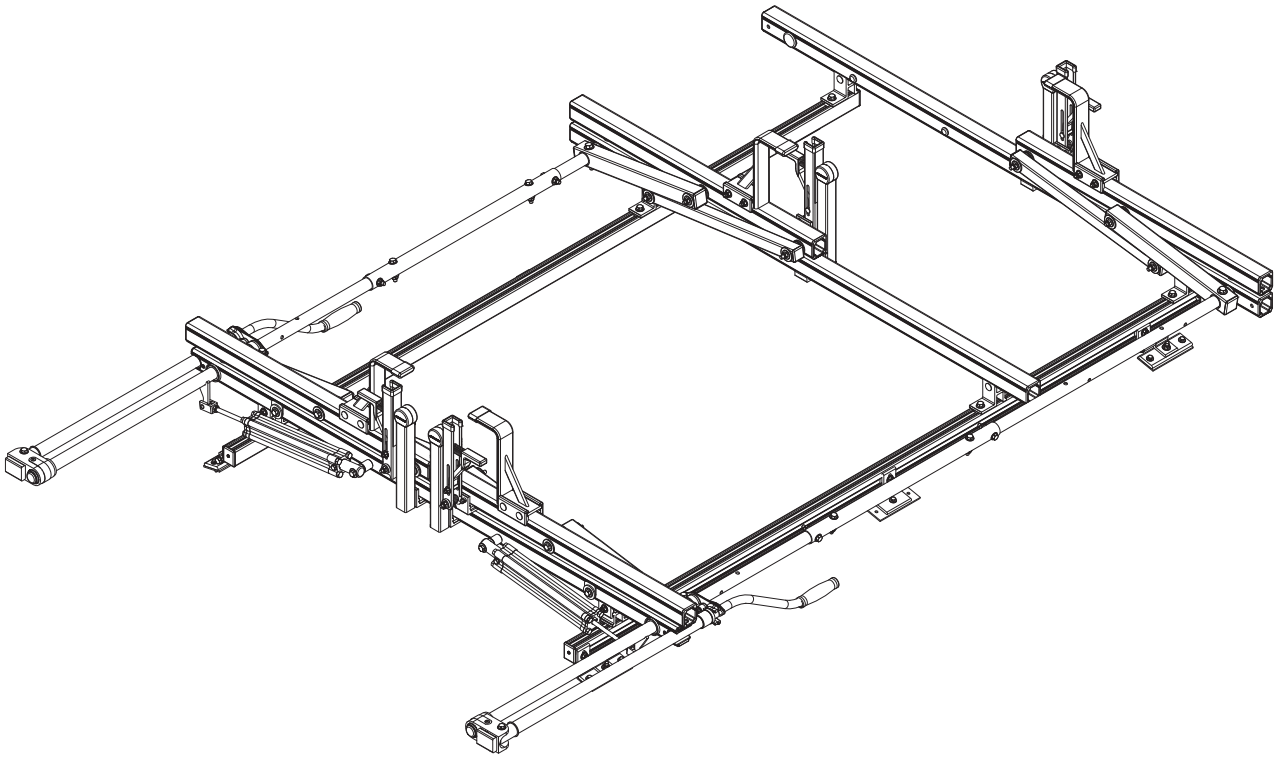
PRIME DESIGN™

A Safe Fleet Brand

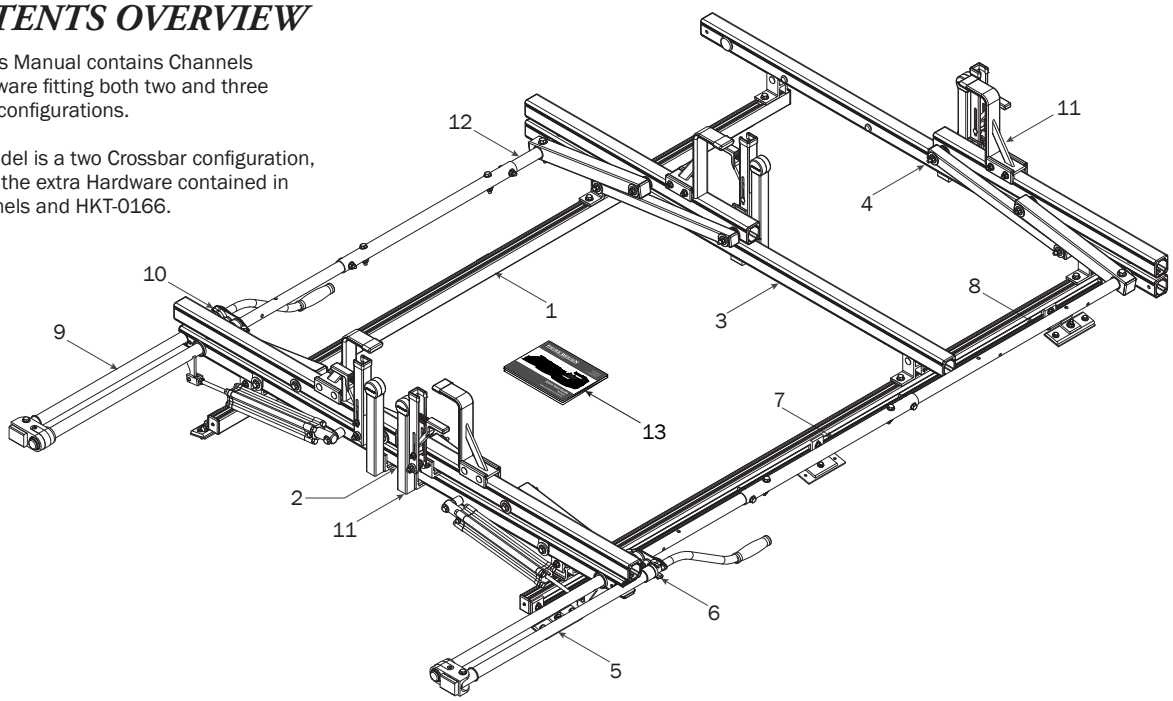


VRR3

CONTENTS OVERVIEW

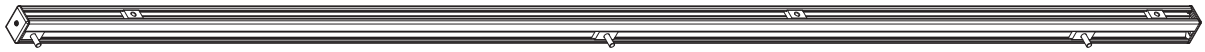
NOTE: This Manual contains Channels and Hardware fitting both two and three Crossbar configurations.

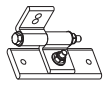
If your model is a two Crossbar configuration, disregard the extra Hardware contained in the Channels and HKT-0166.



1—FBM3-0113 ..... (Qty 1)
Channels with Hardware

Stiff Channel 78" (2X)

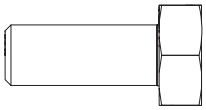



Mounting Foot (4X)

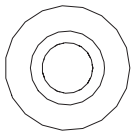

Mounting Mid-Foot (2X)

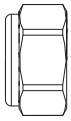

Foam Pad (6X)

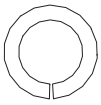

Channel Bracket (4X)

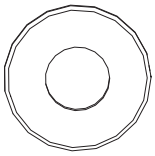

M8 x 20MM (6X)

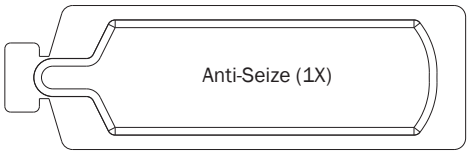

M6 X 25MM (10X)


Sealing Washer (10X)

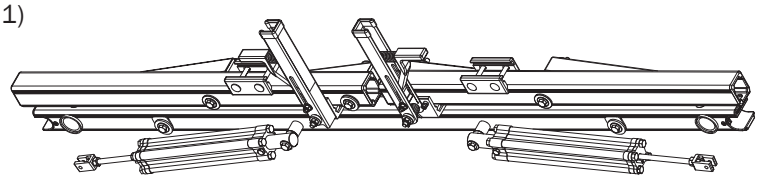

M8 Lock Nut (6X)


5/16" Lock Washer (6X)

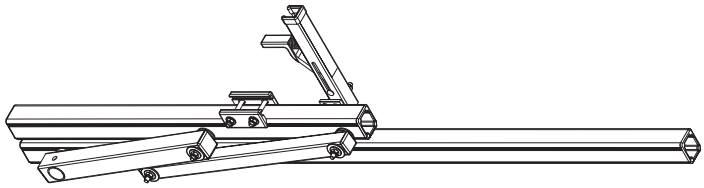

5/16" Flat Washer (22X)



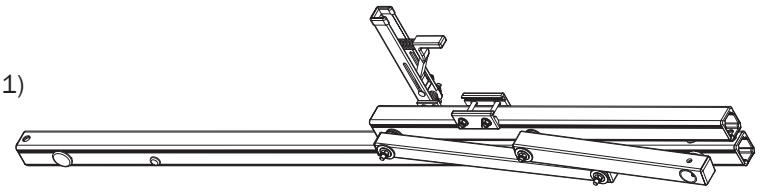
2—Rear Crossbar Assembly..... (Qty 1)



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



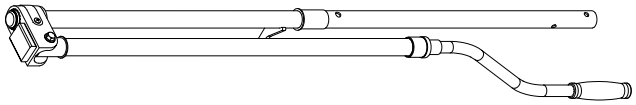
4—Front Crossbar Assembly..... (Qty 1)



PRIME DESIGN™
A Safe Fleet Brand

PRIME DESIGN, A SAFE FLEET BRAND ▪ Address: 1689 Oakdale Avenue #102, West St Paul, Minnesota 55118 ▪ Phone: 651-552-8554 ▪ Toll Free: 1.8.PRIME.RACK ▪ Fax: 651-552-1799 ▪ Email: info@primedesign.net ▪ Website: www.primedesign.net
TM & © 2018 PRIME DESIGN. PROTECTED BY ONE OR MORE OF THE FOLLOWING PATENT NO.'s 6764268, 6971563, 2364879, 8857689, 8511525, 8991889, 2271515, 2364897, 9506292, 9481313, 9481314, 9796340, 6202807, 6427889, 9415726 AND OTHER PATENTS PENDING

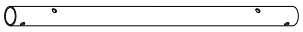
5—Rear Drive Shaft..... (Qty 1)
Right Hand, B4 Version, 46.00”



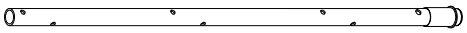
6—Handle Latch Assembly ..... (Qty 1)
Right Hand



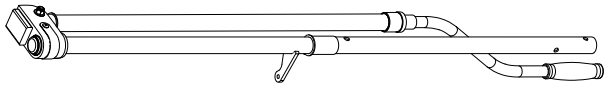
7—Connecting Bar..... (Qty 2)
2.00’



8—Front Drive Shaft ..... (Qty 1)
B Version, 35.75”



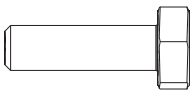
9—Rear Drive Shaft..... (Qty 1)
Left Hand, B4 Version, 46.00”



10—Handle Latch Assembly..... (Qty 1)
Left Hand



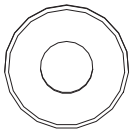
11—L & Z Post Kit..... (Qty 2)
Adj. Z Post, 7.25”, L Post, w/HKT-0160



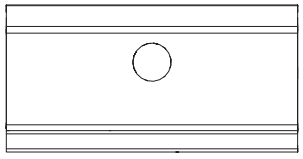
M6 x 20MM (2X)



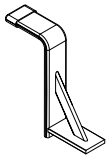
¼ Lock Washer (2X)



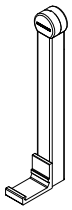
¼ Flat Washer (2X)



L Post Bracket Clamp (2X)

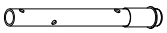


Z Post (2X)

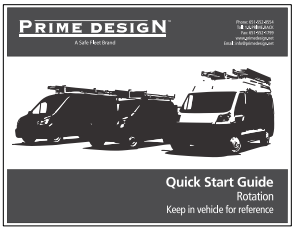


L Post (2X)

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



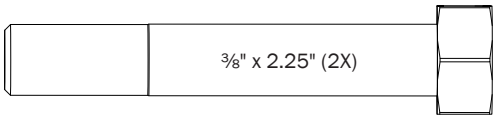
13—USQSG-Ergorack ..... (Qty 1)
Quick Start Guide, Rotation



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



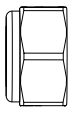




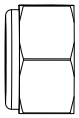


Cotter Pin (1X)

