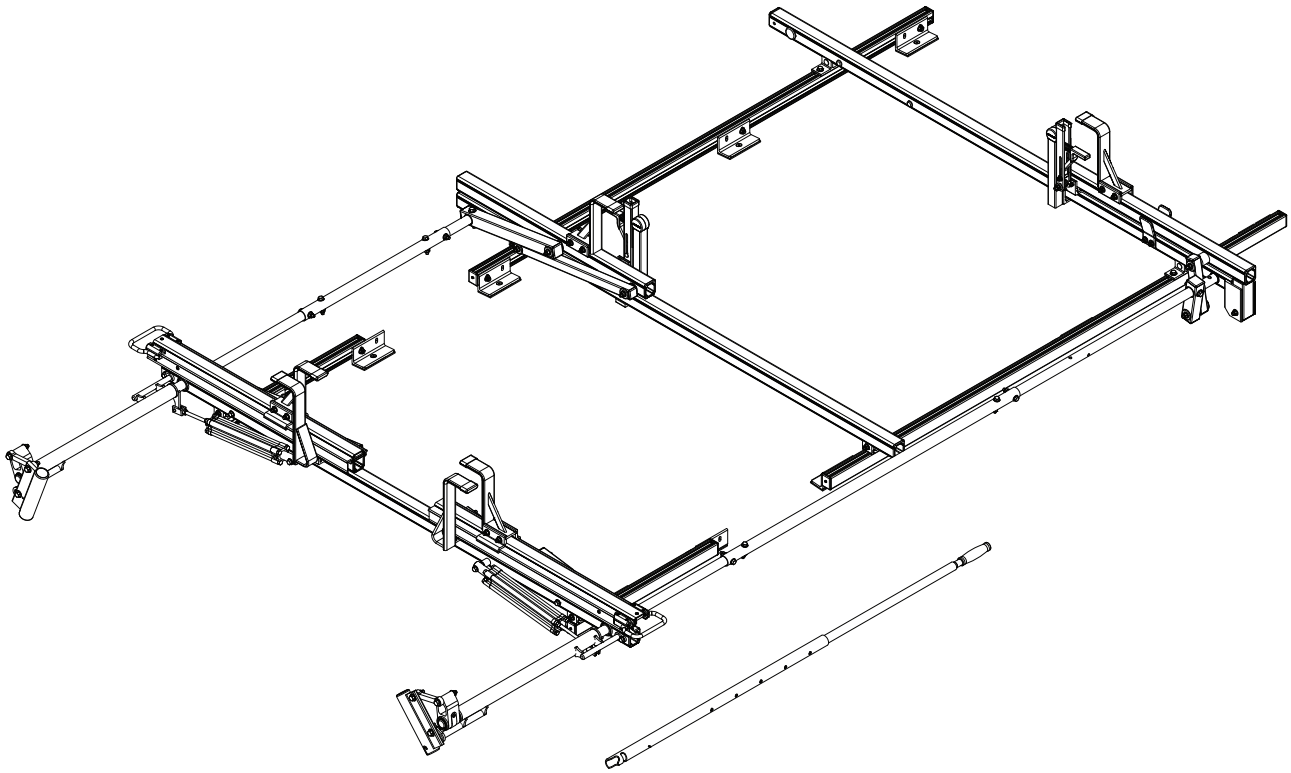
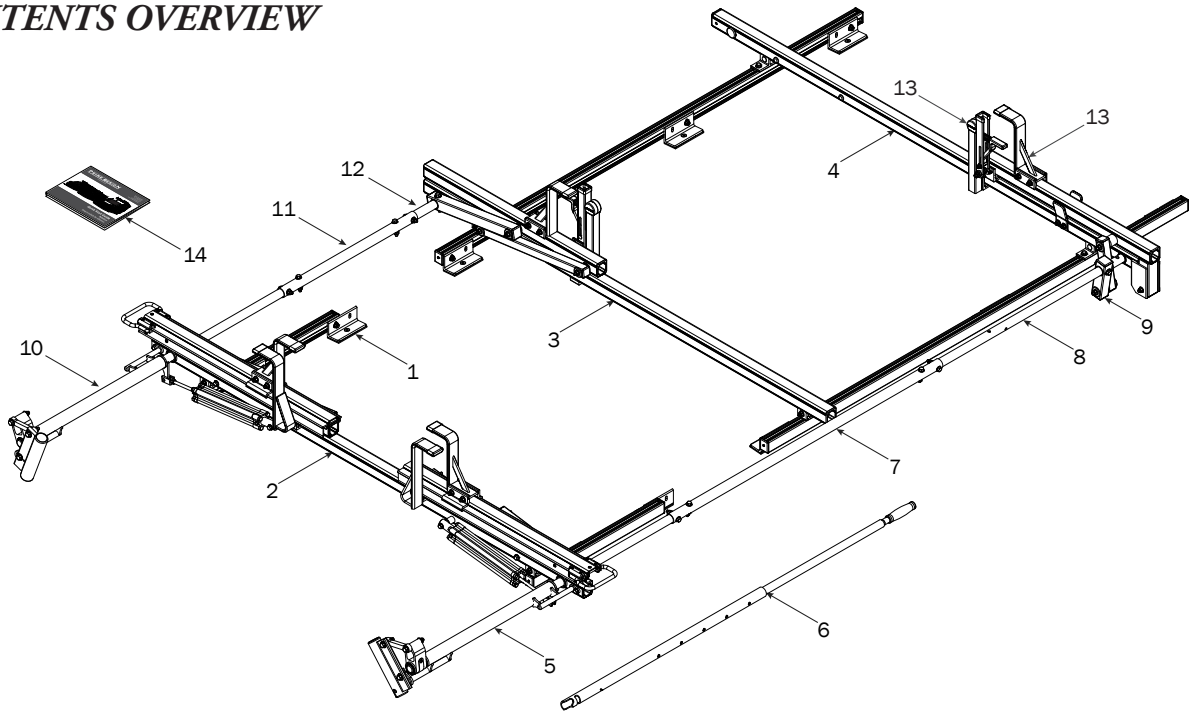
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HR3-E

CONTENTS OVERVIEW

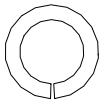


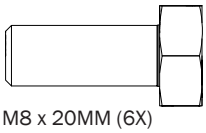
1—FBM3-0094 ..... (Qty 1)
Channels w/ Hardware

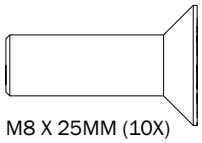

23” Channels (2X)

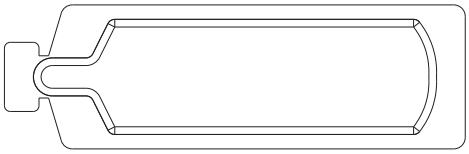

74” Channels, Pre-assembled (2X)

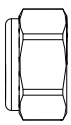

Channel Bracket (6X)

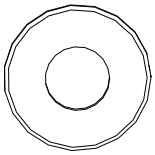

5/16" Lock Washer (6X)


M8 x 20MM (6X)


M8 X 25MM (10X)


Anti-Seize (1X)

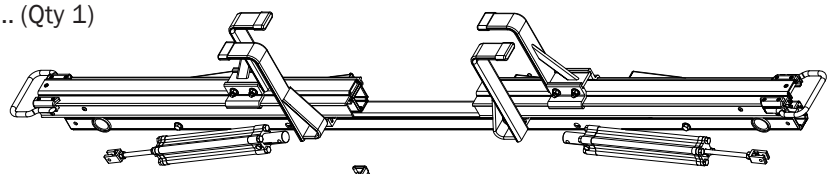

M8 Lock Nut (10X)


5/16" Flat Washer (16X)

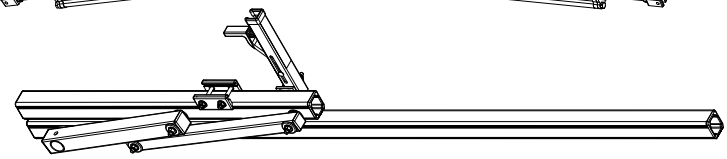

Mounting Bracket (10X)


Foam Pad (10X)

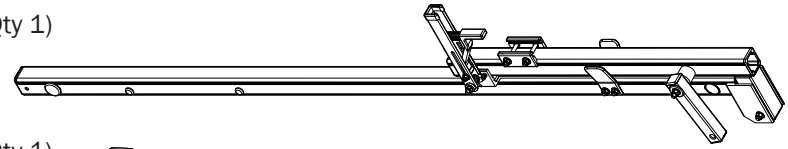
2—Rear Crossbar Assembly..... (Qty 1)



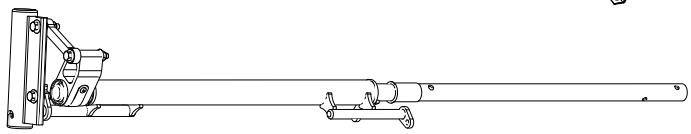
3—Center Crossbar Assembly..... (Qty 1)



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

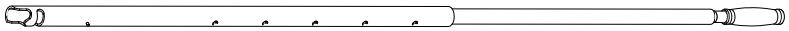


5—Rear Drive Shaft ..... (Qty 1)
Right Hand, A Version, 50.00”

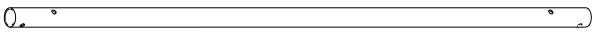


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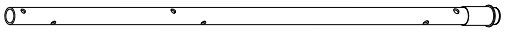
6—HHR Handle Assembly ..... (Qty 1)
35.00”



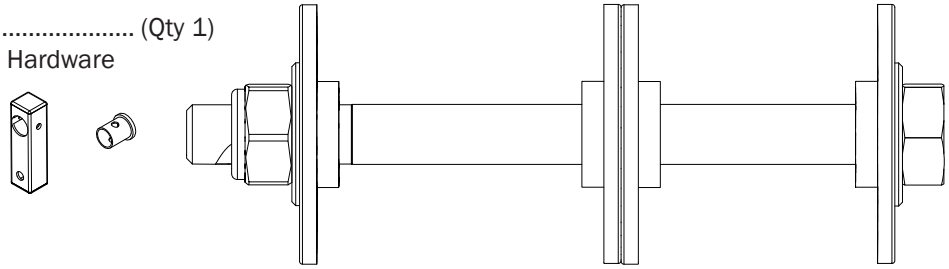
7—Connecting Bar ..... (Qty 1)
4.00’



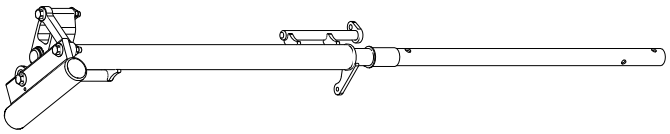
8—Front Drive Shaft ..... (Qty 1)
B Version, 38.75”



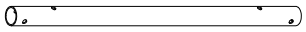
9—Drive Arm ..... (Qty 1)
Incline Version with Bushing and Hardware



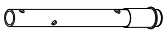
10—Rear Drive Shaft ..... (Qty 1)
Left Hand, A Version, 50.00”



11—Connecting Bar ..... (Qty 1)
24.00”



12—Front Drive Shaft..... (Qty 1)
LH, B Version, 11.75”



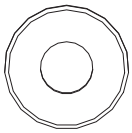
13—L & Z Post Kit..... (Qty 2)
Adj. Z Post, 7.25”, L Post, w/HKT-0160



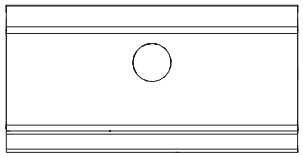
M6 x 20MM (1X)



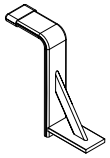
¼ Lock Washer (1X)



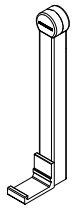
¼ Flat Washer (1X)



L Post Bracket Clamp (1X)

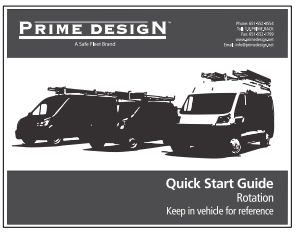


Z Post (1X)



L Post (1X)

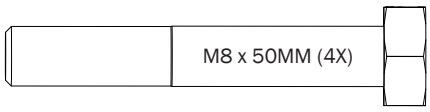
14—USQSG-Ergorack ..... (Qty 1)
Quick Start Guide, Rotation



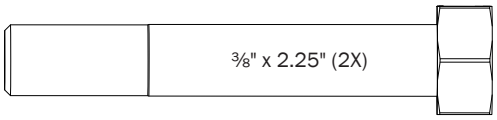
15—HKT-8163 (Not called out in Overview)..... (Qty 2)



Clevis Pin (1X)



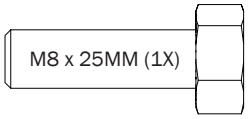
M8 x 50MM (4X)



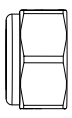
⅜" x 2.25" (2X)



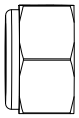
Cotter Pin (1X)



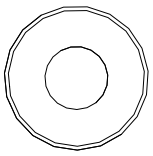
M8 x 25MM (1X)



