



ROOF RACKS BY

SAMMITR Australia
'ErgoRack' LADDER ROTATOR (RHL)
ASSEMBLY & INSTALLATION INSTRUCTION
Part # 800223
For use with SMM V2/V4 Canopies

The installation kit contains sufficient components for fitment. Do not substitute any components. A high degree of technical competence is necessary to correctly install this product. We recommend this ErgoRack be installed by an authorised dealer to ensure the installation complies with the requirements of AS1235-2000 (ISO/PAS 11154 2006). This product is designed and rated for use within the standard specification and operating conditions of the vehicle. Canopy and/or product modification, misuse or abnormal operation can compromise the performance and operation of this product and/or vehicle and is therefore not endorsed. These instructions must be read and clearly understood before commencing installation.

Assembly time - Approximately 0.4 Hours
Installation time - Approximately 0.9 Hours

"The estimated fitting time is based on an experienced fitter conversant with the fitment procedure"



WARNINGS

- **Strict compliance with fitting instructions is essential for this product to meet its rated capacity.**
- **Do not modify the ErgoRack in any way other than specified.**
- **Modifications (other than specified) to the ErgoRack or its fixings or use on any other vehicle for which it is not designed may void the load rating and warranty.**
- **Where high tensile threaded fasteners are used, the ErgoRack must be installed using the size and grade fasteners specified by Milford Industries.**
- **Always use the supplied Anti Seize compound on stainless steel threaded components to prevent threads binding.**

TOOLS REQUIRED

- Socket Wrench
- Sockets - 11mm/13mm/15mm
- Ring Spanners - 11mm/13mm/15mm
- Phillips Screwdriver #1
- Small flat blade screwdriver
- Tape Measure
- Roof Protection Sheet
- Marker Pen
- Torque Wrench (10/20Nm)
- Long Nose Pliers
- Suitable Work Platforms
- Silicon Sealant
- Hex Drive Bits
- Driver Bit To Wrench Adaptor



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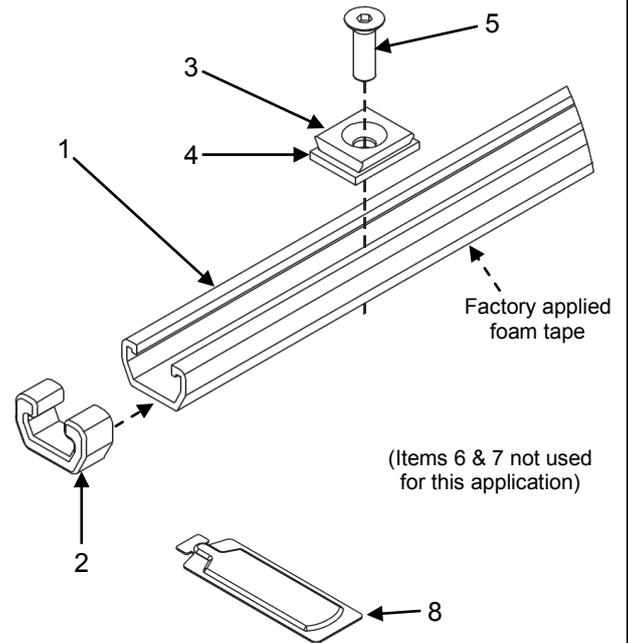


IMPORTANT: The installation kit contains sufficient components to fit the accessory. A high degree of technical competence is necessary to correctly install this product. We recommend this accessory be installed by an authorised dealer to ensure the installation is correct. These instructions must be read and clearly understood before commencing installation. Check contents of kit before commencing fitment and report any discrepancies or damage.

Parts List

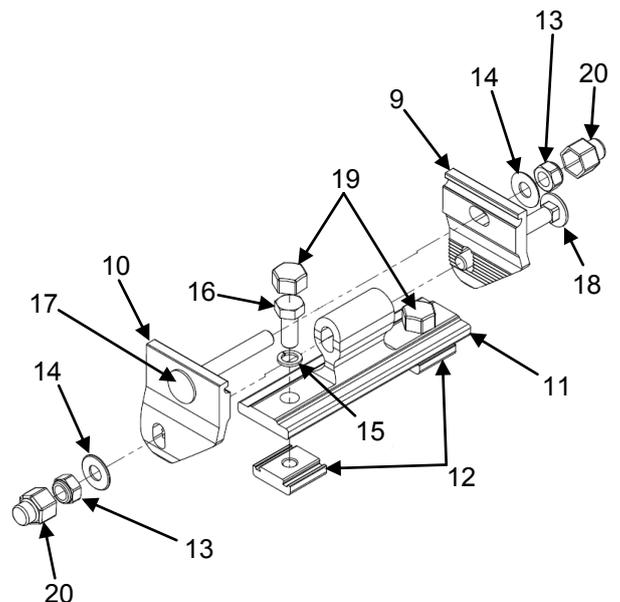
Roof Mounting Channels and Mounting Hardware (AC41)

| Item | Component Name | Part No. | Qty |
|------|--------------------------------|-------------|-----|
| 1 | Mounting Channel (1120mm) | AC41-1 | 2 |
| 2 | Cap - Mounting Channel | CAP-3110 | 4 |
| 3 | Channel Connecting Plate (6mm) | BRT-1119 | 8 |
| 4 | Neoprene Pad | FST-0002 | 12 |
| 5 | CSK Socket Screw - M6 x 30 SS | BLF-1030-M6 | 8 |
| 6 | Channel Connecting Plate (5mm) | BRT-1120 | 4 |
| 7 | CSK Socket Screw - M5 x 30 SS | BLF-1030-M5 | 4 |
| 8 | Anti Seize Compound | ASZ-0101 | 1 |