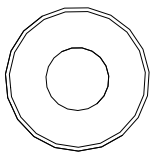




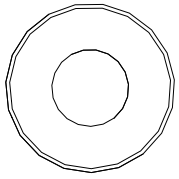
M8 Lock Nut (5X)



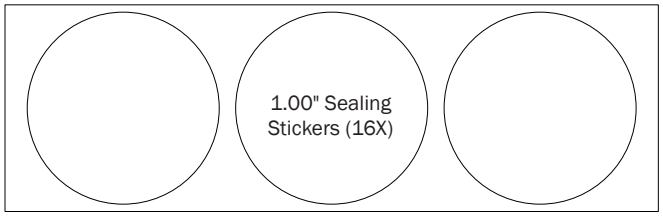
⅜" Lock Nut (2X)

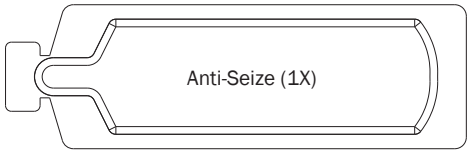


5⁄16" Flat Washer (10X)



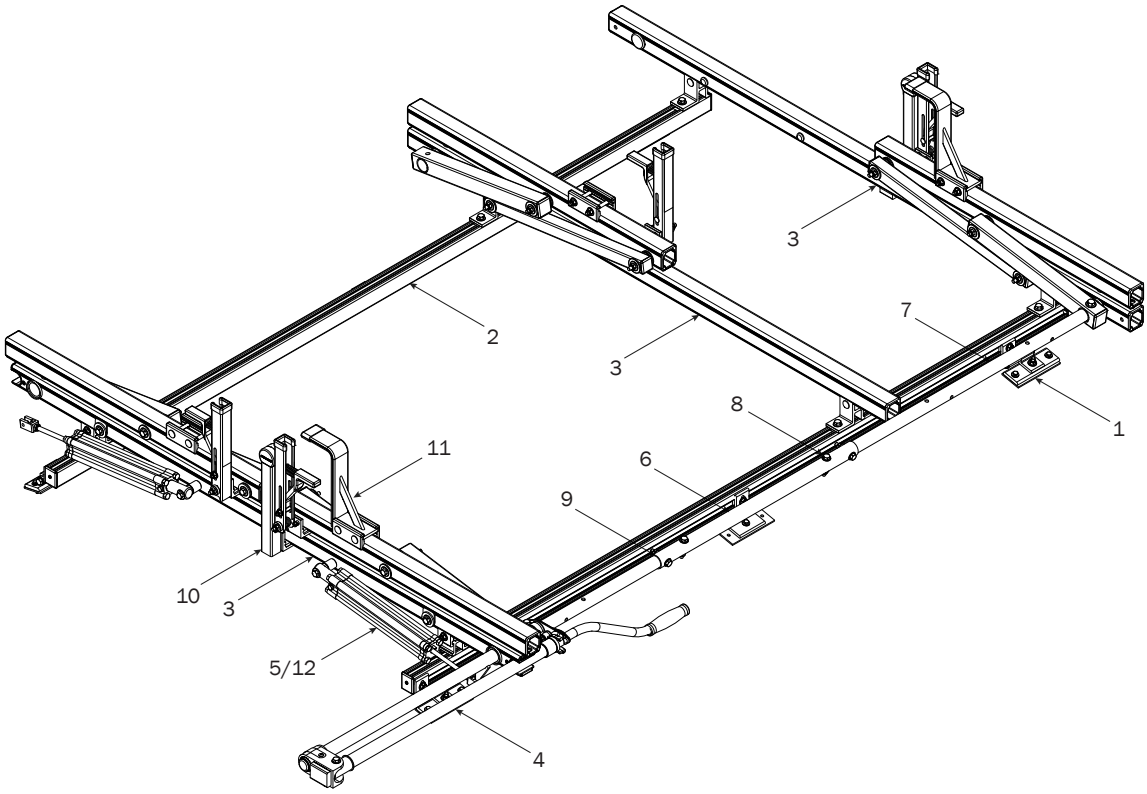
⅜" Flat Washer (4X)





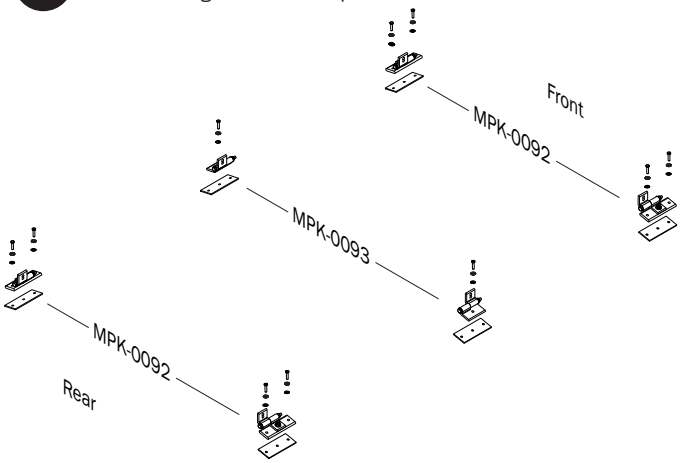
TM & © 2018 PRIME DESIGN. PROTECTED BY ONE OR MORE OF THE FOLLOWING PATENT NO.’s 6764268, 6971563, 2364879, 8857689, 8511525, 8991889, 2271515, 2364897, 9506292, 9481313, 9481314, 9796340, 6202807, 6427889, 9415726 AND OTHER PATENTS PENDING

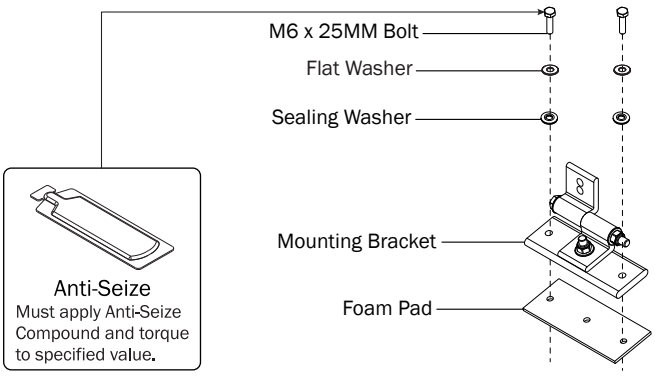
RIGHT SIDE ASSEMBLY SEQUENCE



MOUNTING BRACKETS

1 Install the Channel Mounting Brackets into the vehicle's roof mounting holes and torque to 60 in-lb.

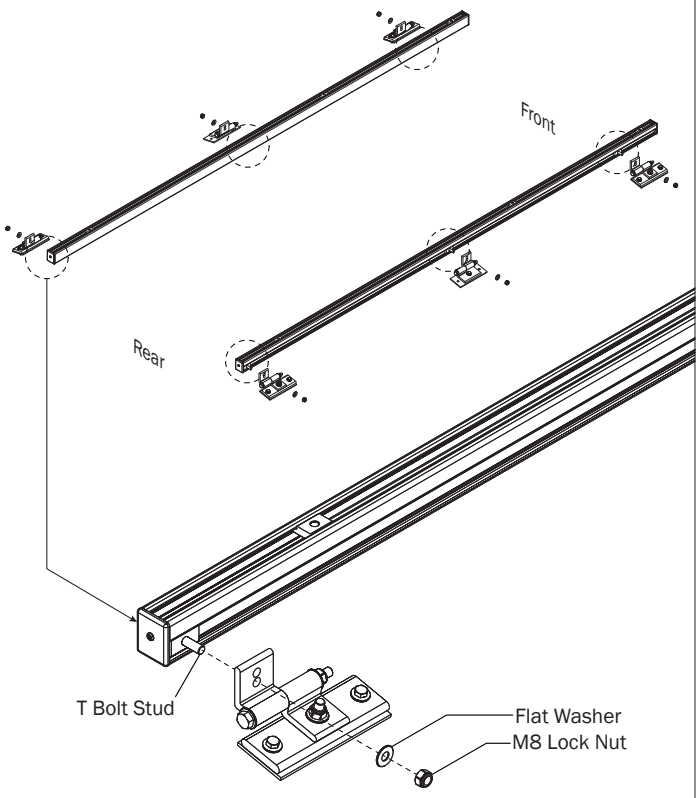




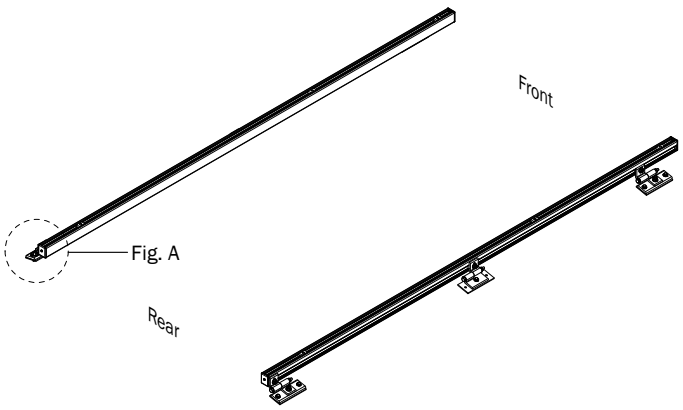
Anti-Seize
Must apply Anti-Seize Compound and torque to specified value.

CHANNELS

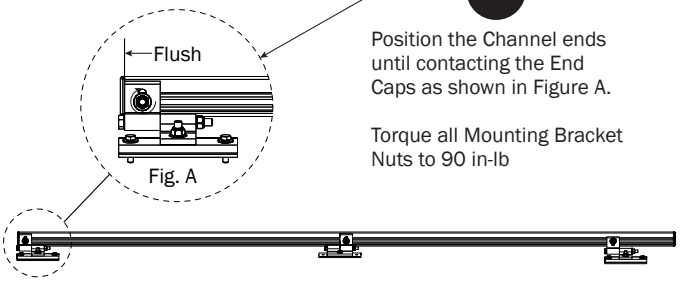
2.1 Apply Anti-Seize to all M8 T Bolt studs, then attach the Channels to the Mounting Brackets using the indicated hardware. Do not tighten until Step 2.2



PRIME DESIGN, A SAFE FLEET BRAND ▪ Address: 1689 Oakdale Avenue #102, West St Paul, Minnesota 55118 ▪ Phone: 651-552-8554 ▪ Toll Free: 1.8.PRIME.RACK ▪ Fax: 651-552-1799 ▪ Email: info@primedesign.net ▪ Website: www.primedesign.net
TM & © 2018 PRIME DESIGN. PROTECTED BY ONE OR MORE OF THE FOLLOWING PATENT NO.'s 6764268, 6971563, 2364879, 8857689, 8511525, 8991889, 2271515, 2364897, 9506292, 9481313, 9481314, 9796340, 6202807, 6427889, 9415726 AND OTHER PATENTS PENDING



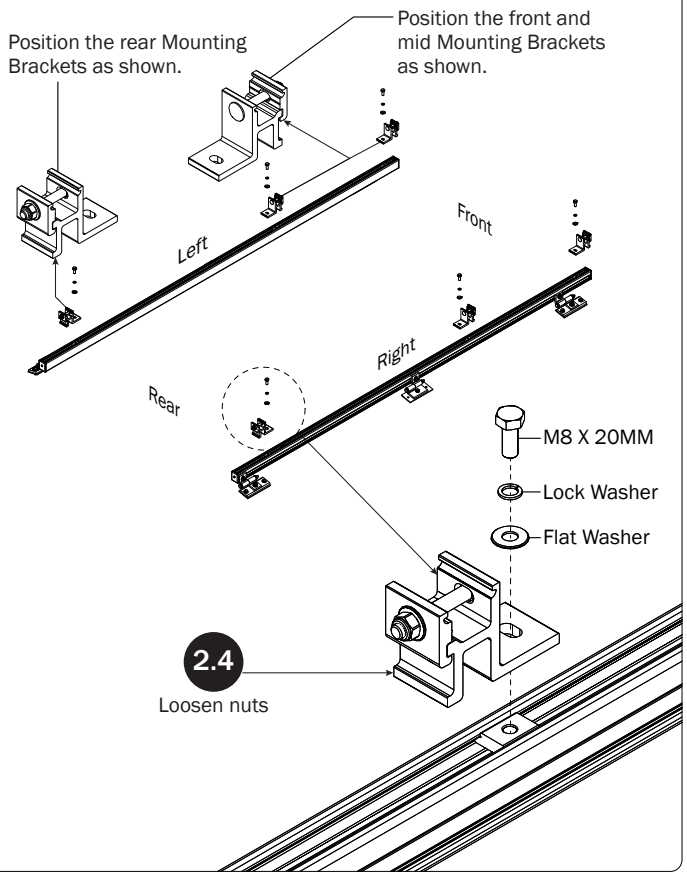
2.2



Position the Channel ends until contacting the End Caps as shown in Figure A.