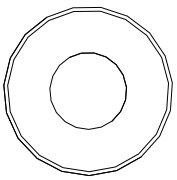
M8 Lock Nut (5X)



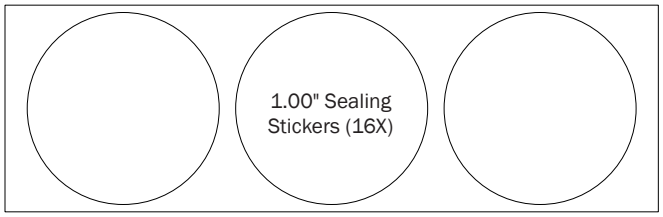
⅜" Lock Nut (2X)

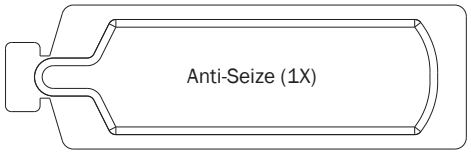


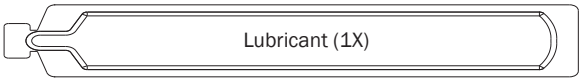
$\frac{5}{16}$ " Flat Washer (10X)



⅜" Flat Washer (4X)





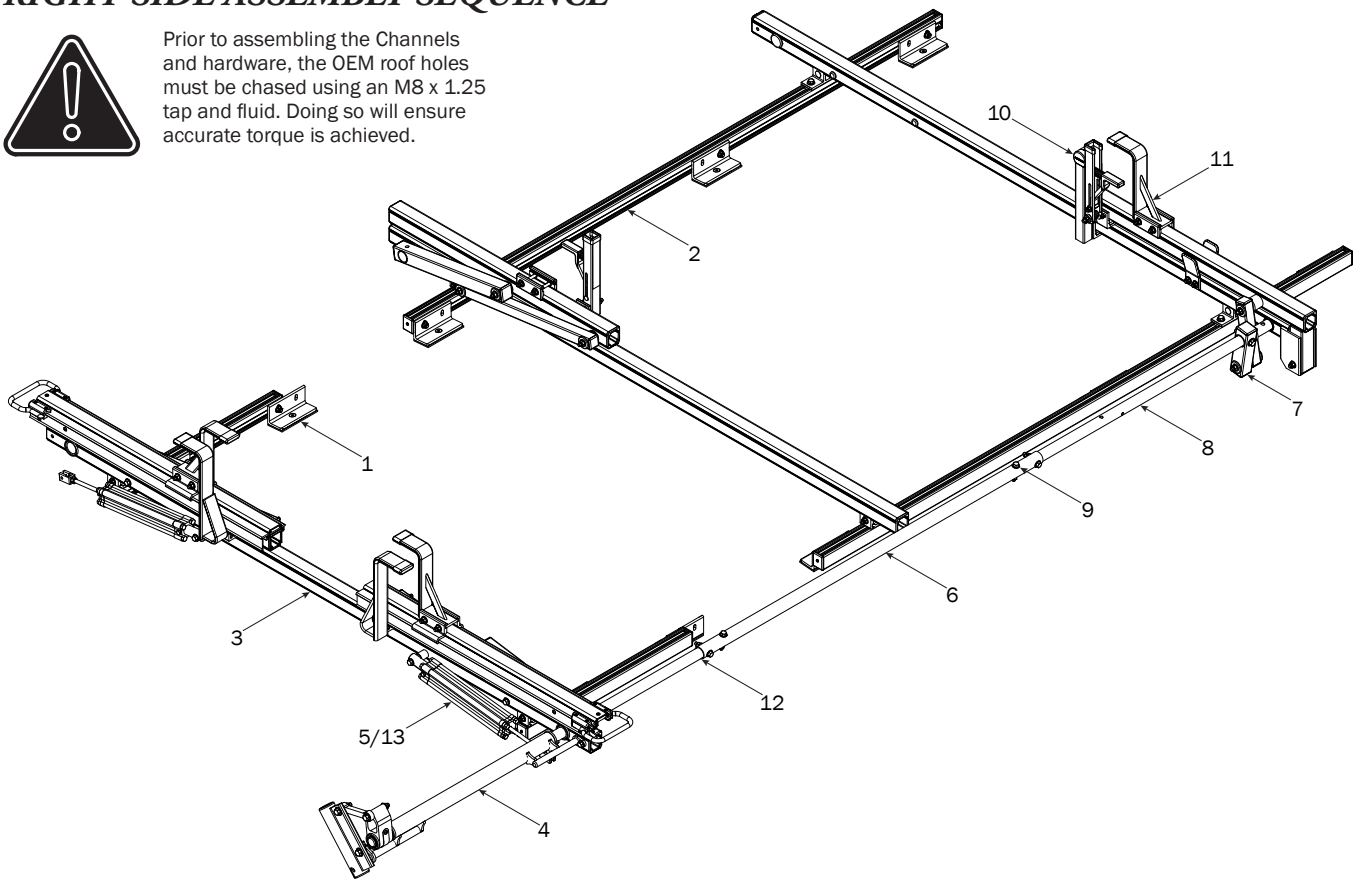


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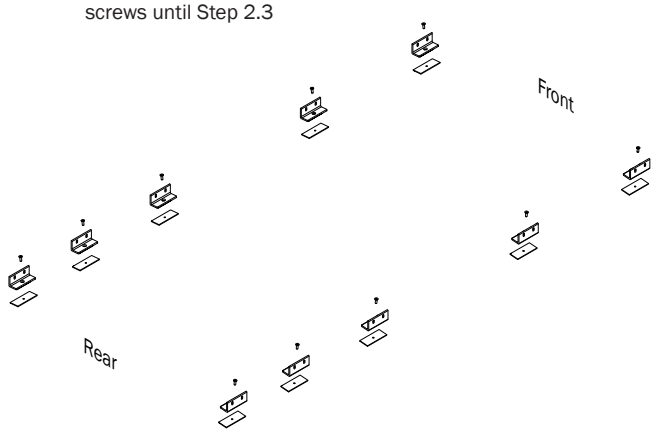
RIGHT SIDE ASSEMBLY SEQUENCE

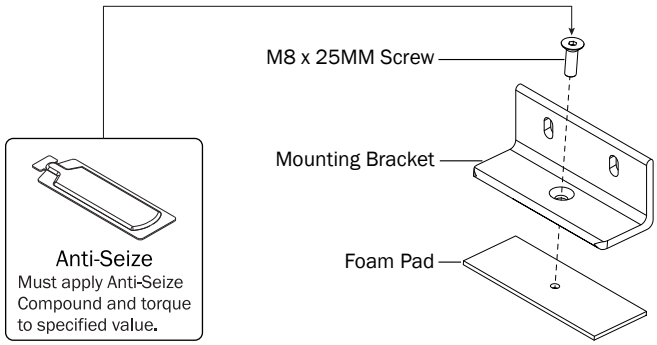
Prior to assembling the Channels and hardware, the OEM roof holes must be chased using an M8 x 1.25 tap and fluid. Doing so will ensure accurate torque is achieved.



MOUNTING BRACKETS

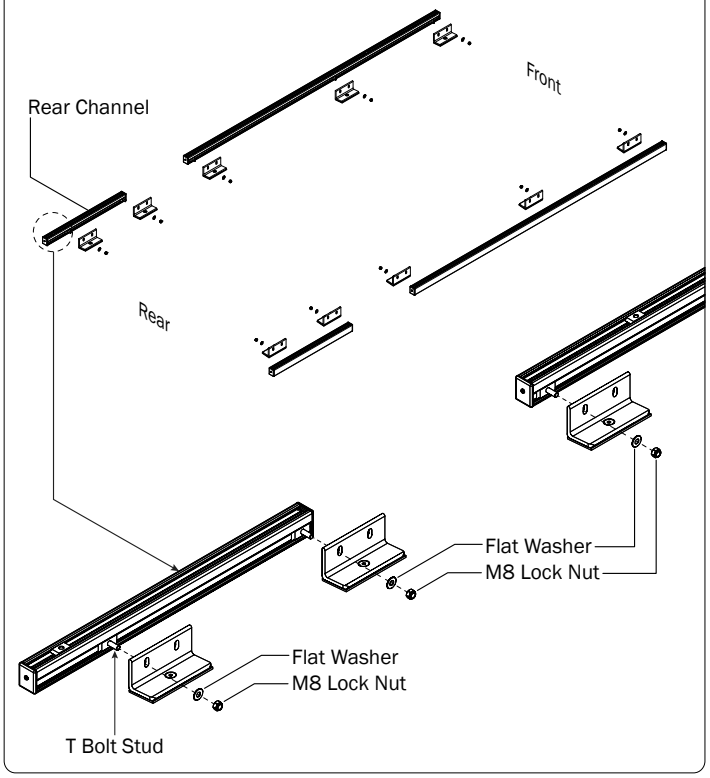
1 Apply Anti-Seize to all M8 x 25MM Flat Head Screws and install the Channel Mounting Brackets with Foam Pads onto the vehicle's roof mounting holes. Do not tighten screws until Step 2.3





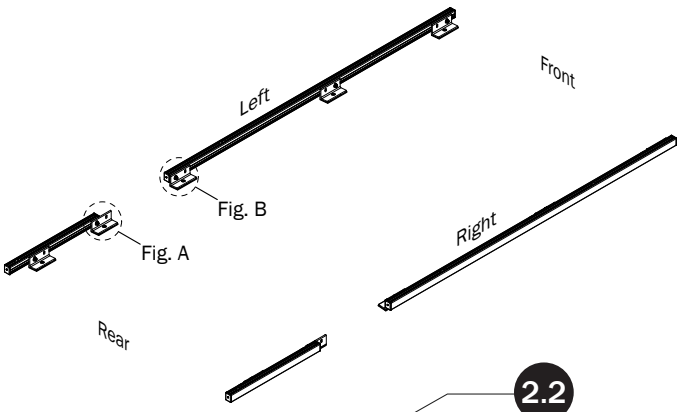
CHANNELS

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



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HRI3-E-FT43B ASSEMBLY INSTRUCTIONS–RIGHT SIDE ROTATION

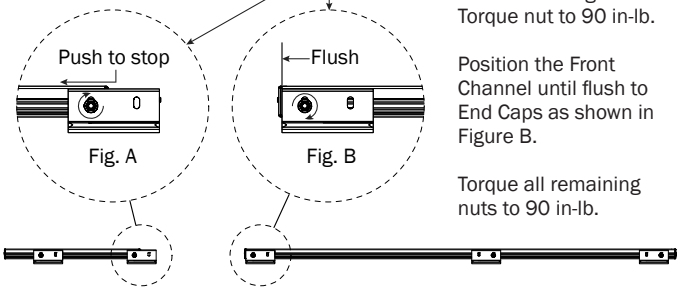


2.2

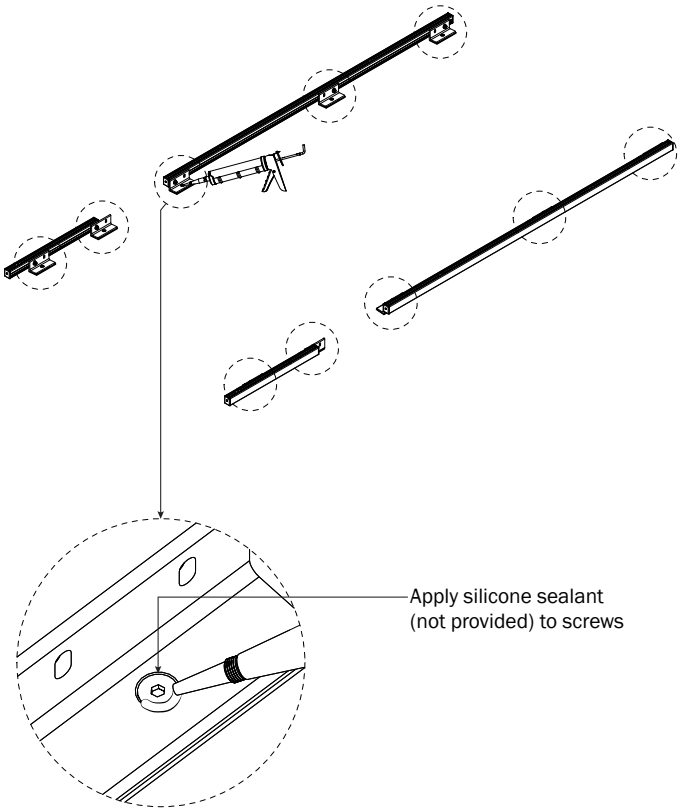
Position the Rear Channel to full stop as shown in Figure A. Torque nut to 90 in-lb.

Position the Front Channel until flush to End Caps as shown in Figure B.

