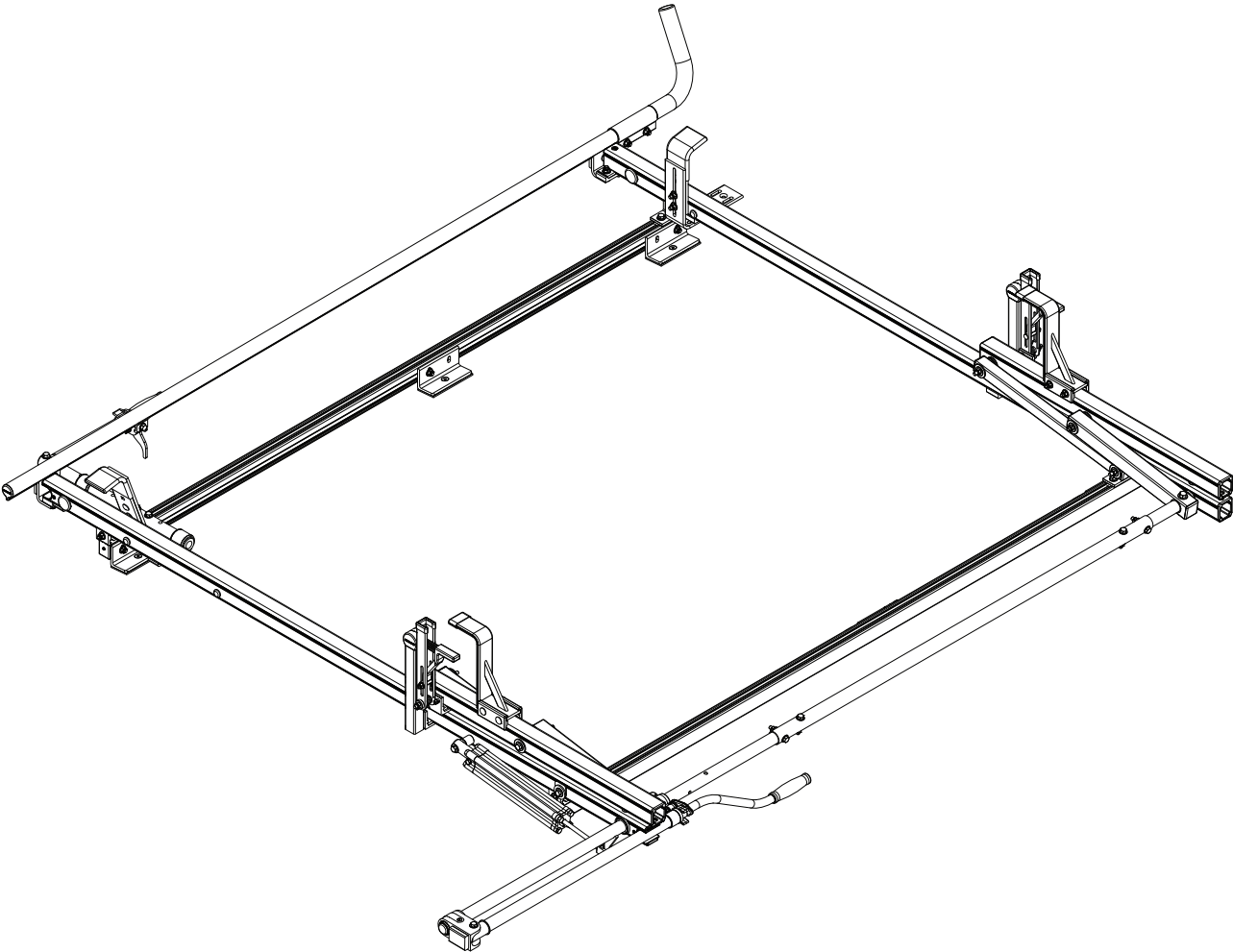


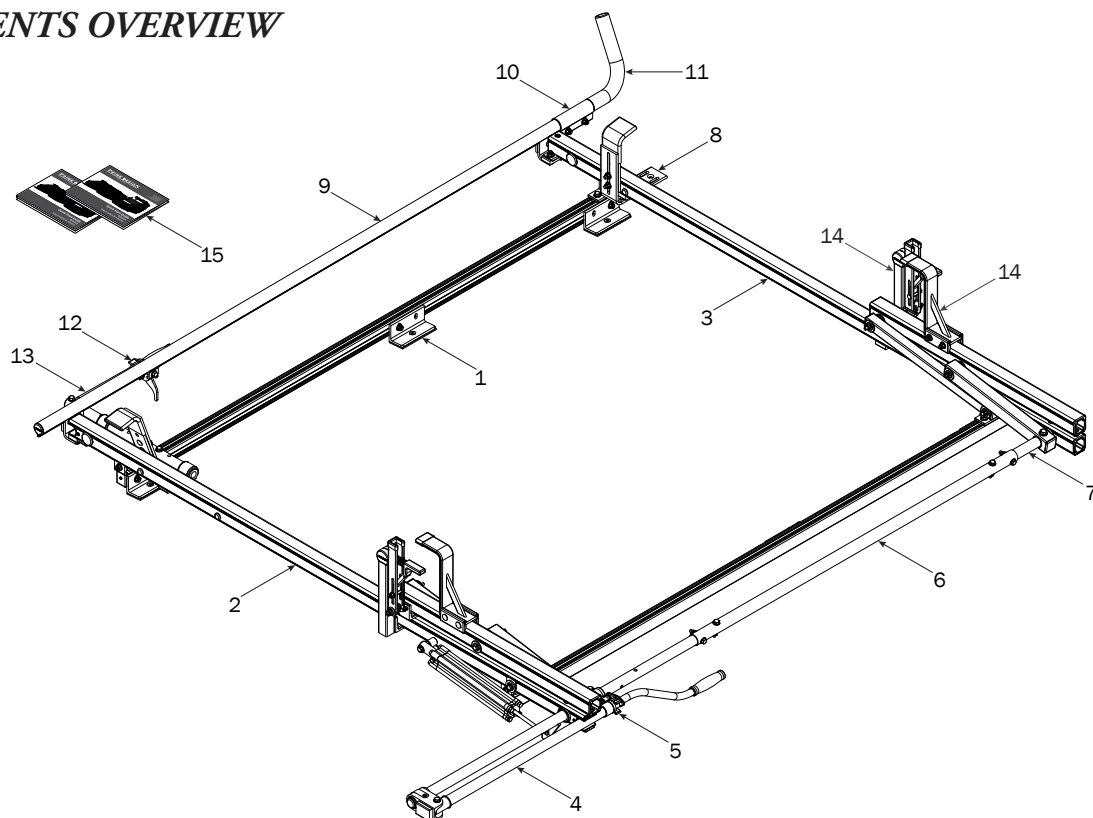
**PRIME DESIGN™**

A Safe Fleet Brand



**VCR** **421B**

## CONTENTS OVERVIEW



1—FBM-0096 ..... (Qty 1)

Channels w/ Hardware

74" Channels, Pre-assembled (2X)



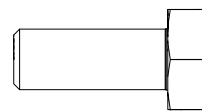
Mounting Bracket (6X)



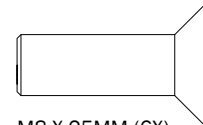
Foam Pad (6X)



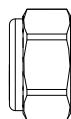
Channel Bracket (4X)



M8 x 20MM (4X)



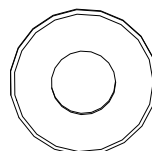
M8 X 25MM (6X)



M8 Lock Nut (6X)



5/16" Lock Washer (4X)

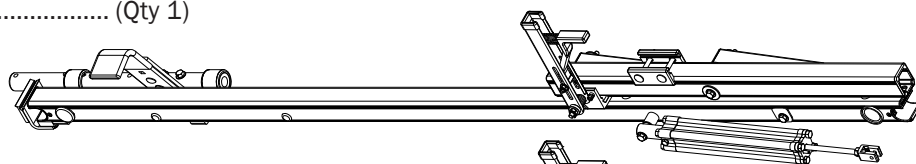


5/16" Flat Washer (10X)

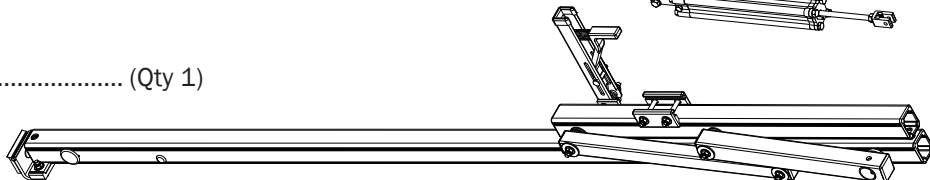


Anti-Seize (1X)

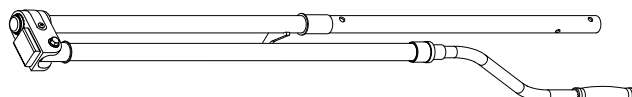
2—Rear Crossbar Assembly..... (Qty 1)



3—Front Crossbar Assembly ..... (Qty 1)



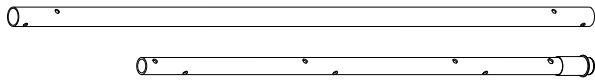
4—Rear Drive Shaft..... (Qty 1)  
Right Hand, B4 Version, 46.00"



5—Handle Latch Assembly ..... (Qty 1)



- 6—Connecting Bar..... (Qty 1)  
48.00"
- 7—Front Drive Shaft..... (Qty 1)  
B Version, 35.75"
- 8— Heavy Duty Front Hook Assembly ..... (Qty 1)