Torque all Mounting Bracket Nuts to 90 in-lb

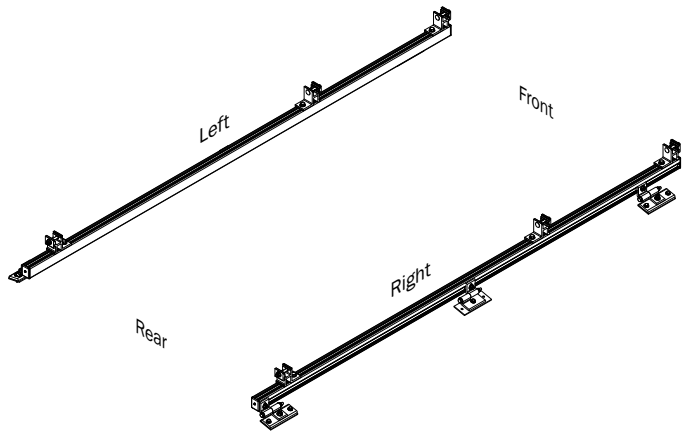
2.3 Attach Mounting Brackets to the Aluminum Strip Nuts located in the Channels

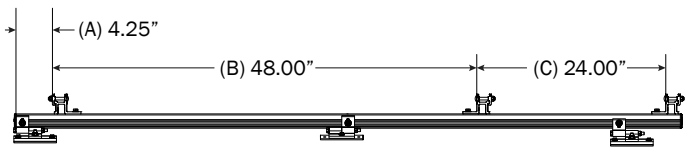


2.4

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.

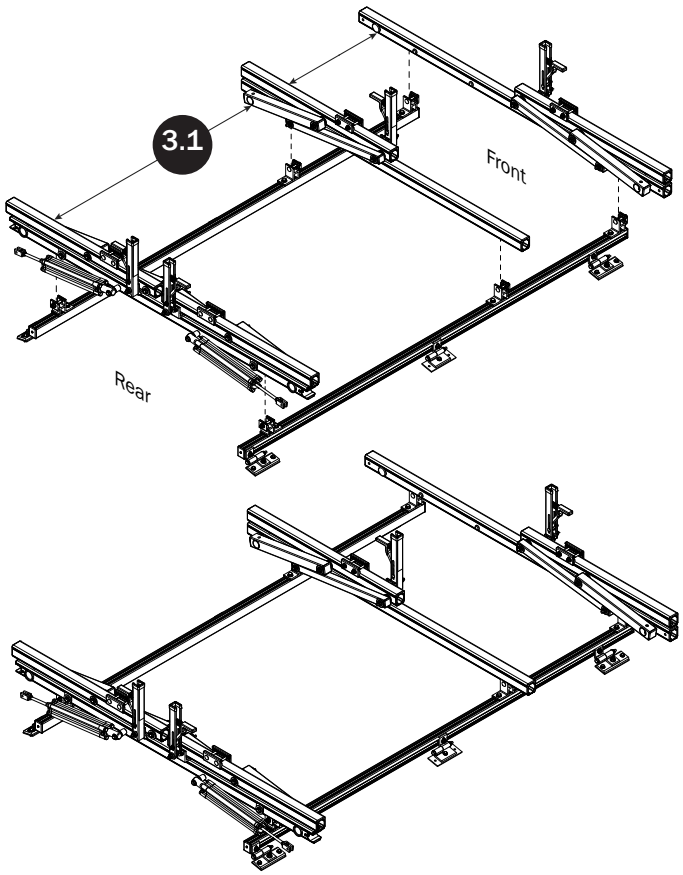




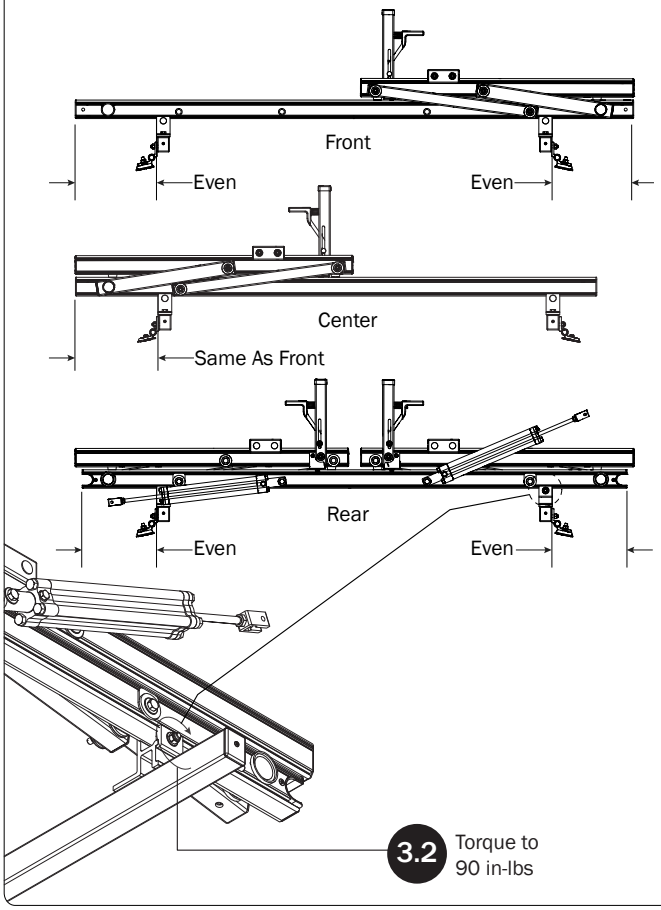
TM & © 2018 PRIME DESIGN. PROTECTED BY ONE OR MORE OF THE FOLLOWING PATENT NO.'s 6764268, 6971563, 2364879, 8857689, 8511525, 8991889, 2271515, 2364897, 9506292, 9481313, 9481314, 9796340, 6202807, 6427889, 9415726 AND OTHER PATENTS PENDING

PRIME DESIGN™ A Safe Fleet Brand

CROSSBARS

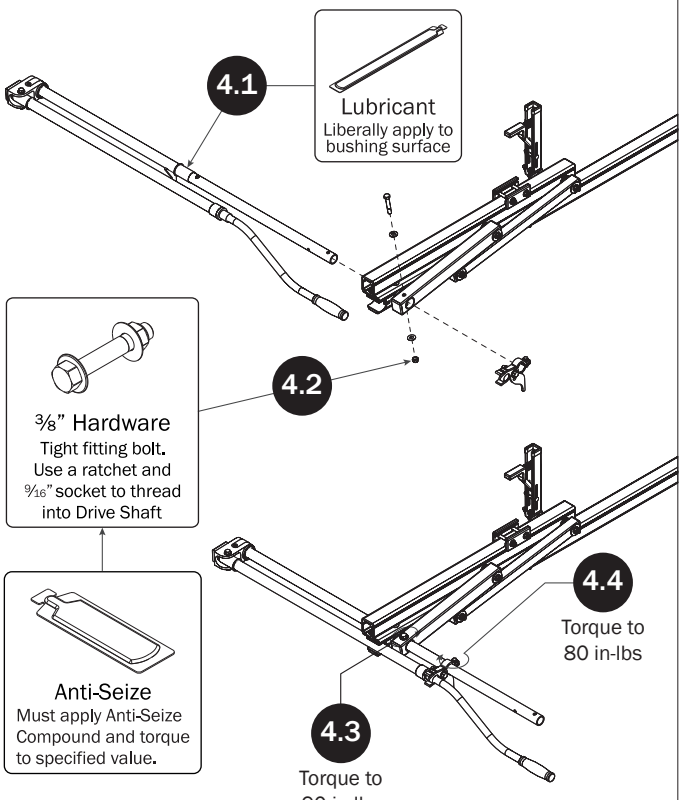


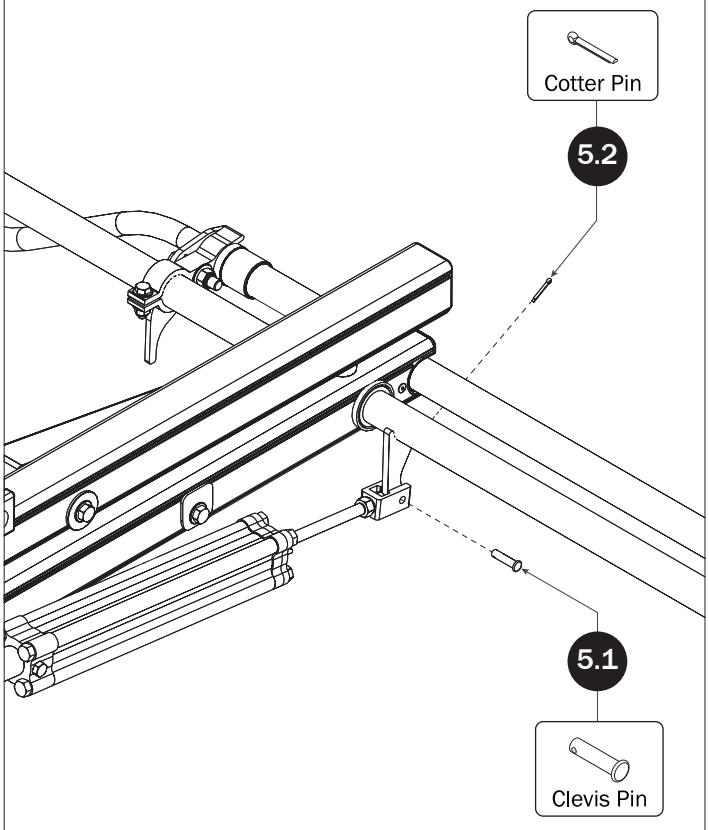
CROSSBAR ADJUSTMENT



REAR DRIVE SHAFT

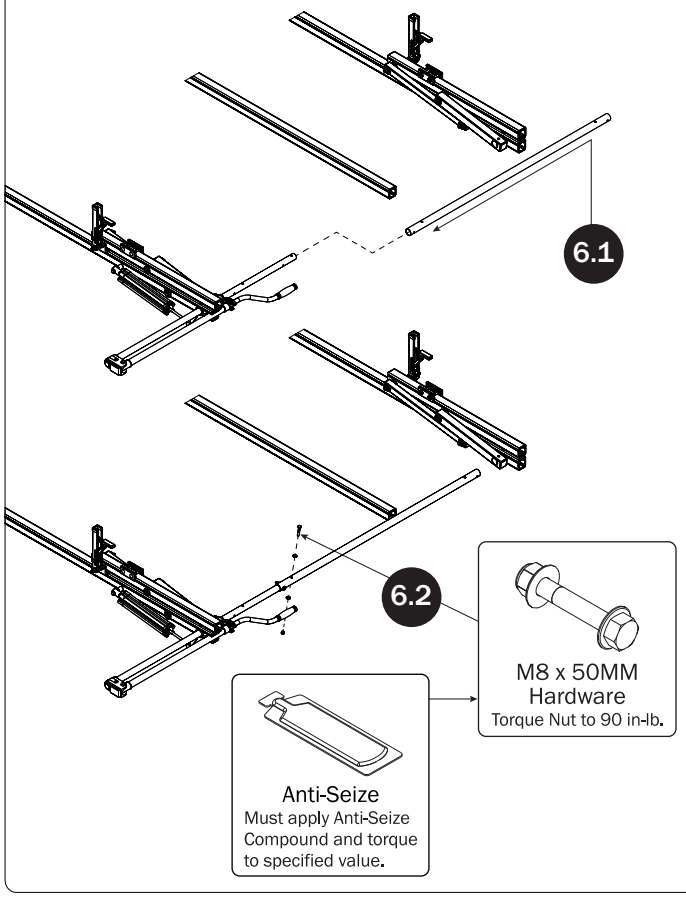
NOTE: For instructional clarity, the FBM Mounting System will not be shown for the remainder of this Assembly Manual.