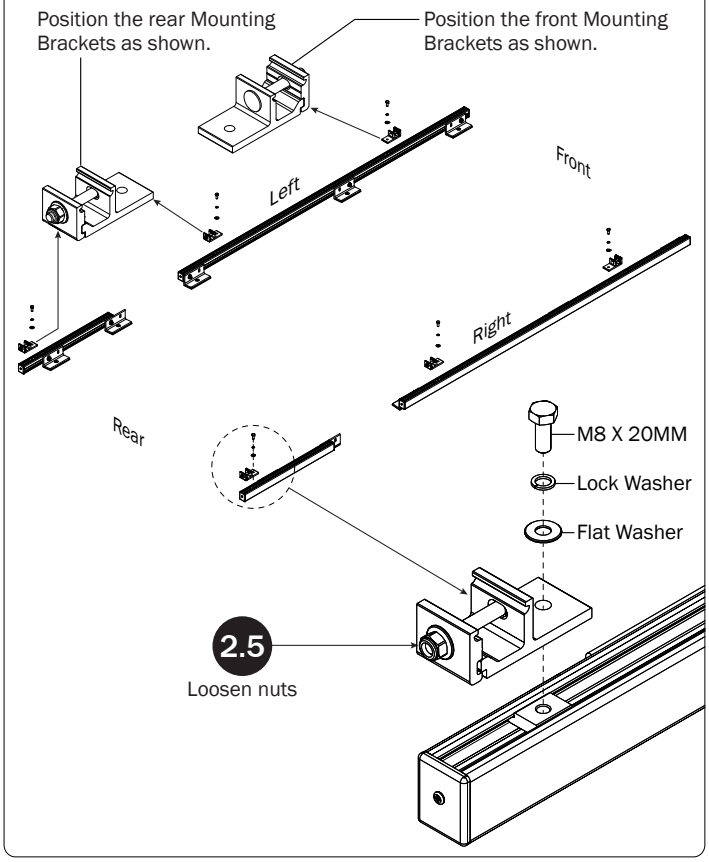
Torque all remaining nuts to 90 in-lb.



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.

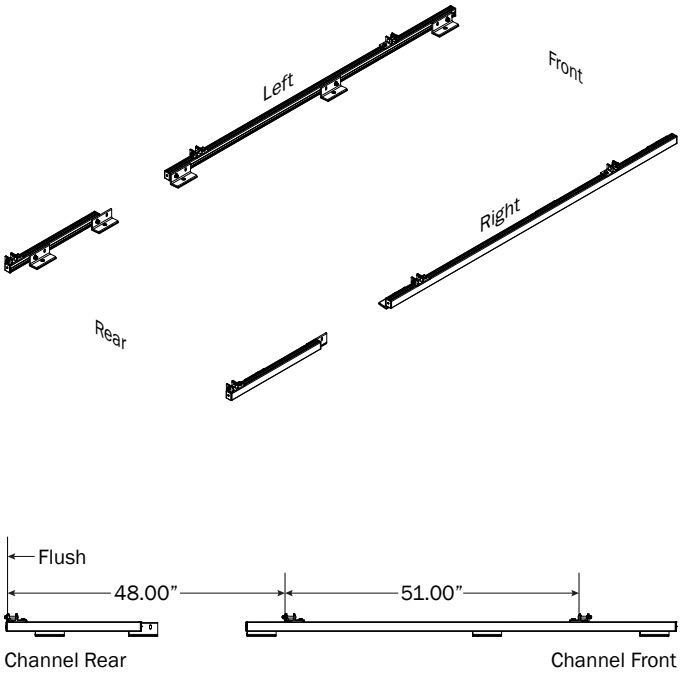


2.4 Attach Mounting Brackets to the Aluminum Strip Nuts located in the Channels



2.5 Loosen nuts

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.

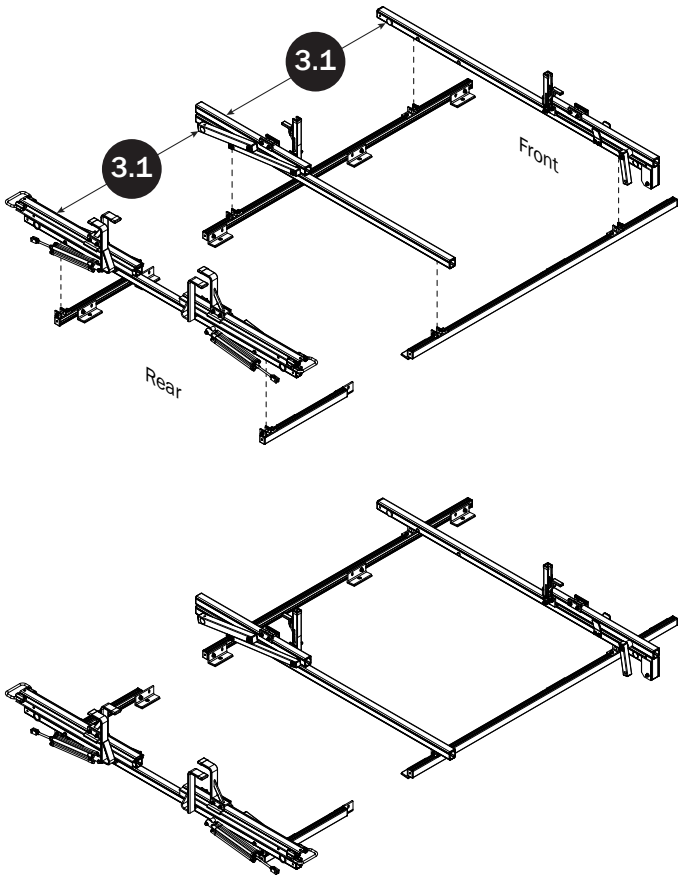


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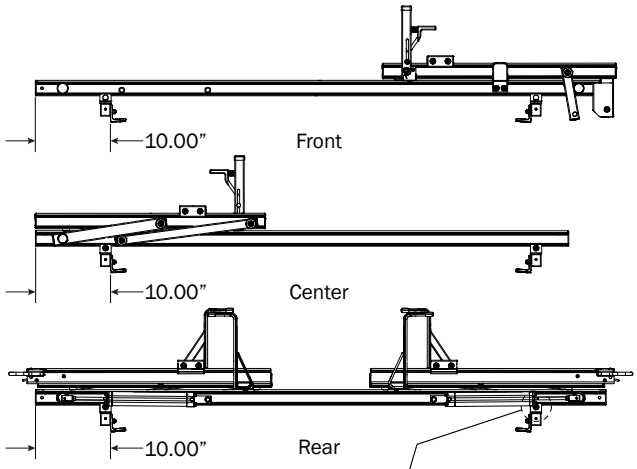
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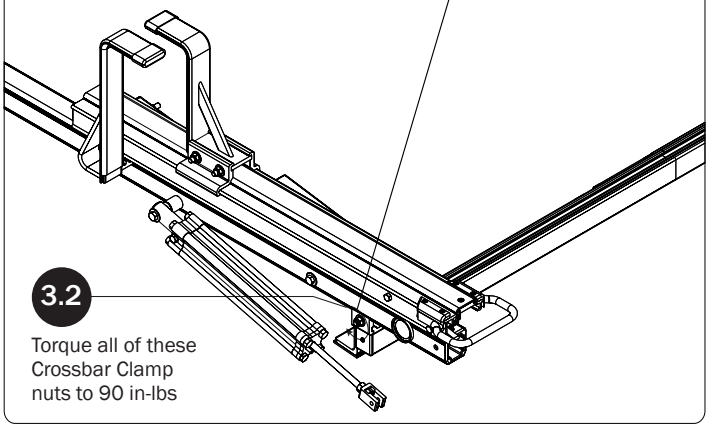
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CROSSBARS



CROSSBAR ADJUSTMENT



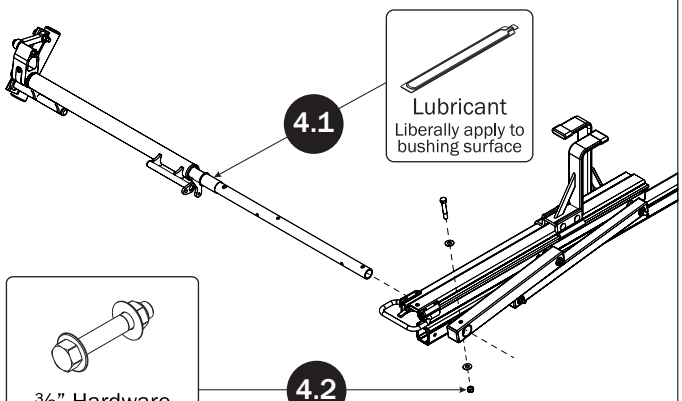


3.2

Torque all of these Crossbar Clamp nuts to 90 in-lbs

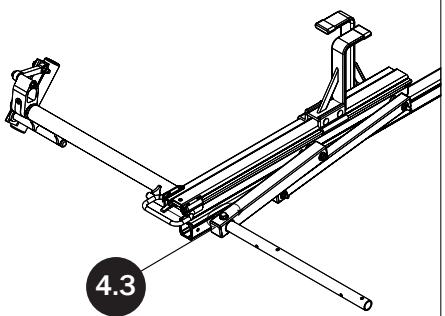
REAR DRIVE SHAFT

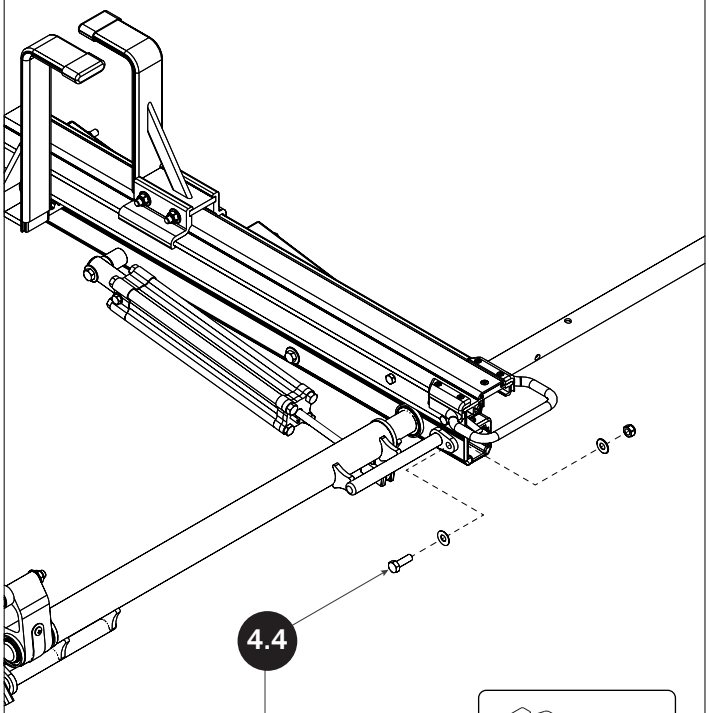
NOTE: For instructional clarity, the FBM Mounting System will not be shown for the remainder of this Assembly Manual.

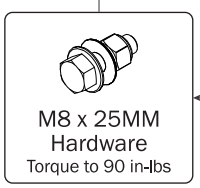


4.2





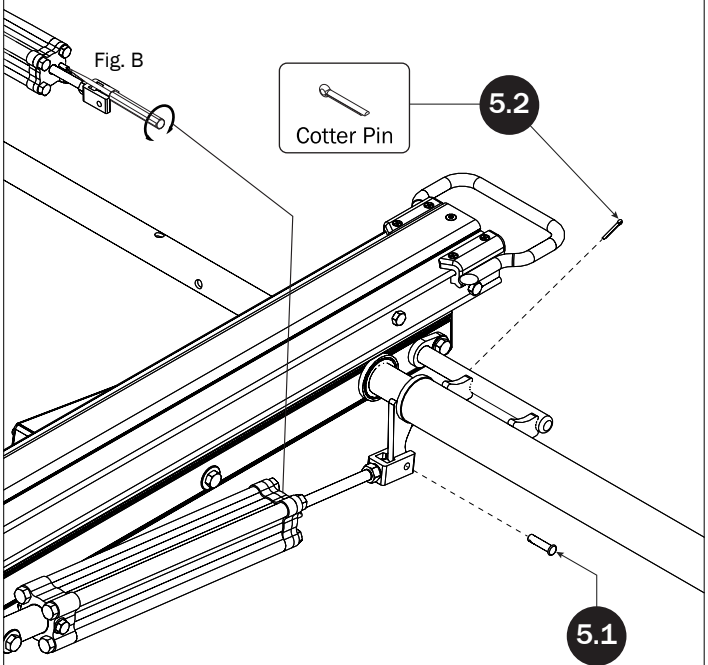






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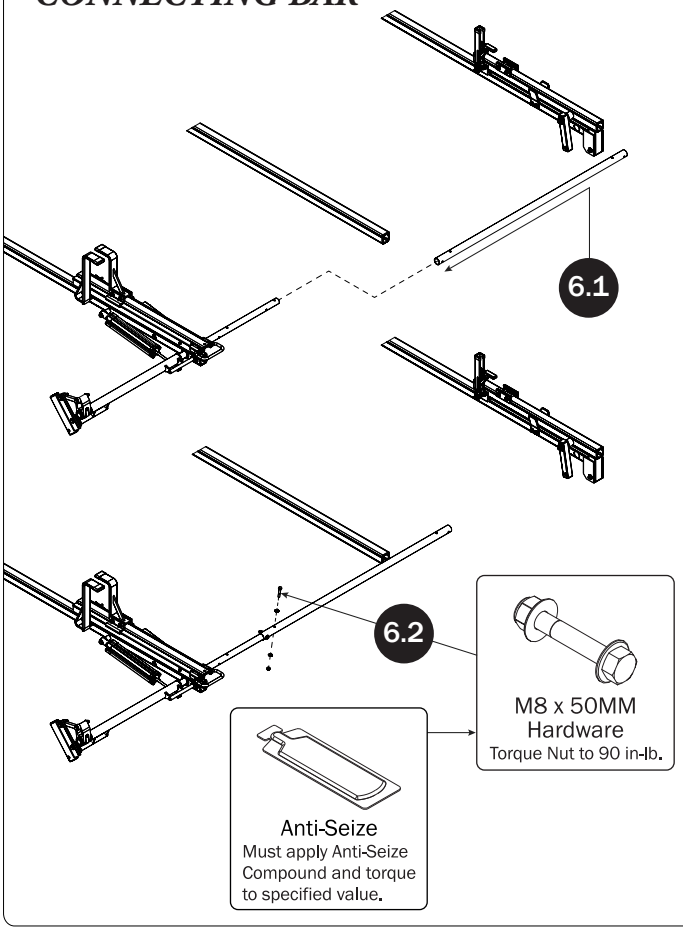
CYLINDER HARDWARE