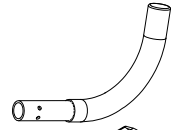
- 9—Clamp Down Tube ..... (Qty 1)  
80.00"



- 10—Quick Clamp Tube Splice Assembly..... (Qty 1)  
5.00"



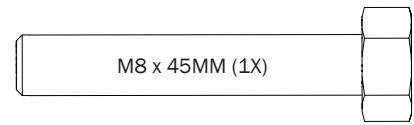
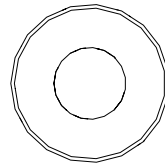
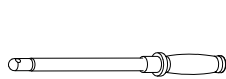
- 11—Removable Horn with Cap..... (Qty 1)  
15.00"



- 12—Clamp Down Handle Latch Assembly..... (Qty 1)



- 13—Clamp Down Handle Assembly ..... (Qty 1)

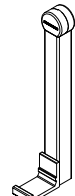
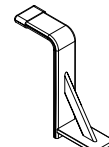
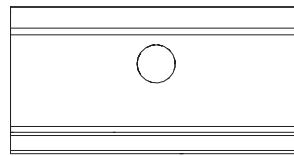
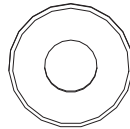


Clamp Down Handle (1X)

M8 Lock Nut (1X)

5/16" Flat Washer (2X)

- 14—L & Z Post Kit..... (Qty 1)  
Adj. Z Post, 7.25", L Post, w/HKT-0160



M6 x 20MM (2X)

1/4 Lock Washer (2X)

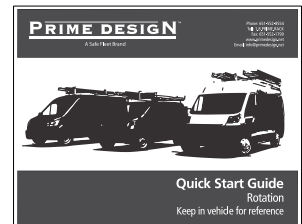
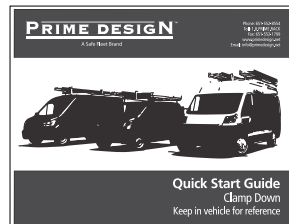
1/4 Flat Washer (2X)

L Post Bracket Clamp (2X)

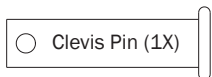
Z Post (2X)

L Post (2X)

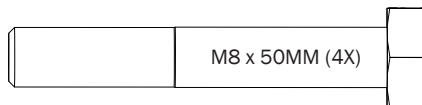
- 15—USQSG-Ergorack ..... (Qty 1)  
Quick Start Guide, Clamp Down, Rotation



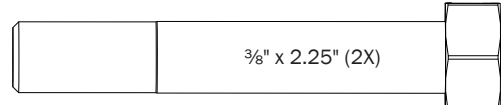
- 16—HKT-8163 (Not called out in Overview)..... (Qty 1)



Clevis Pin (1X)



M8 x 50MM (4X)



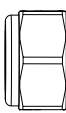
3/8" x 2.25" (2X)



Cotter Pin (1X)



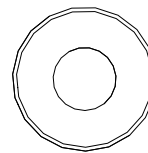
M8 x 25MM (1X)



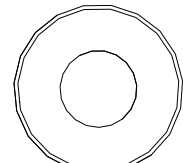
M8 Lock Nut (5X)



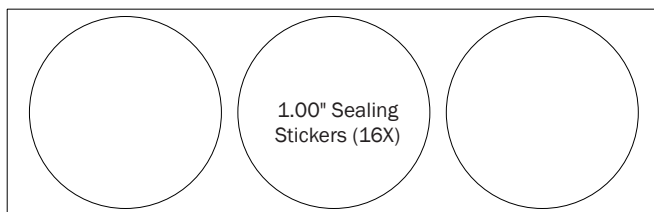
3/8" Lock Nut (2X)



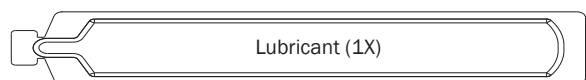
5/16" Flat Washer (10X)



3/8" Flat Washer (4X)

1.00" Sealing  
Stickers (16X)

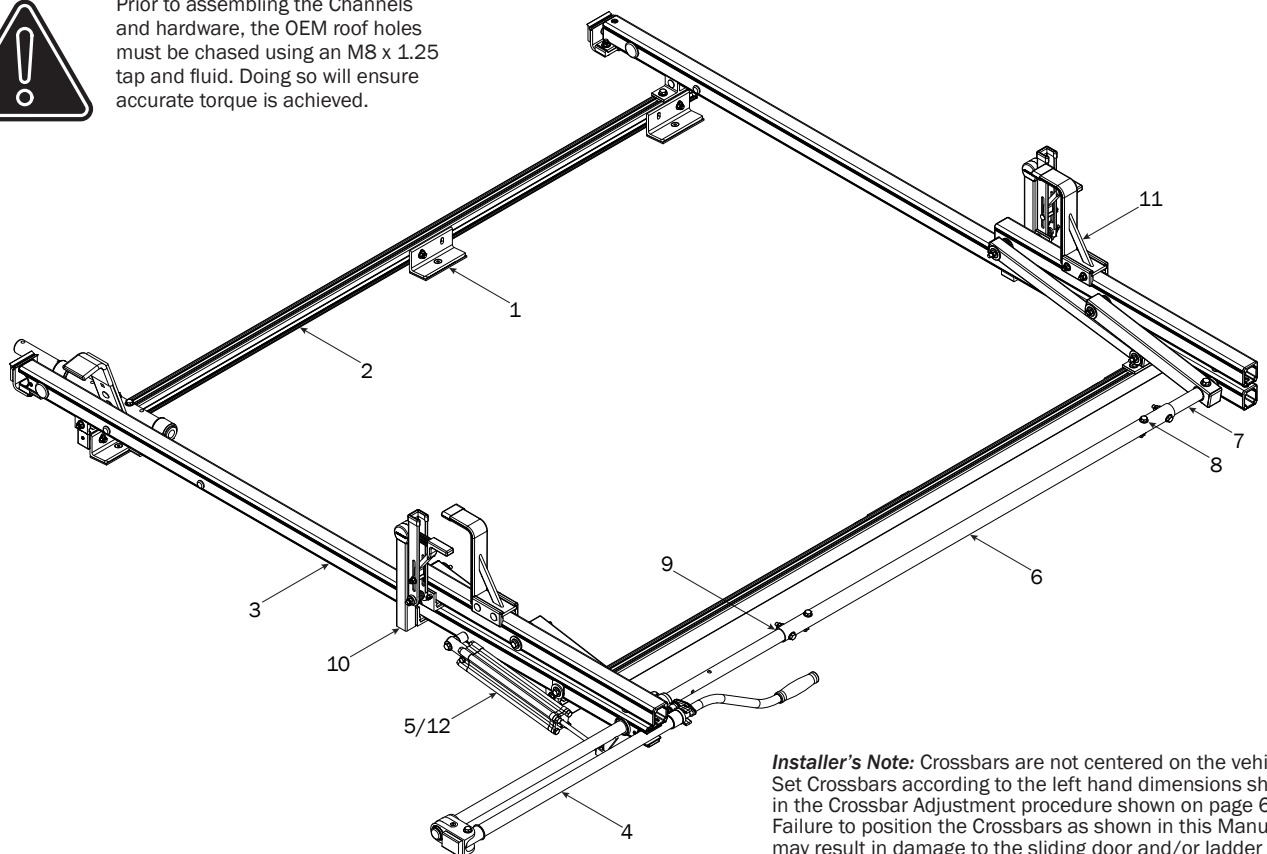
Anti-Seize (1X)



Lubricant (1X)

**RIGHT SIDE ASSEMBLY SEQUENCE**

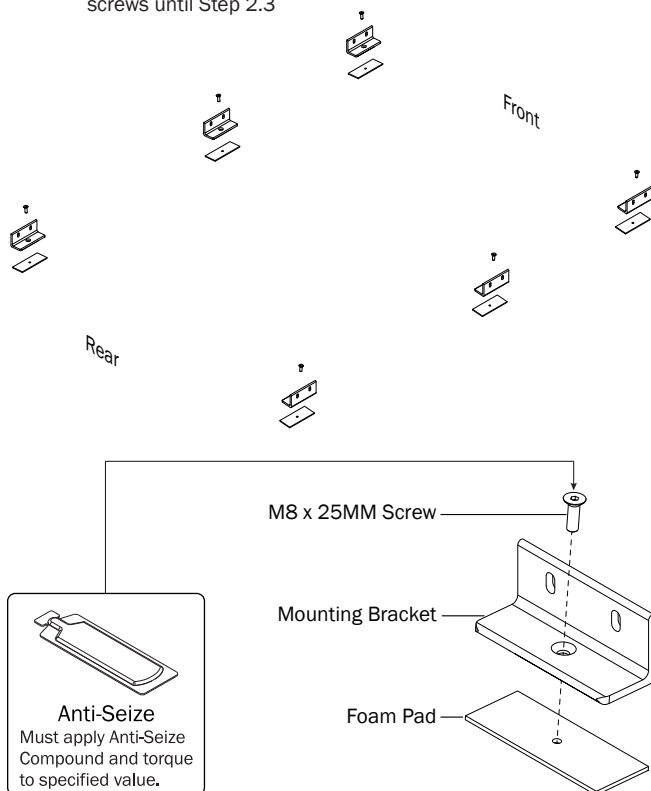
Prior to assembling the Channels and hardware, the OEM roof holes must be chased using an M8 x 1.25 tap and fluid. Doing so will ensure accurate torque is achieved.



