bar hardware kit


ITEM NO.	Manufacturer	PART NUMBER	DESCRIPTION	MATERIAL	QTY.
1	ANY	3678	T-NUT, ECONOMY, 5/16 THREAD, SS	NA	8
2	Any	3607	BHCS, FLANGED, 5/16 X 0.687" LG., S.S., BLACK	NA	8
3	FRAMEWORLD	BLB-1	CORNER BRACKET, 2 HOLE, BLACK	NA	4

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	0	BUMPED REVISION FOR RELEASE	9/5/2023	JEO



ALL KIT PARTS SHOWN

- KITTING NOTES:**
1. HARDWARE SHOULD BE BAGGED
 2. HARDWARE BAG SHOULD BE LABELED
 3. ALL PARTS SHOULD BE PACKAGED WITH THE PART NUMBER AND DESCRIPTION LOCATED LABELED ON THE OUTSIDE OF THE PACKAGE
 4. IF FORMAL PACKAGE DESIGN HAS NOT BE PROVIDED, CAREFULLY WRAP BAG OF HARDWARE TO BRACKETS USING SHRINK WRAP, AND APPLY LABEL TO OUTSIDE

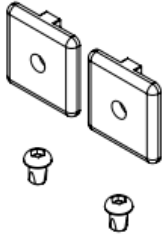
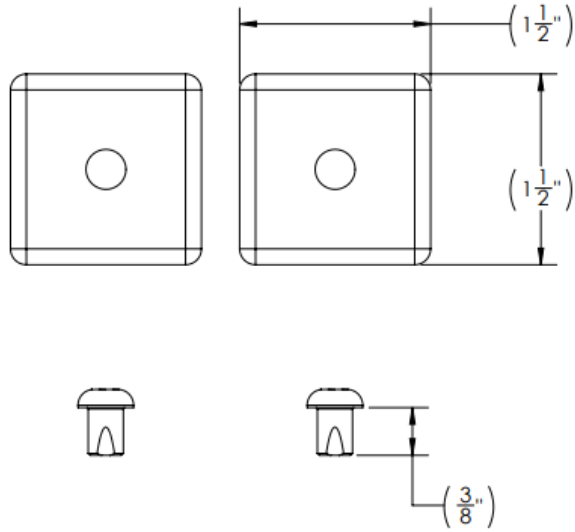
<small>UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES</small> TOLERANCES: ANGULAR: ±0.5° ONE PLACE DECIMAL: ±0.1 TWO PLACE DECIMAL: ±0.01 THREE PLACE DECIMAL: ±0.005	<small>DO NOT SCALE DRAWING</small>		TITLE:						
	<table border="1"> <tr> <td>NAME</td> <td>DATE</td> </tr> <tr> <td>DRAWN BY JEO</td> <td>---</td> </tr> <tr> <td>CHECKED</td> <td>---</td> </tr> </table>	NAME	DATE	DRAWN BY JEO	---	CHECKED	---	CROSS BAR HARDWARE KIT: QTY 4 X 2 HOLE BRACKETS & HARDWARE	
NAME	DATE								
DRAWN BY JEO	---								
CHECKED	---								
<small>PROPRIETARY AND CONFIDENTIAL</small> THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF UNAKA GEAR CO. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF UNAKA GEAR CO. IS STRICTLY PROHIBITED.			<table border="1"> <tr> <td>SIZE</td> <td>DWG. NO.</td> <td>REV</td> </tr> <tr> <td>B</td> <td>1005-MK06-00-HW REV 0</td> <td>0</td> </tr> </table>	SIZE	DWG. NO.	REV	B	1005-MK06-00-HW REV 0	0
	SIZE	DWG. NO.	REV						
B	1005-MK06-00-HW REV 0	0							
POST PROCESSING: None FINISH: None	SCALE: NTS		SHEET 1 OF 1						

End Cap Hardware


End cap hardware kit

ITEM NO.	Manufacturer	PART NUMBER	DESCRIPTION	MATERIAL	QTY.
1	8020	203001-PLAIN	END CAP, 15 SERIES, PLAIN, BLACK	NA	2
2	8020	3267	SELF TAPPING END CAP SCREW, M7 X 0.36"	NA	2

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	0	BUMPED REVISION FOR REV CONTROL	10/26/2023	JEO



- NOTES:**
- PLACE END CAPS AND SELF TAPPING SCREWS IN A SINGLE BAG
 - APPLY SKU LABEL TO OUTSIDE OF BAG

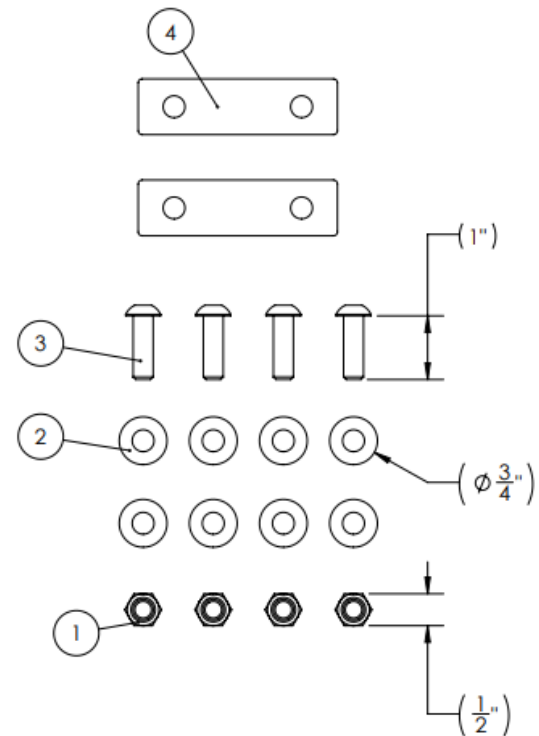
<small>UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES</small> <small>TOLERANCES:</small> <small>ANGULAR: ±0.5°</small> <small>ONE PLACE DECIMAL: ±0.1</small> <small>TWO PLACE DECIMAL: ±0.01</small> <small>THREE PLACE DECIMAL: ±0.005</small>	<small>DO NOT SCALE DRAWING</small>		<small>TITLE:</small> 8020 STYLE 15 SERIES END CAPS, SET OF 2	
	<small>NAME</small> <small>DATE</small>	<small>NAME</small> <small>DATE</small>		
<small>PROPRIETARY AND CONFIDENTIAL</small> <small>THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF UNAKA GEAR CO. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF UNAKA GEAR CO. IS STRICTLY PROHIBITED.</small>	<small>DRAWN BY</small> JEO	<small>CHECKED</small> ---	<small>SIZE</small> B	<small>DWG. NO.</small> 1005-MK08-00 REV 0
<small>POST PROCESSING:</small> None	<small>FINISH:</small> None		<small>SCALE:</small> NTS	<small>REV</small> 0
			<small>SHEET 1 OF 1</small>	

HSLD Side Plate Hardware


Side plate splice hardware kit

ITEM NO.	Manufacturer	PART NUMBER	DESCRIPTION	MATERIAL	QTY.
1	ANY	91831A030	LOCKNUT, 5/16-18, 18-8 S.S.	NA	4
2	ANY	92141A030-B	FLAT WASHER, 5/16" SCREW SIZE, 0.344" ID, 0.75" OD, 18-8 SS, BLACK	NA	8
3	ANY	92949A582-B	BHCS, 5/16-18 X 1" LG, FULLY THREADED, 18-8 S.S., BLACK	NA	4
4	Unaka Gear Co.	1006-MB50-06 REV 0	SPRINTER HSLD SIDE RAIL SPLICE PLATE	5052-H32	2

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	0	BUMPED REVISION FOR REV CONTROL	10/26/2023	JEO



- KITTING NOTES:**
- ALL HARDWARE SHOULD BE BAGGED
 - ALL TYPES OF HARDWARE CAN BE BAGGED IN A SINGLE BAG, OR IN INDIVIDUAL BAGS BASED ON HARDWARE SIZE THEN PLACED IN A LARGER BAG
 - MAIN HARDWARE BAG SHOULD INCLUDE IDENTIFICATION LABEL

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		DO NOT SCALE DRAWING		TITLE:	
TOLERANCES: ANGULAR: ±0.5° ONE PLACE DECIMAL: ±0.1 TWO PLACE DECIMAL: ±0.01 THREE PLACE DECIMAL: ±0.005		NAME	DATE	HSLD SIDE RAIL SPLICE PLATE HARDWARE KIT, SET OF 2	
PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF UNAKA GEAR CO. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF UNAKA GEAR CO. IS STRICTLY PROHIBITED.		DRAWN BY	JEO		
		CHECKED	---		
SIZE	DWG. NO.	REV			
B	1005-MK07-00-HW REV 0	0			
SCALE: NTS		SHEET 1 OF 1			

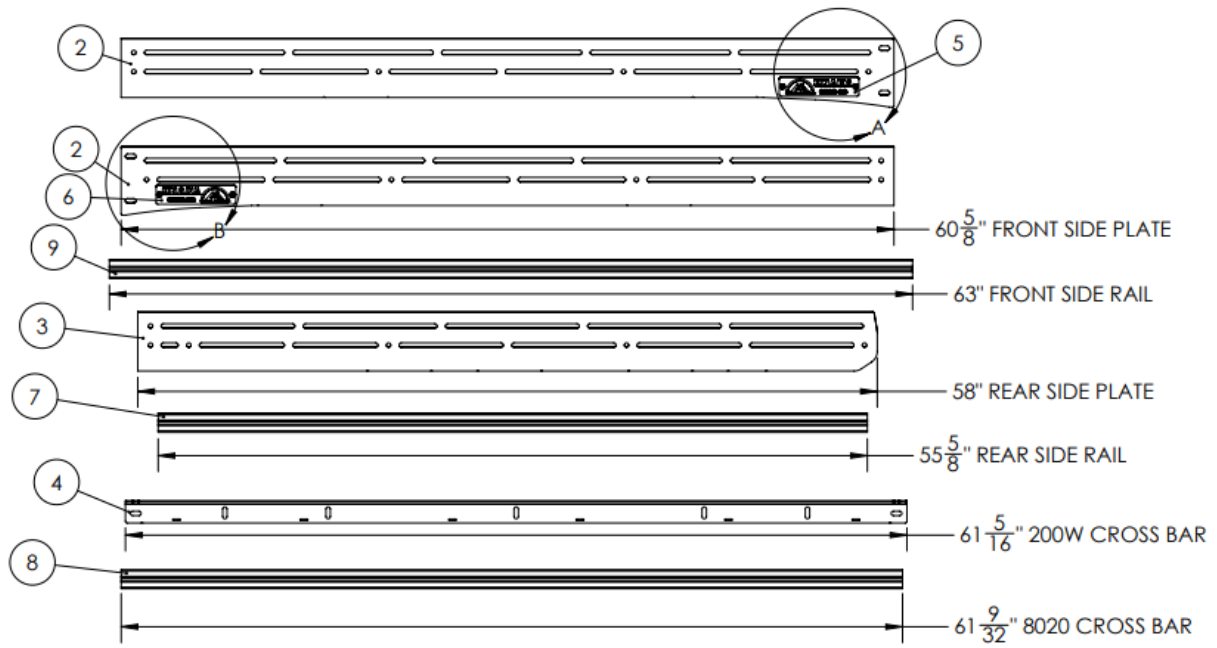
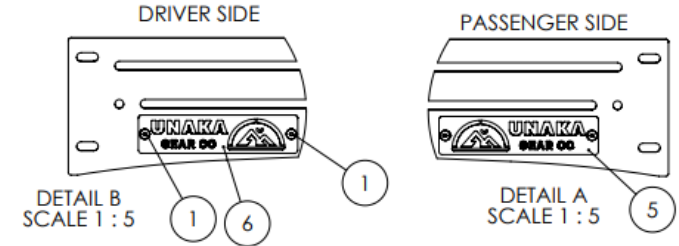
POST PROCESSING: None
FINISH: None

Main Rack Box

Contains extrusion, side plates, and cross bars: Box Size: 8" x 8" x 91" Long

ITEM NO.	Manufacturer	PART NUMBER	DESCRIPTION	MATERIAL	QTY.
1	ANY	97525A505	RIVET, BLIND, 3/16" DIA, FOR MATL 0.251"-0.375", 18-8 SS	NA	4
2	Unaka Gear Co.	1003-MB50-01 REV 1	FORD HSLD FRONT SIDE PLATE	5052-H32	2
3	Unaka Gear Co.	1003-MB50-02 REV 1	FORD HSLD REAR SIDE PLATE	5052-H32	2
4	Unaka Gear Co.	1003-MB53-01 REV 0	FORD HSLD STD CROSS BAR	5052-H32	4
5	Unaka Gear Co.	1006-MB50-04 REV 0	UNAKA HSLD LOGO PLATE	AISI 304	1
6	Unaka Gear Co.	1006-MB50-05 REV 0	UNAKA HSLD LOGO PLATE PASSENGER SIDE	AISI 304	1
7	Unaka Gear Co.	1515-UL-BLACK-55.63	8020 Style Extrusion, 15 Series, Ultra Lite, Grooved, Black, 55.63" LG.	6061 Alloy	2
8	Unaka Gear Co.	1515-UL-BLACK-61.29	8020 Style Extrusion, 15 Series, Ultra Lite, Grooved, Black, 61.29" LG.	6061 Alloy	1
9	Unaka Gear Co.	1515-UL-BLACK-63	8020 Style Extrusion, 15 Series, Ultra Lite, Grooved, Black, 63" LG.	6061 Alloy	2

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	0	SET REVISION TO 0 FOR NEW DRAWING REFERENCE	4/27/2023	JEO
	1	ADDED LOGO PLATES, UPDATED SIDE PLATE FEATURES	9/17/2023	JEO



PRE-KITTING NOTES:

- LOGO PLATES (6) IS FOR DRIVE SIDE (5) IS FOR PASSENGER SIDE
- LOGO PLATES (6) AND (5) SHOULD BE RIVETED TO SIDE PLATE (2) BEFORE KITTING USING SS RIVETS. NOTE ORIENTATION OF LOGO PLATES WITH RESPECT TO PLATES.