Cross Bar Mounts (AM02S)

| Item | Component Name | Part No. | Qty |
|------|------------------------------|-------------|-----|
| 9 | Support Post LH | BRT-1163 | 4 |
| 10 | Support Post RH | BRT-1164 | 4 |
| 11 | Channel Foot | BRT-1884 | 4 |
| 12 | Channel Nut (M8) | NBR-1011 | 8 |
| 13 | Hex Nut - Nyloc, M8 SS | NUT-1002-M8 | 8 |
| 14 | Washer - Flat, 8mm SS | WSH-1001-G | 8 |
| 15 | Washer - Spring, 8mm SS | WSH-1002-G | 8 |
| 16 | Screw - Hex Head, M8 x 20 SS | BLT-1020-M8 | 8 |
| 17 | Bolt - Coach, M8 x 60mm SS | BLC-1060-M8 | 4 |
| 18 | Bolt - Coach, M8 x 65mm SS | BLC-1065-M8 | 4 |
| 19 | Hex Screw Caps (Plastic) | CAP-3312-G | 8 |
| 20 | Hex Nut Caps (Plastic) | CAP-3313-G | 8 |



E and OE—Errors and Omissions Excepted



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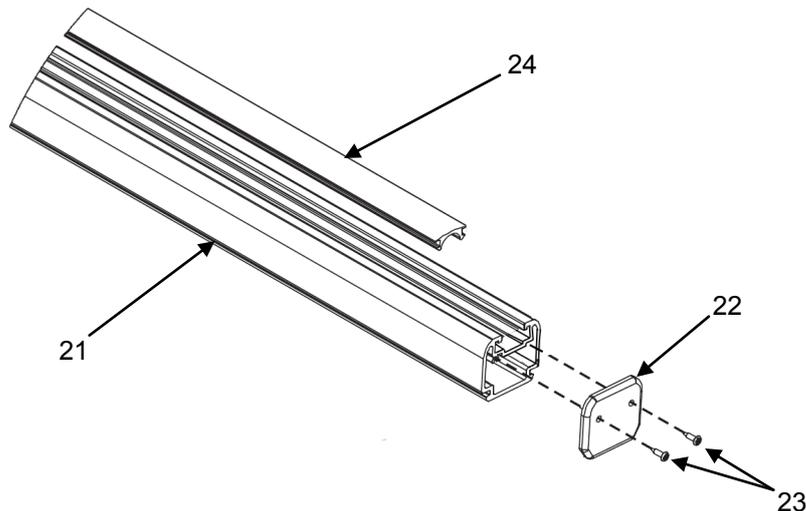
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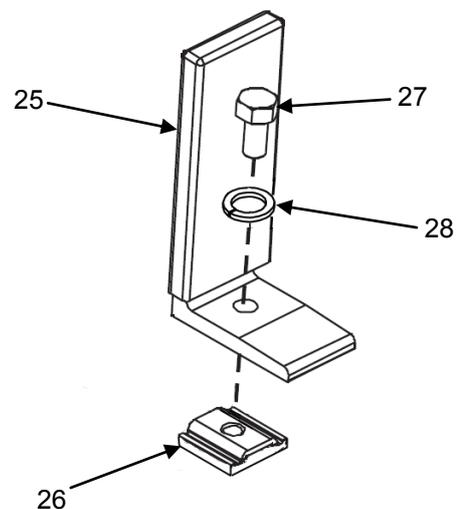
Cross Bars (C64)

| Item | Component Name | Part No. | Qty |
|------|-------------------------------------|--------------|-----|
| 21 | ErgoRack Roof Bar (1422mm) | C64 | 2 |
| 22 | Bar Cap | CAP-8041 | 4 |
| 23 | Screw - Phillips Head, Self Tap. SS | BLP-1075 | 8 |
| 24 | Rubber Strip | Ext-3009-067 | 2 |



Cargo Stops (BRT-8019)

| Item | Component Name | Part No. | Qty |
|------|-------------------------|-------------|-----|
| 25 | Cargo Stop ASM | BRT-7019 | 4 |
| 26 | Channel Nut (M8) | NBR-7011 | 4 |
| 27 | Screw - M8 x 20mm SS | BLT-1020-M8 | 4 |
| 28 | Washer - Spring, 8mm SS | WSH-1002-G | 4 |
| 29 | Washer - Flat, 8mm SS | WSH-1001-G | |



Ladder Rotator ASM (RHL)

| Item | Component Name | Part No. | Qty |
|------|---|----------|-----|
| 30 | See page 4 for breakdown of complete assembly | RHL | 1 |

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ROTATOR PARTS LIST

RHL

ITEM QTY DESCRIPTION

- 1** 1 Front Rotation.....