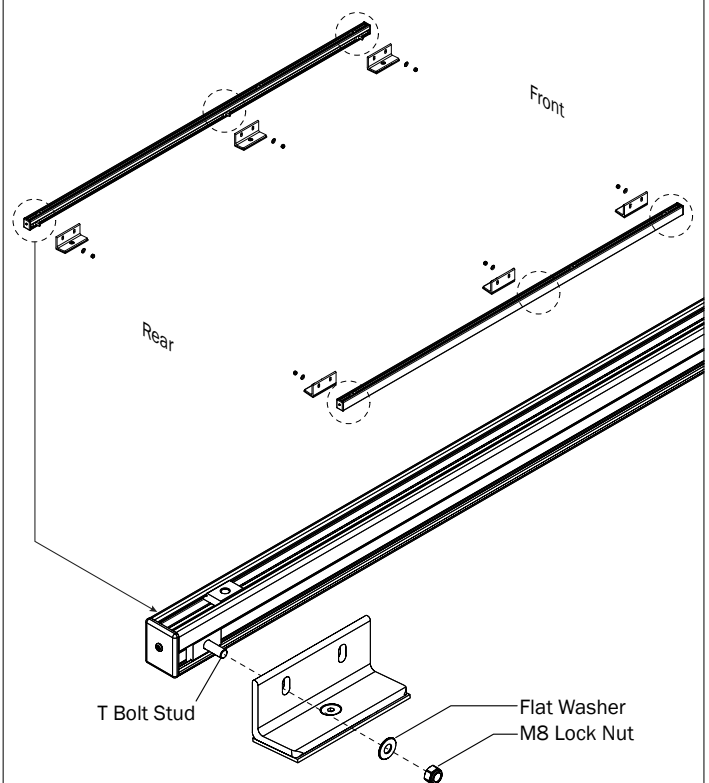
**Installer's Note:** Crossbars are not centered on the vehicle. Set Crossbars according to the left hand dimensions shown in the Crossbar Adjustment procedure shown on page 6. Failure to position the Crossbars as shown in this Manual may result in damage to the sliding door and/or ladder rack.

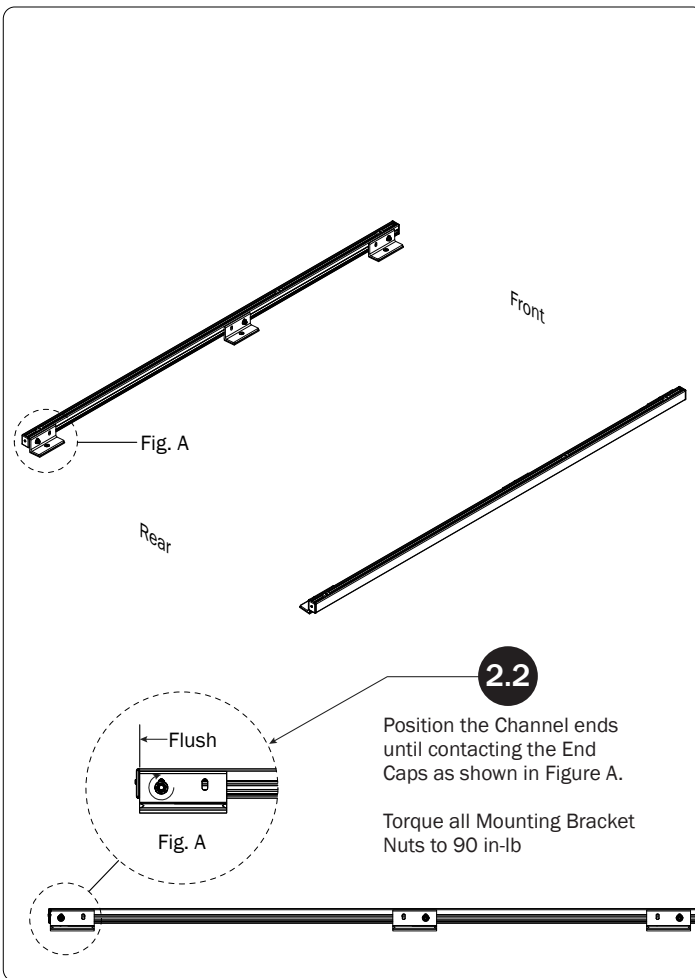
**MOUNTING BRACKETS****1**

Apply Anti-Seize to all M8 x 25MM Flat Head Screws and install the Channel Mounting Brackets with Foam Pads onto the vehicle's roof mounting holes. Do not tighten screws until Step 2.3

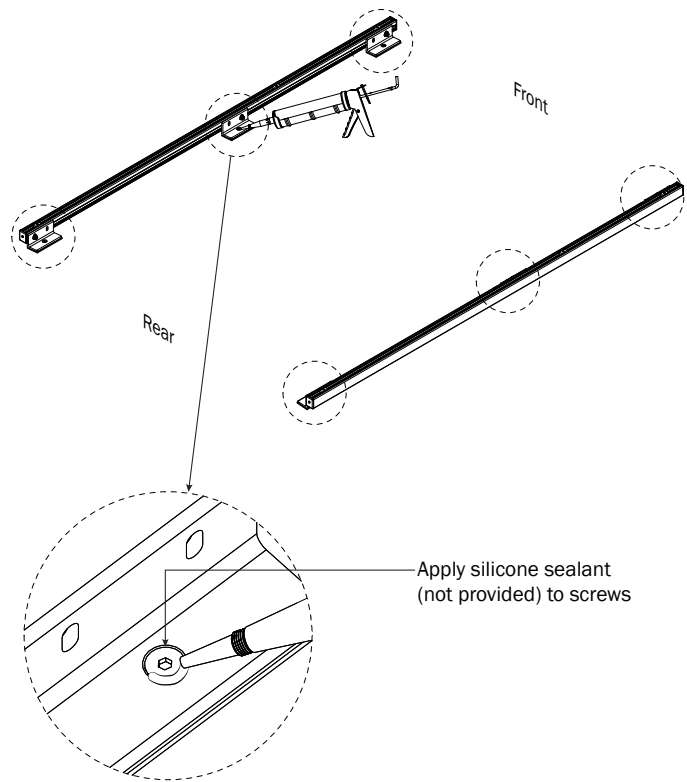
**CHANNELS****2.1**

Apply Anti-Seize to all M8 T Bolt studs, then attach the Channels to the Mounting Brackets using the indicated hardware. Do not tighten until Step 2.2

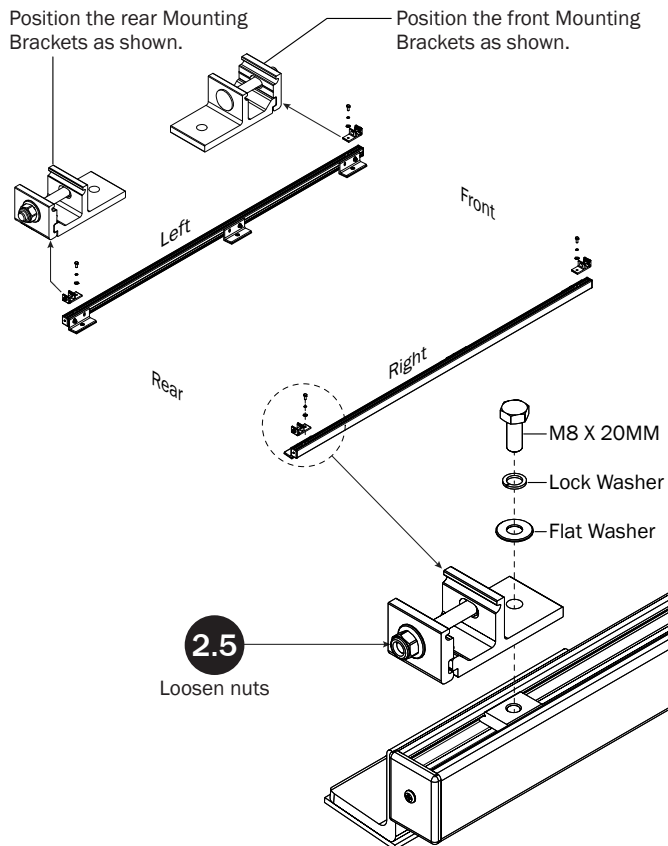




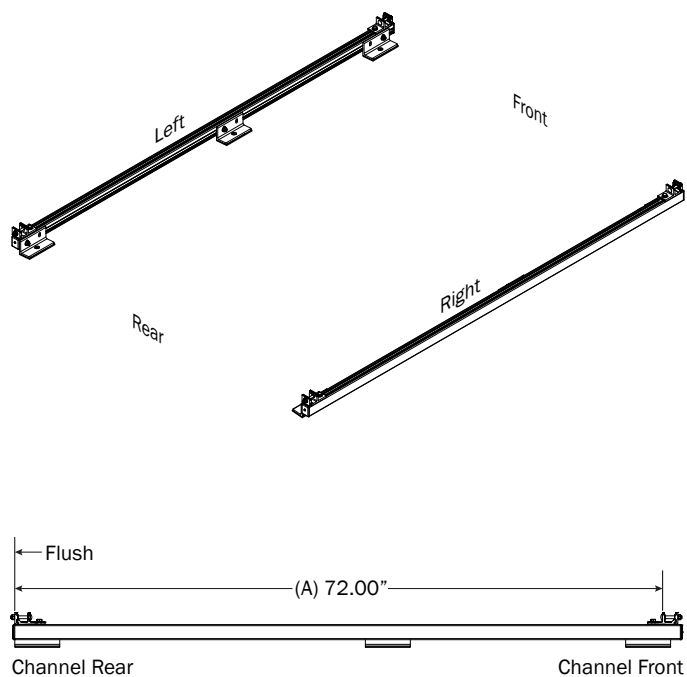
**2.3** Torque all M8 x 25MM Flat Head Screws to 150 in-lbs. Apply Silicone Sealant to screw heads to seal against water intrusion.