NOTES:

- SEE BILL OF MATERIAL FOR TOTAL KITTING QUANTITIES AS IMAGES OF EVERY INDIVIDUAL ITEM MAY NOT BE SHOWN
- IMAGES ARE SHOWN FOR PART IDENTIFICATION AND DO NOT REFLECT FULL QUANTITIES OF EACH PARTS, SEE SUB ASSEMBLY DRAWINGS AND BOMS FOR EXACT QUANTITIES

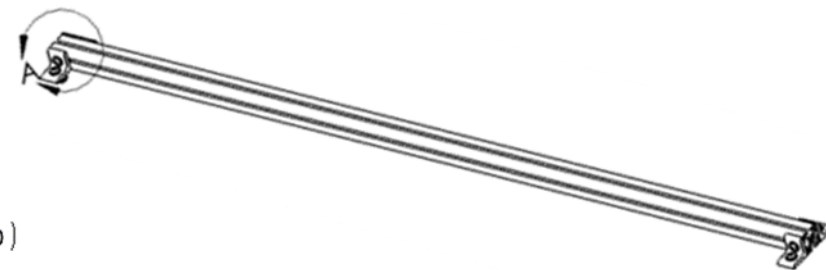
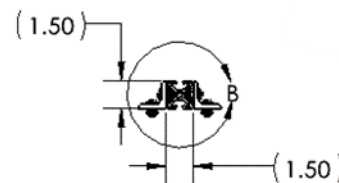
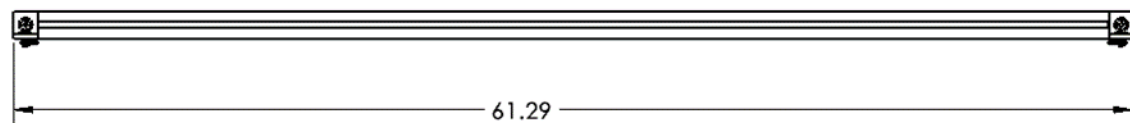
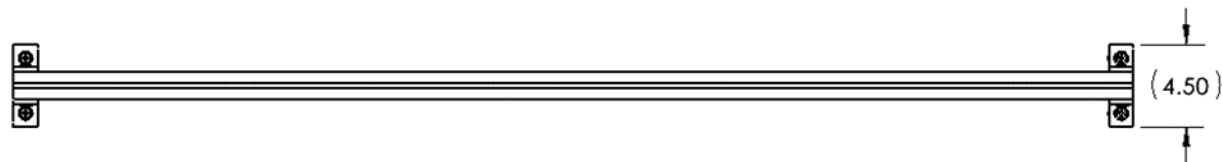
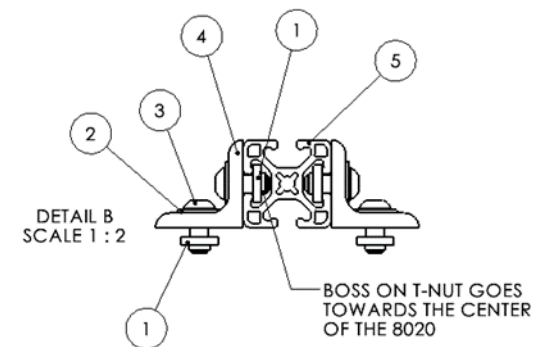
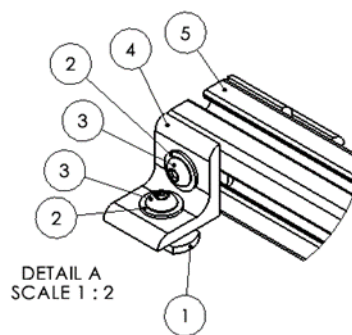
PACKAGING NOTES

- ALL PARTS SHOULD BE WRAPPED CAREFULLY AND SKU LABEL APPLIED TO WRAPPING BEFORE BOXING
- ALL ITEMS SHOULD BE PACKAGED CAREFULLY IN A SINGLE BOX.
- ALL ITEMS SHOULD BE PACKAGED IN A WAY THAT WILL PREVENT DAMAGE OR MOVEMENT DURING SHIPPING
- BOX SHOULD BE LABELED WITH SKU AND DESCRIPTION

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		DO NOT SCALE DRAWING		TITLE:	
TOLERANCES: ANGULAR: ±0.5° ONE PLACE DECIMAL: ±0.1 TWO PLACE DECIMAL: ±0.01 THREE PLACE DECIMAL: ±0.005		NAME	DATE	TRANSIT 148 HSLD MAIN RACK BOX	
PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF UNAKA GEAR CO. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF UNAKA GEAR CO. IS STRICTLY PROHIBITED.		DRAWN BY	JEO	SIZE	DWG. NO.
POST PROCESSING: None FINISH: None		CHECKED		B003-MK56-00 MRB REV 11	REV
		UNAKA GEAR CO		SCALE: NTS	SHEET 1 OF 1

FORD HSLD 8020 CROSS BAR HARDWARE KIT

ITEM NO.	Manufacturer	PART NUMBER	DESCRIPTION	MATERIAL	QTY.
1	8020	3678	T-NUT, ECONOMY, 5/16 THREAD, SS	NA	8
2	ANY	92141A030	FLAT WASHER, 5/16" SCREW SIZE, 0.344" ID, 0.75" OD, 18-8 SS	NA	8
3	ANY	92949A581	BHCS, 5/16-18 X 0.75" LG, FULLY THREADED, 18-8 S.S.	NA	8
4	ANY	BLB-1	CORNER BRACKET, 2 HOLE, 15 SERIES, BLACK	NA	4
5	Unaka Gear Co.	1515-UL-BLACK	1515-UL-BLACK-61.29		1



Step 1: Layout all parts on the floor of your workspace

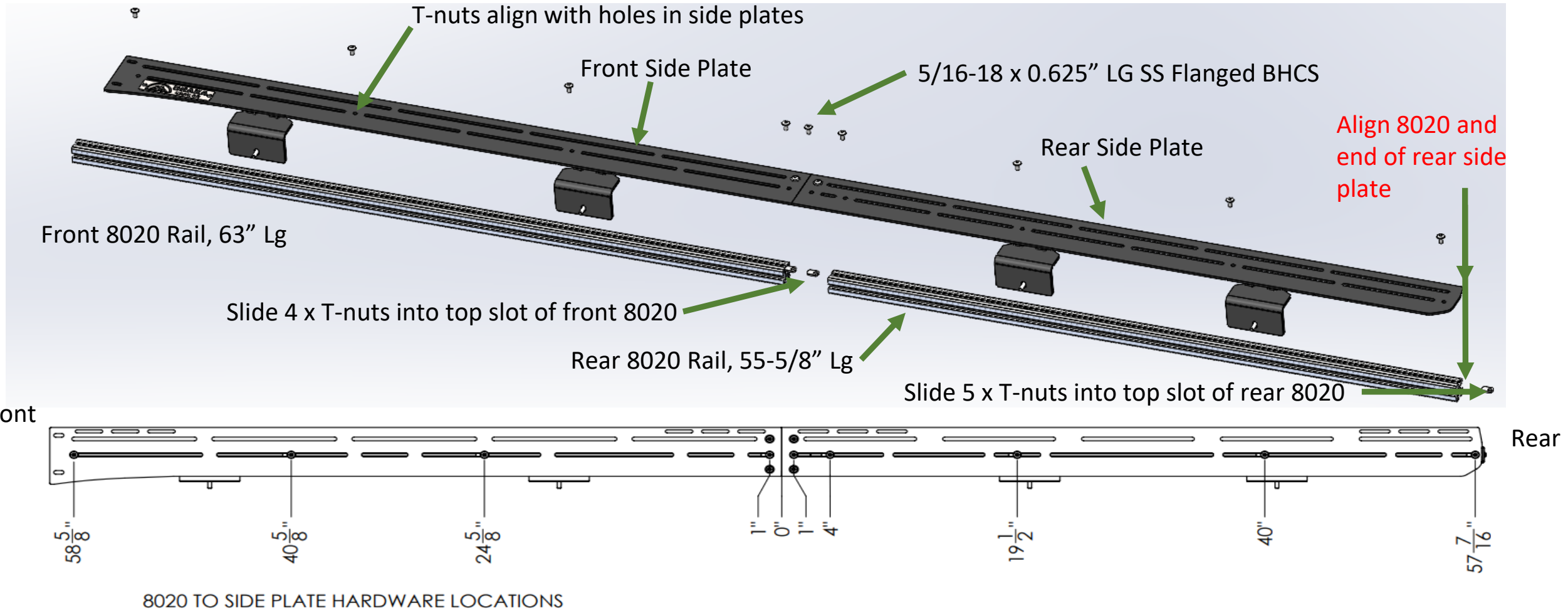
1. Clear your work area, and layout all parts
2. Make notes of hardware types, locations, and quantities as needed



Note: This image is of the Explorsit Life Kit, the Ford Transit HSLD kit does not include the AC or Fan Cross Bars but instead the rear 8020 cross bar

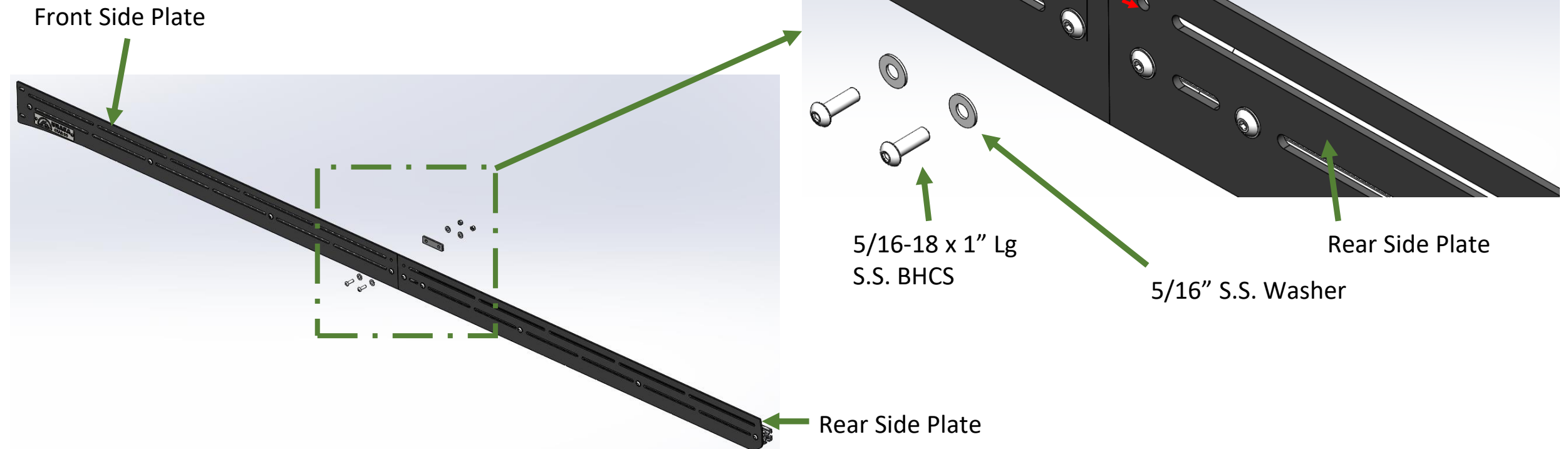
Step 2: Bolt 8020 rails to side plates

1. Place the front and rear 8020 pieces on the ground
2. Slide 5 x SS T-nuts into the top slot of the rear 8020, and slide Qty 4 x SS T-nuts into the front piece of 8020
3. Slide the T-nuts to the dimensions provided below
4. Carefully place the side rail assembly on top of the 8020, align the back of the rear side plate with the end of the rear 8020
5. Insert the bolts into the t-nuts, and tighten to 132 in-lbs (14.9 N-m)