With Auto Clamp option:
ELR-505-L-B-US3-AC2

 or.....

Without Auto Clamp option
ELR-505-L-B-US3

- 2** 1 Rear Rotation.....

With Auto Clamp option:
ELR-501-L-B-US3-AC2

 or.....

Without Auto Clamp Option
ELR-501-L-B-US3

- 3** 1 x (L.H.)

(Shortened)
ELR-812-50-B-L

- 4** 1 x (4' - 1.2 m)

ELR-120-4 - 626mm

- 5** 1 x (35.75" - 91 cm)

ELR-706-35.75 - Shortened

- 6** 1 x

CYL-801

9 HKT-140 QTY: (1)

| | | |
|--|---|--|
| <input type="checkbox"/> 9-1 Qty: 1 Pc | <input type="checkbox"/> 9-4 Qty: 4 Pcs | <input type="checkbox"/> 9-7 Qty: 1 Pc |
| <input type="checkbox"/> 9-2 Qty: 1 Pc | <input type="checkbox"/> 9-6 Qty: 2 Pcs | <input type="checkbox"/> 9-8 Qty: 1 Pc |

10 HKT-106 QTY: (1)

| | | |
|--|--|---|
| <input type="checkbox"/> 10-1 Qty: 2 Pcs | <input type="checkbox"/> 10-2 Qty: 2 Pcs | <input type="checkbox"/> 10-3 Qty: 16 Pcs |
|--|--|---|

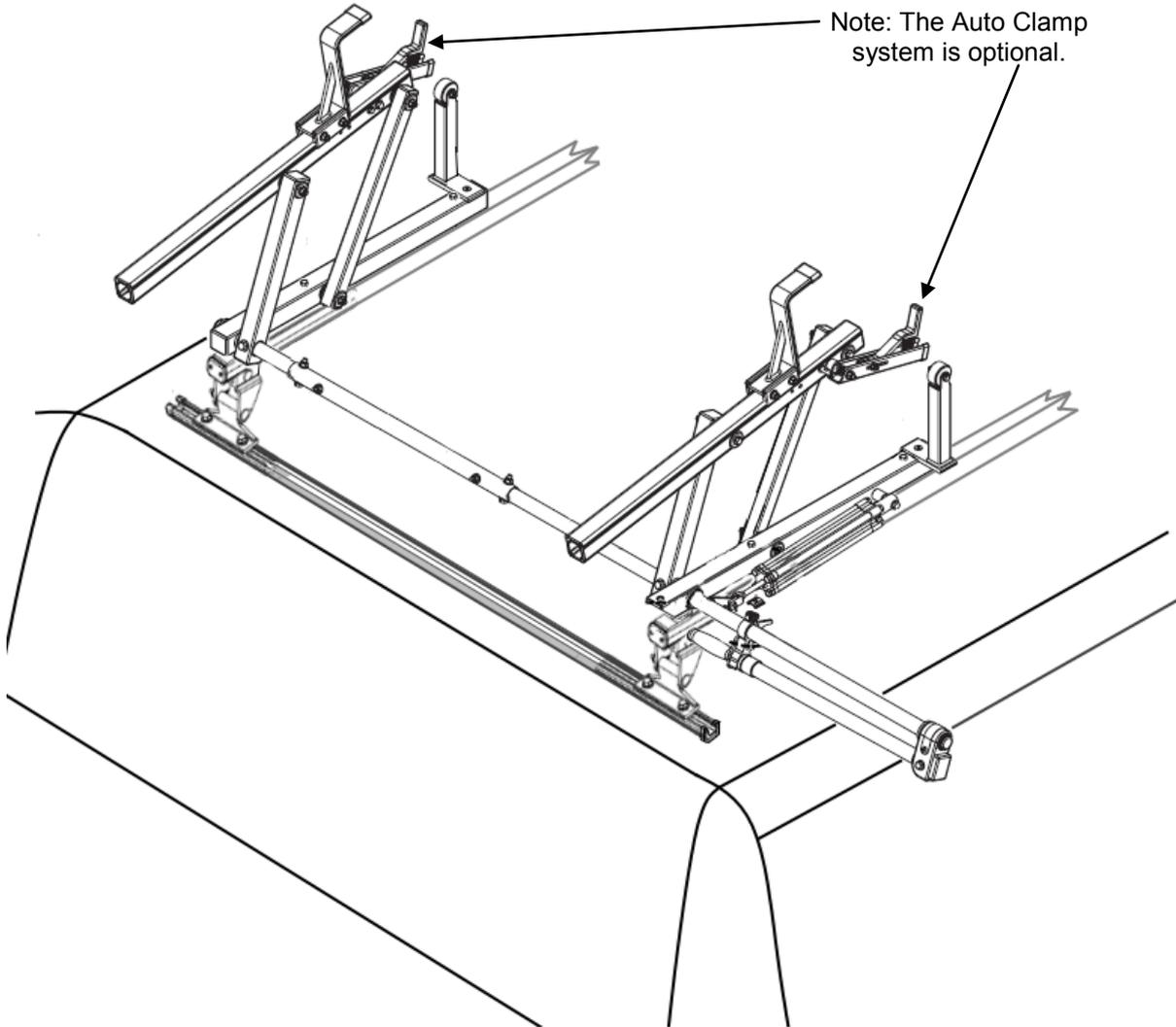
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RHL - Fully Assembled