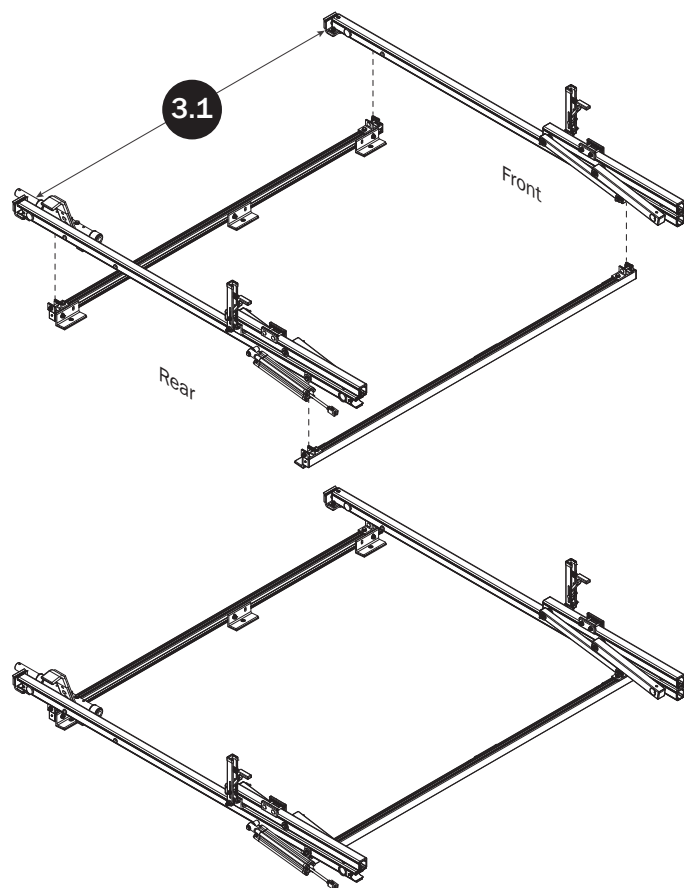
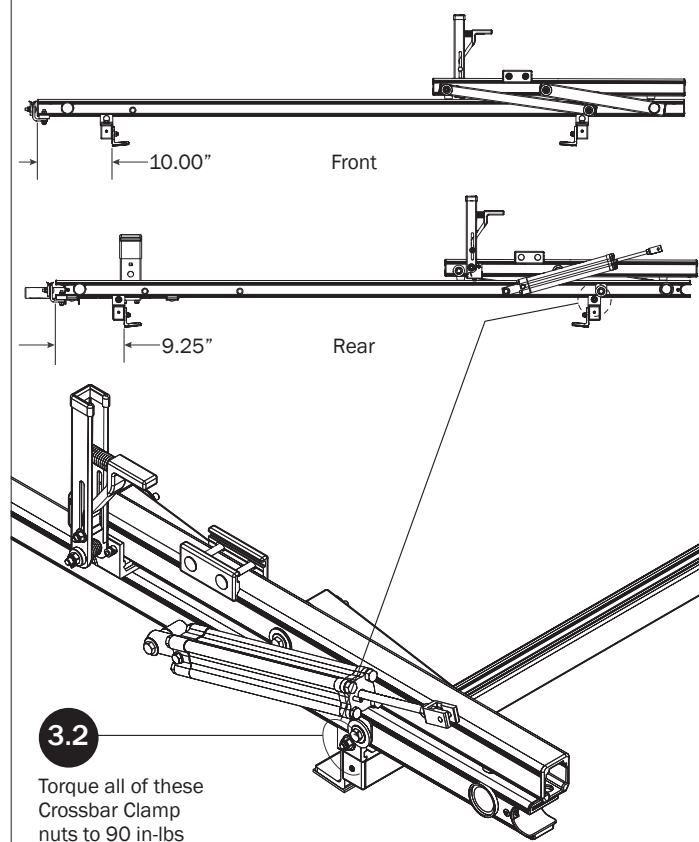


**2.4** Attach Mounting Brackets to the Aluminum Strip Nuts located in the Channels

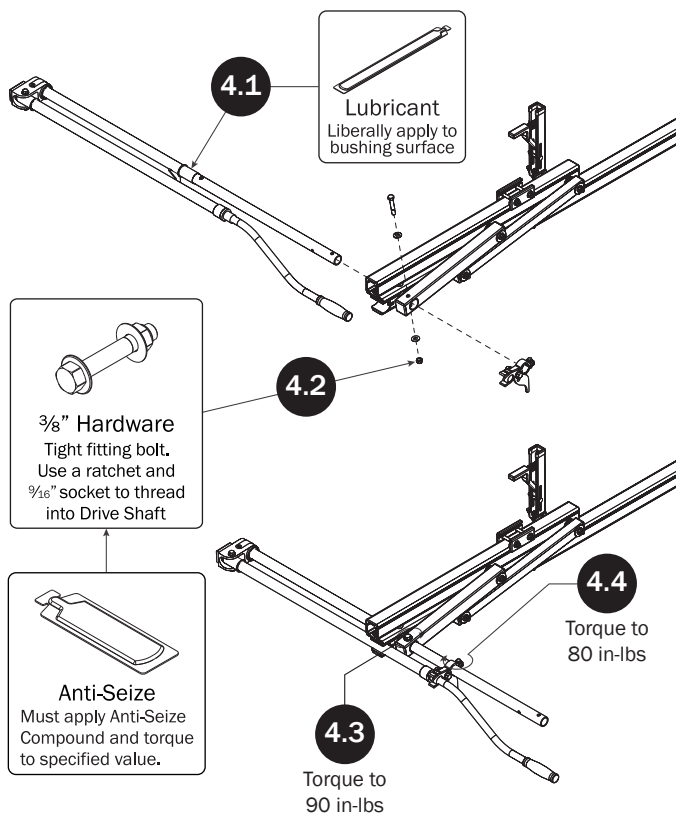
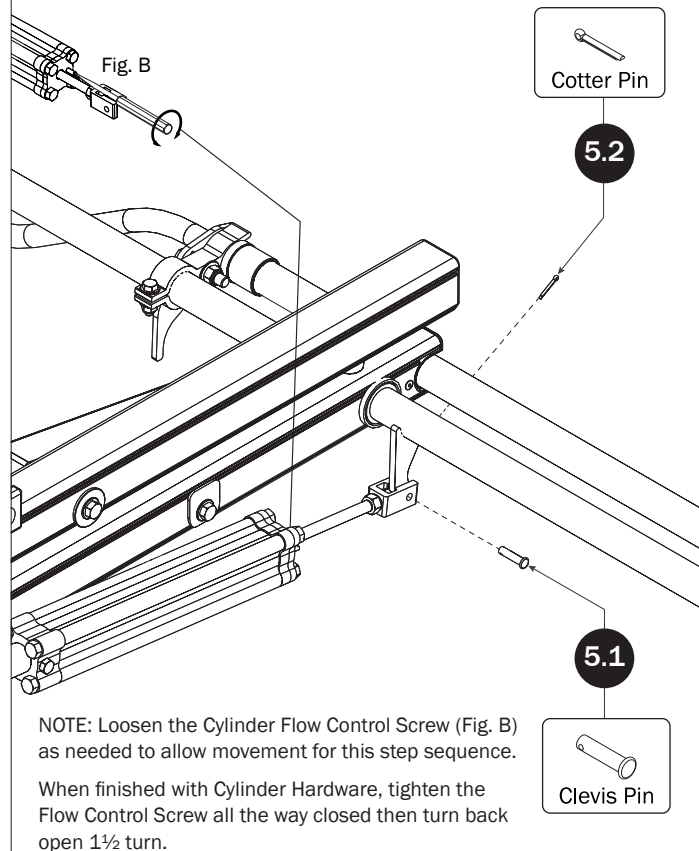


**2.6** Position Mounting Brackets to designated dimension shown below, then torque the M8 X 20MM bolt to 90 in-lbs. Proceed to Step 3.1.