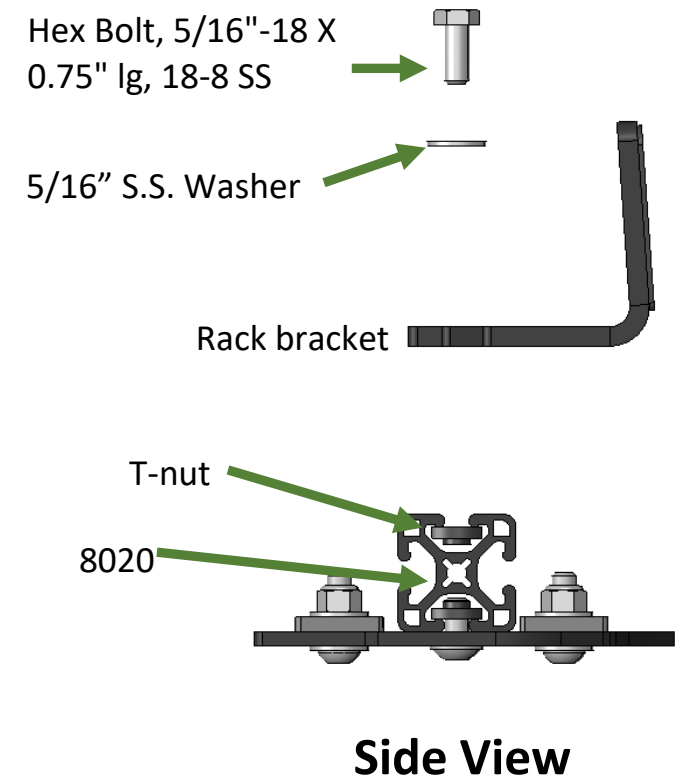
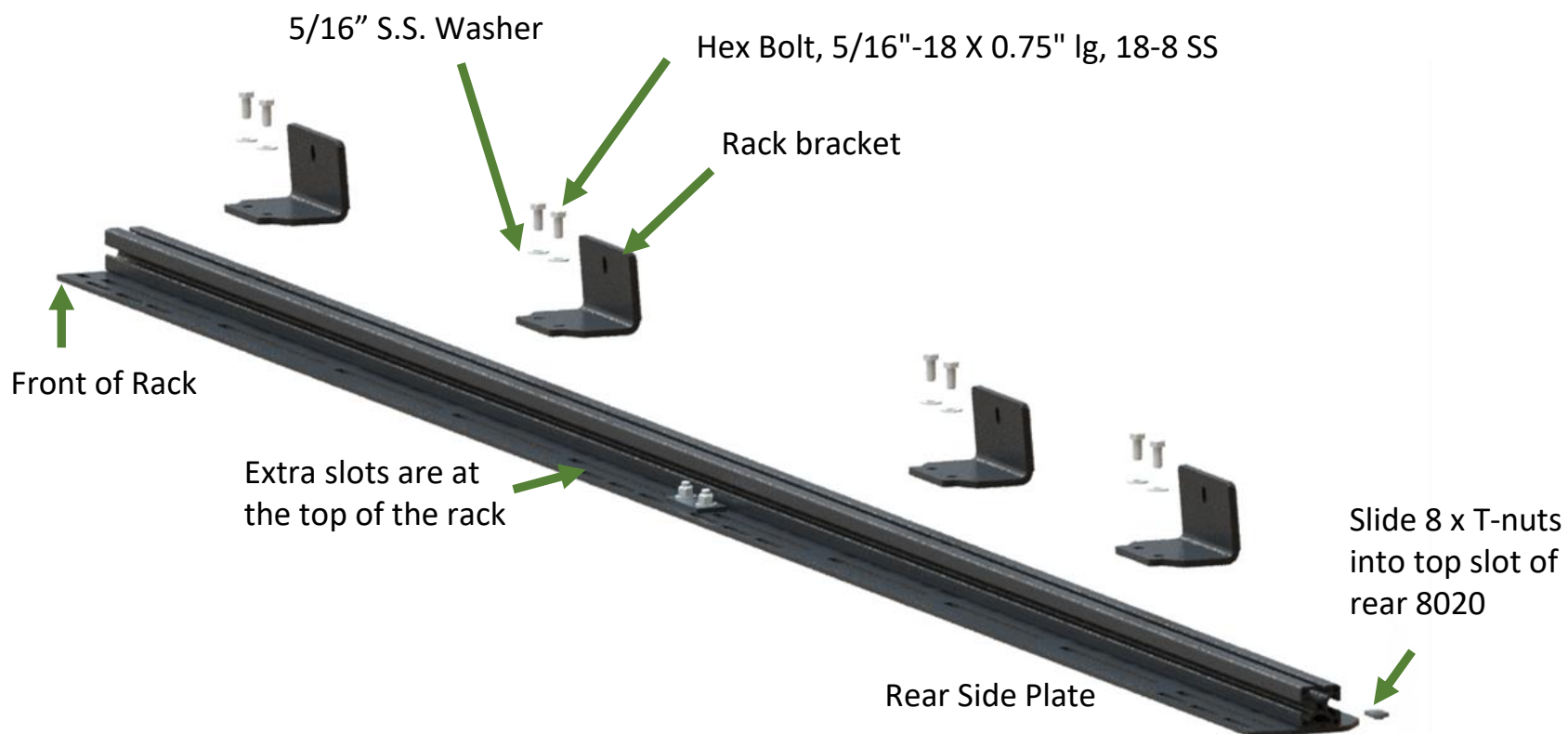
Step 3: Join the front and rear side plates

1. Join the front and rear side plates using 2 of the splice plates
2. Tighten the bolts to 132 in-lbs (14.9 N-m)



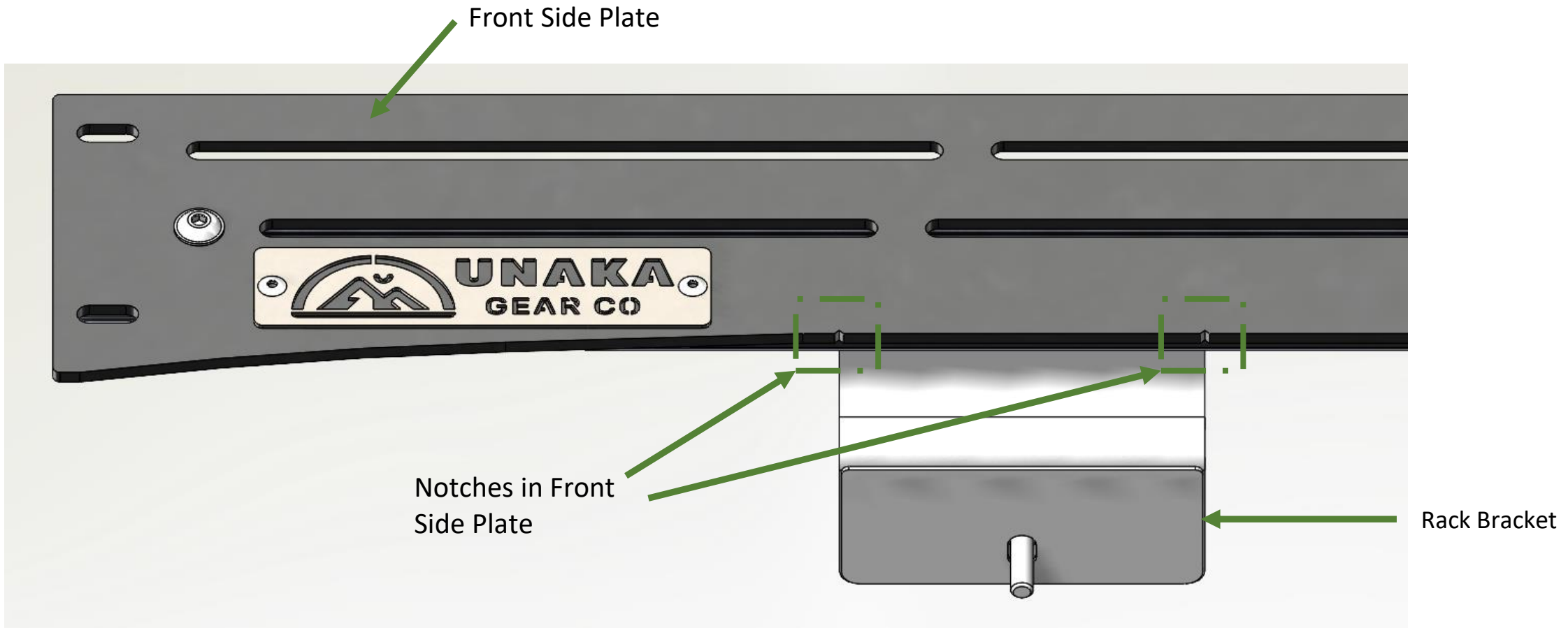
Step 4: Bolt rack brackets to 8020 rails

1. Place the side rail assembly on its back
2. Slide 8 x SS T-nuts into the upward facing slot and slide down to their approximate bracket locations (see next page)
3. Loosely bolt rack brackets to the 8020 rail
4. Slide the rack brackets down to the locations marked by notches in the front side rail
 - a) These positions should be close, but brackets may need to be loosened and adjusted during installation to the roof
5. Snug up the bolts securing the rack bracket to the 8020 rail
 - a) Bracket positions should be close, but brackets may need to be loosened and adjusted during installation to the roof