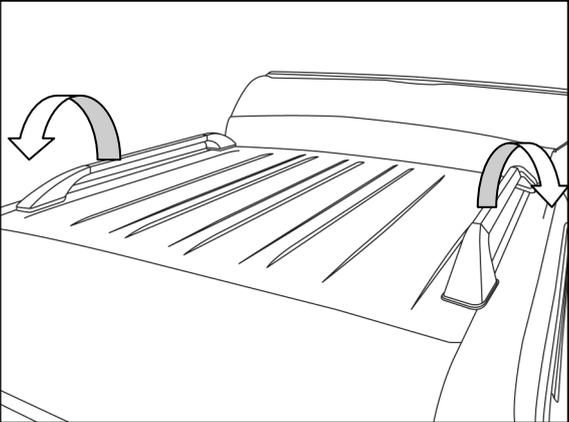
Note: Maximum recommended collapsed ladder length for a 940mm rotator centre distance is 2.5m. The maximum allowable overhang behind the rear cross bar is 700mm. The maximum allowable overhang forward of the front cross bar is 900mm.



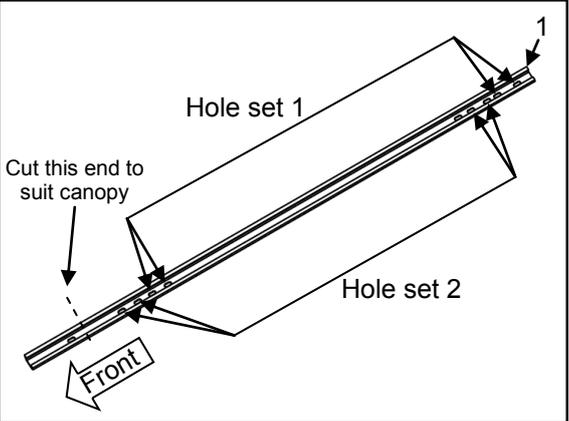
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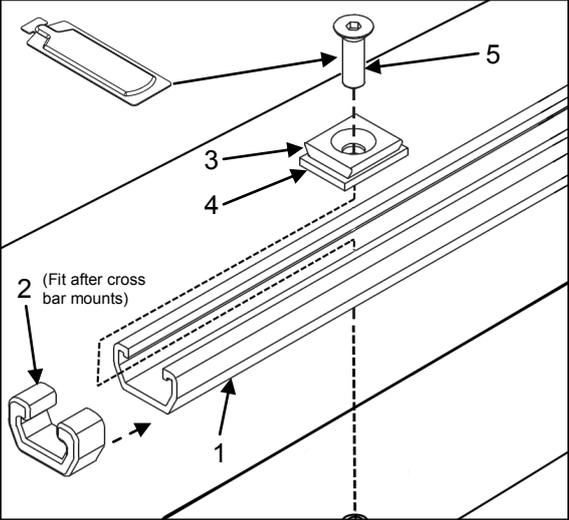
ASSEMBLY OF ROOF MOUNTING CHANNELS TO VEHICLE



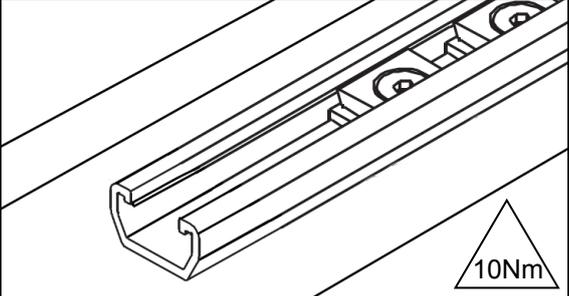
1. Remove the factory fitted plastic roof rails from the canopy by unclipping the screw covers and removing the securing screws. (These will not be reinstalled)



2. The roof mounting channels are supplied with 2 sets of mounting holes to suit various canopy styles. Lay the channels over the canopy mounting holes and select the best set for the application.
3. In some cases the channels will be too long for the length of the canopy roof. The channels should be cut to length to suit the canopy, but keeping the channels as long as possible.