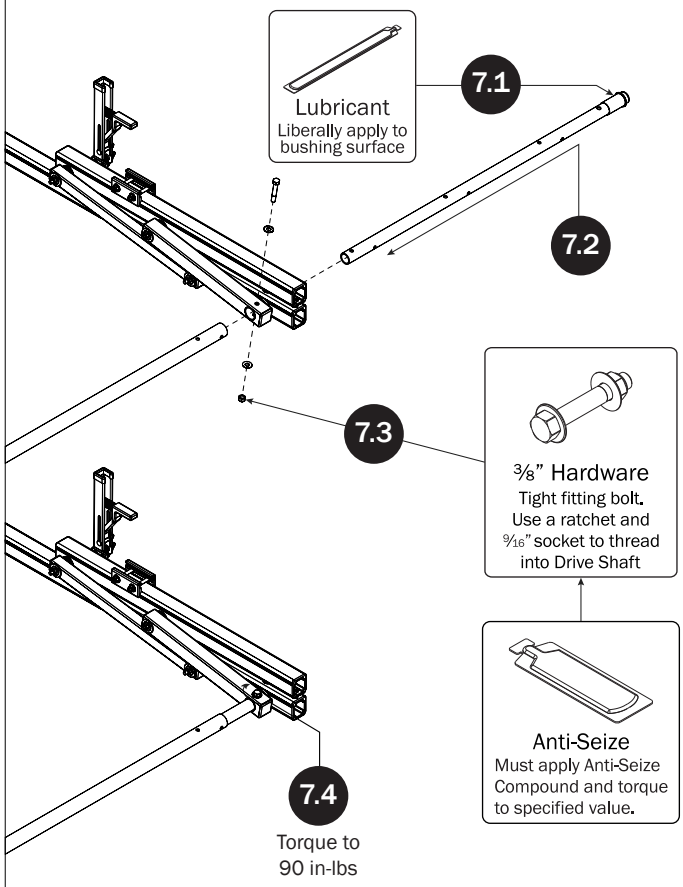


PRIME DESIGN, A SAFE FLEET BRAND ▪ Address: 1689 Oakdale Avenue #102, West St Paul, Minnesota 55118 ▪ Phone: 651-552-8554 ▪ Toll Free: 1.8.PRIME.RACK ▪ Fax: 651-552-1799 ▪ Email: info@primedesign.net ▪ Website: www.primedesign.net
TM & © 2018 PRIME DESIGN. PROTECTED BY ONE OR MORE OF THE FOLLOWING PATENT NO.'s 6764268, 6971563, 2364879, 8857689, 8511525, 8991889, 2271515, 2364897, 9506292, 9481313, 9481314, 9796340, 6202807, 6427889, 9415726 AND OTHER PATENTS PENDING

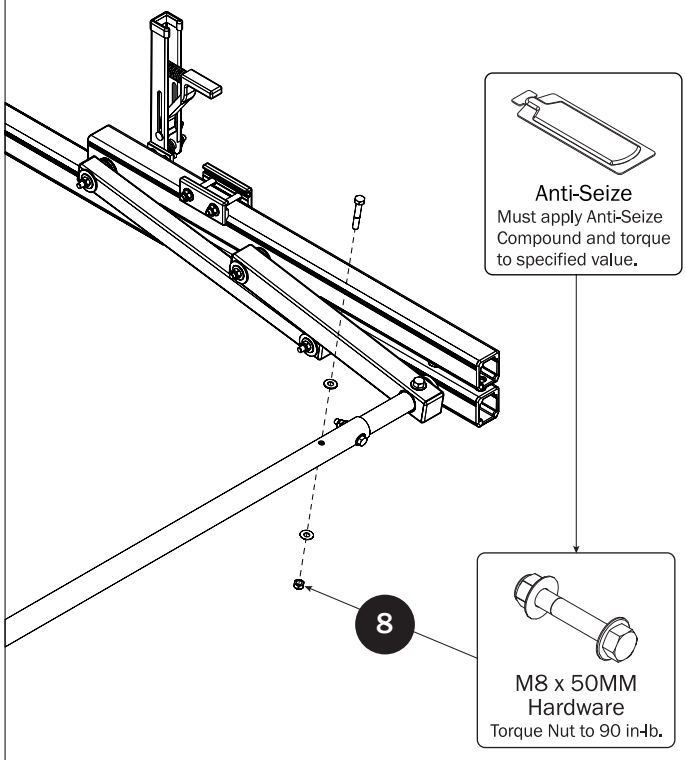
CONNECTING BAR



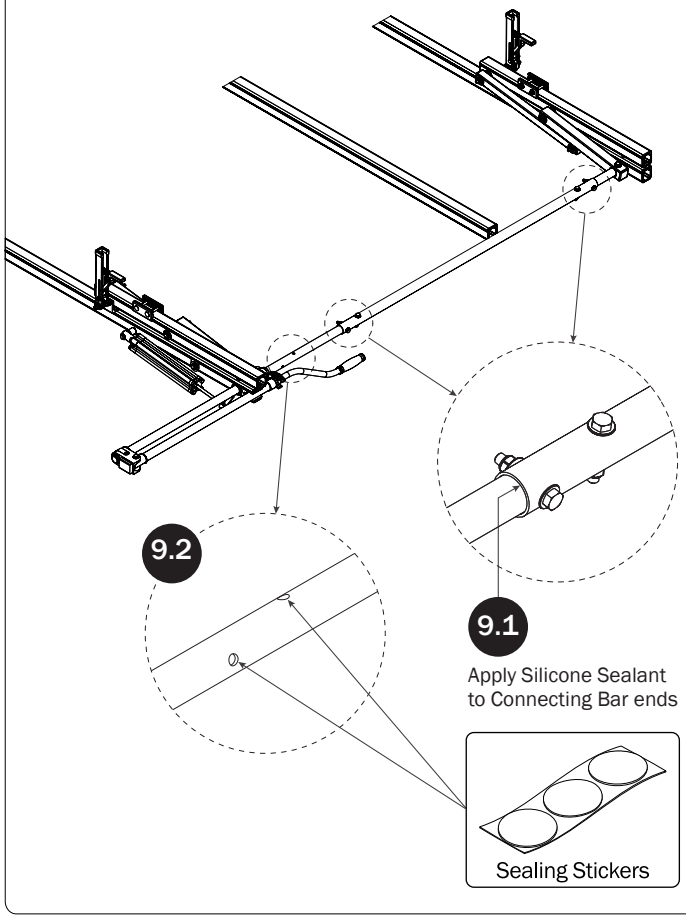
FRONT DRIVE SHAFT



CONNECTING BAR FASTENERS



DRIVE SHAFT SEALING



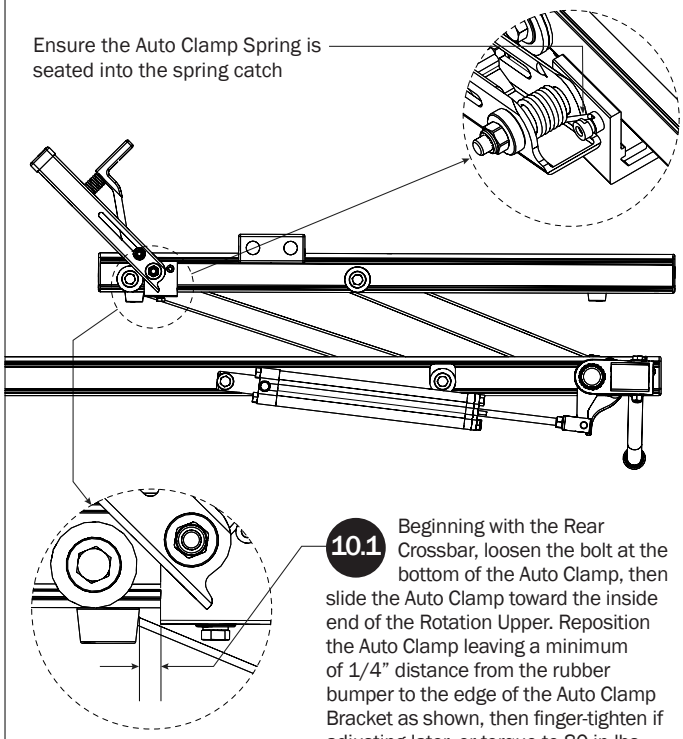
PRIME DESIGN™
A Safe Fleet Brand

PRIME DESIGN, A SAFE FLEET BRAND • Address: 1689 Oakdale Avenue #102, West St Paul, Minnesota 55118 • Phone: 651-552-8554 • Toll Free: 1.8.PRIME.RACK • Fax: 651-552-1799 • Email: info@primedesign.net • Website: www.primedesign.net
TM & © 2018 PRIME DESIGN. PROTECTED BY ONE OR MORE OF THE FOLLOWING PATENT NO.'s 6764268, 6971563, 2364879, 8857689, 8511525, 8991889, 2271515, 2364897, 9506292, 9481313, 9481314, 9796340, 6202807, 6427889, 9415726 AND OTHER PATENTS PENDING

L POSTS

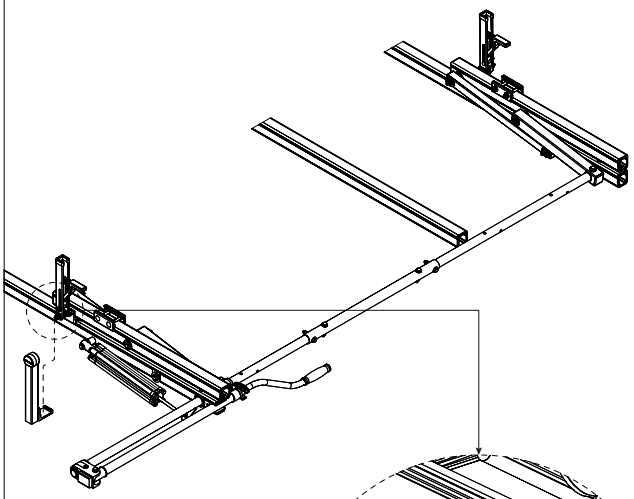
SEE QUICK START GUIDE FOR ADJUSTMENTS

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.

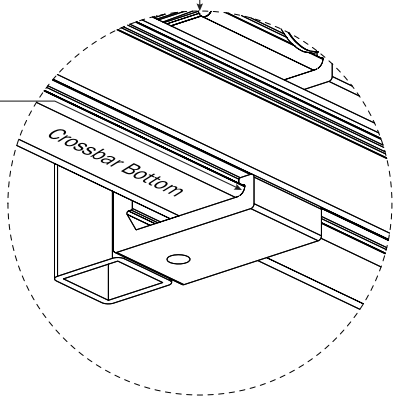


10.1 Beginning with the Rear Crossbar, loosen the bolt at the bottom of the Auto Clamp, then slide the Auto Clamp toward the inside end of the Rotation Upper. Reposition the Auto Clamp leaving a minimum of 1/4" distance from the rubber bumper to the edge of the Auto Clamp Bracket as shown, then finger-tighten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

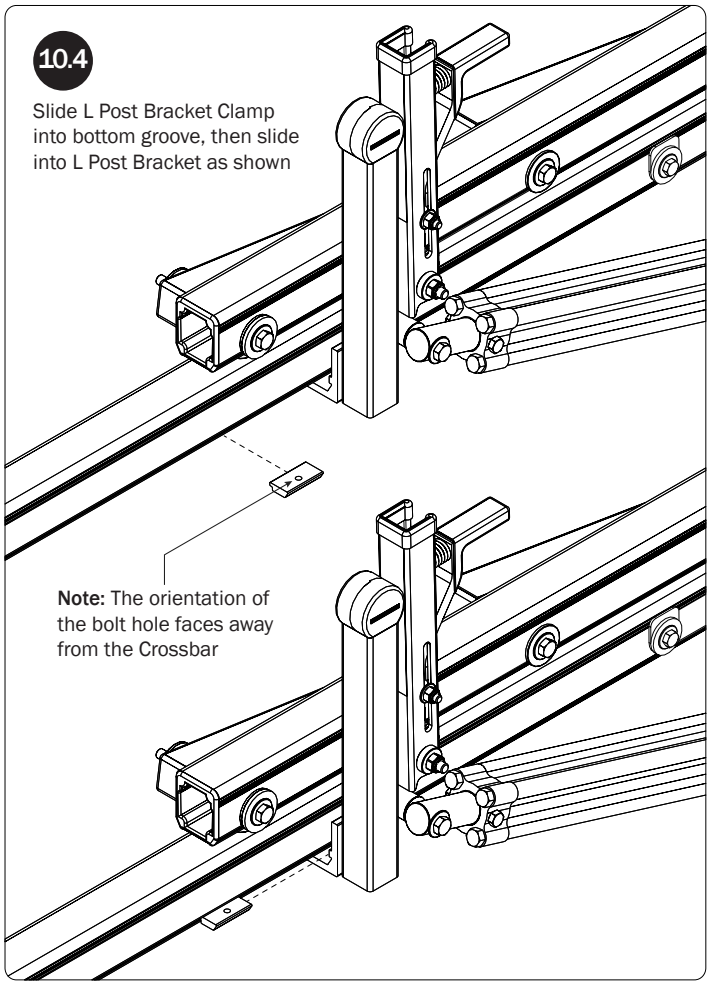
10.2 Prepare the L Post by removing the hex head bolt, lock washer, flat washer, and Bracket Clamp. Retain for installation Steps 10.4—10.8.