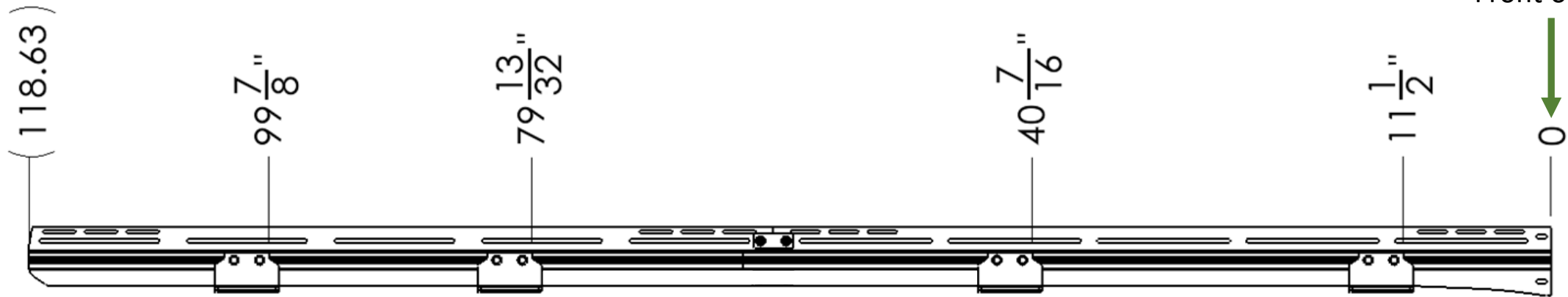
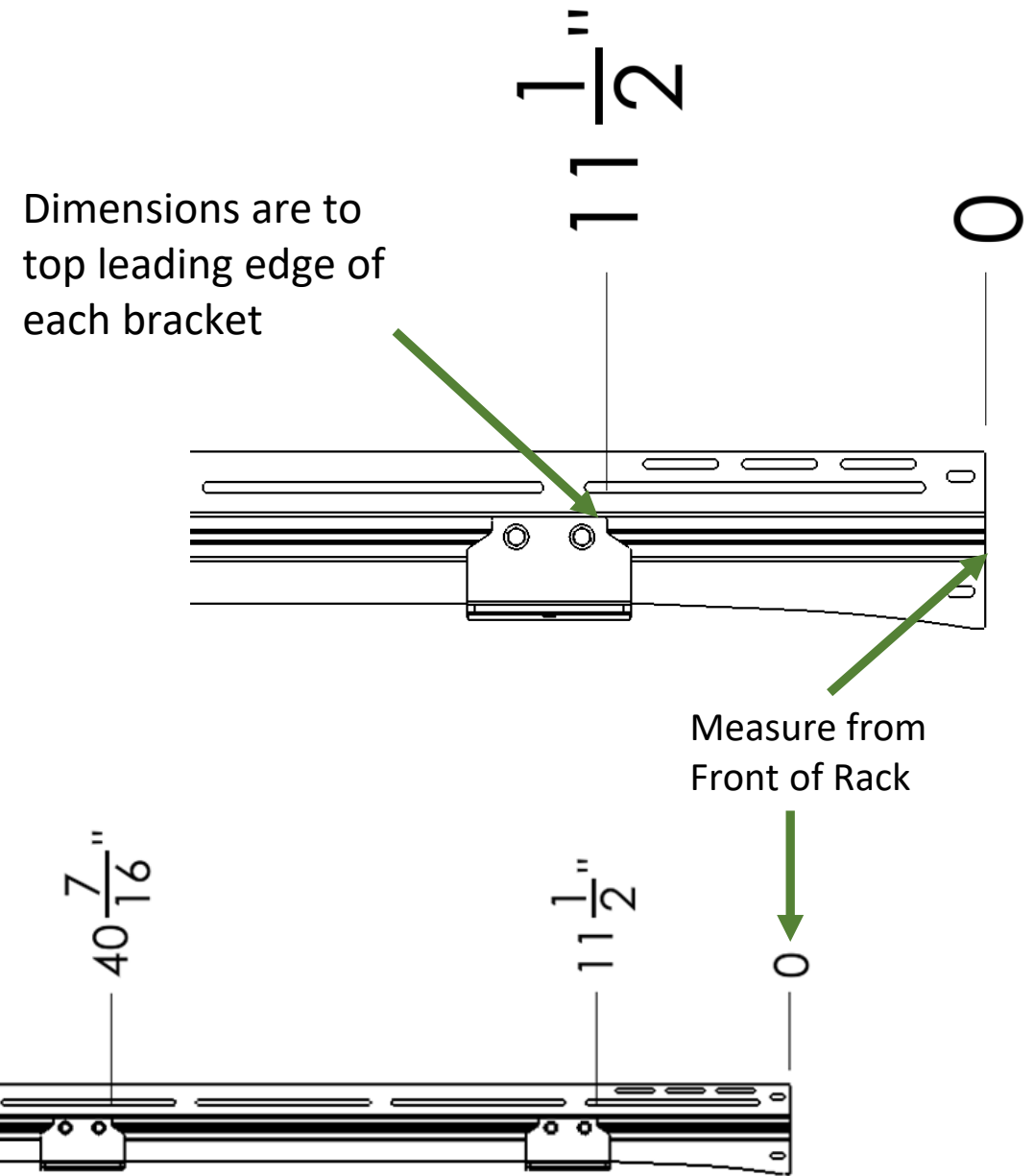
Step 4: Bolt rack brackets to 8020 rails (cont.)

The notches pre-cut into the Front Side Plate and Rear Side Plate can be used to quickly position the Rack Brackets in their approximate locations. Position each bracket in-between the cut notches. The dimensions on the following page can also be used to verify the correct positions.



Step 4: Bolt rack brackets to 8020 rails (cont.)

1. Positioning the rack brackets to the position below should get the brackets close to their final location when the side rail assembly is placed on the roof of the van



Step 5: Assemble Passenger Side Rail

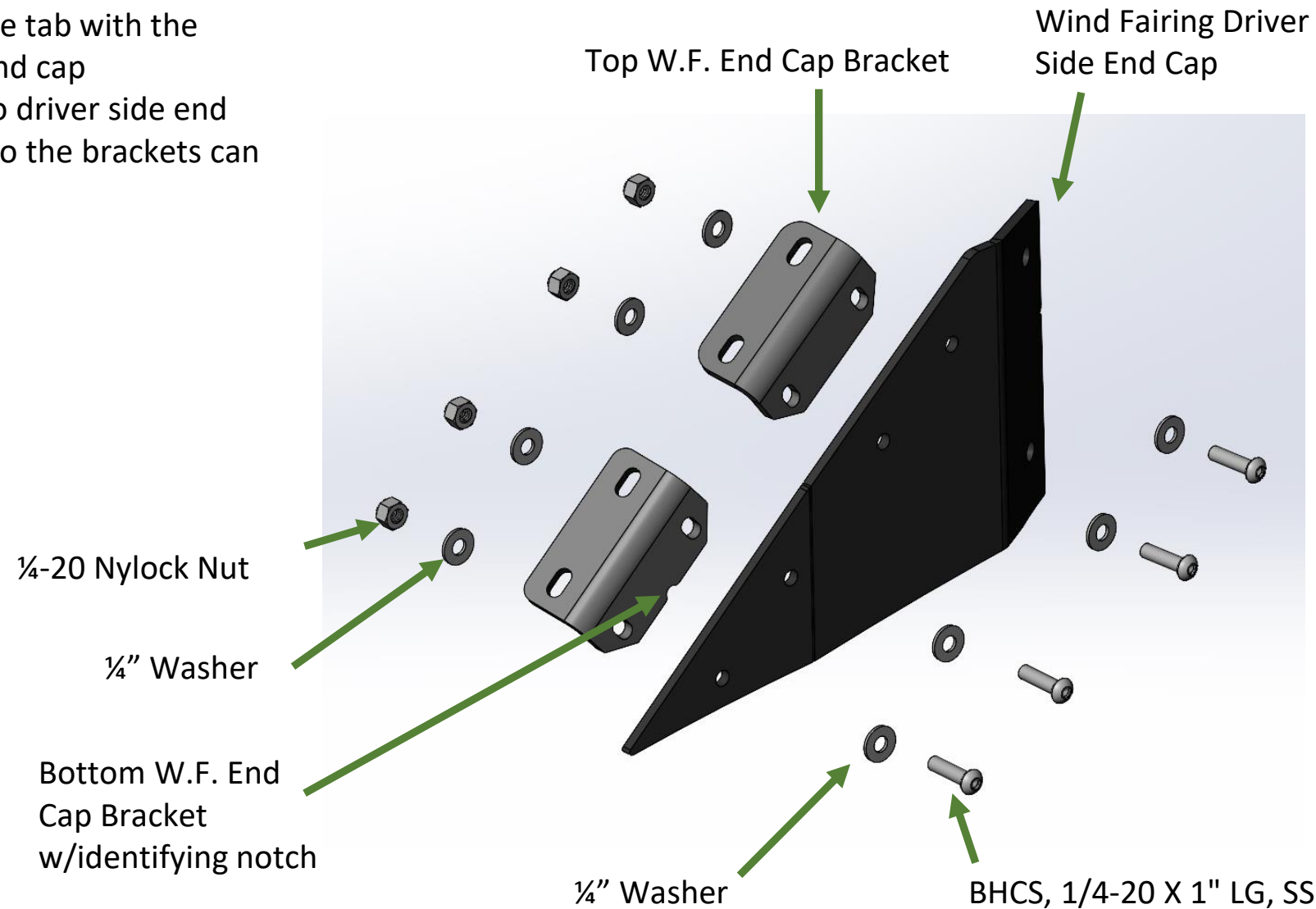
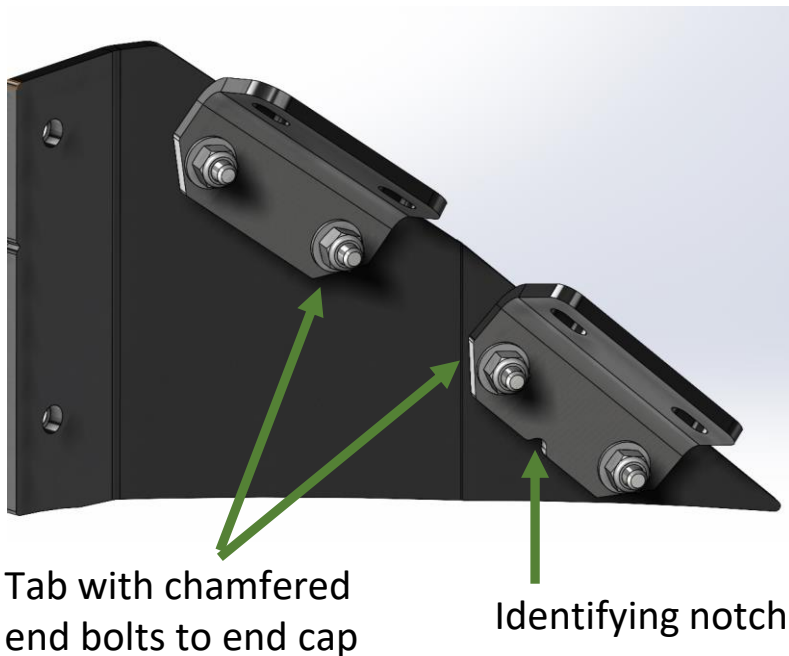
1. NOTE: The passenger side rail assembly is a mirror image of the driver side. Ensure you flip the orientation of the parts so that you do not make a 2nd driver side rail assembly
2. Repeat steps 2 through 4 to make the passenger side rail assembly



Step 6: Assemble Wind Fairing End Caps

1. Warning: Top and bottom end cap brackets look very similar. Bottom wind fairing end cap bracket has a round relief cut out on one side to help identify it
2. End cap brackets should be installed with the tab with the chamfered corners bolting to wind fairing end cap
3. Bolt top and bottom wind fairing brackets to driver side end cap. ***Leave the bolts just loose enough so the brackets can float around in their slots
4. Repeat process for passenger side end cap

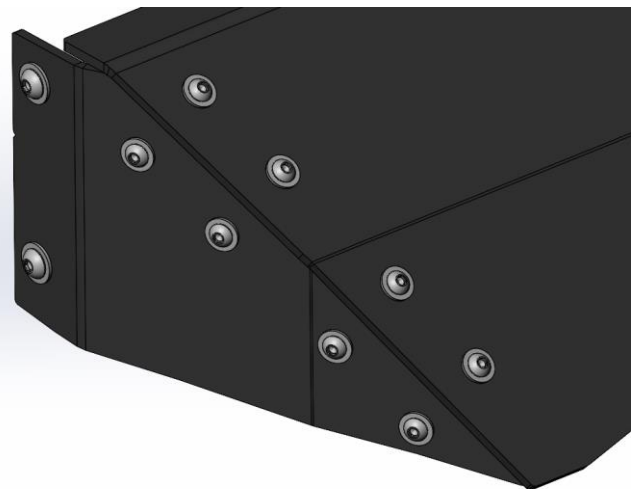
Driver Side End Cap Assembled



Step 7: Bolt wind fairing to end caps

1. Hardware holding end cap brackets to the end cap still slightly loose
2. Loosely bolt the wind fairing to the wind fairing end cap assemblies
3. **Tighten the hardware carefully. Do not tighten hardware one at a time. Holding / position the wind fairing to align the edges of the fairing with the end cap as best you can. All edges may not be perfectly aligned due to manufacturing tolerances. Move between the bolts tightening them each a bit slowly until everything is nice and tight. If you tighten one bracket to much, it may not allow the adjustment slots in the brackets to compensate for manufacturing and installation tolerances. All wind fairing hardware should be tightened to 75.2 in-lbs (8.48 N-m).
4. Repeat for the passenger side end cap
5. Install the bulb seal on the front edge of the wind fairing