4. Affix a neoprene pad (4) to the bottom of each channel connecting plate (3) as shown.
5. Position the mounting channels (1) over the roof mounting points.
6. Slide the channel connecting plates (3) into the channels and position over each of the canopy mounts. 4 per channel.
7. Apply anti seize compound (8) to the threads of the M6 CSK screws (5).
8. Thread an M6 CSK screw (5) through each of the channel connecting plates/ mounting channel and into the roof mounts.
9. Tighten and torque up the screws to 10Nm.

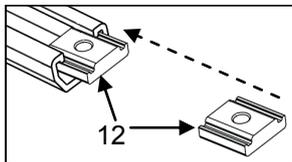




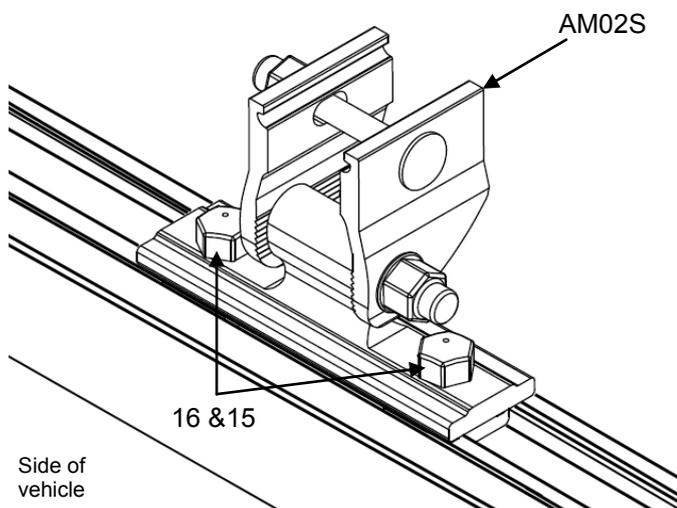
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ASSEMBLY OF CROSS BAR MOUNTS TO ROOF CHANNELS

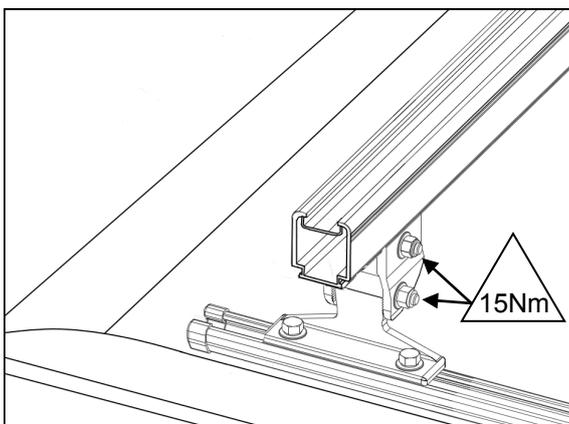


Apply to all screw threads



- Slide 4 channel nuts (12) into each roof mounting channel.
- Position the channel nuts in pairs at the approximate locations to land under the cross bars.
- Apply anti seize compound (8) to the threads of the M8 hex head screws (16).
- Position a channel foot (11) on the roof mounting channel with the holes aligned with the channel nuts, and support post mount towards the centre of the vehicle .
- Loosely secure the channel foot to the channel nuts using M8 screws (16) with spring washers (15) under heads.
- Repeat for the other 3 mounts.
- Position the channel feet about 25mm from the ends of the roof mounting channels.
- Fit the roof mounting channel caps (2) to the ends of the channels.
- Loosely assemble the rack mounts (AM02S) as shown.