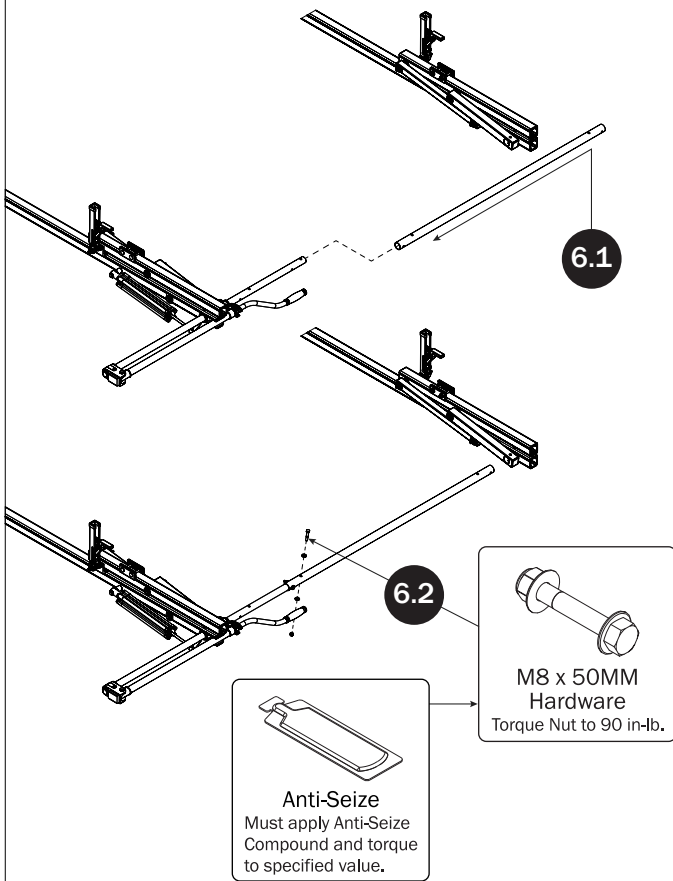
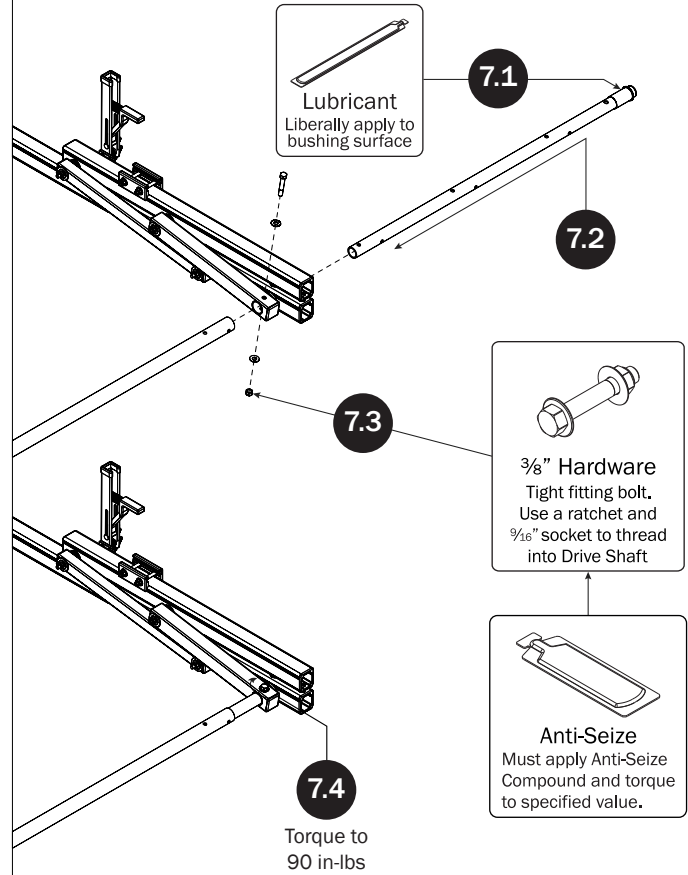
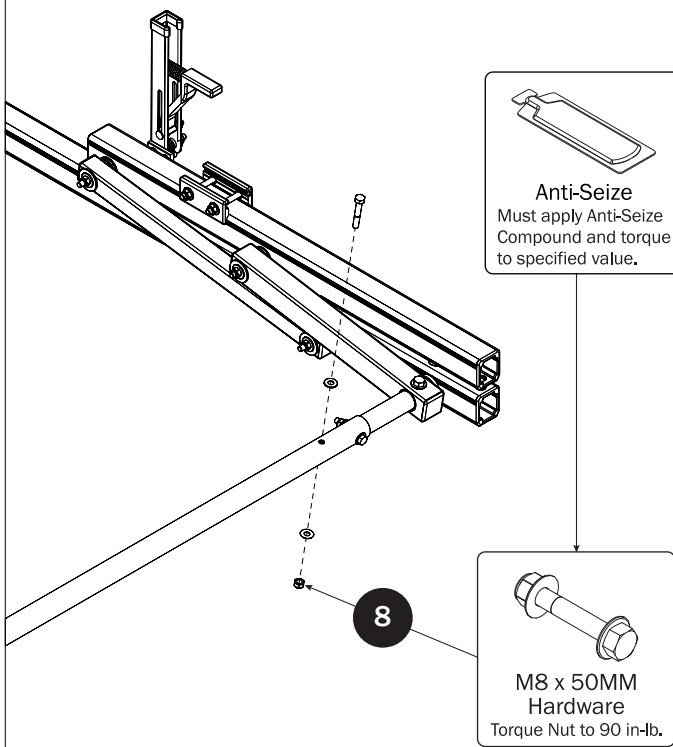
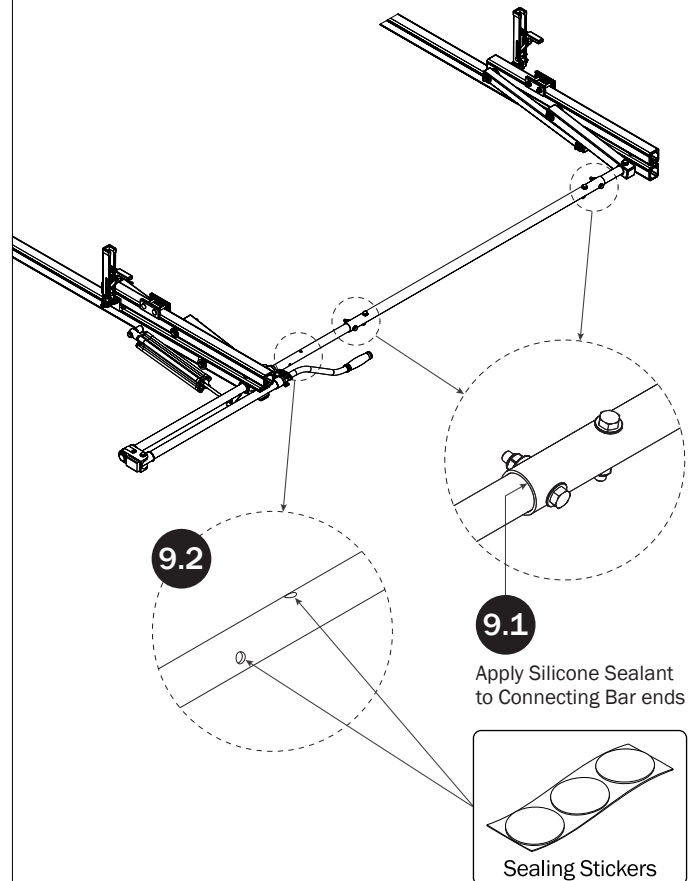


**CROSSBARS****CROSSBAR ADJUSTMENT****REAR DRIVE SHAFT**

NOTE: For instructional clarity, the FBM Mounting System will not be shown for the remainder of this Assembly Manual.

**CYLINDER HARDWARE**

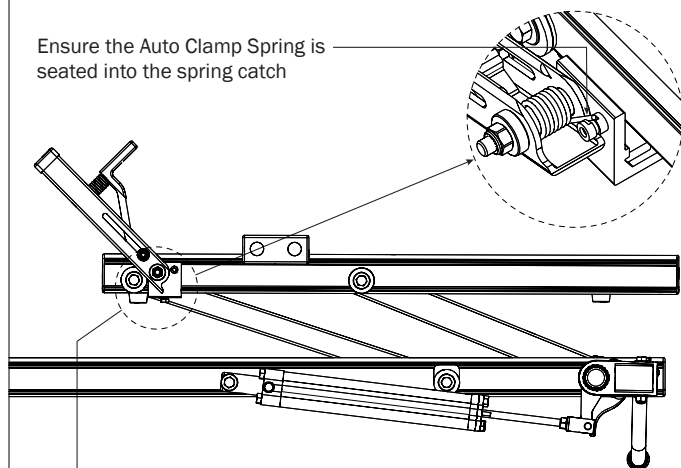


**CONNECTING BAR****FRONT DRIVE SHAFT****CONNECTING BAR FASTENERS****DRIVE SHAFT SEALING**

**L POSTS****SEE QUICK START GUIDE FOR ADJUSTMENTS**

**NOTE:** The Auto Clamps may come preset from the factory for packaging purposes only. To assemble the L Posts to the Crossbars, the Auto Clamps may need to be repositioned.