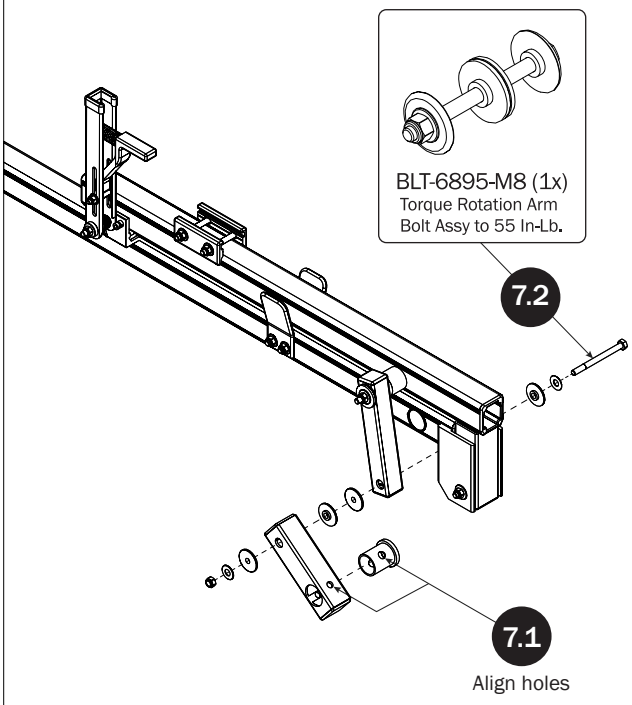
NOTE: Loosen the Cylinder Flow Control Screw (Fig. B) as needed to allow movement for this step sequence.

When finished with Cylinder Hardware, tighten the Flow Control Screw all the way closed then turn back open 1½ turn.

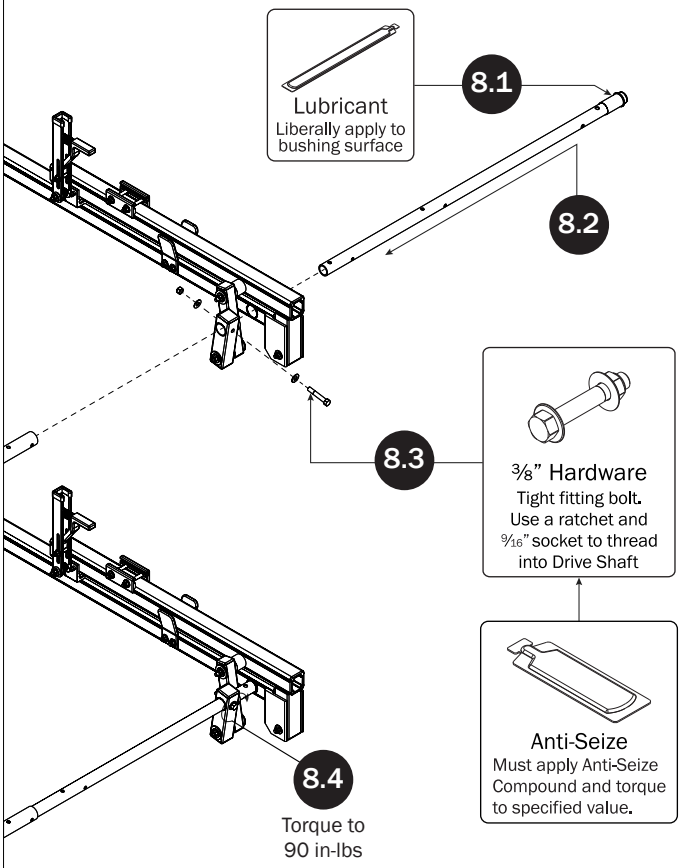
CONNECTING BAR



FRONT DRIVE ARM

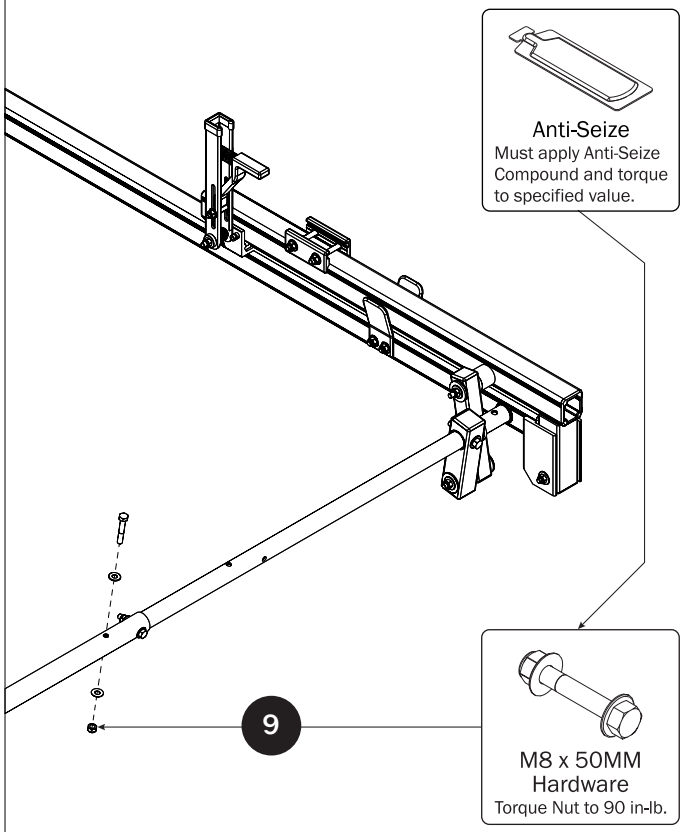


FRONT DRIVE SHAFT



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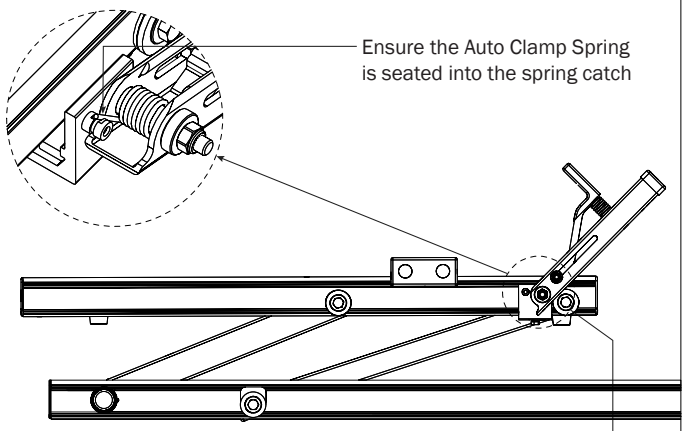
CONNECTING BAR FASTENERS



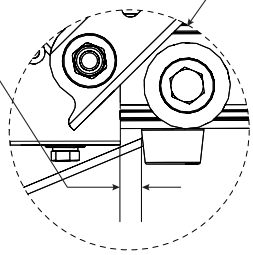
L POSTS

SEE QUICK START GUIDE FOR ADJUSTMENTS

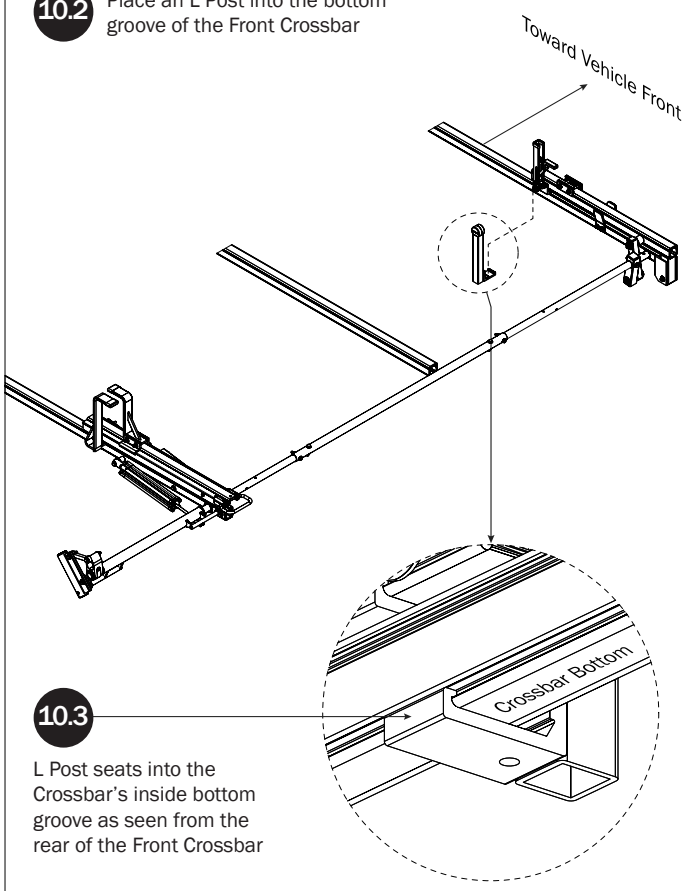
NOTE: The front Auto Clamp come preset from the factory for packaging purposes only. To assemble the L Post to the Crossbar, the Auto Clamps must be repositioned.