SECURE THE CROSS BARS TO THE RACK MOUNT BRACKETS



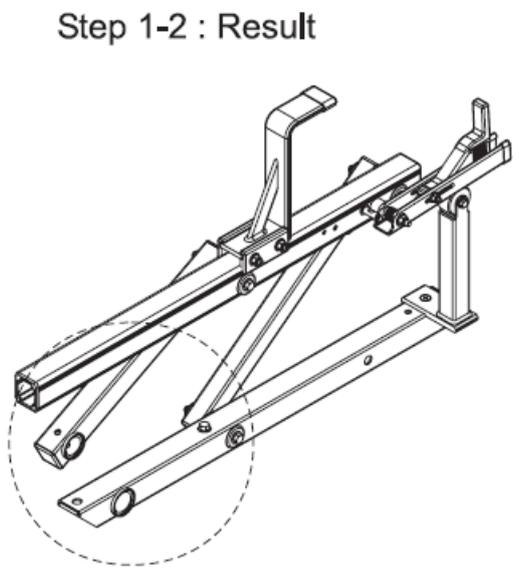
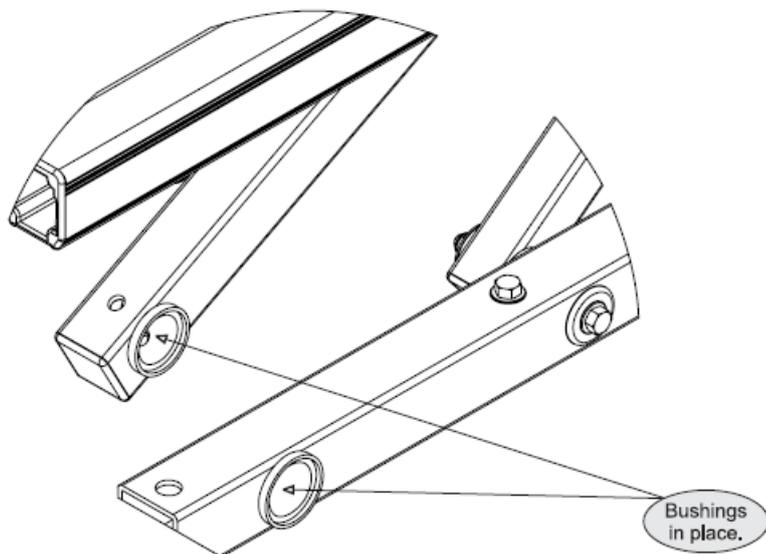
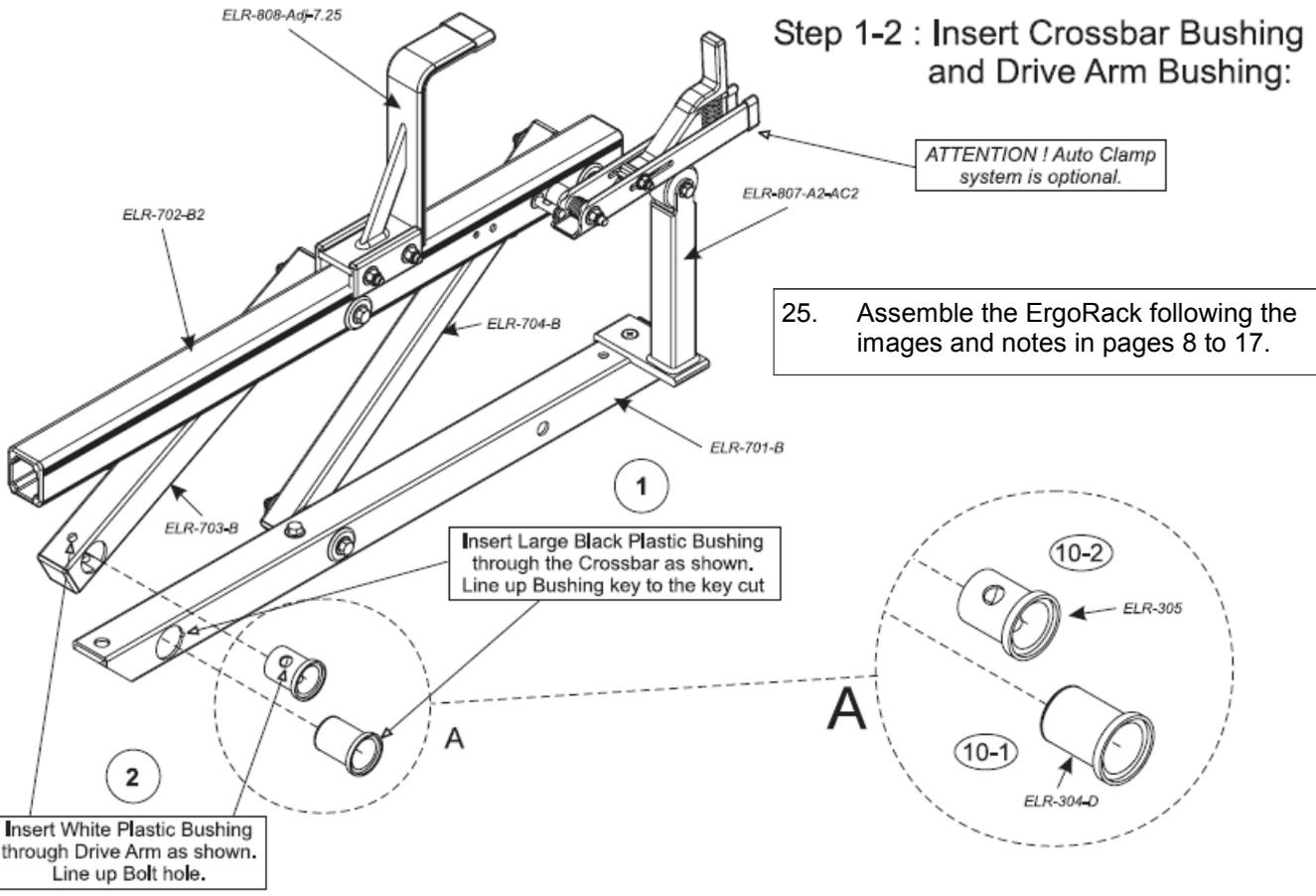
- Position a cross bar in between a rack mount support post pair.
- Loosely secure the cross bar in place.
- Check the distance the cross bars hang outside the rack mounts on each side of the vehicle, and adjust until equal.
- Tighten and torque up the rack mount coach bolts to 15Nm. Fit nut caps (20).
- Position the rack mounts at about 25mm from the ends of the mounting channels on both sides of the vehicle.
- Leave the rack mounts loose at this stage. These should be fully secured in place after the ErgoRack has been secured to the roof bars.