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

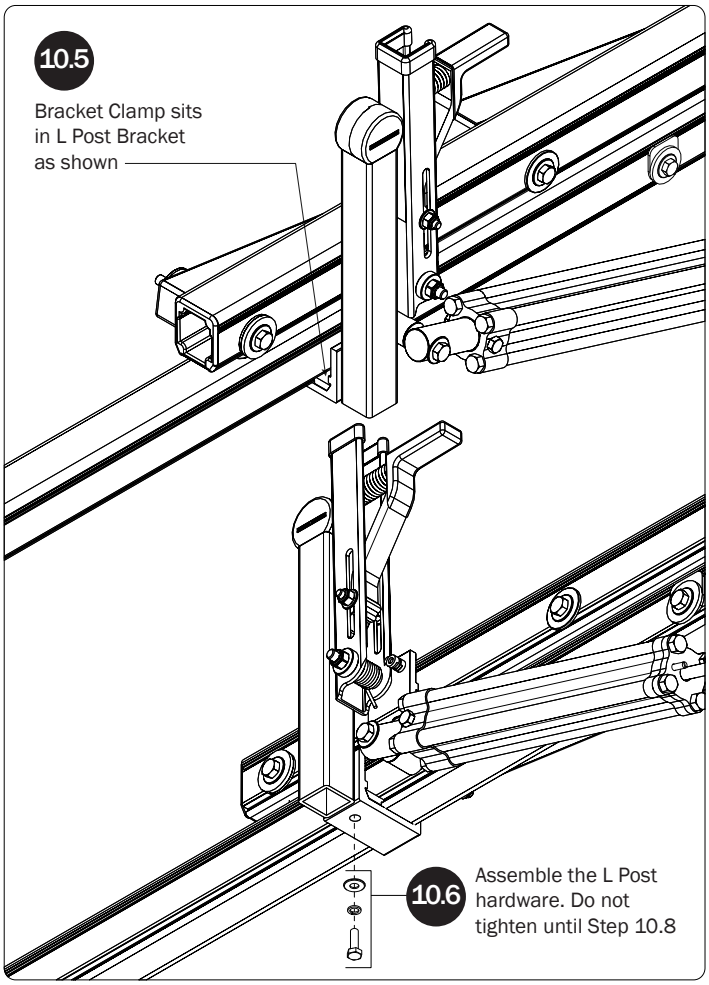


10.4 Slide L Post Bracket Clamp into bottom groove, then slide into L Post Bracket as shown



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

10.5 Bracket Clamp sits in L Post Bracket as shown



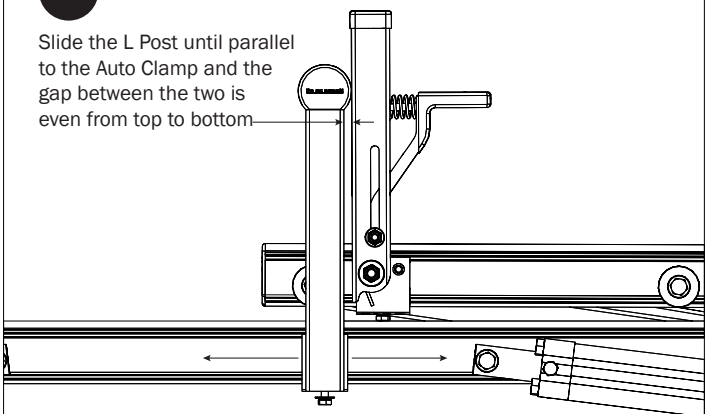
10.6 Assemble the L Post hardware. Do not tighten until Step 10.8

PRIME DESIGN, A SAFE FLEET BRAND ▪ Address: 1689 Oakdale Avenue #102, West St Paul, Minnesota 55118 ▪ Phone: 651-552-8554 ▪ Toll Free: 1.8.PRIME.RACK ▪ Fax: 651-552-1799 ▪ Email: info@primedesign.net ▪ Website: www.primedesign.net

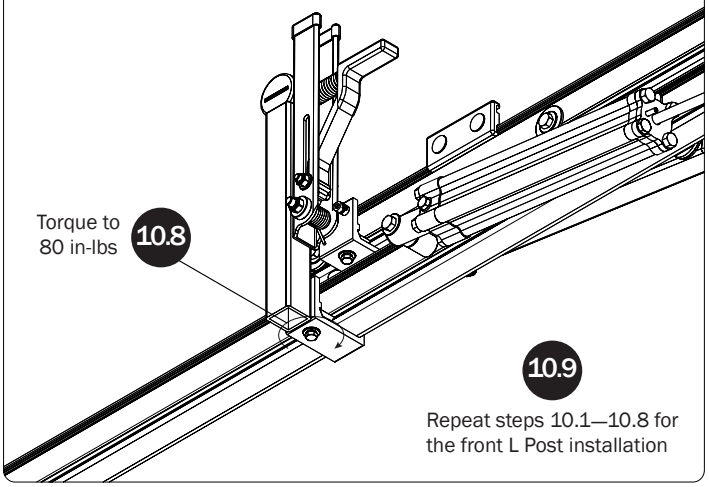
TM & © 2018 PRIME DESIGN. PROTECTED BY ONE OR MORE OF THE FOLLOWING PATENT NO.'s 6764268, 6971563, 2364879, 8857689, 8511525, 8991889, 2271515, 2364897, 9506292, 9481313, 9481314, 9796340, 6202807, 6427889, 9415726 AND OTHER PATENTS PENDING

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**



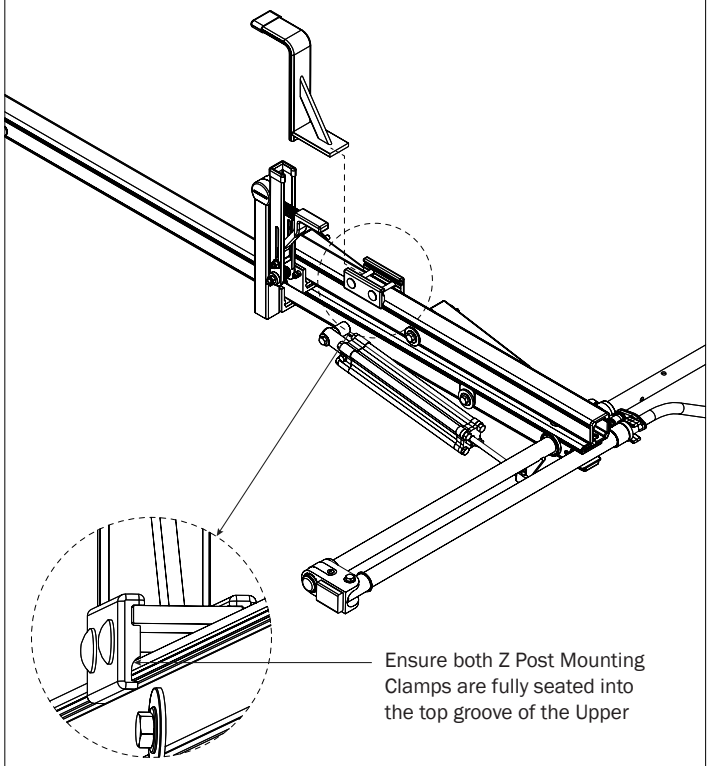
10.9

Repeat steps 10.1—10.8 for the front L Post installation

Z POSTS

SEE QUICK START GUIDE FOR ADJUSTMENTS

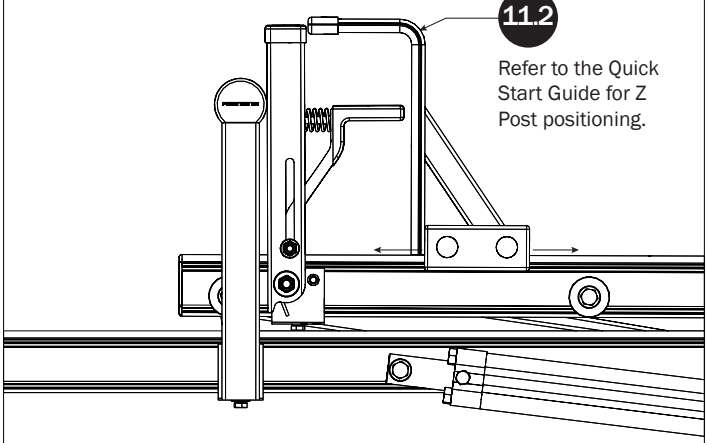
11.1 Slide the Z Post into the Mounting Clamp Assembly



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

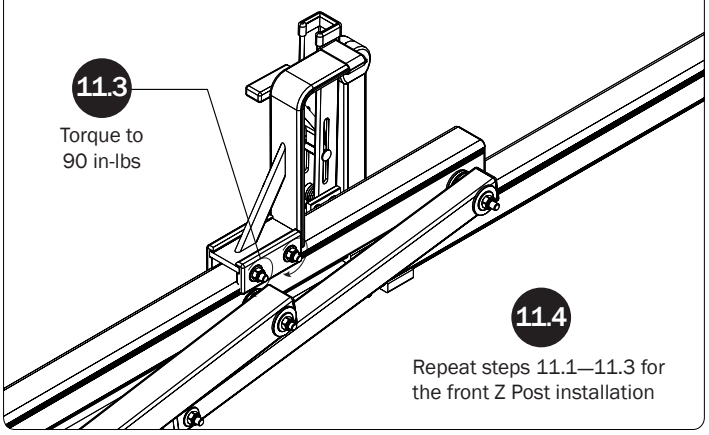
11.2

Refer to the Quick Start Guide for Z Post positioning.



11.3

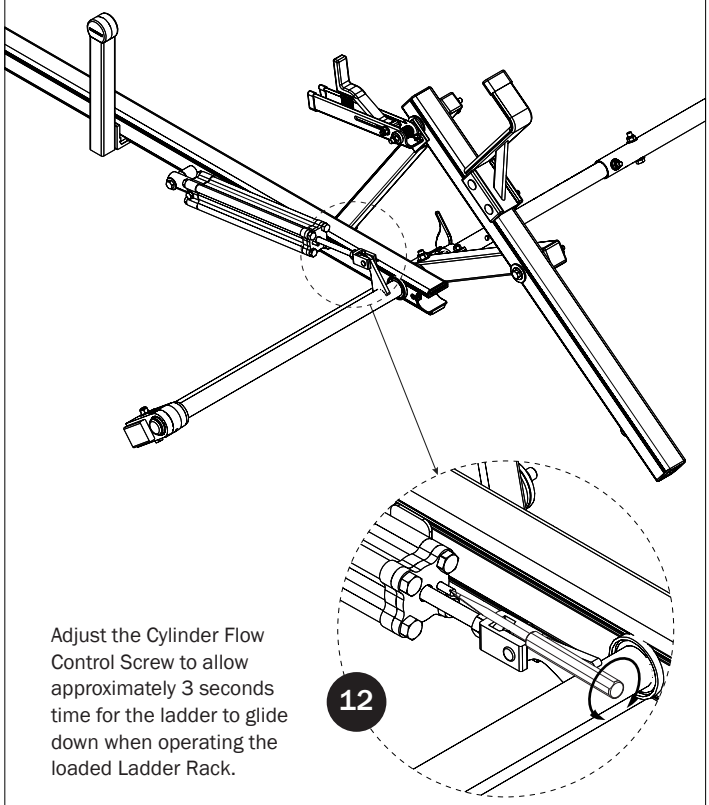
Torque to 90 in-lbs



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.