10.1 Beginning with the Front 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.

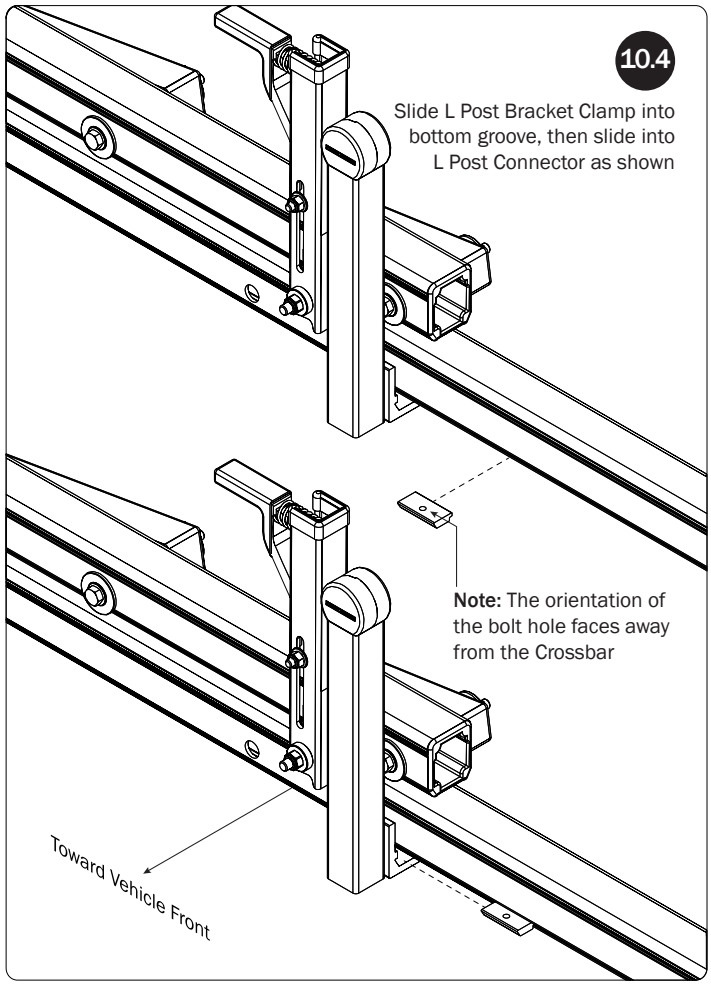


10.2 Place an L Post into the bottom groove of the Front Crossbar



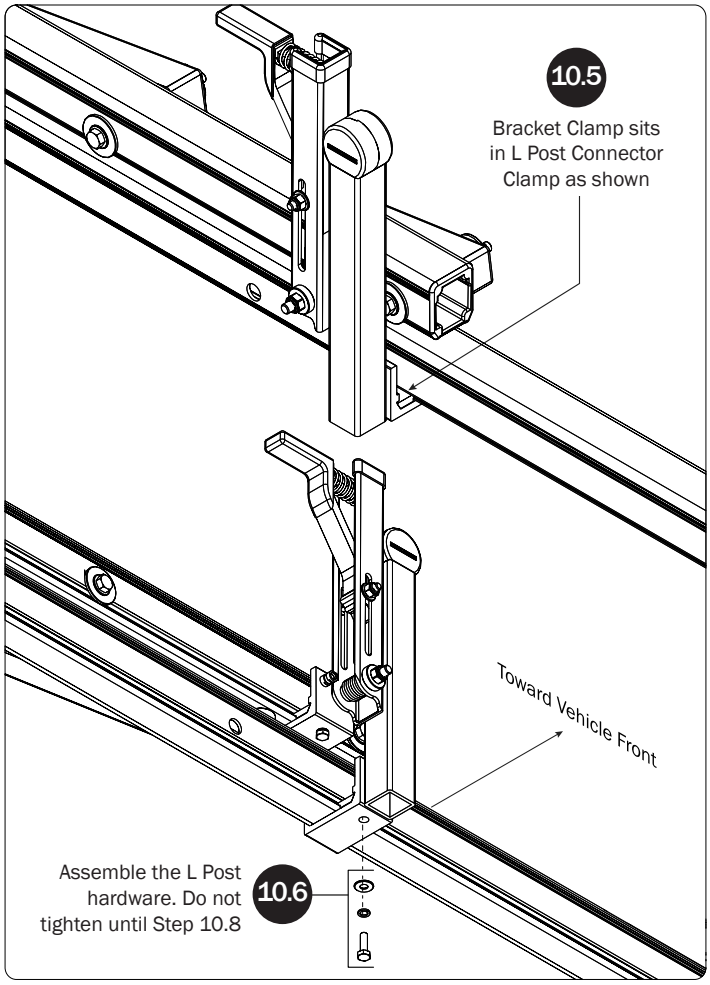
10.3 L Post seats into the Crossbar's inside bottom groove as seen from the rear of the Front Crossbar

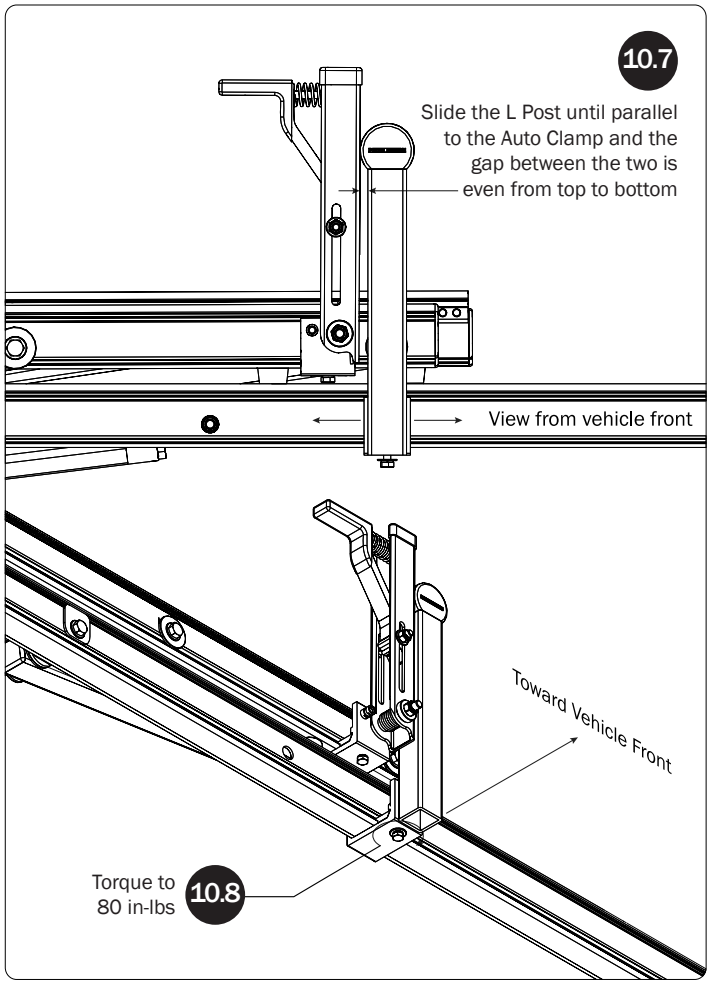
10.4 Slide L Post Bracket Clamp into bottom groove, then slide into L Post Connector as shown



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

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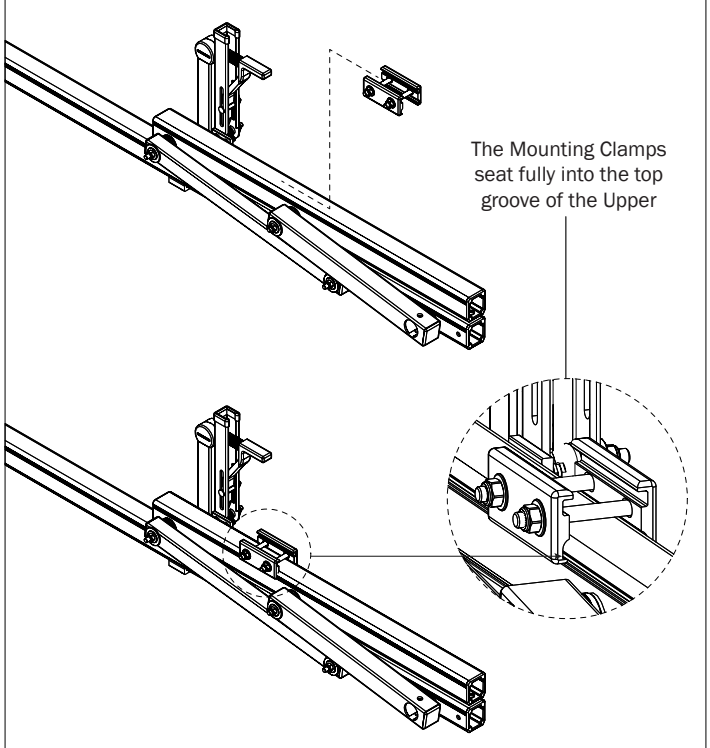


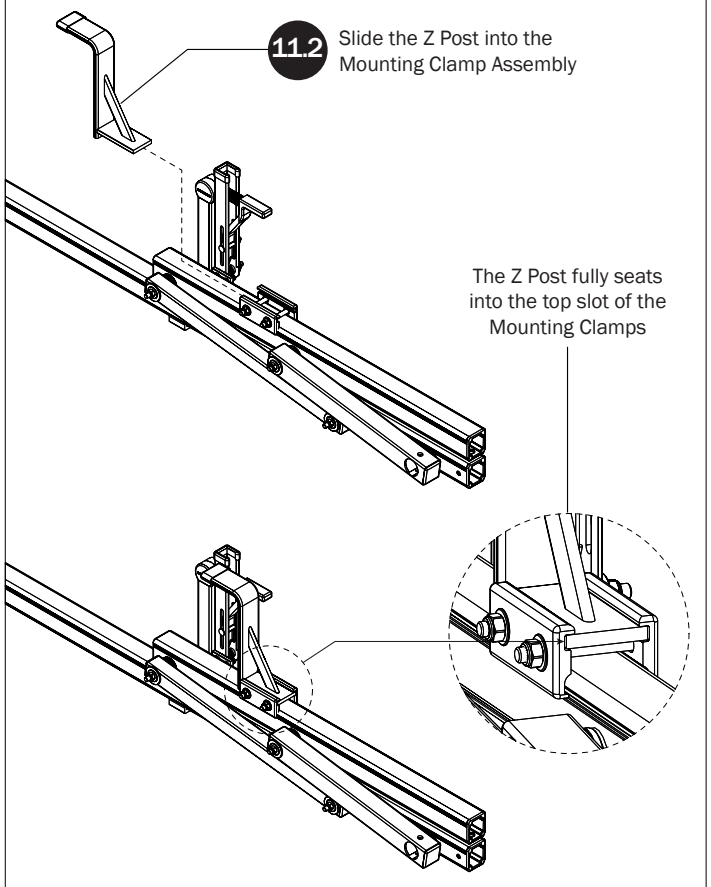


Z POSTS

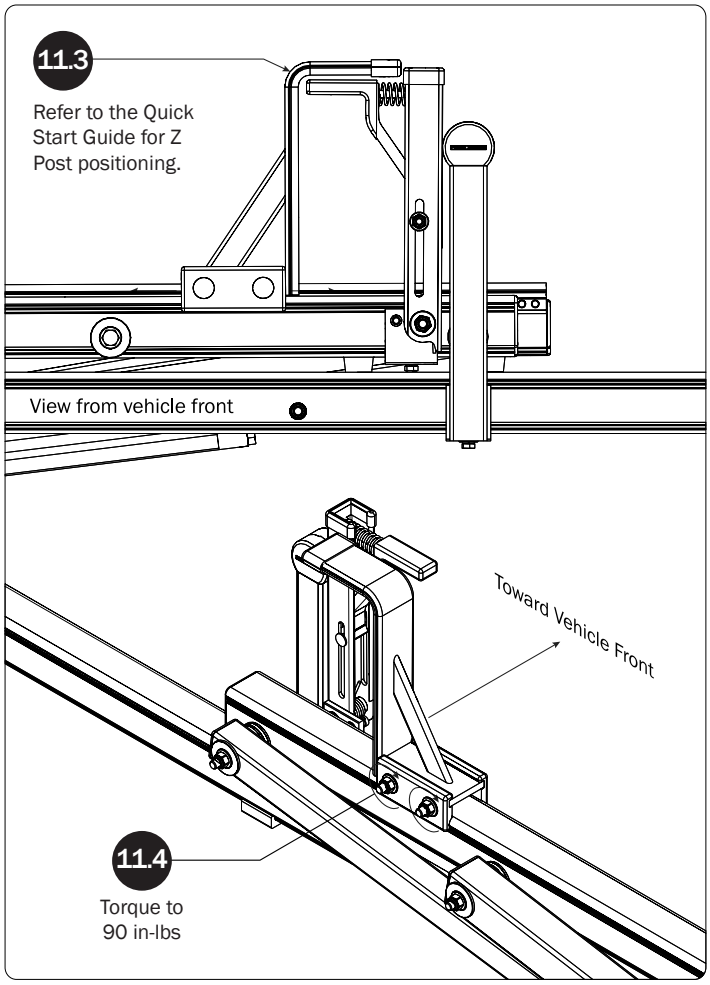
SEE QUICK START GUIDE FOR ADJUSTMENTS

11.1 Assemble the Z Post Mounting Clamp Assembly onto the Rotation Upper. Do not tighten until Step 11.4

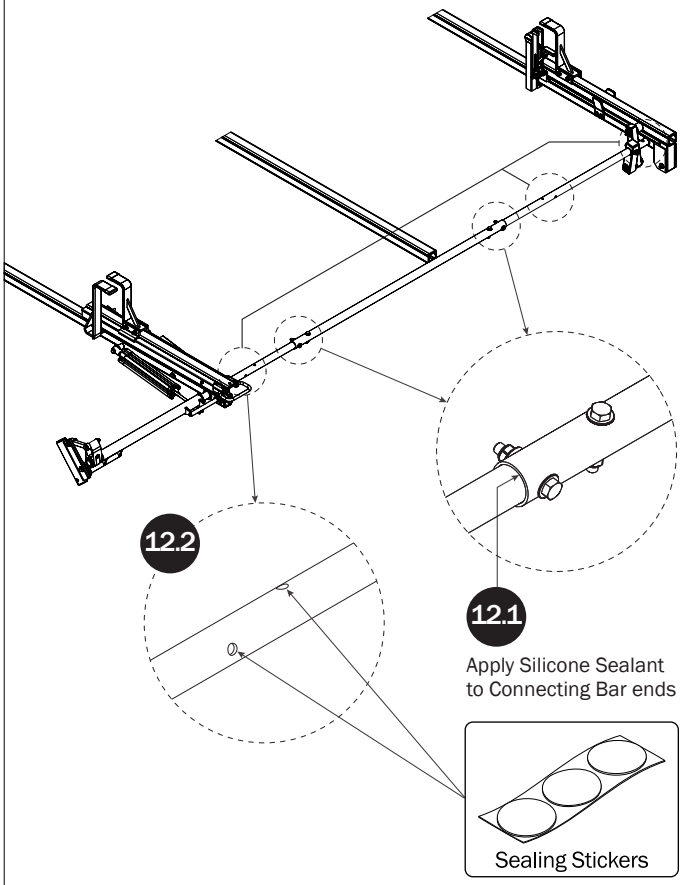




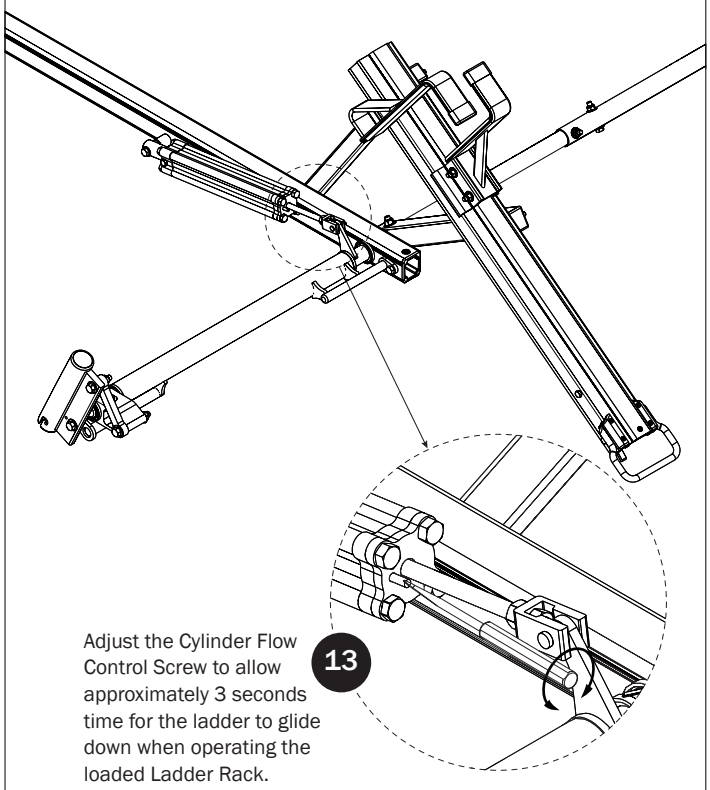
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DRIVE SHAFT SEALING