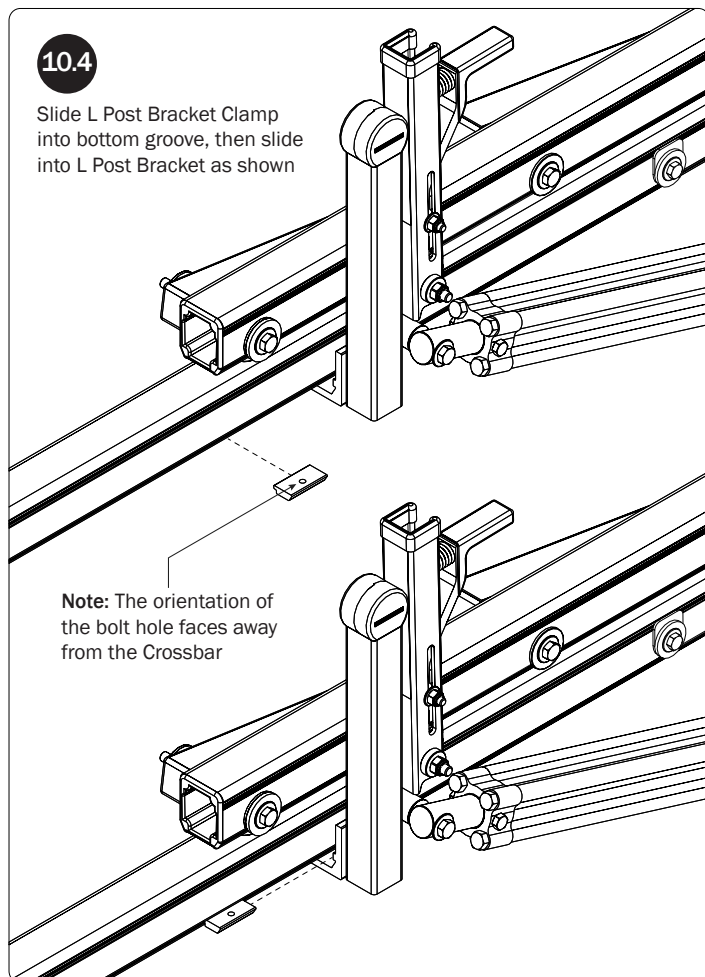
Ensure the Auto Clamp Spring is seated into the spring catch



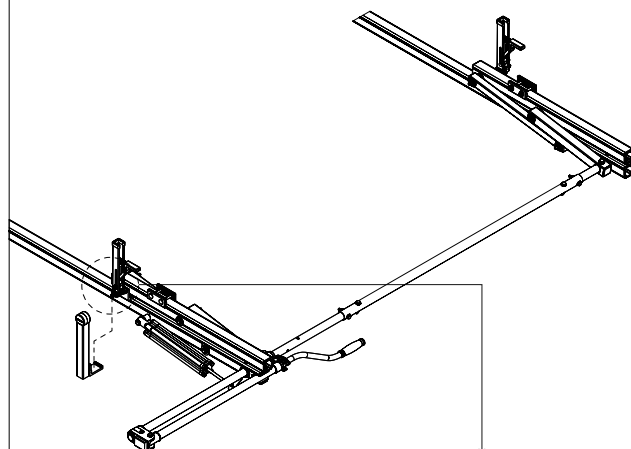
**10.1** Beginning with the Rear Crossbar, loosen the bolt at the bottom of the Auto Clamp, then slide the Auto Clamp toward the inside end of the Rotation Upper. Reposition the Auto Clamp leaving a minimum of 1/4" distance from the rubber bumper to the edge of the Auto Clamp Bracket as shown, then finger-tighten if adjusting later, or torque to 80 in-lbs.

**10.4**

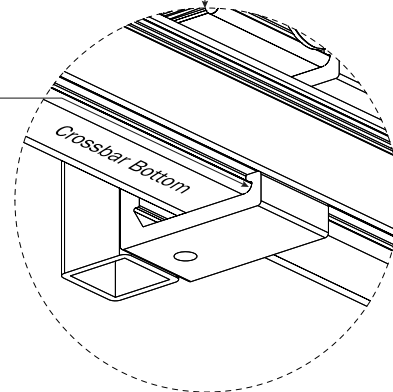
Slide L Post Bracket Clamp into bottom groove, then slide into L Post Bracket as shown

**10.2**

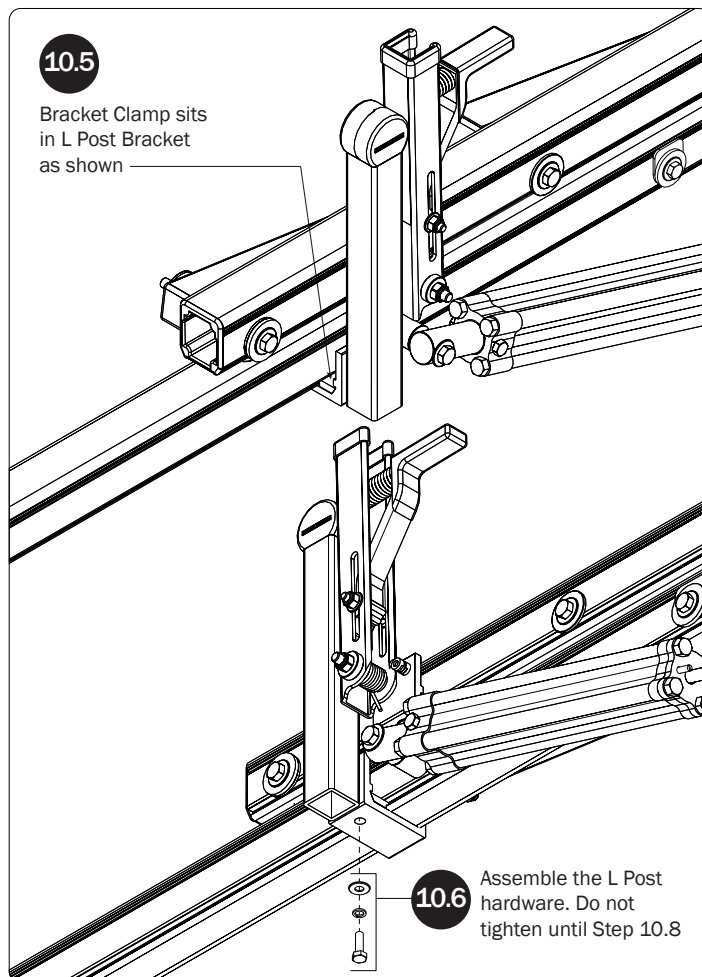
Prepare the L Post by removing the hex head bolt, lock washer, flat washer, and Bracket Clamp. Retain for installation Steps 10.4—10.8.

**10.3**

Place the L Post into the bottom groove of the Rear Crossbar, ensuring the L Post seats into the Crossbar's inside bottom groove as seen from the front of the Rear Crossbar

**10.5**

Bracket Clamp sits in L Post Bracket as shown

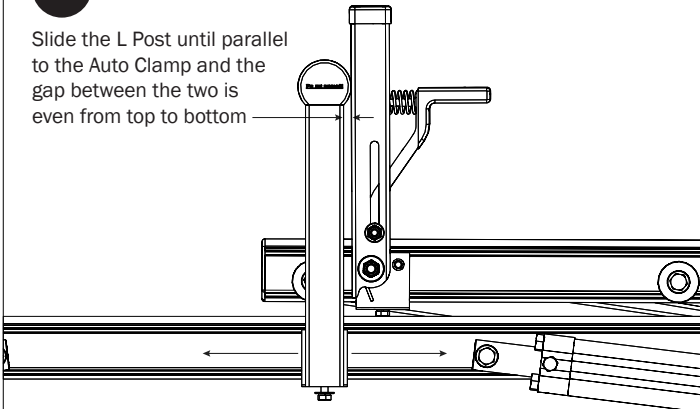
**10.6**

Assemble the L Post hardware. Do not tighten until Step 10.8



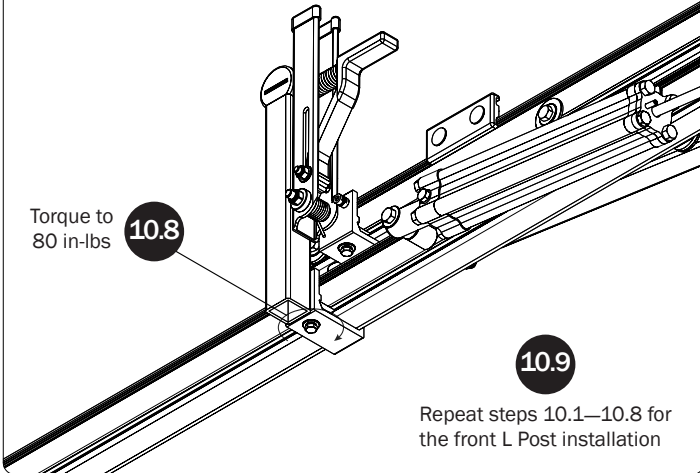
10.7

Slide the L Post until parallel to the Auto Clamp and the gap between the two is even from top to bottom



Torque to 80 in-lbs

10.8



10.9

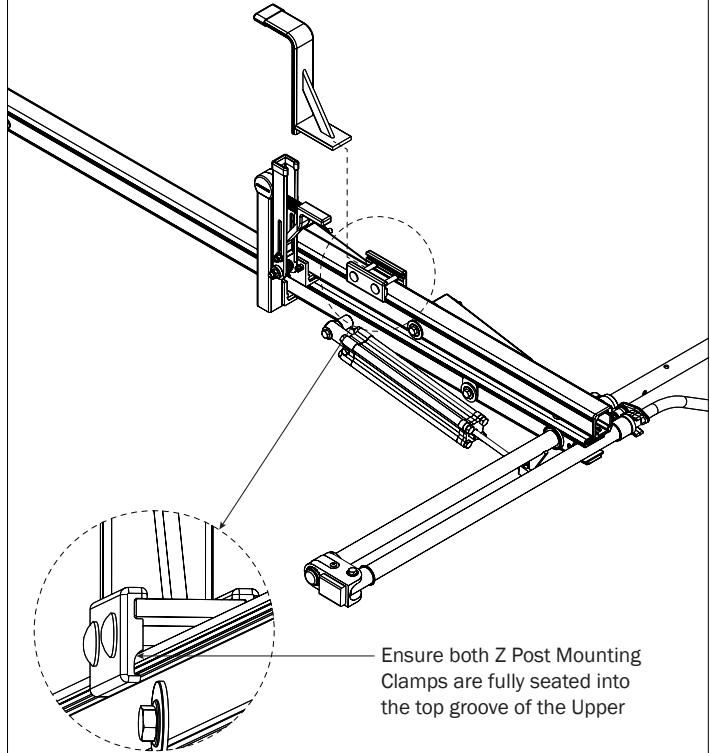
Repeat steps 10.1—10.8 for the front L Post installation