Completed passenger side end cap / wind fairing

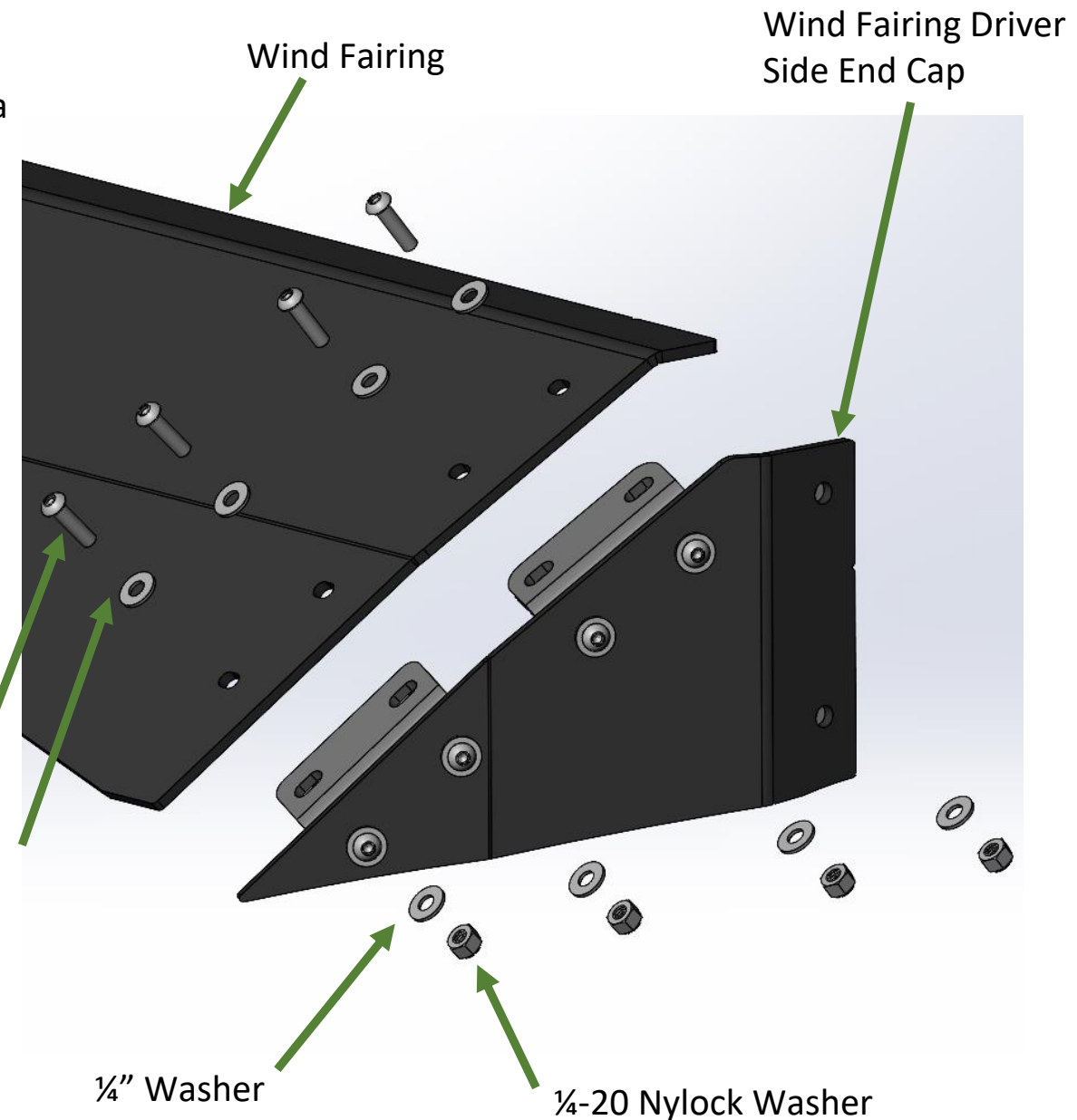


BHCS, 1/4-20 X 1" LG, SS

1/4" Washer

1/4" Washer

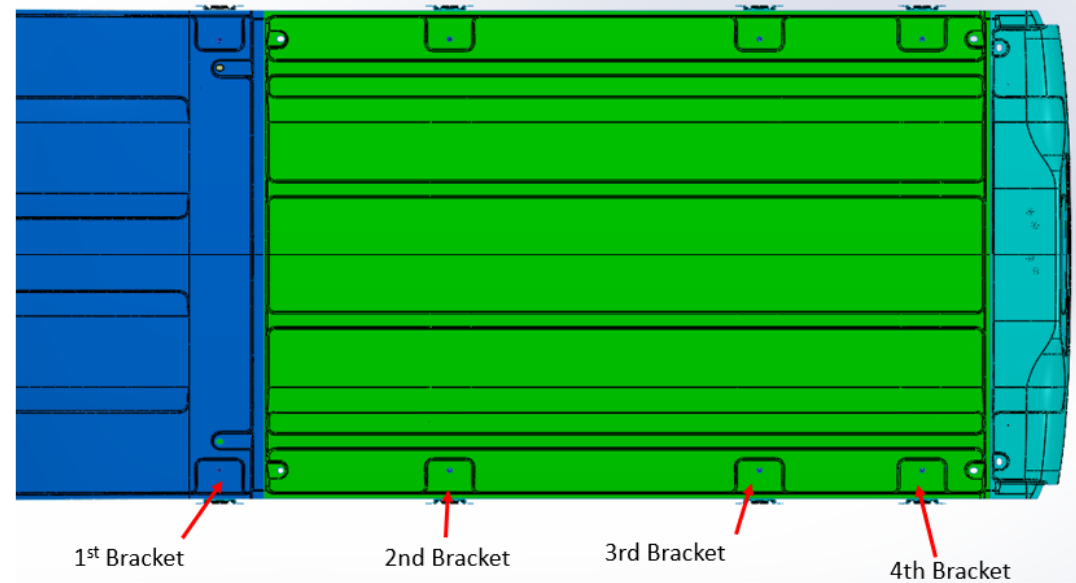
1/4-20 Nylock Washer



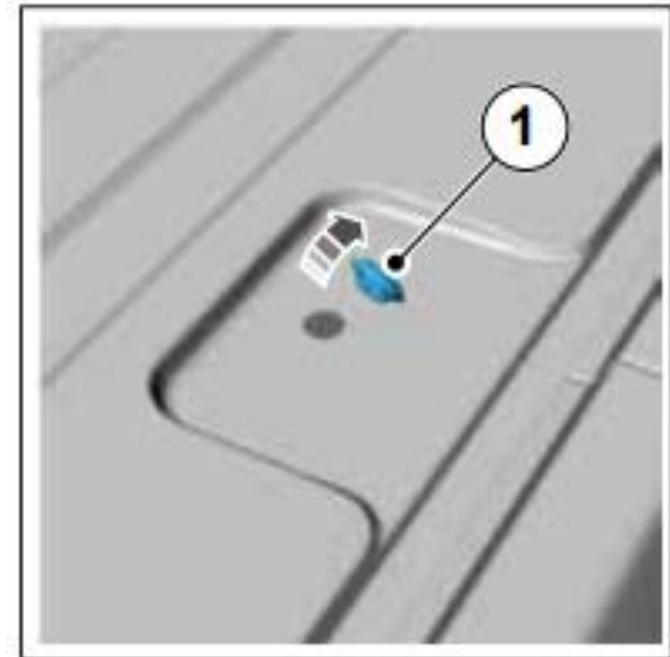
Step 8: Remove caps from van roof

Note: If the rack installation is being completed outside, before starting this step make sure you have plenty of time to get the rack installed, and to let the dicor set up before exposure to rain or water

1. Identify the rack bracket mounting locations
2. Carefully remove the rack mounting hole covers at the rack bracket locations
 - a) Other holes may be present on the roof, only remove the hole covers at the rack mounting pad locations
 - b) Apply light heat to the hole cover using a heat gun. **Caution as overheating the surrounding area could cause damage to the van.
 - c) Using a plastic scraper, break the outside edges around the cap
 - d) Use the plastic scraper to then remove the cover, applying more heat if necessary.
3. Remove any extra glue and clean with denatured alcohol



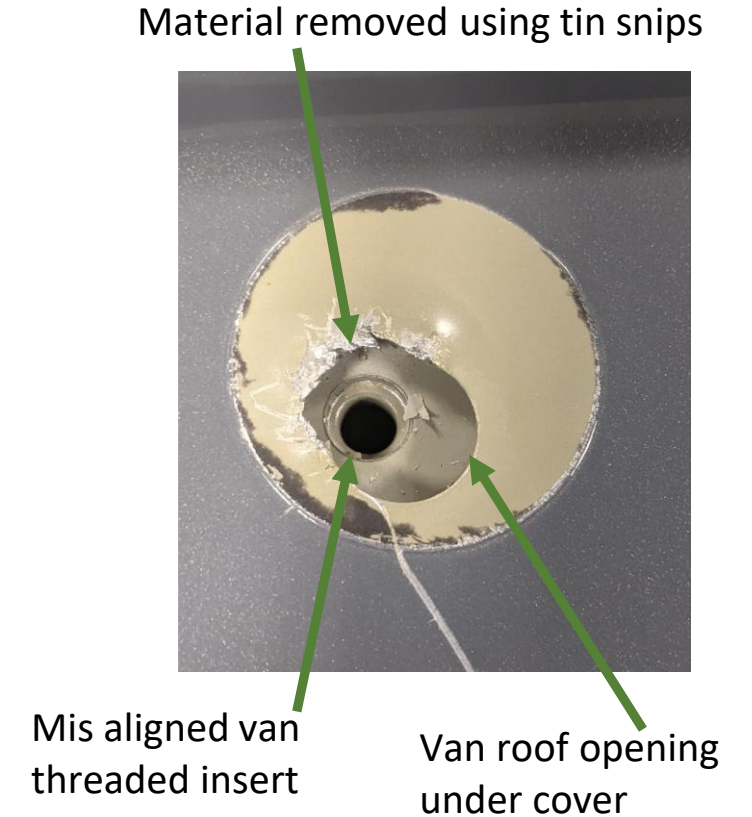
Remove Cap



Step 9: Check van threaded insert alignment

Ford does a lot right, but unless you are lucky, you will be evaluating Ford's manufacturing process during these next steps.

1. Using the M8 bolt provided, check the alignment of the van threaded insert by screwing it in by hand
 - a) ***Not all holes will be aligned so do not force it
 - b) The threaded insert is at a slight angle, so make sure when you are checking the alignment, the bolt is perpendicular to the threaded insert
 - c) In rare cases the van threaded insert may have too much paint in it and the bolt will not easily thread in. DO NOT force it, get a M8x1.25 hand tap, and run it through the threaded insert
2. Open any mis aligned holes so the M8 bolt can be threaded in, we recommend tin snips which won't make the cleanest hole, but will not make a big mess or leave a lot of metal shavings to clean up
 - a) Using tin snips, cut away just enough material to expose the hole. This can be done by cutting small V notches
 - b) Clean the cut metal to remove bent or sharp edges as desired, this will be painted and covered up, so it doesn't have to be perfect
 - c) Use denatured alcohol to clean the hole cut edges, and use a small foam brush to prime and paint the exposed metal cut edges



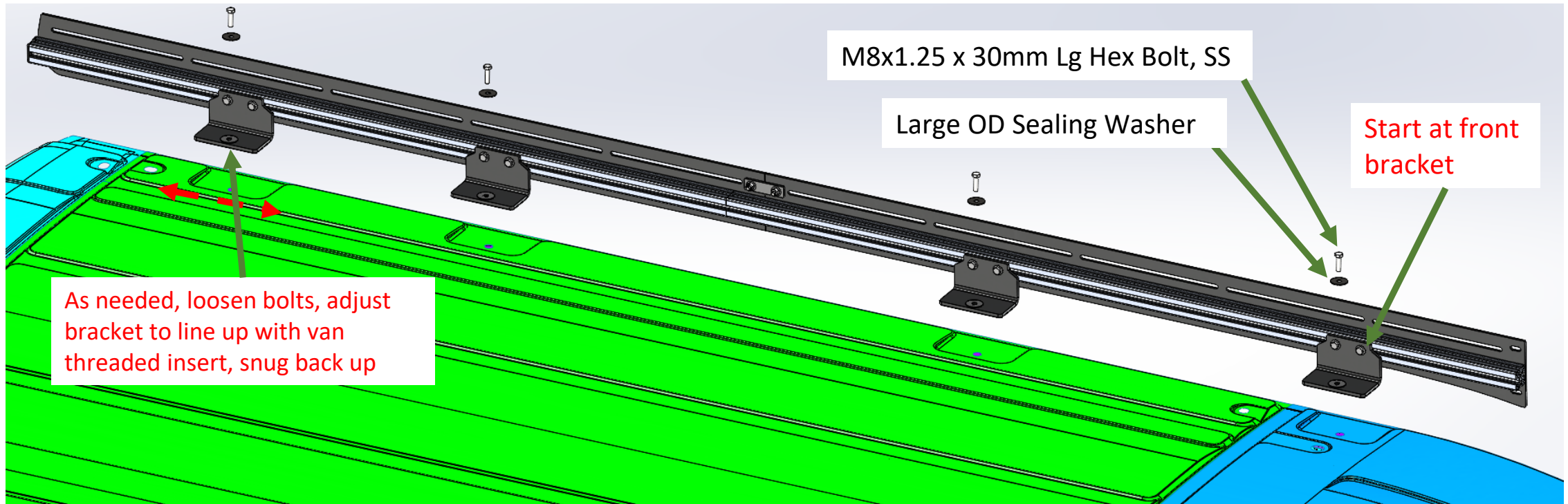
Finally, Lets Get the Rack On Your Van!