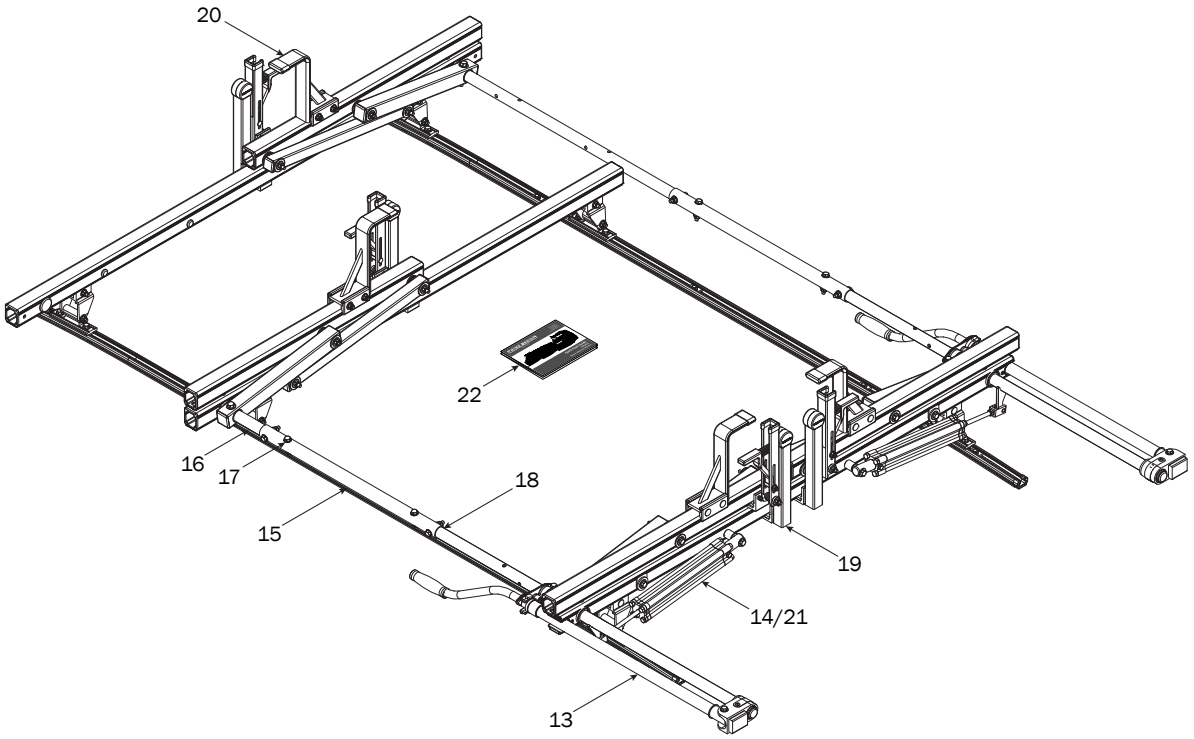
12

PRIME DESIGN™ A Safe Fleet Brand

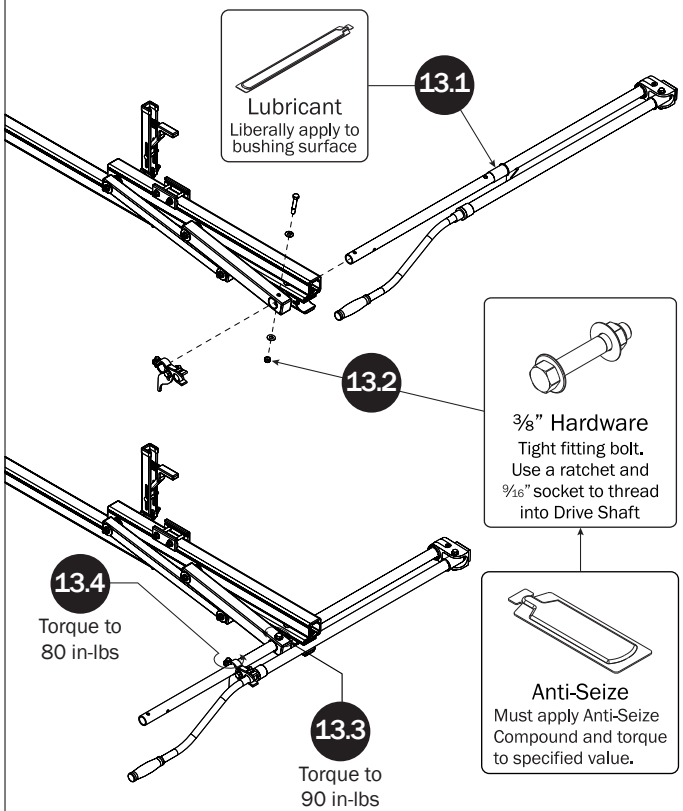
PRIME DESIGN, A SAFE FLEET BRAND • Address: 1689 Oakdale Avenue #102, West St Paul, Minnesota 55118 • Phone: 651-552-8554 • Toll Free: 1.8.PRIME.RACK • Fax: 651-552-1799 • Email: info@primedesign.net • Website: www.primedesign.net

TM & © 2018 PRIME DESIGN. PROTECTED BY ONE OR MORE OF THE FOLLOWING PATENT NO.'s 6764268, 6971563, 2364879, 8857689, 8511525, 8991889, 2271515, 2364897, 9506292, 9481313, 9481314, 9796340, 6202807, 6427889, 9415726 AND OTHER PATENTS PENDING

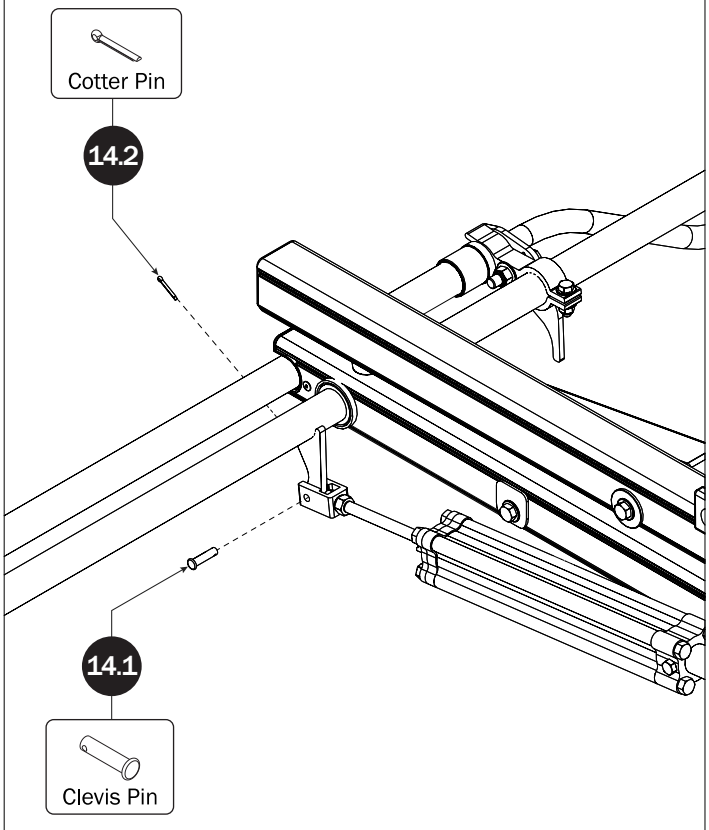
LEFT SIDE ASSEMBLY SEQUENCE



REAR DRIVE SHAFT

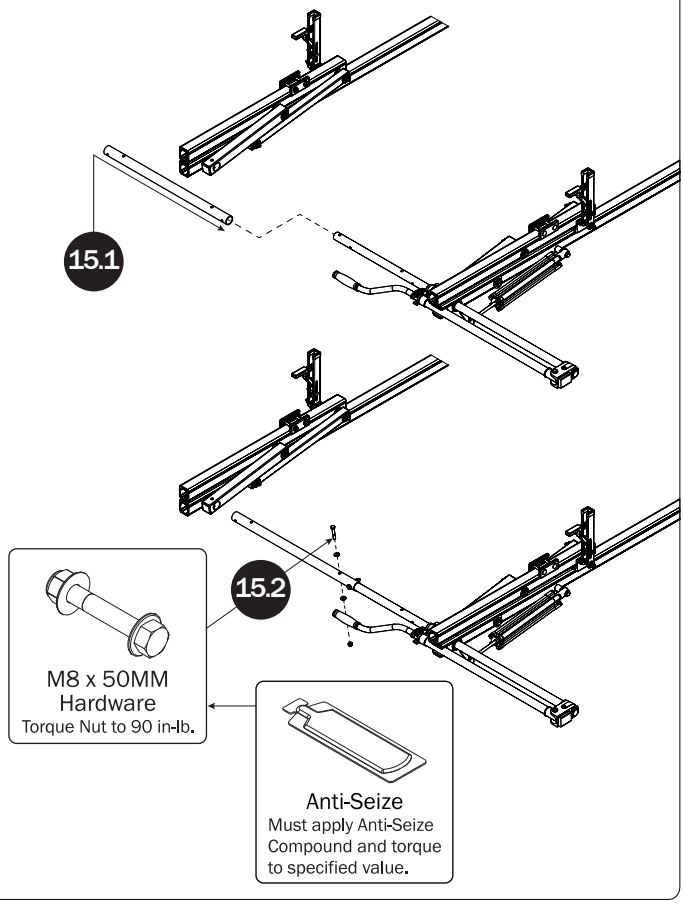


CYLINDER HARDWARE

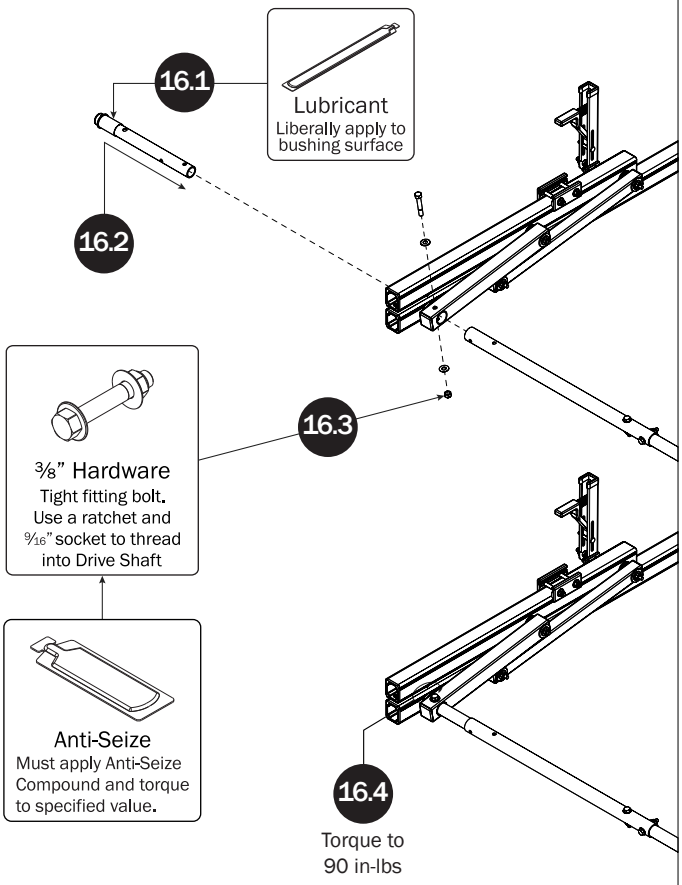


TM & © 2018 PRIME DESIGN. PROTECTED BY ONE OR MORE OF THE FOLLOWING PATENT NO.'s 6764268, 6971563, 2364879, 8857689, 8511525, 8991889, 2271515, 2364897, 9506292, 9481313, 9481314, 9796340, 6202807, 6427889, 9415726 AND OTHER PATENTS PENDING