## Z POSTS

SEE QUICK START GUIDE FOR ADJUSTMENTS

11.1

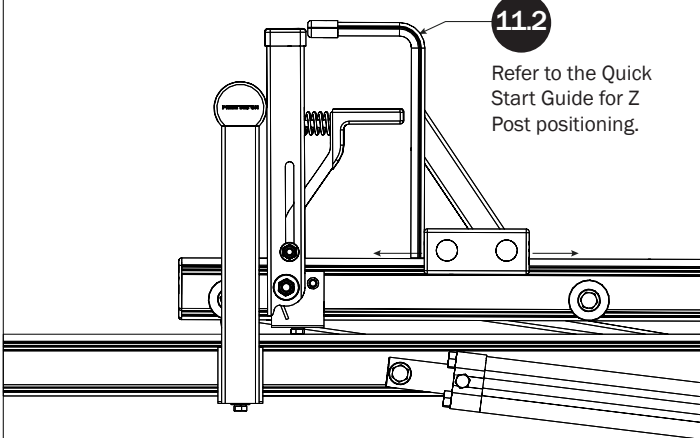
Slide the Z Post into the Mounting Clamp Assembly



Ensure both Z Post Mounting Clamps are fully seated into the top groove of the Upper

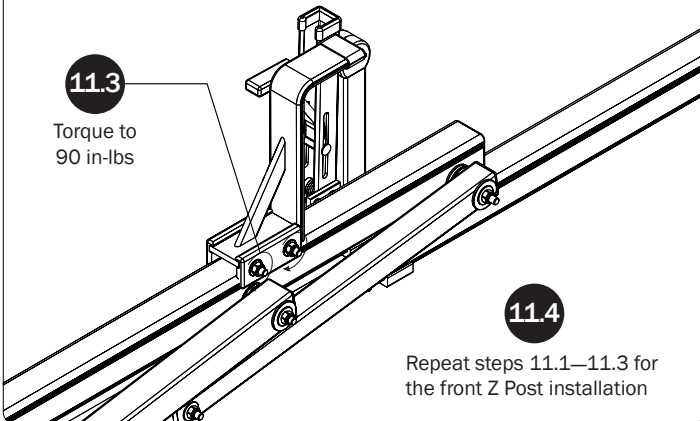
11.2

Refer to the Quick Start Guide for Z Post positioning.



11.3

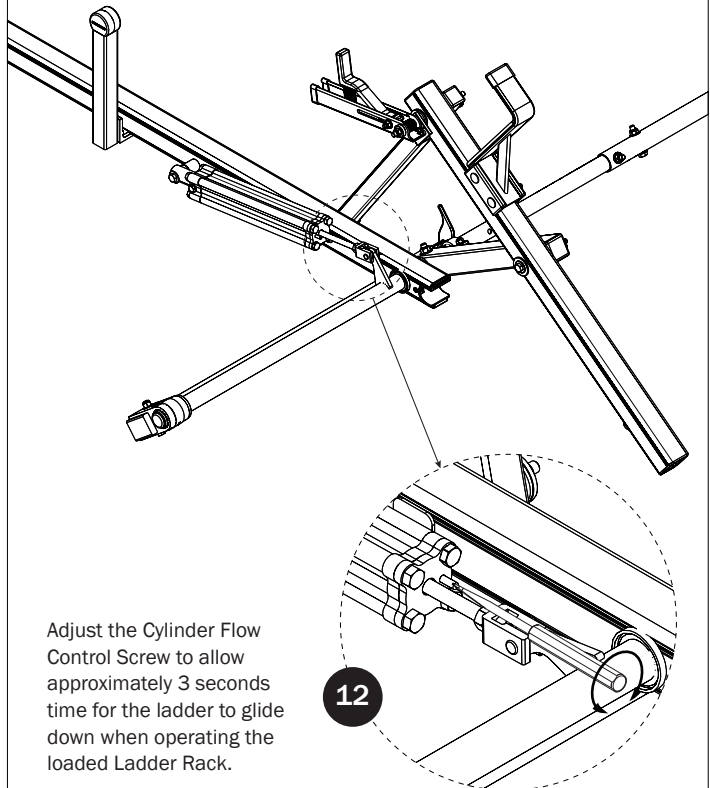
Torque to 90 in-lbs



11.4

Repeat steps 11.1—11.3 for the front Z Post installation

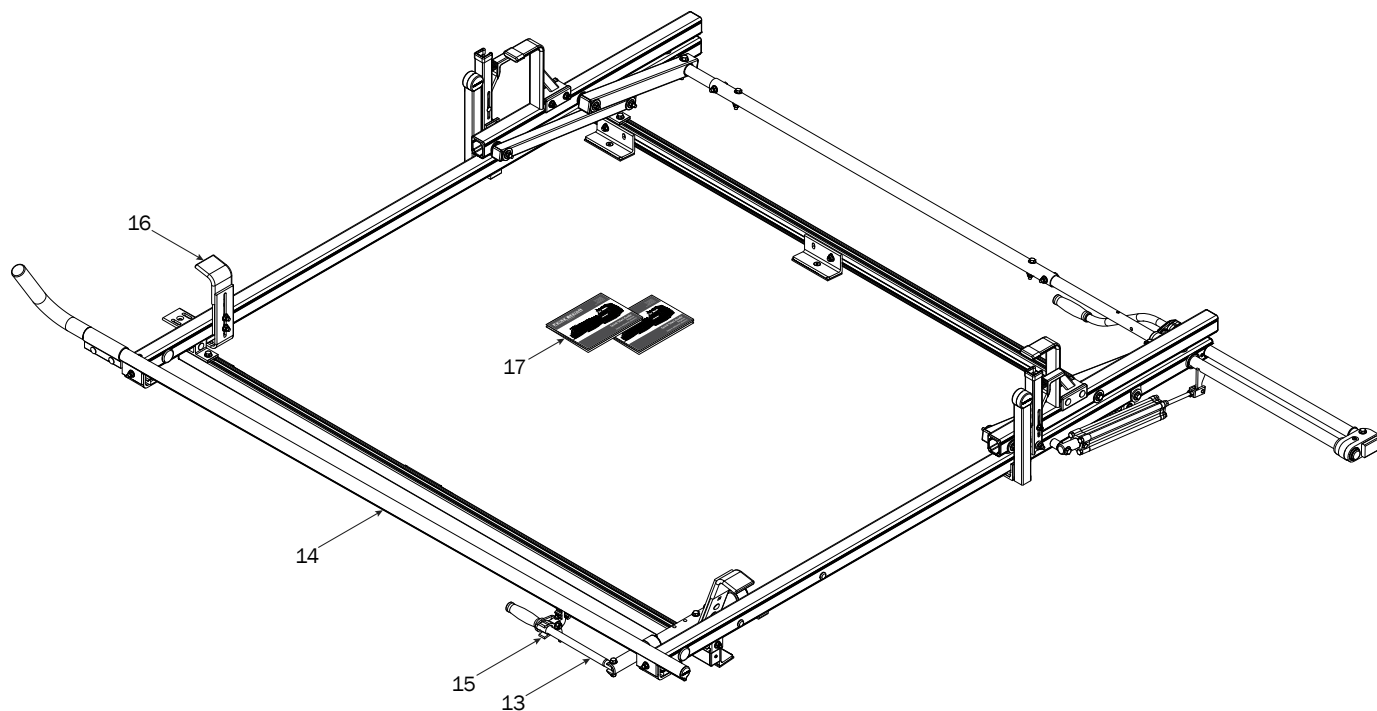
## CYLINDER ADJUSTMENT



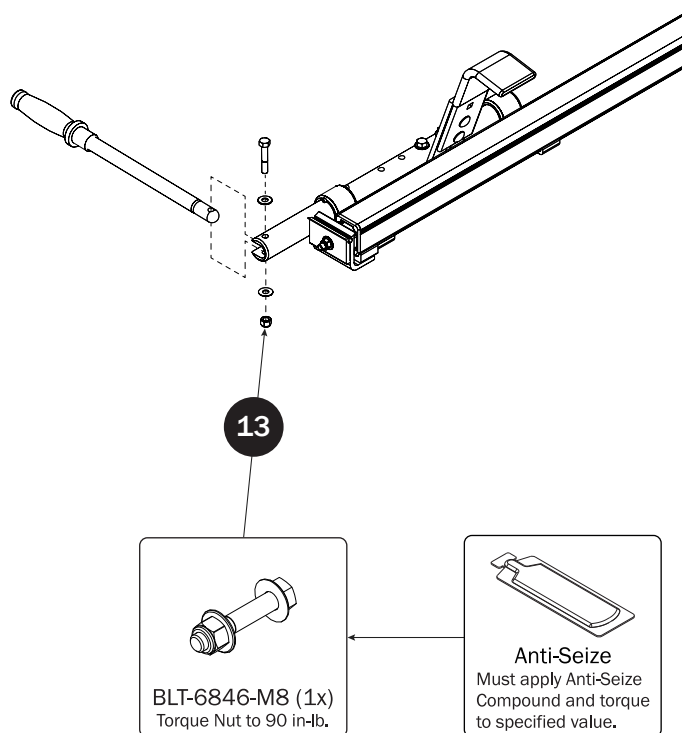
Adjust the Cylinder Flow Control Screw to allow approximately 3 seconds time for the ladder to glide down when operating the loaded Ladder Rack.