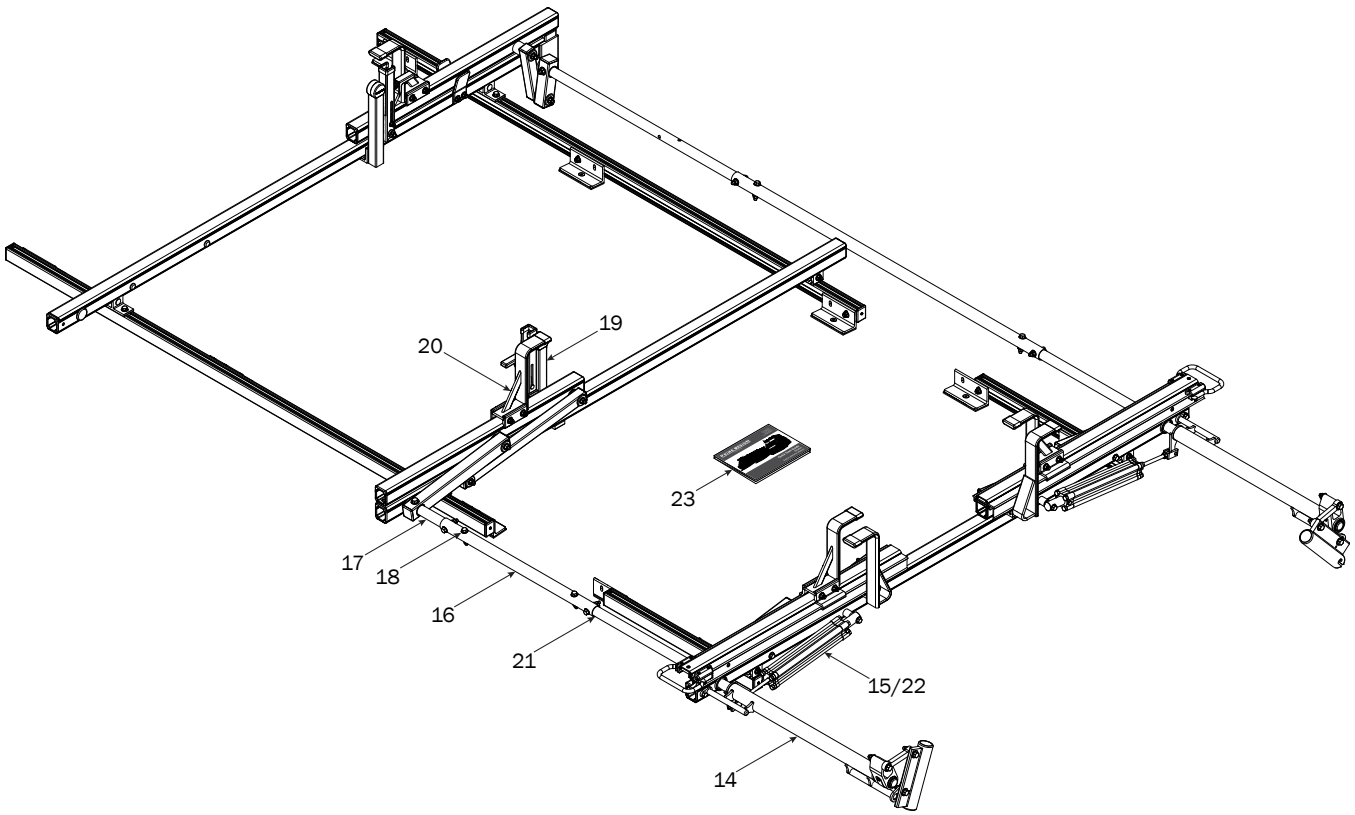


CYLINDER ADJUSTMENT

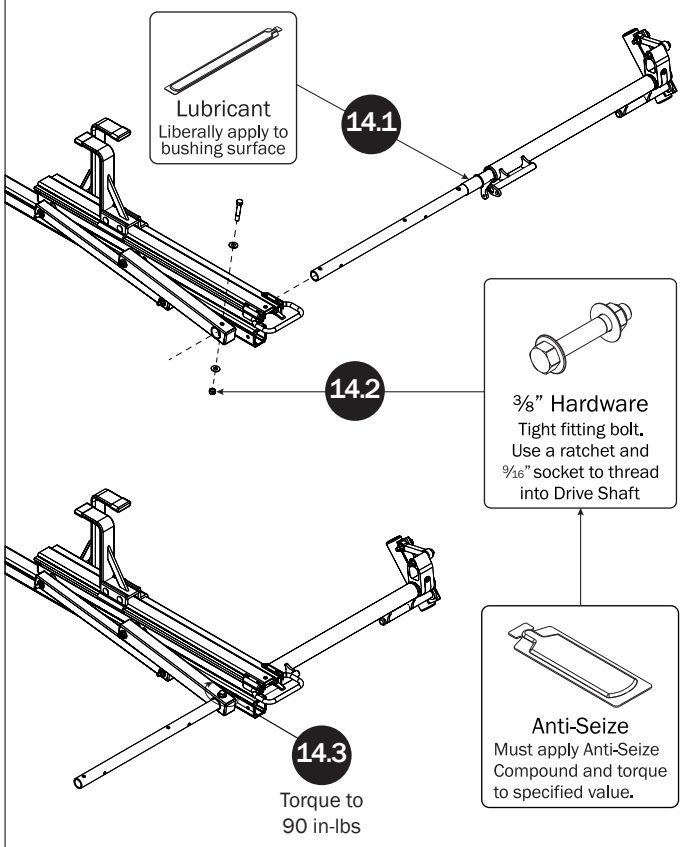


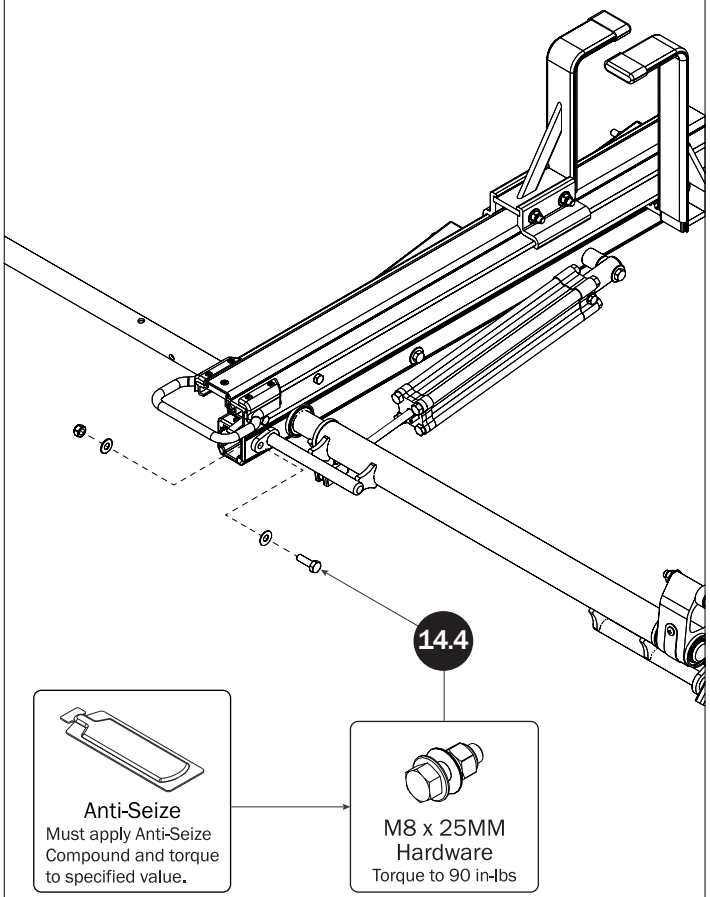
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LEFT SIDE ASSEMBLY SEQUENCE



REAR DRIVE SHAFT

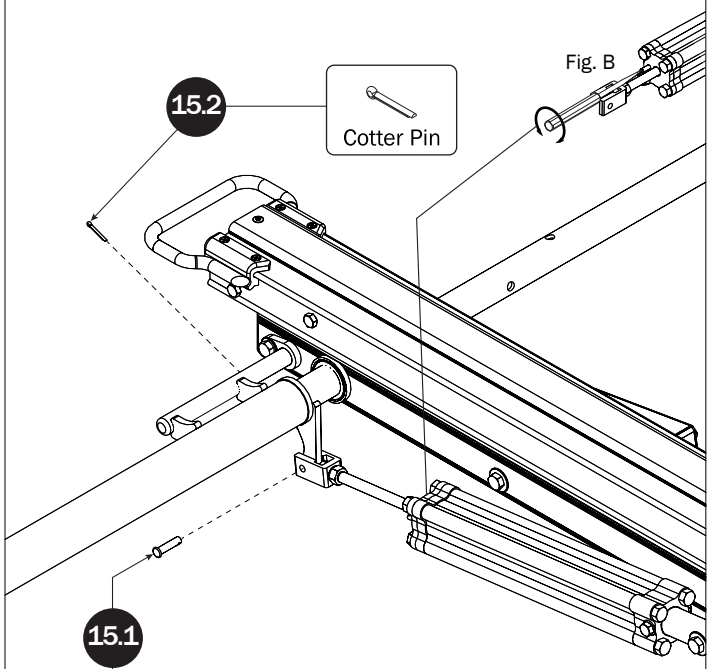




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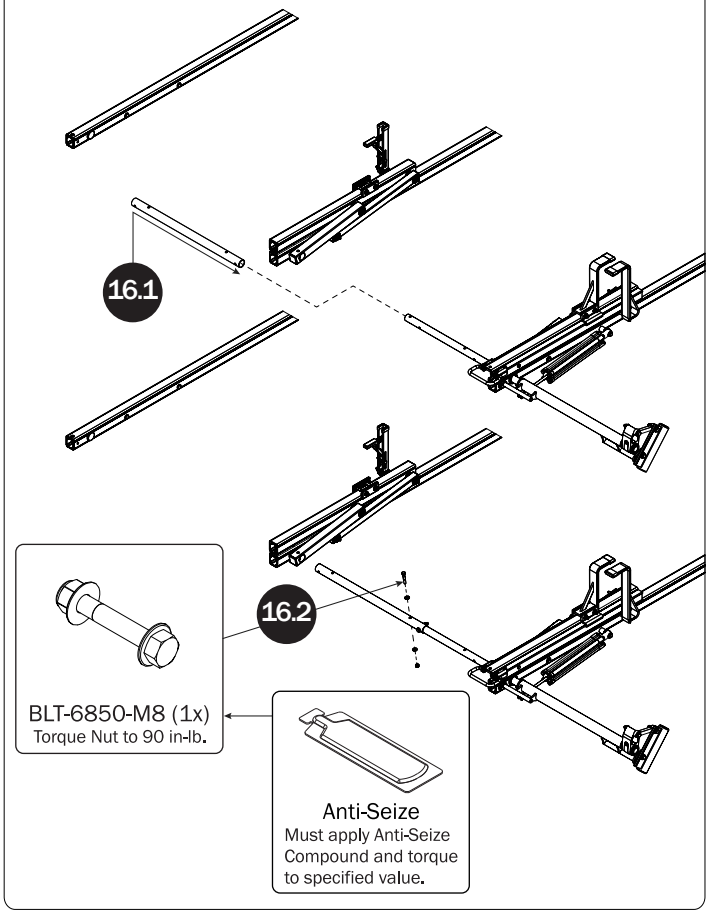
CYLINDER HARDWARE



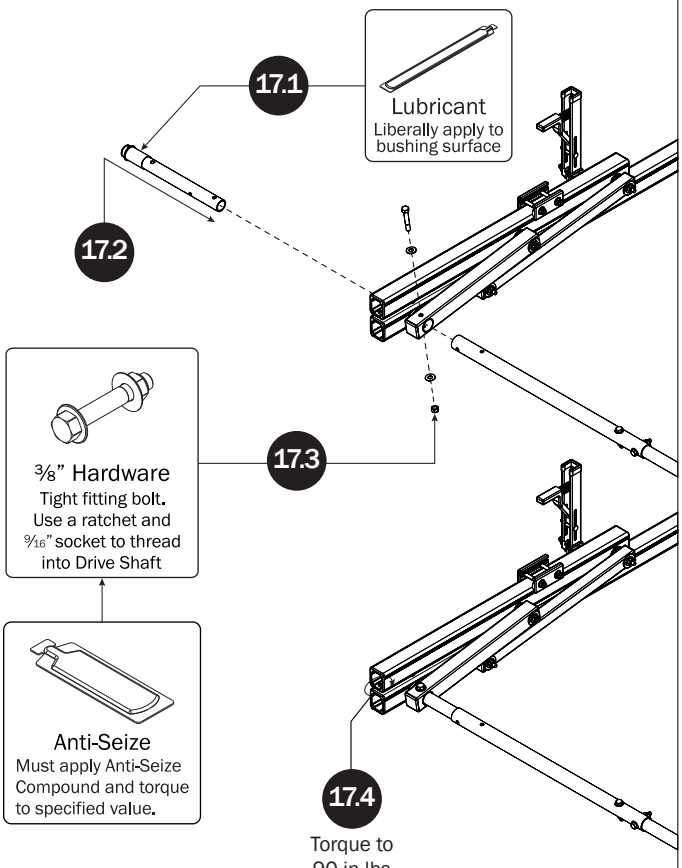
NOTE: Loosen the Cylinder Flow Control Screw (Fig. B) as needed to allow movement for this step sequence.