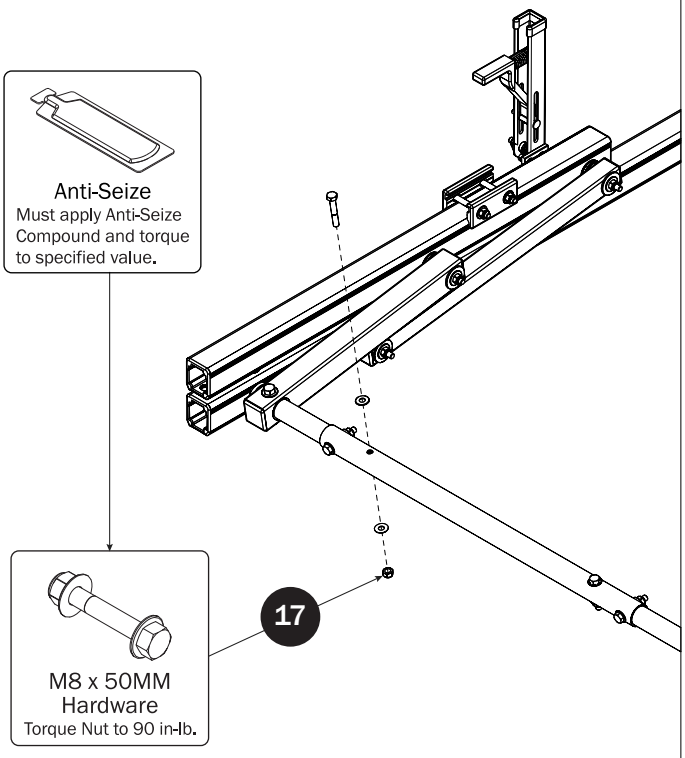
CONNECTING BAR



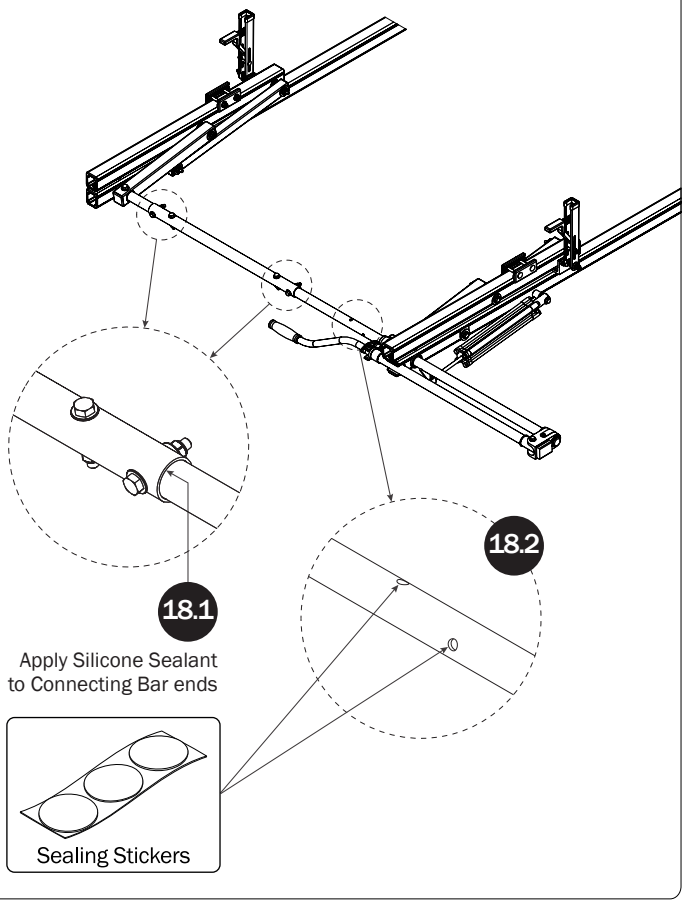
FRONT DRIVE SHAFT



CONNECTING BAR FASTENERS



DRIVE SHAFT SEALING

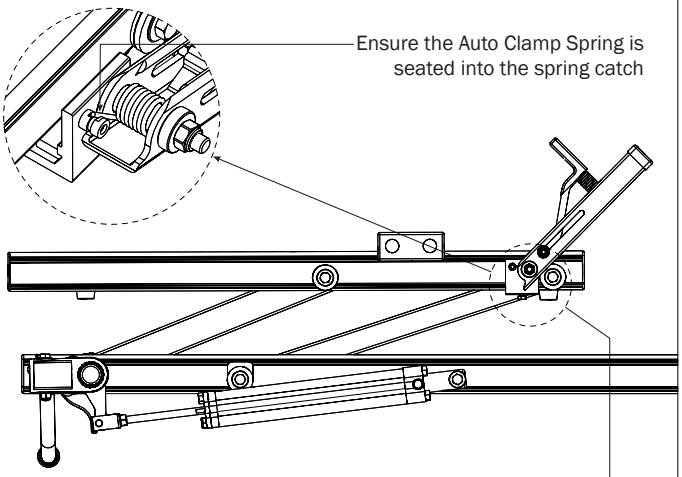


TM & © 2018 PRIME DESIGN. PROTECTED BY ONE OR MORE OF THE FOLLOWING PATENT NO.'s 6764268, 6971563, 2364879, 8857689, 8511525, 8991889, 2271515, 2364897, 9506292, 9481313, 9481314, 9796340, 6202807, 6427889, 9415726 AND OTHER PATENTS PENDING

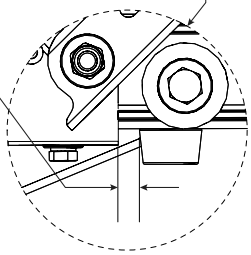
L POSTS

SEE QUICK START GUIDE FOR ADJUSTMENTS

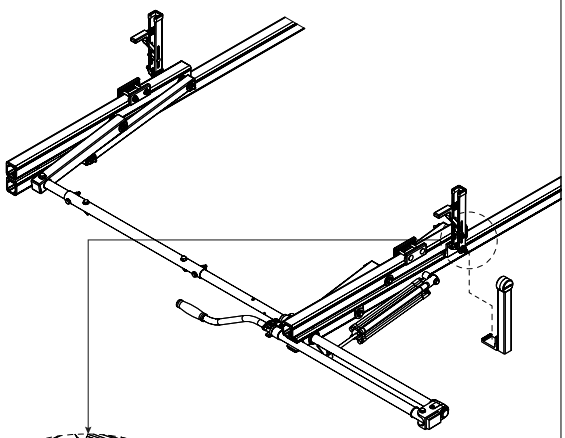
NOTE: The Auto Clamps may come preset from the factory for packaging purposes only. To assemble the L Posts to the Crossbars, the Auto Clamps may need to be repositioned.

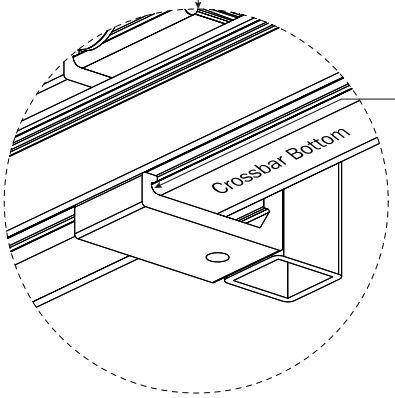


19.1 Beginning with the Rear Crossbar, loosen the bolt at the bottom of the Auto Clamp, then slide the Auto Clamp toward the inside end of the Rotation Upper. Reposition the Auto Clamp leaving a minimum of 1/4" distance from the rubber bumper to the edge of the Auto Clamp Bracket as shown, then finger-tighten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

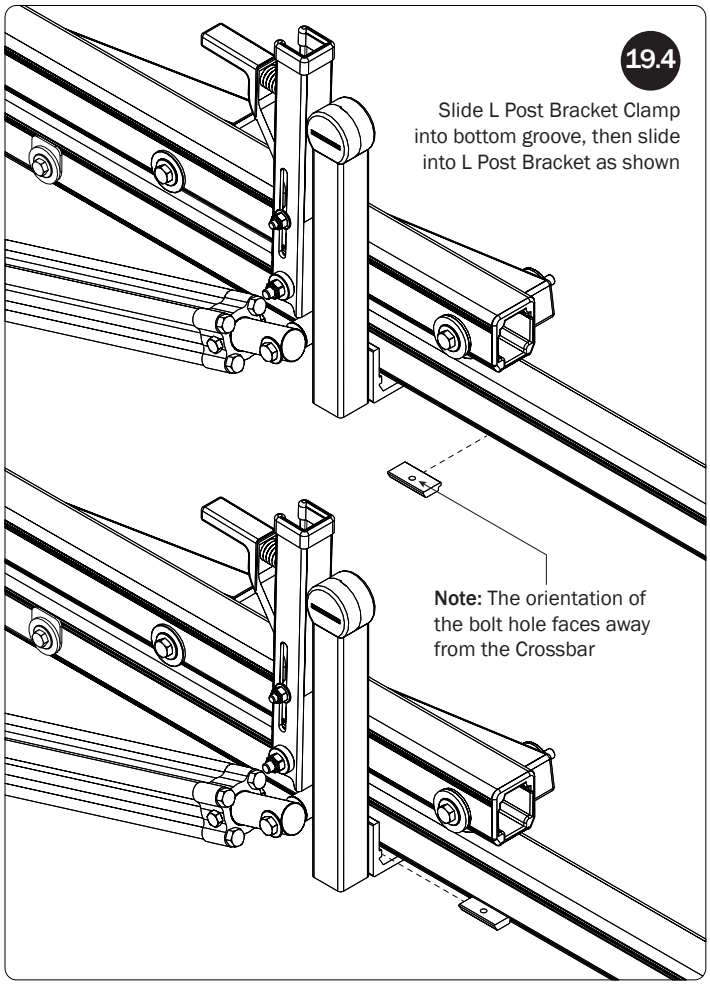


19.2 Prepare the L Post by removing the hex head bolt, lock washer, flat washer, and Bracket Clamp. Retain for installation Steps 19.4—19.8.



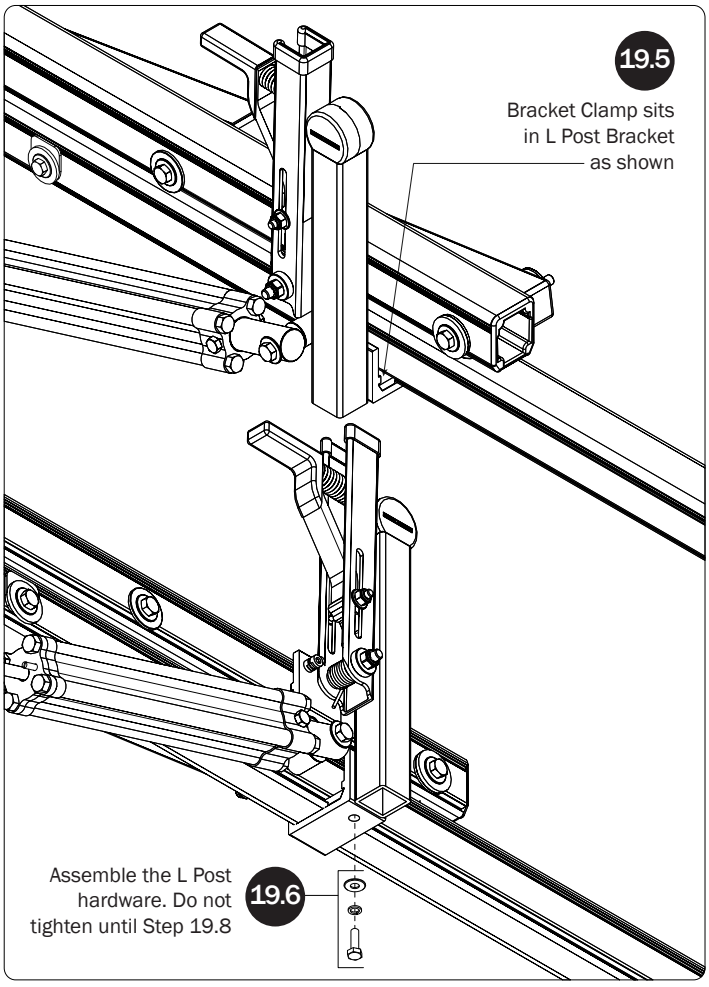


19.3 Place the L Post into the bottom groove of the Rear Crossbar, ensuring the L Post seats into the Crossbar's inside bottom groove as seen from the front of the Rear Crossbar