12

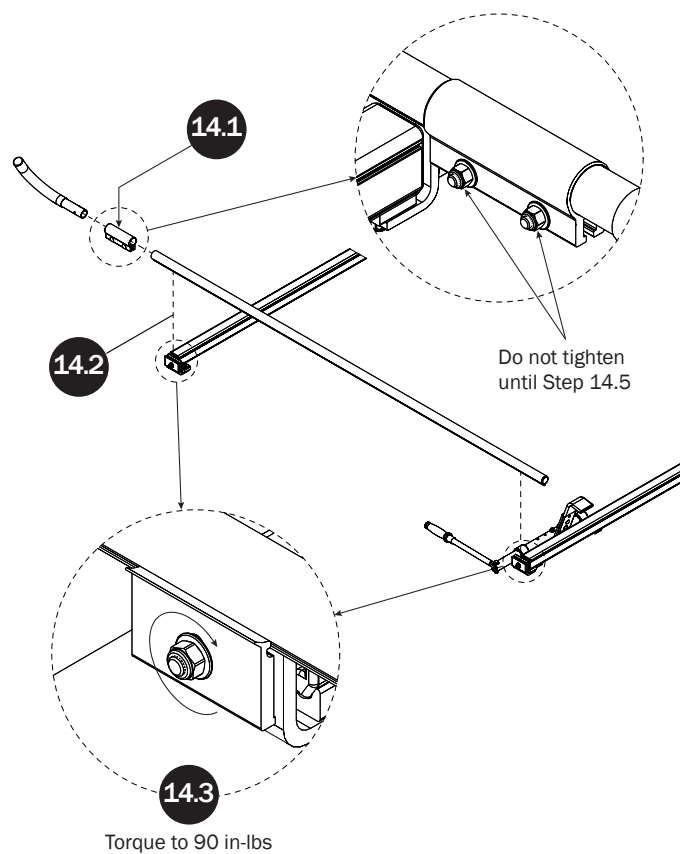
## LEFT SIDE ASSEMBLY SEQUENCE



## CLAMP DOWN HANDLE



## CLAMP DOWN TUBE



Set Clamp Down Horn  
to angle shown.

14.4

35°

View from vehicle front

14.5

Torque to 90 in-lbs

## HANDLE LATCH

Toward Vehicle Rear

15.1

Do not tighten  
until Step 15.3

15.2 Position the Handle Latch until the  
Handle Grip is firmly seated.

## FRONT LADDER HOOK

SEE QUICK START GUIDE FOR ADJUSTMENTS

16.1

Remove and retain the Front Ladder Hook  
fastening hardware (not shown in this view)  
for Steps 16.3 and 16.4

15.3

Torque to 90 in-lbs

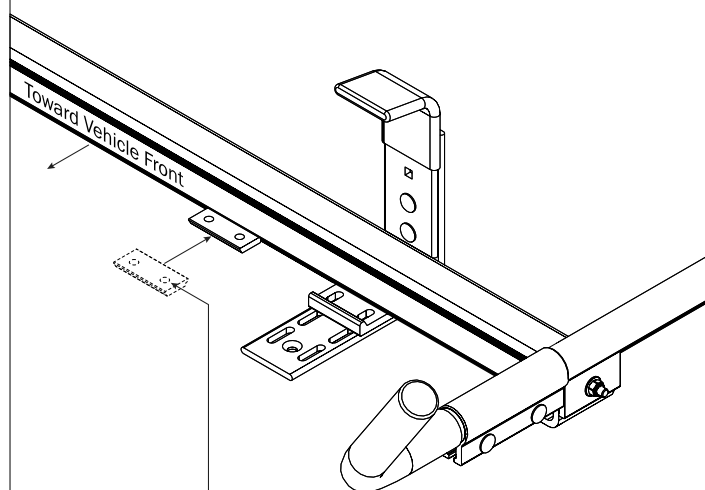
Toward Vehicle Front

16.2

Seat the Front Ladder Hook  
into the lower Crossbar groove  
as shown in this bottom view

16.3

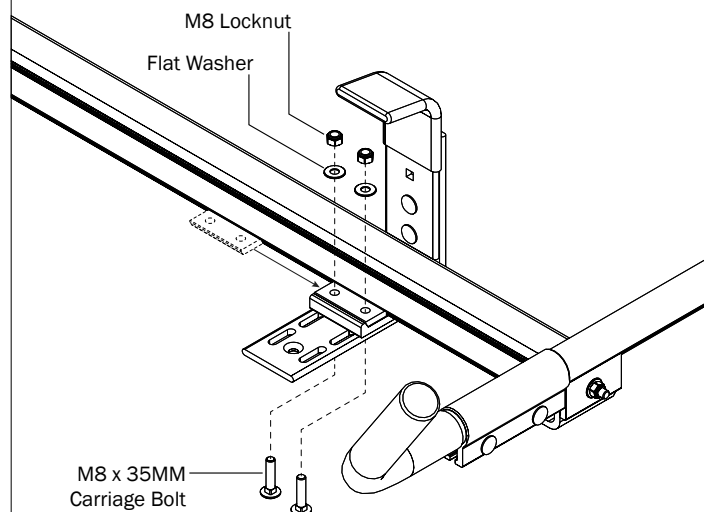
Place the Front Hook Clamp Bracket removed in Step 16.1 into the lower groove of the Crossbar, and slide it on top of the Front Ladder Hook Clamp



NOTE: The orientation of the bolt hole faces away from the Crossbar

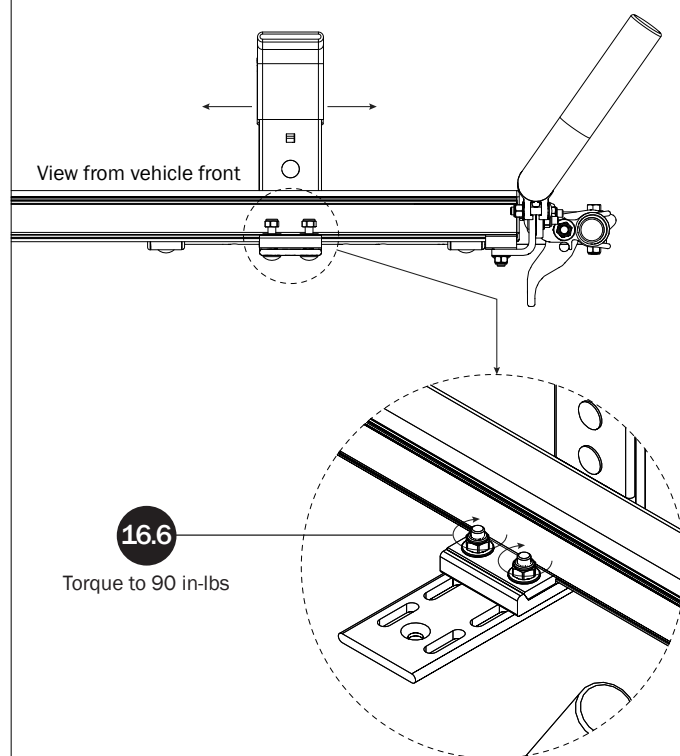
16.4

Reassemble the Front Clamp Down Tube Holder using the fastening hardware removed at Step 16.1. Do not tighten until Step 16.6



16.5

Adjust the Front Hook until it aligns with the Rear Hook. Perfect alignment may not be possible in all instances, and depends upon the location of the Crossbar Mounting Brackets. If such interference should occur, align the Hook as close as possible.



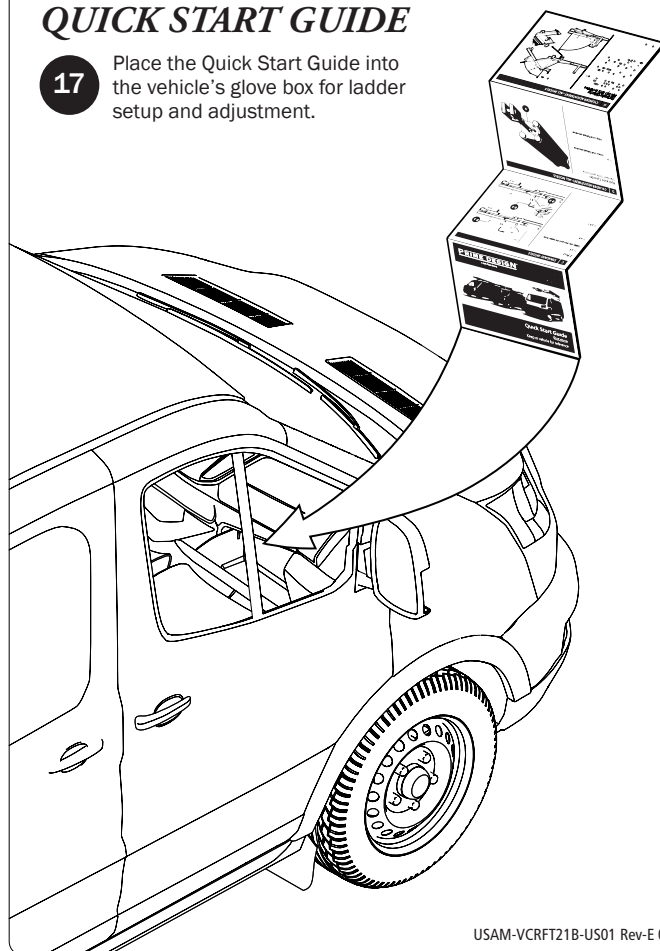
16.6

Torque to 90 in-lbs

## QUICK START GUIDE

17

Place the Quick Start Guide into the vehicle's glove box for ladder setup and adjustment.



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