When finished with Cylinder Hardware, tighten the Flow Control Screw all the way closed then turn back open 1½ turn.

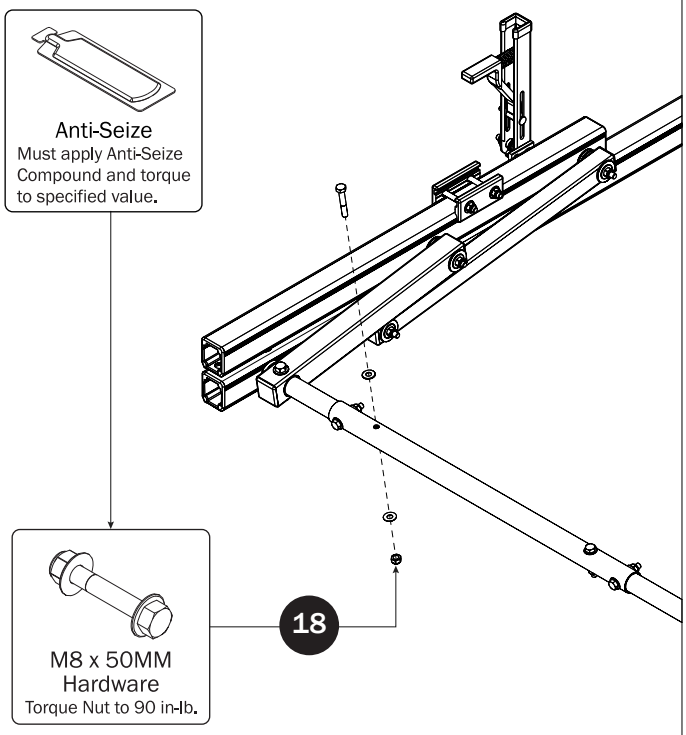
CONNECTING BAR



FRONT DRIVE SHAFT



CONNECTING BAR FASTENERS

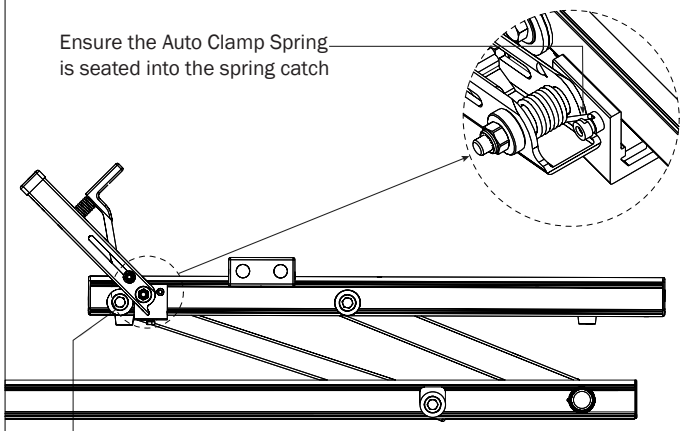


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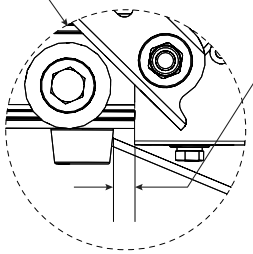
L POSTS

SEE QUICK START GUIDE FOR ADJUSTMENTS

NOTE: The front Auto Clamp come preset from the factory for packaging purposes only. To assemble the L Post to the Crossbar, the Auto Clamps must be repositioned.

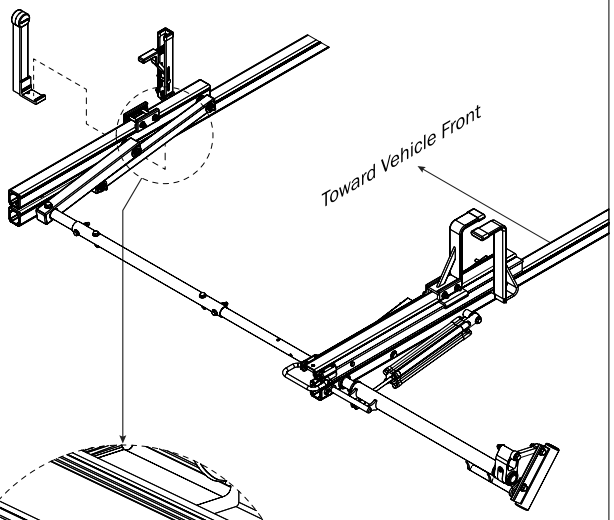


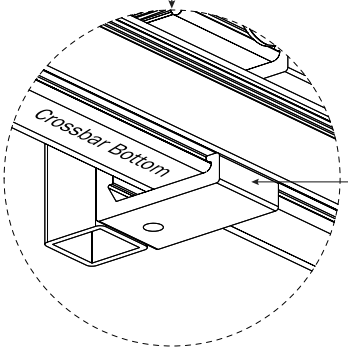
View from vehicle front



19.1 Beginning with the Front 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.

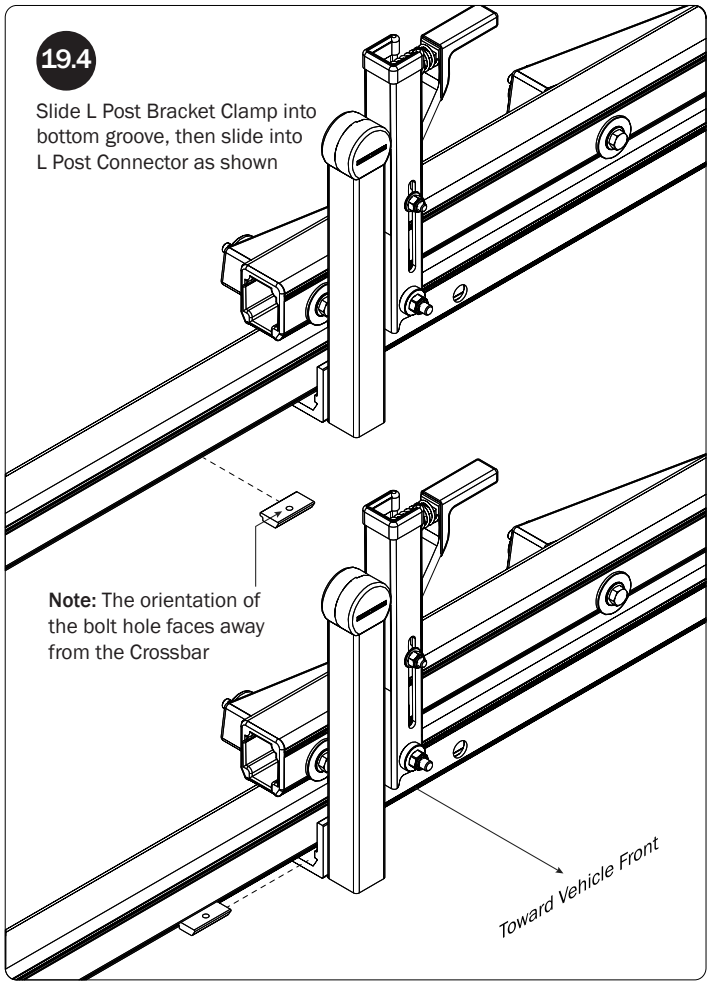
19.2 Place an L Post into the bottom groove of the Front Crossbar





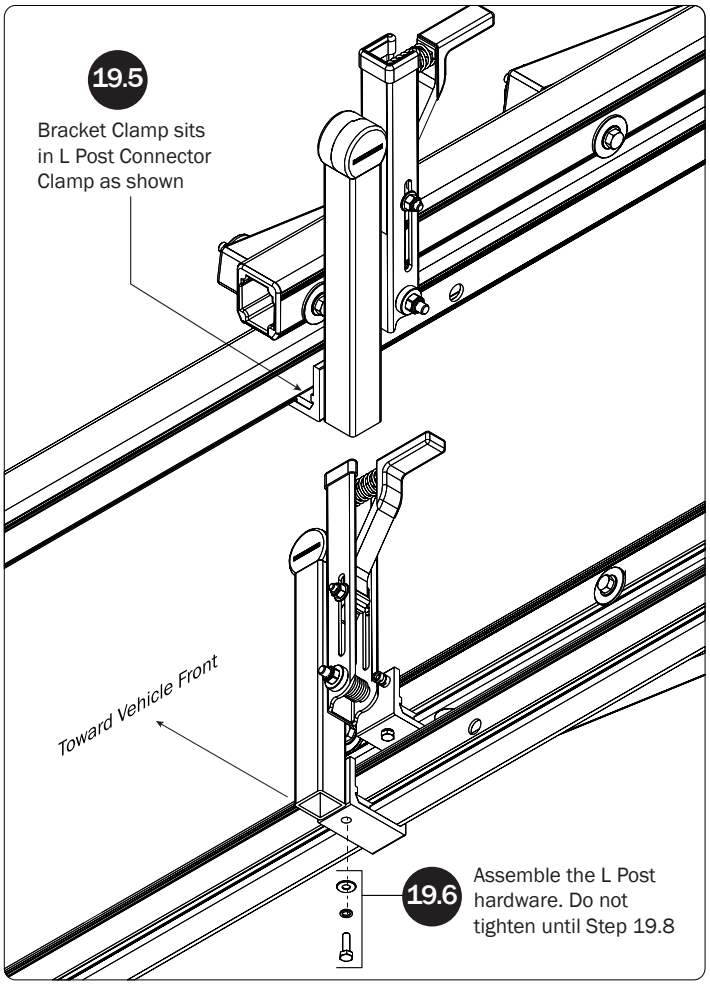
19.3 L Post seats into the Crossbar's inside bottom groove as seen from the rear of the Front Crossbar

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



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

19.5 Bracket Clamp sits in L Post Connector Clamp as shown

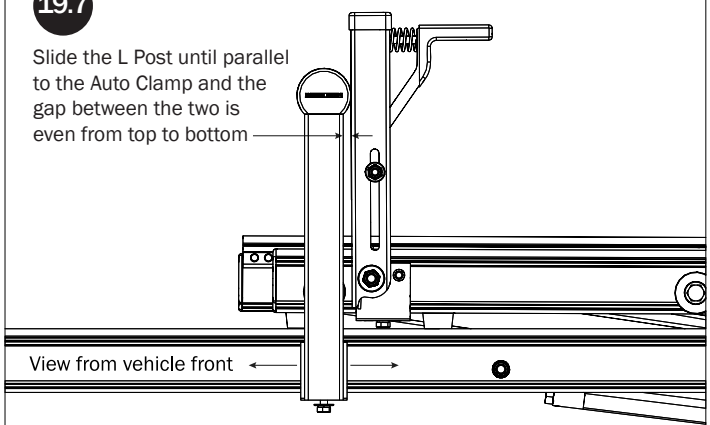


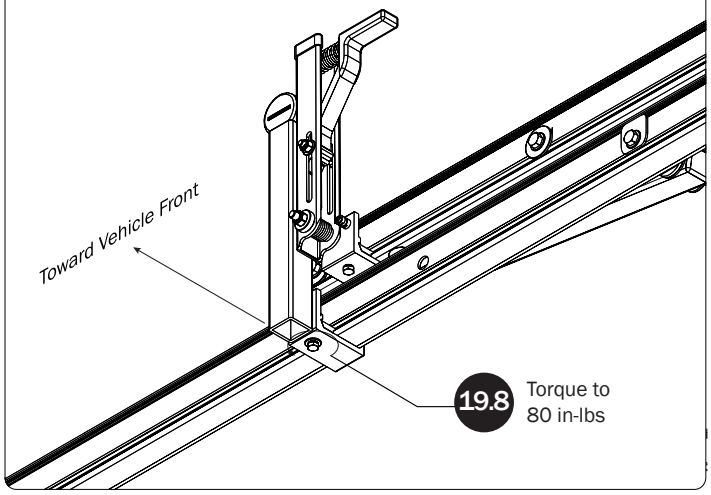
19.6 Assemble the L Post hardware. Do not tighten until Step 19.8