Congrats! You made it and are now ready to install your roof rack onto your van! I hope that your van was perfect and that you didn't have to open any holes, but for those of you that opened up a bunch of them congrats on getting it done!

Step 10: Install the rack side rail assemblies

This step should be completed with 2 people using 2 ladders

1. Place one M8 bolt and large OD sealing washer at each rack bracket location
2. Lift the driver side rail assembly up and onto the roof **Use rags to protect the roof if you need to lay the rail assembly onto the van
3. Install the M8 bolt into the first roof rack bracket, leave just loose enough so the bracket can be wiggled forwards or backwards on its slot
4. Install the remainder of the M8 bolts, if a bracket does not line up with the threaded insert, loose the bolts and slide the bracket forward or backwards until the M8 bolt can be installed, then snug the bolts on the 8020 back up. Tighten the M8 bolt to the van threaded insert just loose enough so bracket can be adjusted if needed
5. Repeat these steps for the passenger side of the van

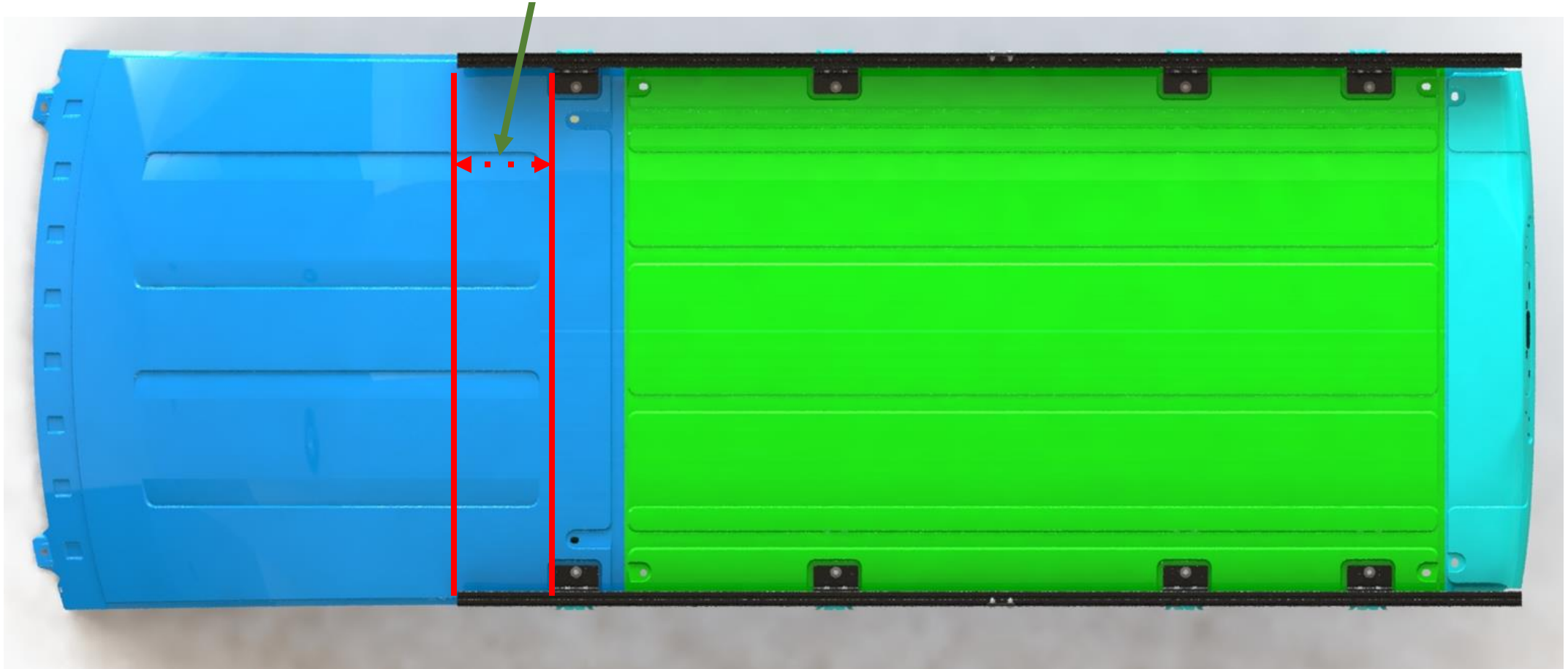


Step 10: Install the rack side rail assemblies (cont.)

This step should be completed with 2 people using 2 ladders

1. Confirm side rail front to back alignment
2. Tighten the bolts to 14 ft-lbs (18.9 N-m) once cross bars and wind fairing have been used to set rail to rail spacing

Confirm that driver side and passenger side rails are extending the same amount from the front of the rack bracket. This was set to 11.5" in a previous step. If for some reason it is decided that 11.5" is not the desired amount due to personal installation variations or needs, just make sure they are even



Step 11: Install rack wind fairing

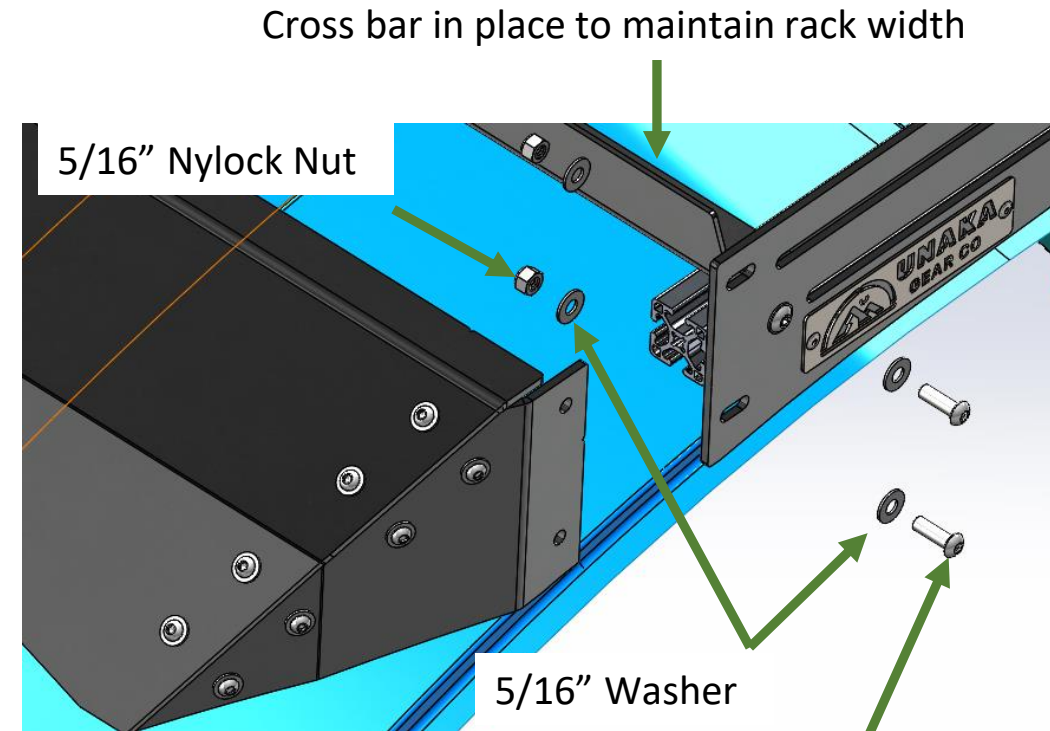
This step should be completed with 2 people using 2 ladders

Tip: Use rags as needed to protect the van if you need to sit the wind fairing on the van roof

Warning: Take extra precautions to not drop the wind fairing onto the wind shield, and down the front of the van

Note: The slots in the side plate allow for forward / backward adjustment of the wind fairing, as well as gives the ability to adjust the angle of the wind fairing

1. A cross bar should be installed towards the front of the rack to help maintain side rail spacing during this process
2. Lift the wind fairing up into place
3. Loosely bolt the wind fairing to the top and bottom slots on the side plates
4. Adjust the angle and position of the wind fairing so that the wind fairing bulb seal compresses onto the van roof
 - a) We generally position the wind fairing as far forward as possible
 - b) Snug up the wind fairing hardware
 - c) Tighten the bolts to 132 in-lbs (14.9 N-m)
5. Entire rack can slide forward or backwards if a better wind fairing fit is desired. This will require loosening the bolts that attach the 8020 rails to the rack brackets

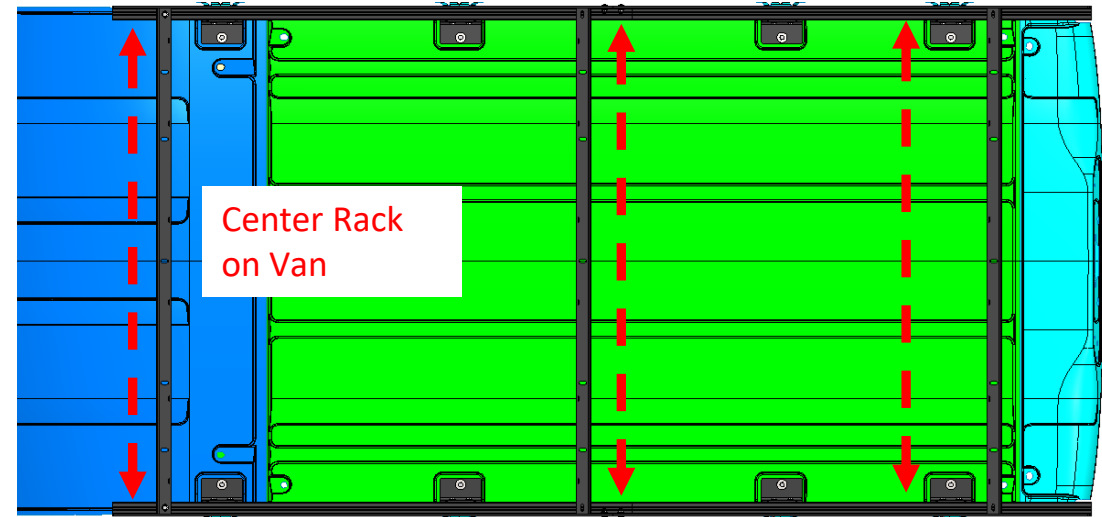


BHCS, 5/16-18 X 1" LG, FULLY THREADED, 18-8 S.S.