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REAR ROTATOR ASSEMBLY

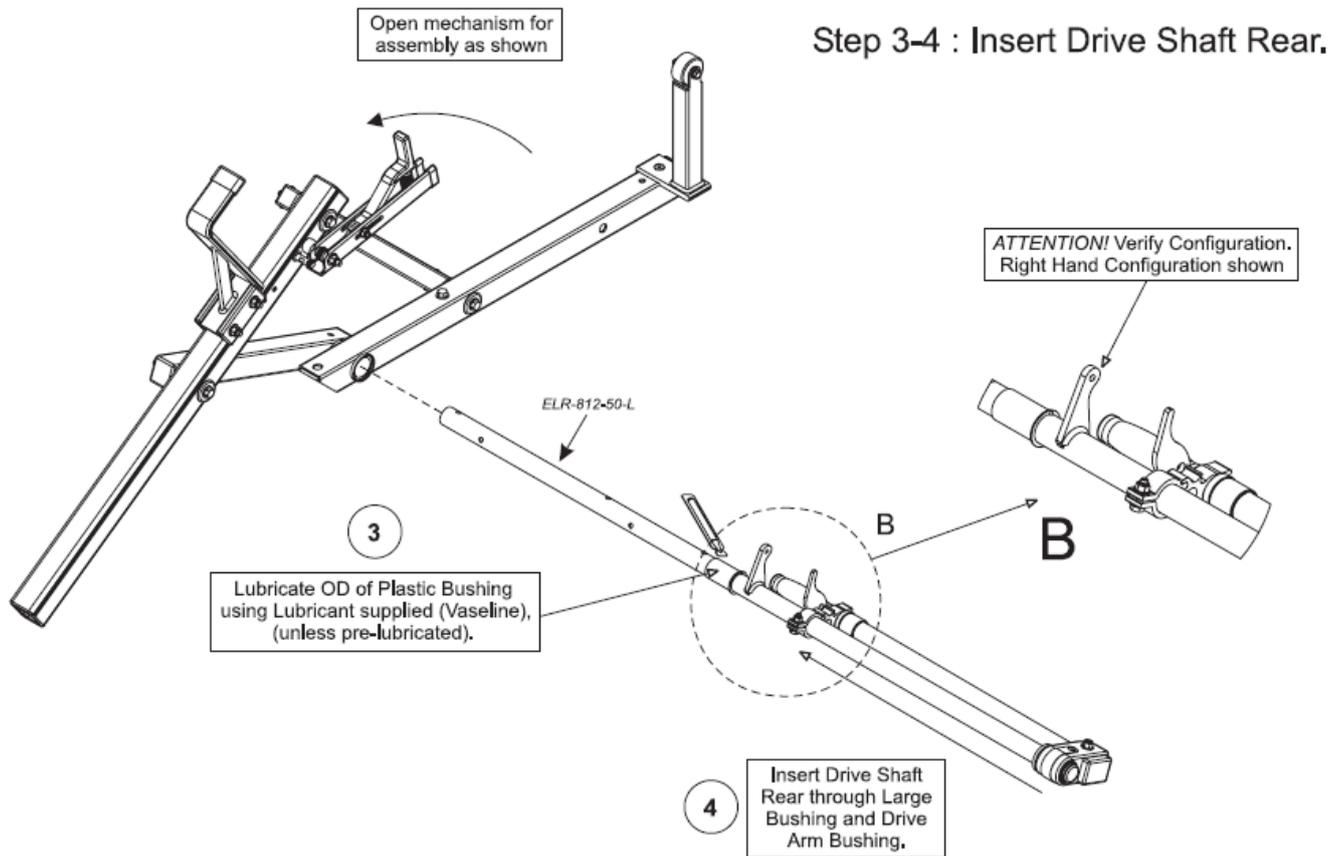




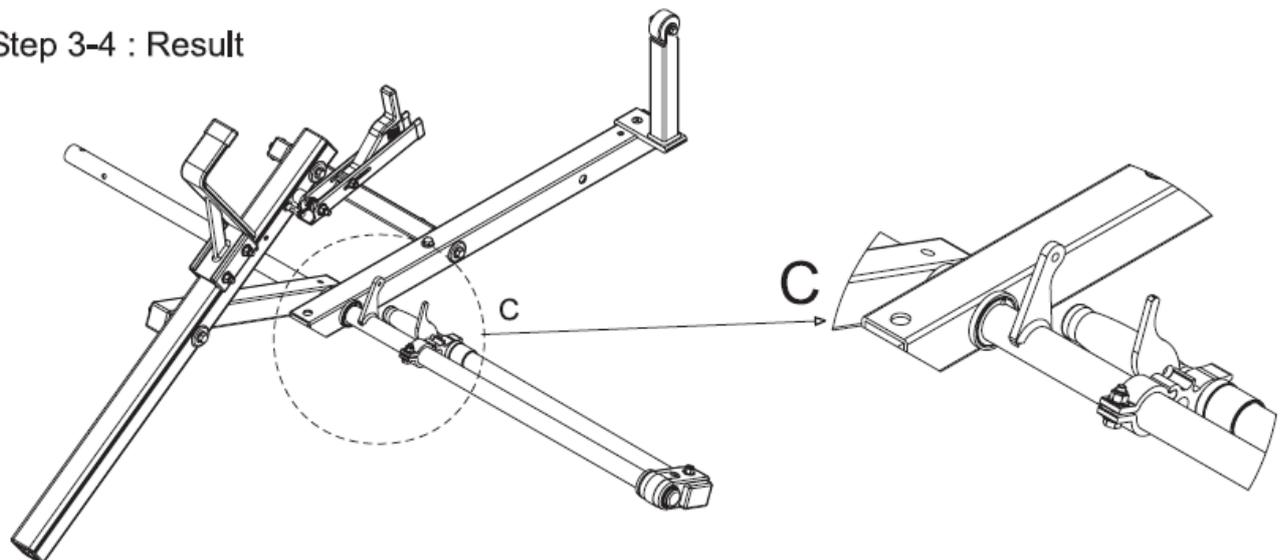