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



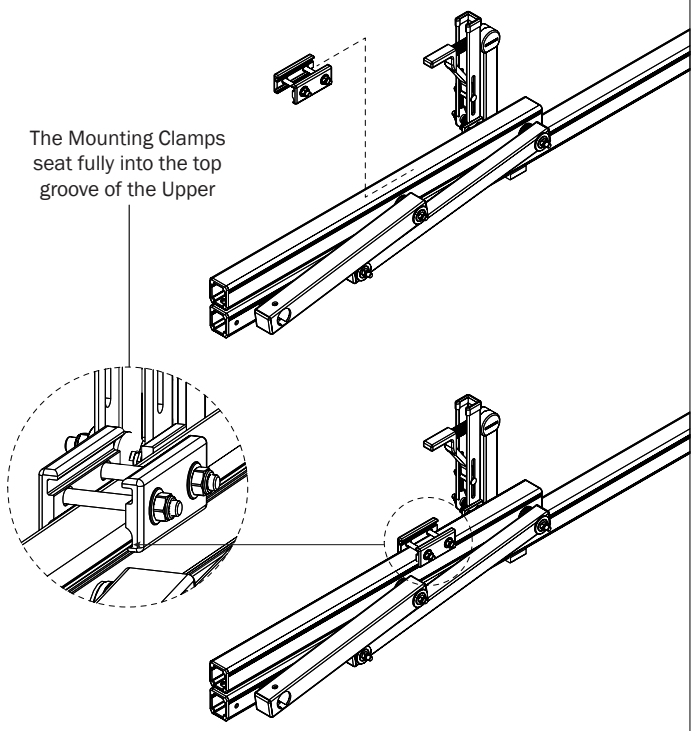


19.8 Torque to 80 in-lbs

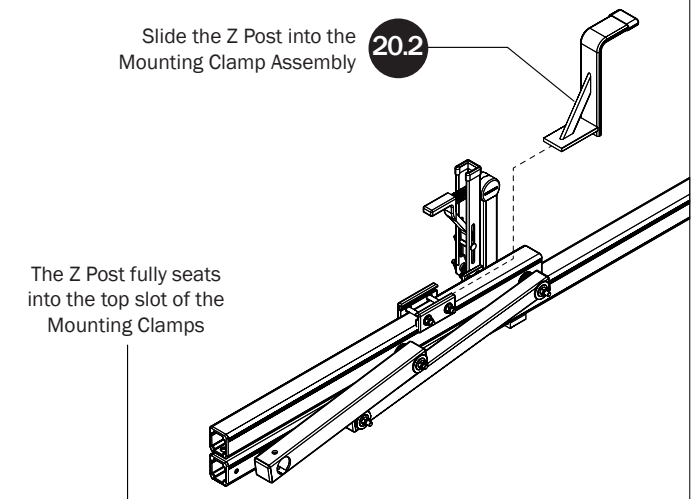
Z POSTS

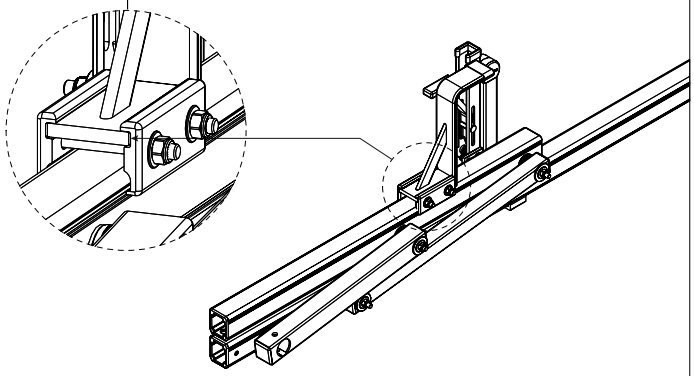
SEE QUICK START GUIDE FOR ADJUSTMENTS

20.1 Assemblel the Z Post Mounting Clamp Assembly onto the Rotation Upper. Do not tighten until Step 20.4.

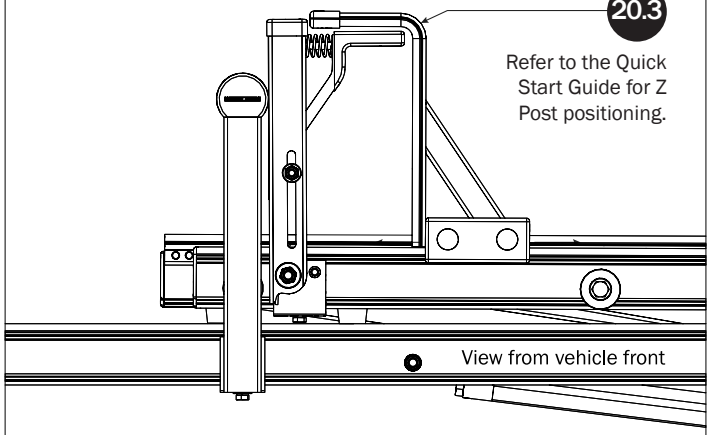


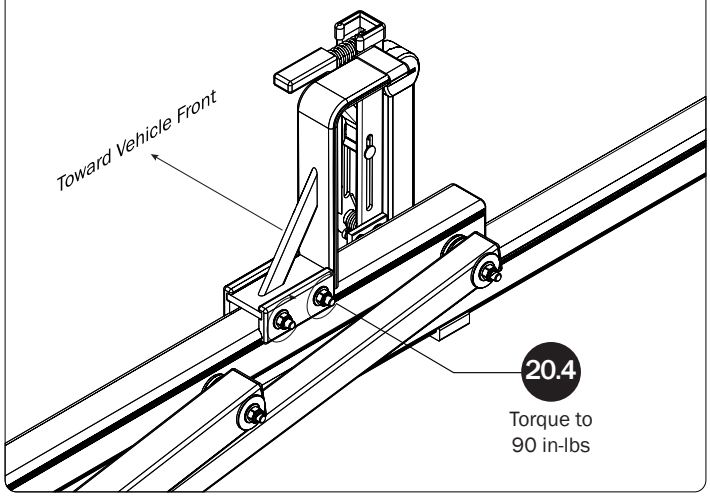
20.2 Slide the Z Post into the Mounting Clamp Assembly





20.3 Refer to the Quick Start Guide for Z Post positioning.



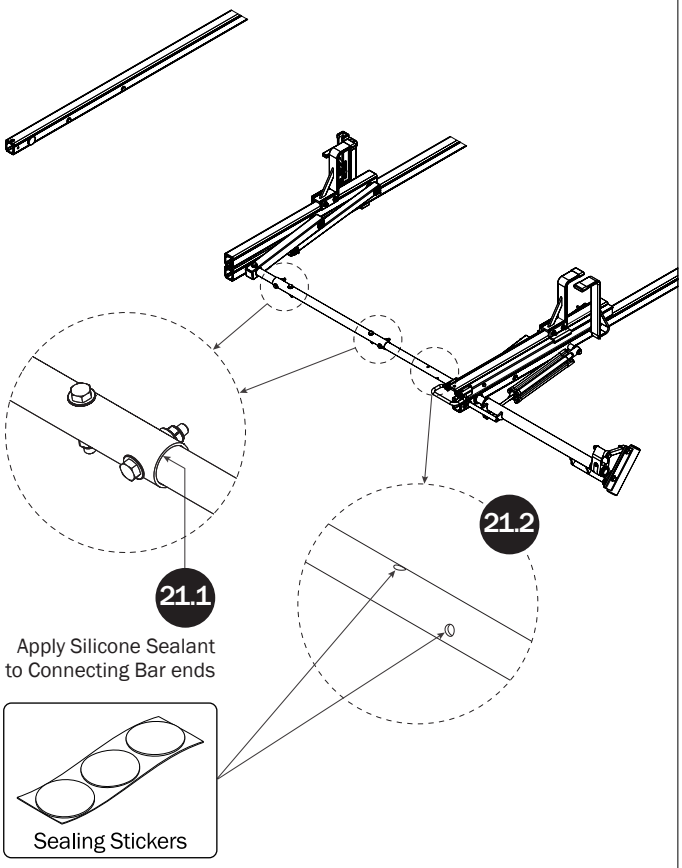


20.4 Torque to 90 in-lbs

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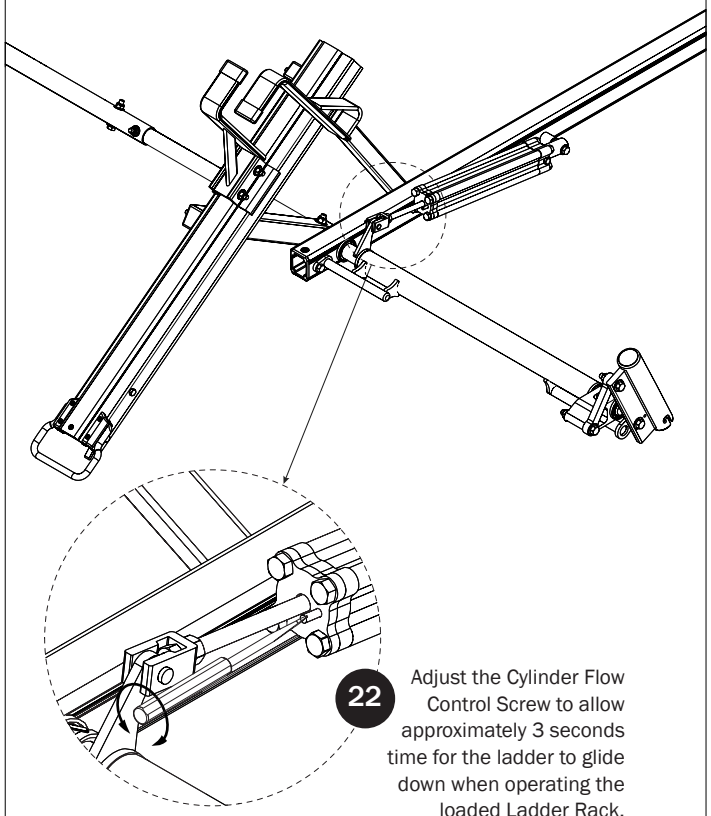
DRIVE SHAFT SEALING



21.1 Apply Silicone Sealant to Connecting Bar ends

Sealing Stickers

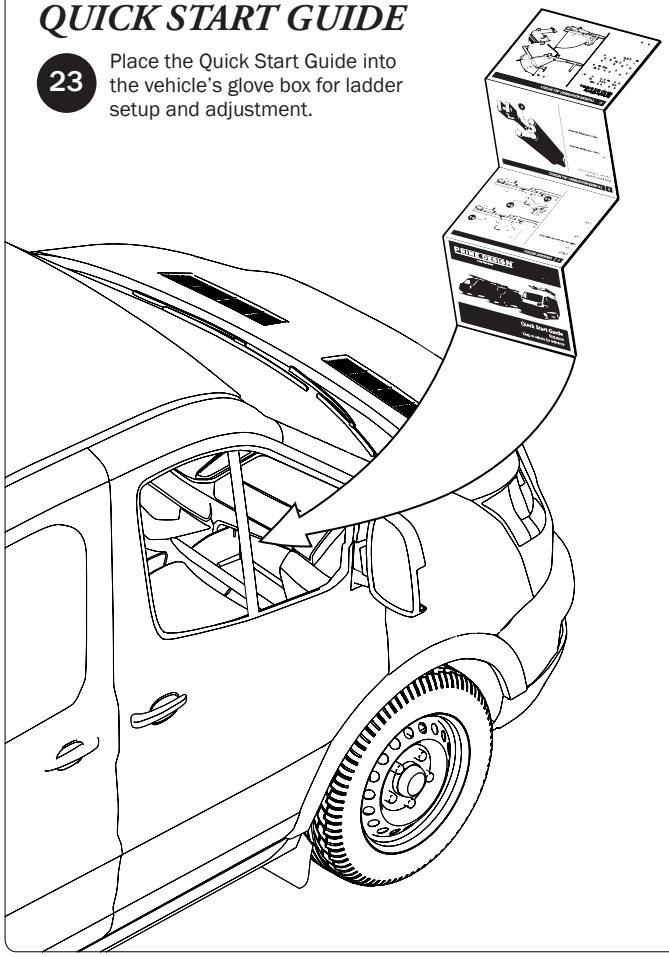
CYLINDER ADJUSTMENT



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

QUICK START GUIDE

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



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