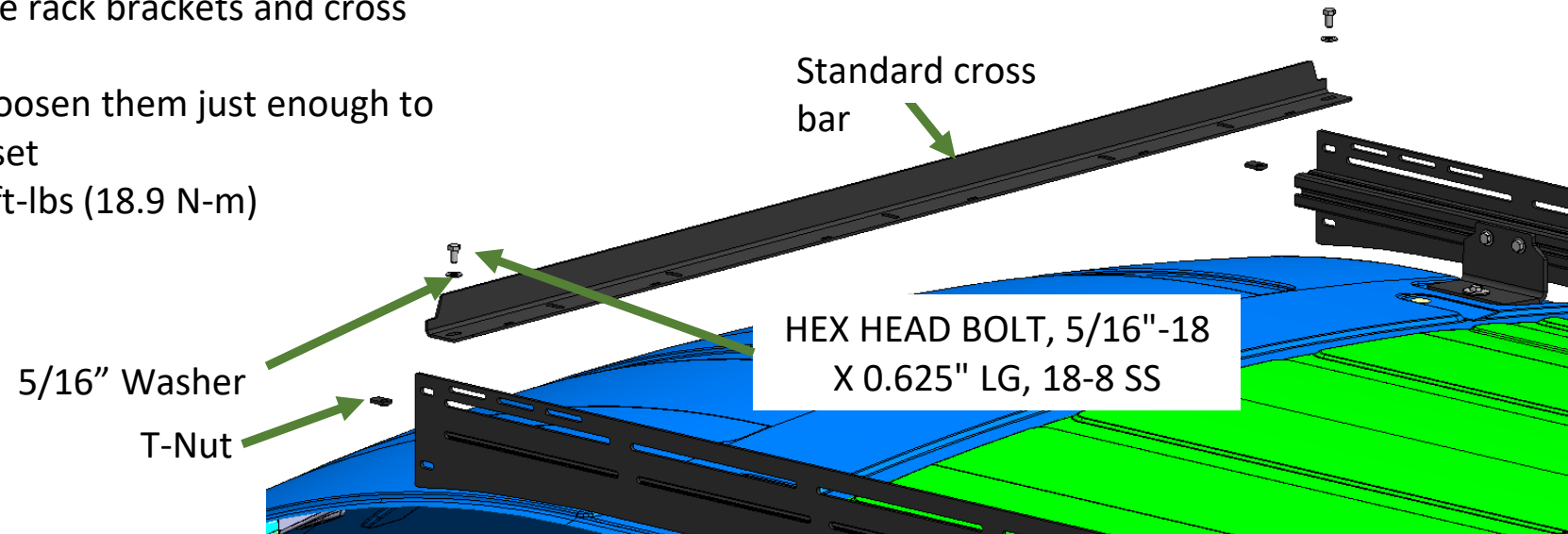
Step 12: Set side rail to side rail spacing

This step should be completed with 2 people using 2 ladders

1. Install 3 to 4 of the standard cross bars along the length of the rack
 - a) Do not use the cross bars for around the fan or AC unit
 - b) At a minimum place one towards the front, one towards the middle, and one towards the back
 - c) Do not place cross bars directly over a rack bracket
2. Slide one T-nut in the top of both the driver side and passenger side 8020 rails per cross bar. These t-nuts can be slide in from the front or back of the rack
3. Loosely bolt the cross bars to the 8020 rails
4. Once the cross bars are in place, center the rack on the van and set the side rail to side rail spacing so that the cross bars are tight, but can still be removed, or adjusted forward or backwards. As you adjust the rail to rail spacing, snug up the rack brackets and cross bar hardware
 - a) If the rack brackets are too tight, loosen them just enough to allow the rail to rail spacing to be set
5. Tighten rack brackets to van roof to 14 ft-lbs (18.9 N-m)



Temporary cross bars near front, middle, and rear



Step 13: Dicor rack brackets sealing to roof

Each rack bracket already has a rubber gasket on the bottom, and the bolt secures the bracket to the van using a sealing washer which should keep most water out. That being said, we always Dicor the rack brackets to ensure no water can get into your van and we recommend that you do the same

Tip: For a clean Dicor installation, apply painters' tape on all 4 sides of the rack bracket

1. Per the manufacture's directions, apply Dicor to all 4 sides of the rack bracket and the hex bolt and sealing washer
2. When ready, remove the painters tape
3. Once Dicor is dry, remove the temporary cross bars

A piece of clear vinyl tubing and small hose clamp are used to Dicor the back of the bracket under the side rail assembly



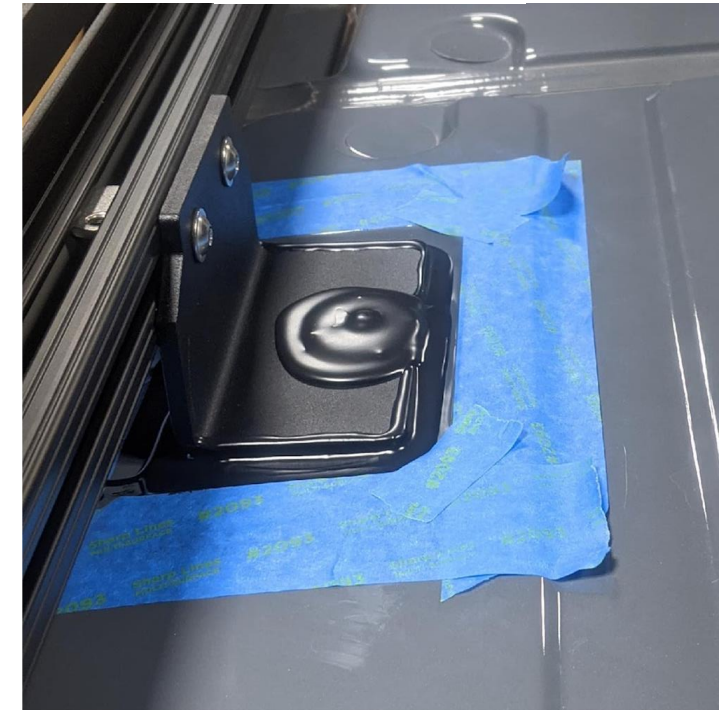
Before Dicor



Which Dicor: We typically use self leveling Dicor, but since the van roof is at an angle, some people may choose to use Non-Self Leveling Dicor.



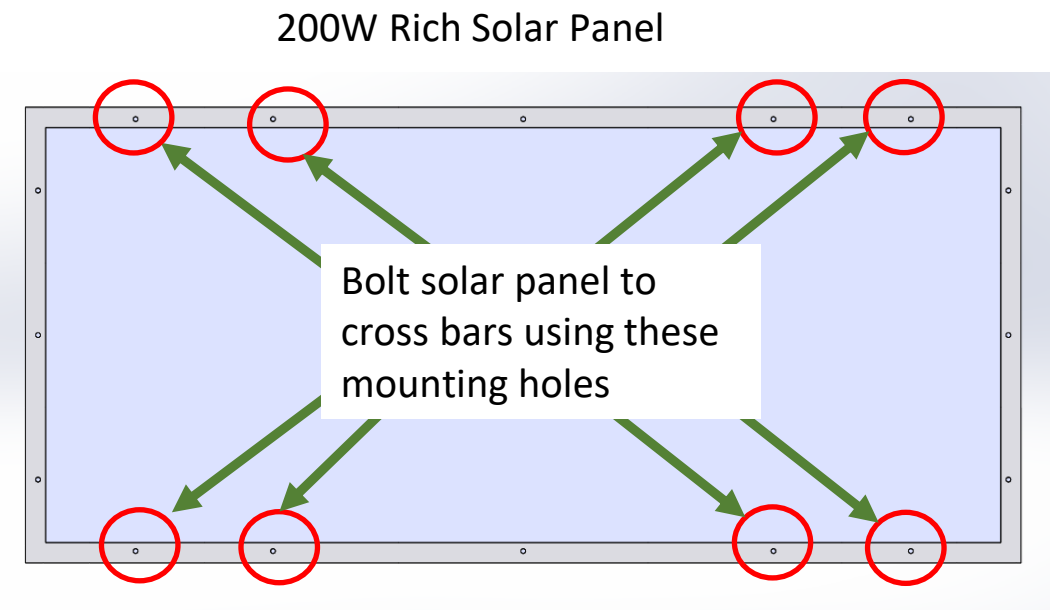
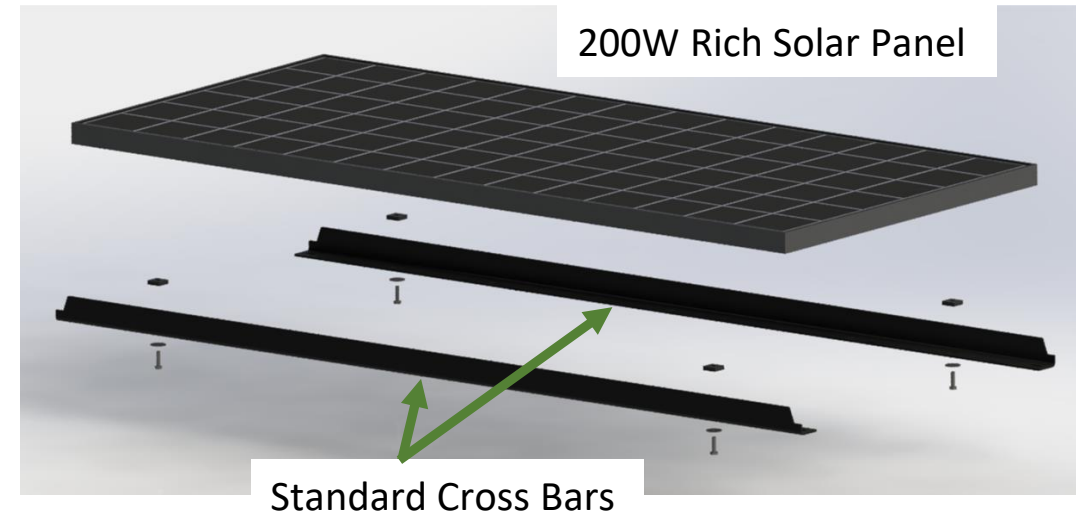
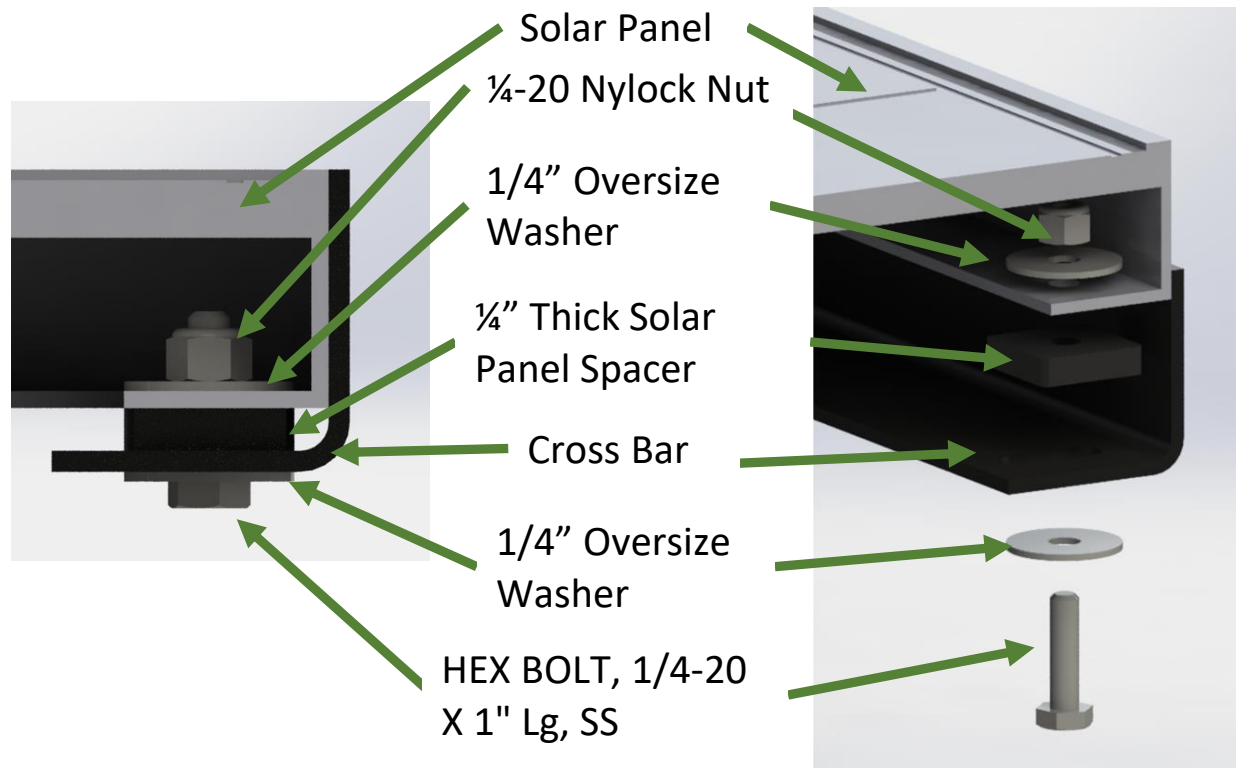
After Dicor



Step 14: Install solar panels to cross bars

1. Bolt your solar panels to your cross bars
2. Install the $\frac{1}{4}$ " spacers between the cross bar and the bottom of the solar panel
3. Center solar panels on cross bars before tightening hardware
4. Tighten the bolts to 75.2 in-lbs (8.48 N-m)