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

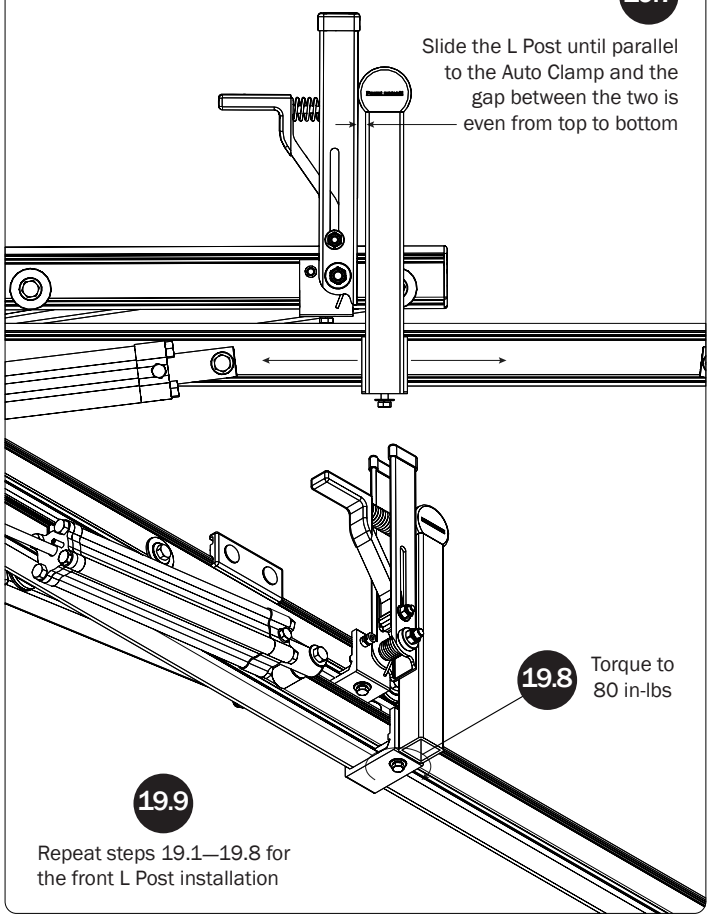
Note: The orientation of the bolt hole faces away from the Crossbar



19.5 Bracket Clamp sits in L Post Bracket as shown

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

PRIME DESIGN, A SAFE FLEET BRAND ▪ Address: 1689 Oakdale Avenue #102, West St Paul, Minnesota 55118 ▪ Phone: 651-552-8554 ▪ Toll Free: 1.8.PRIME.RACK ▪ Fax: 651-552-1799 ▪ Email: info@primedesign.net ▪ Website: www.primedesign.net
TM & © 2018 PRIME DESIGN. PROTECTED BY ONE OR MORE OF THE FOLLOWING PATENT NO.'s 6764268, 6971563, 2364879, 8857689, 8511525, 8991889, 2271515, 2364897, 9506292, 9481313, 9481314, 9796340, 6202807, 6427889, 9415726 AND OTHER PATENTS PENDING



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

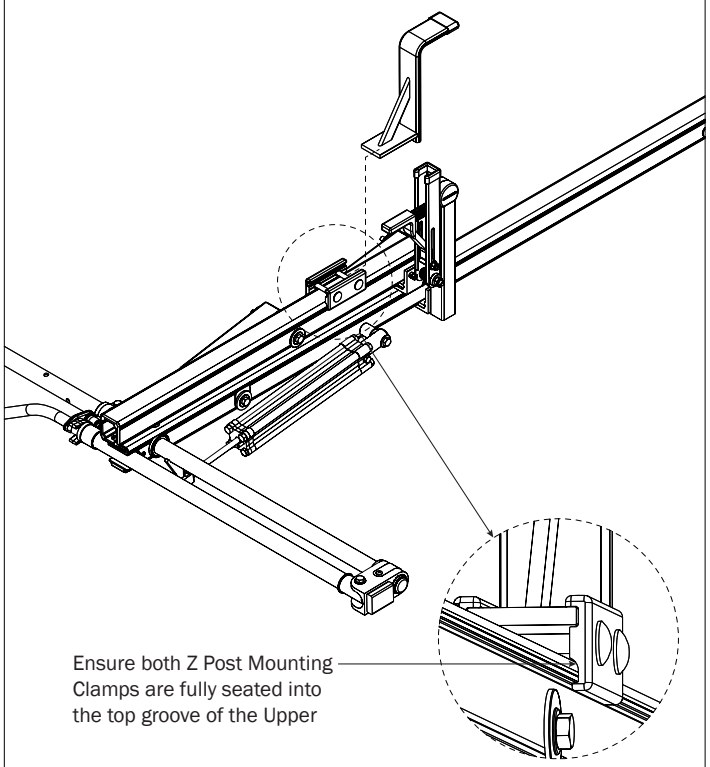
19.8 Torque to 80 in-lbs

19.9 Repeat steps 19.1—19.8 for the front L Post installation

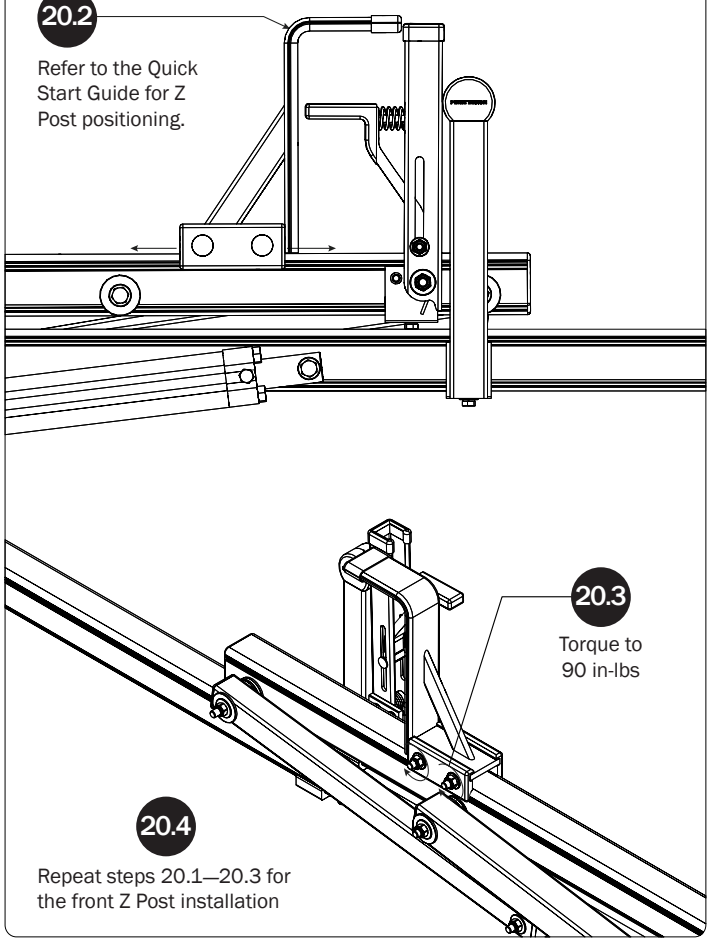
Z POSTS

SEE QUICK START GUIDE FOR ADJUSTMENTS

20.1 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

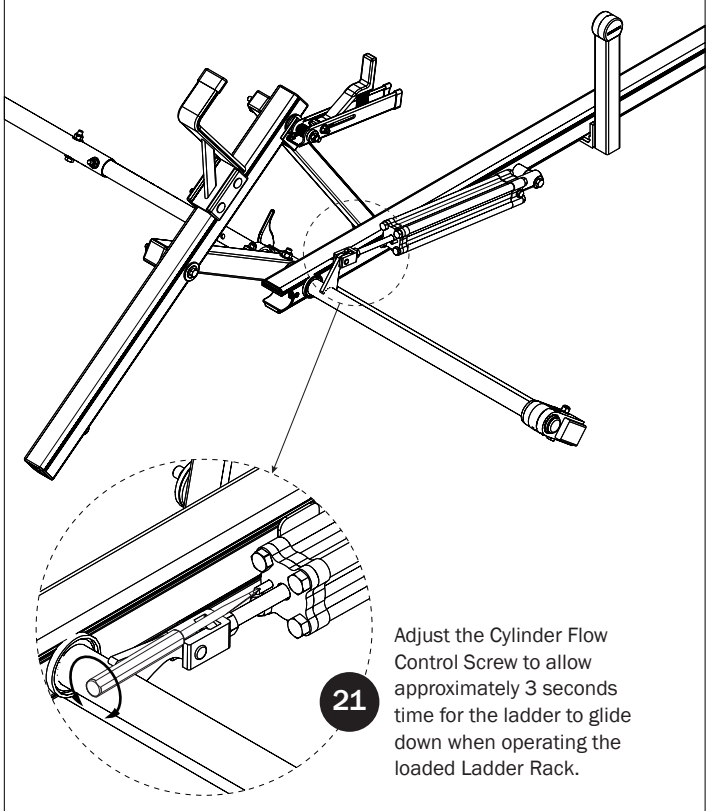


20.2 Refer to the Quick Start Guide for Z Post positioning.

20.3 Torque to 90 in-lbs

20.4 Repeat steps 20.1—20.3 for the front Z Post installation

CYLINDER ADJUSTMENT



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

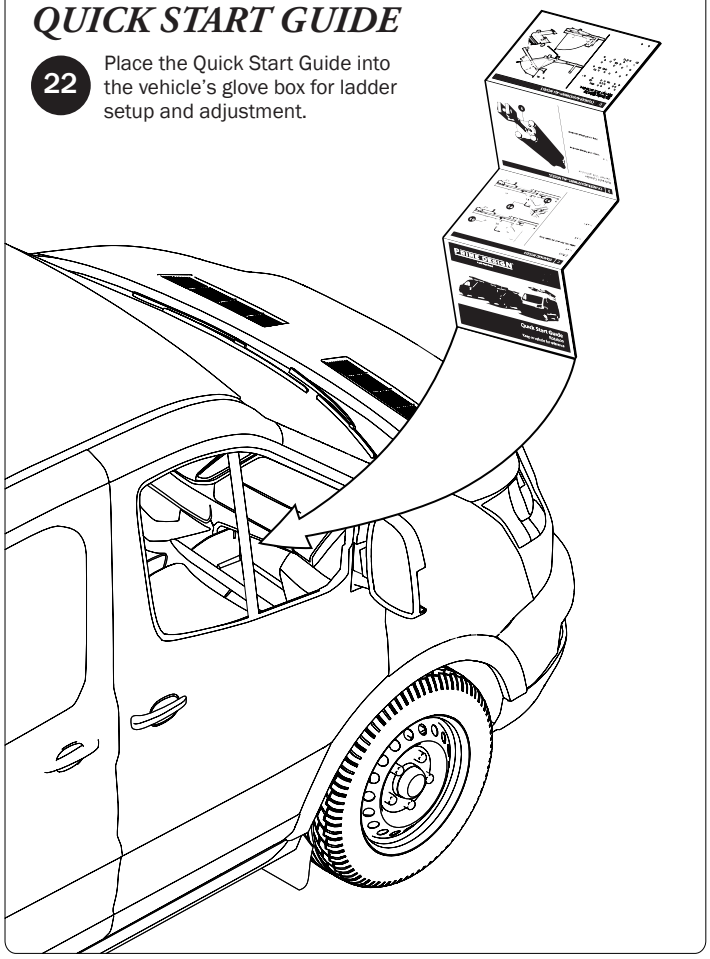
PRIME DESIGN™ A Safe Fleet Brand

PRIME DESIGN, A SAFE FLEET BRAND • Address: 1689 Oakdale Avenue #102, West St Paul, Minnesota 55118 • Phone: 651-552-8554 • Toll Free: 1.8.PRIME.RACK • Fax: 651-552-1799 • Email: info@primedesign.net • Website: www.primedesign.net

TM & © 2018 PRIME DESIGN. PROTECTED BY ONE OR MORE OF THE FOLLOWING PATENT NO.'s 6764268, 6971563, 2364879, 8857689, 8511525, 8991889, 2271515, 2364897, 9506292, 9481313, 9481314, 9796340, 6202807, 6427889, 9415726 AND OTHER PATENTS PENDING

QUICK START GUIDE

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



PRIME DESIGN™
A Safe Fleet Brand

PRIME DESIGN, A SAFE FLEET BRAND ▪ Address: 1689 Oakdale Avenue #102, West St Paul, Minnesota 55118 ▪ Phone: 651-552-8554 ▪ Toll Free: 1.8.PRIME.RACK ▪ Fax: 651-552-1799 ▪ Email: info@primedesign.net ▪ Website: www.primedesign.net
TM & © 2018 PRIME DESIGN. PROTECTED BY ONE OR MORE OF THE FOLLOWING PATENT NO.'s 6764268, 6971563, 2364879, 8857689, 8511525, 8991889, 2271515, 2364897, 9506292, 9481313, 9481314, 9796340, 6202807, 6427889, 9415726 AND OTHER PATENTS PENDING

Page Intentionally Left Blank