**Below: Cut away view of the solar panel showing hardware installation

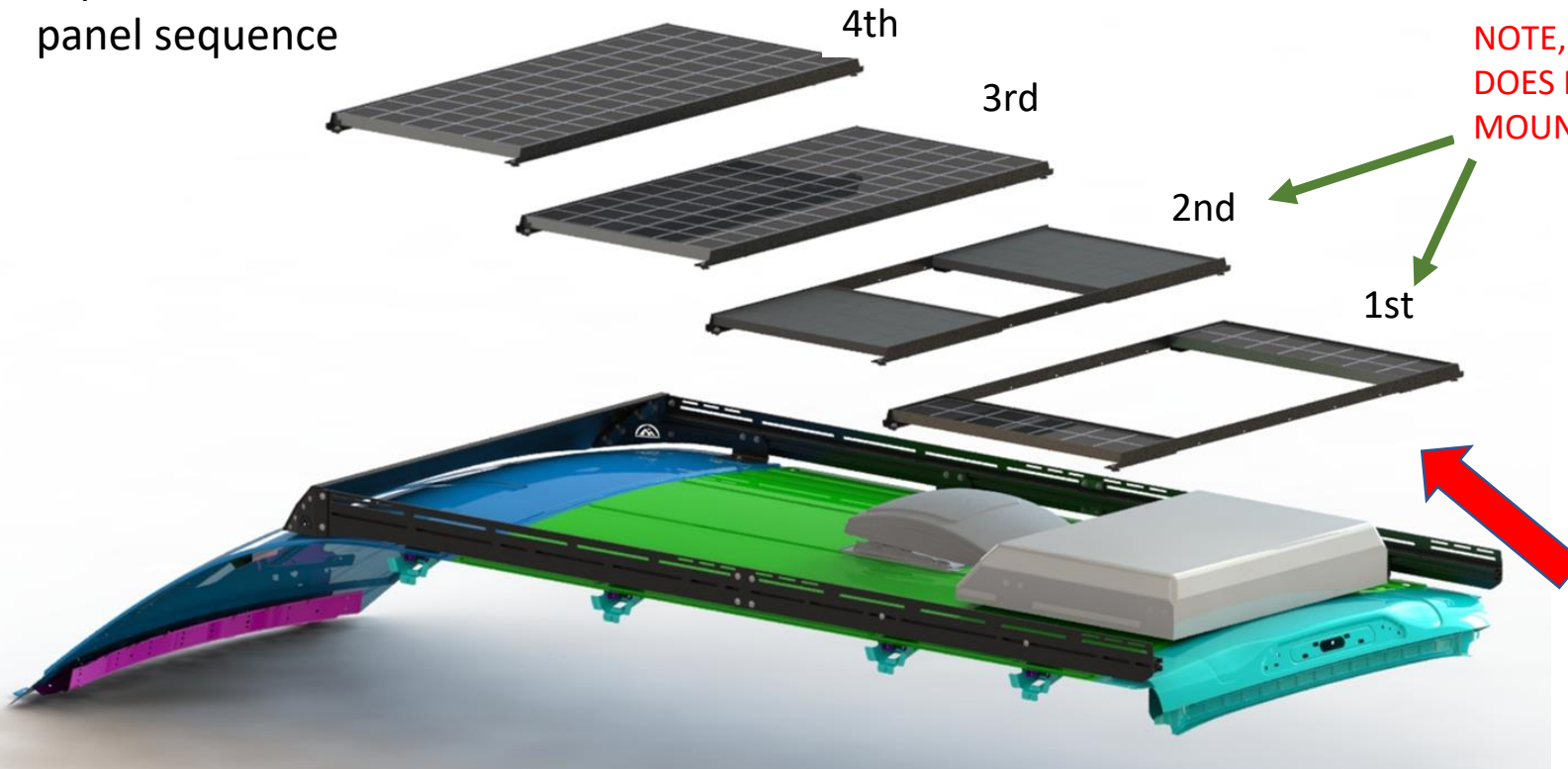


Step 15: Install solar panel

This step should be completed with 2 people using 2 ladders

1. Install your solar panel assemblies in an order that makes sense for your rack
2. Do not bolt down the panel assemblies until all panels are on the roof
3. For the ExPlorist life rack using solar panel assemblies that go around the fan and AC units, we recommend installing those first, since it's a close fit around those units.

Explorst Life Rack
panel sequence



Lift the AC, and fan panel assemblies from the back of the van, with 1 person on each side. Place foam or a blanket over your AC or Fan if needed to protect them. The 200W panel assemblies can be loaded the same way if needed

Step 15: Install solar panel (cont.)

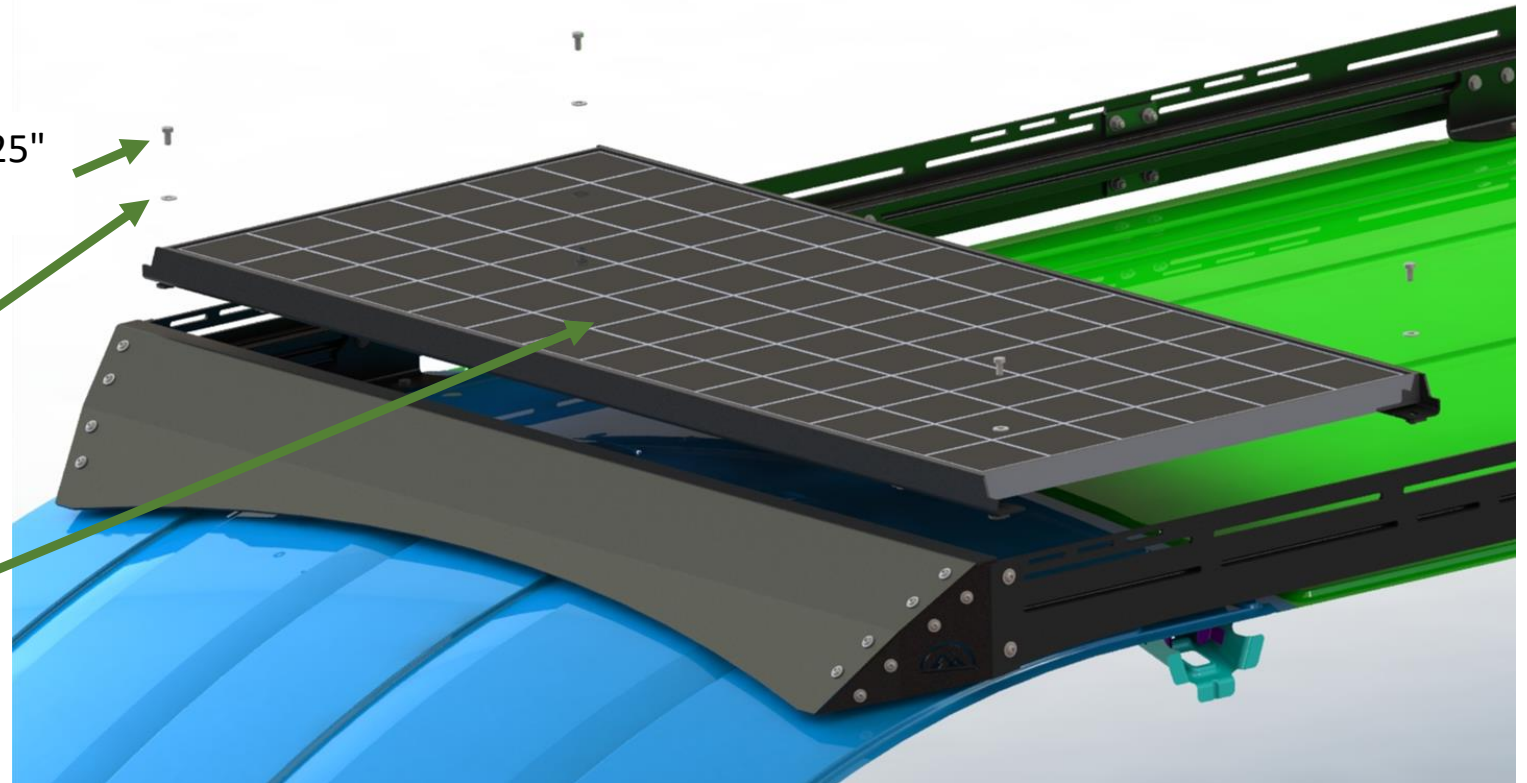
This step should be completed with 2 people using 2 ladders

1. Slide all required t-nuts for all solar panels into the top channel of the 8020. Each solar panel assembly gets 2 x t-nuts per side rail
2. Place the T-nuts in the general area that the solar panel will be installed
3. Carefully lift the solar panel assembly onto the rack, this should be done with 2 people to prevent damage to the solar panel, rack, or your van
4. Move solar panel to its final location
5. Repeat for the rest of the solar panels, adjust position of other panels as needed
6. With all panels in place, apply Loctite to the bolts, and bolt the panels in place
7. Tighten the bolts to 132 in-lbs (14.9 N-m)

HEX HEAD BOLT, 5/16"-18 X 0.625"
LG, 18-8 SS

5/16" Washer

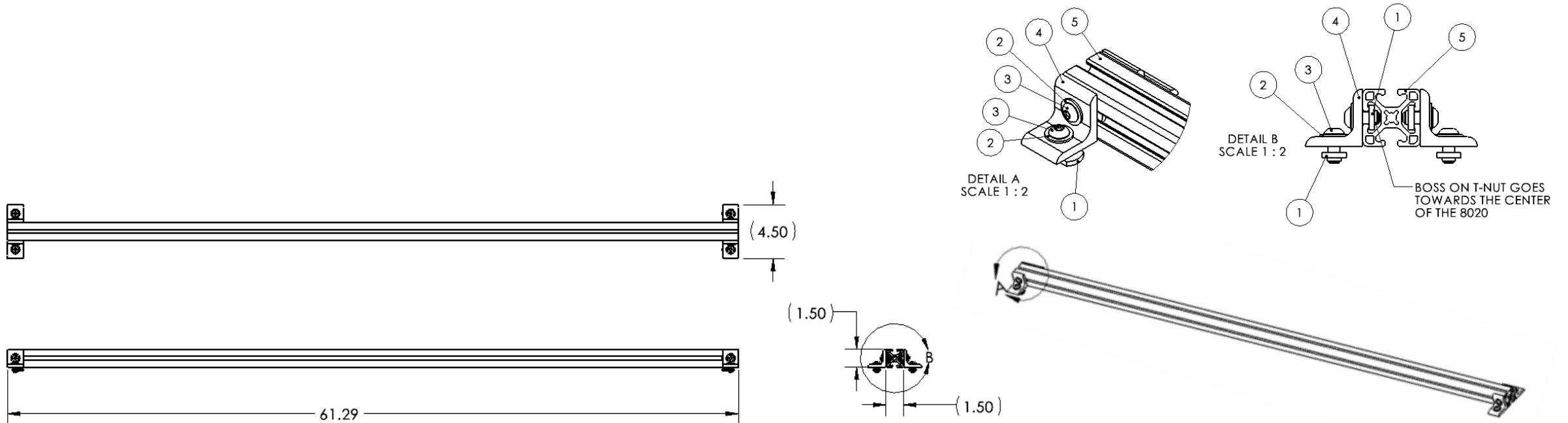
Solar Panel already
installed on cross
bars



Step 16: Assemble 15 Series 8020 Cross Bar

1. **USE BLUE LOCTITE 242 DURING THIS ASSEMBLY PROCESS.
2. BEFORE STARTING ASSEMBLY, INSERT ANY ADDITIONAL T-NUTS INTO ANY 8020 SLOTS AS INSTALLING THEM LATER MAY BE DIFFICULT OR REQUIRE DISASSEMBLY
3. BOLT CORNER BRACKETS TO 8020 CROSS BAR AS SHOWN
4. POSITION 8020 CROSS BAR AS DESIRED ON HSLD ROOF RACK RAILS, INSERT T-NUTS INTO TOP OF 8020 SIDE RAILS
5. BOLT 8020 CROSS BAR TO THE TOP OF THE 8020 SIDE RAILS USING T-NUTS AND BOLTS
6. TORQUE TO 180 IN-LBS (15 FT-LBS)

ITEM NO.	Manufacturer	PART NUMBER	DESCRIPTION	MATERIAL	QTY.
1	8020	3678	T-NUT, ECONOMY, 5/16 THREAD, SS	NA	8
2	ANY	92141A030	FLAT WASHER, 5/16" SCREW SIZE, 0.344" ID, 0.75" OD, 18-8 SS	NA	8
3	ANY	92949A581	BHCS, 5/16-18 X 0.75" LG, FULLY THREADED, 18-8 S.S.	NA	8
4	ANY	BLB-1	CORNER BRACKET, 2 HOLE, 15 SERIES, BLACK	NA	4
5	Unaka Gear Co.	1515-UL-BLACK	1515-UL-BLACK-61.29		1



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