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REAR ROTATOR ASSEMBLY - Cont'd



Step 3-4 : Result



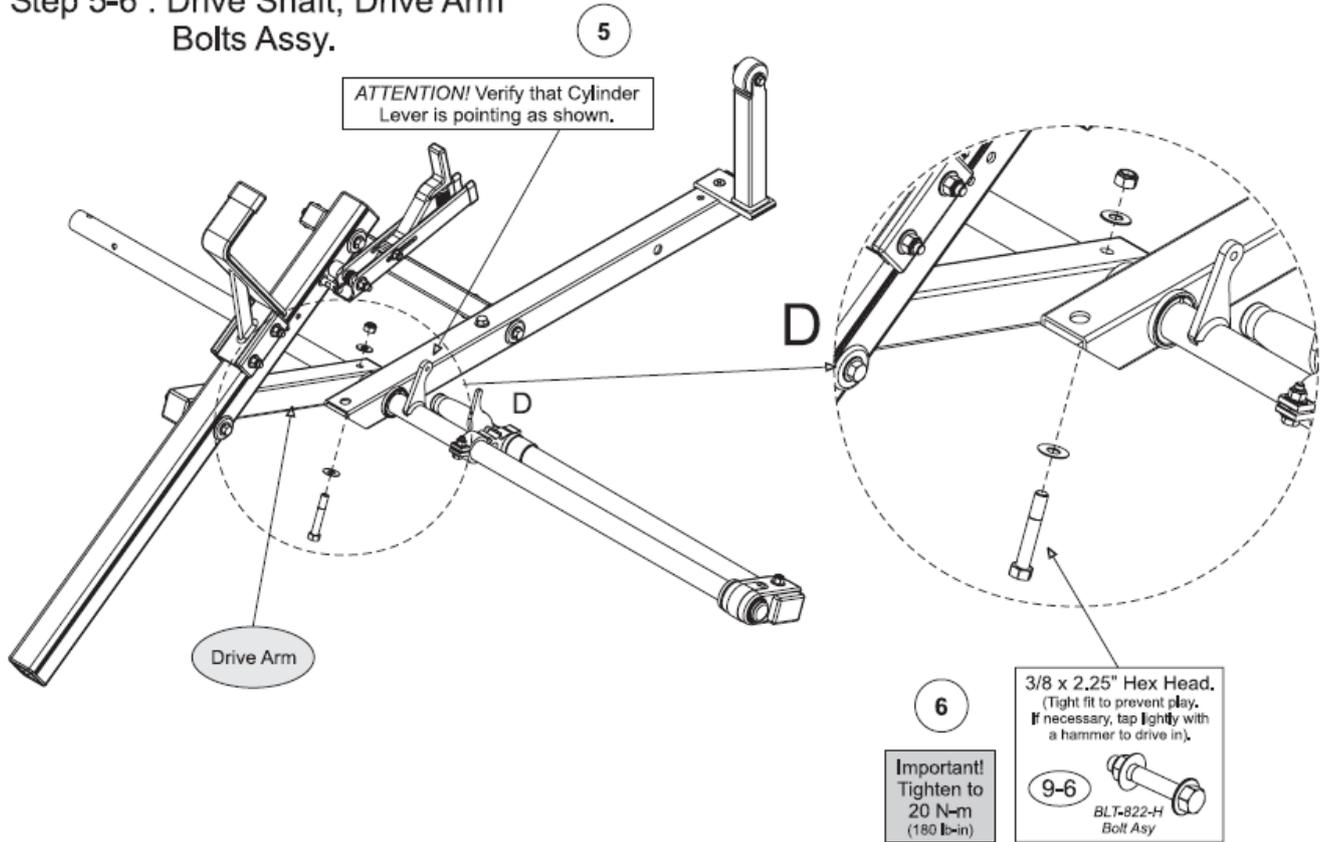


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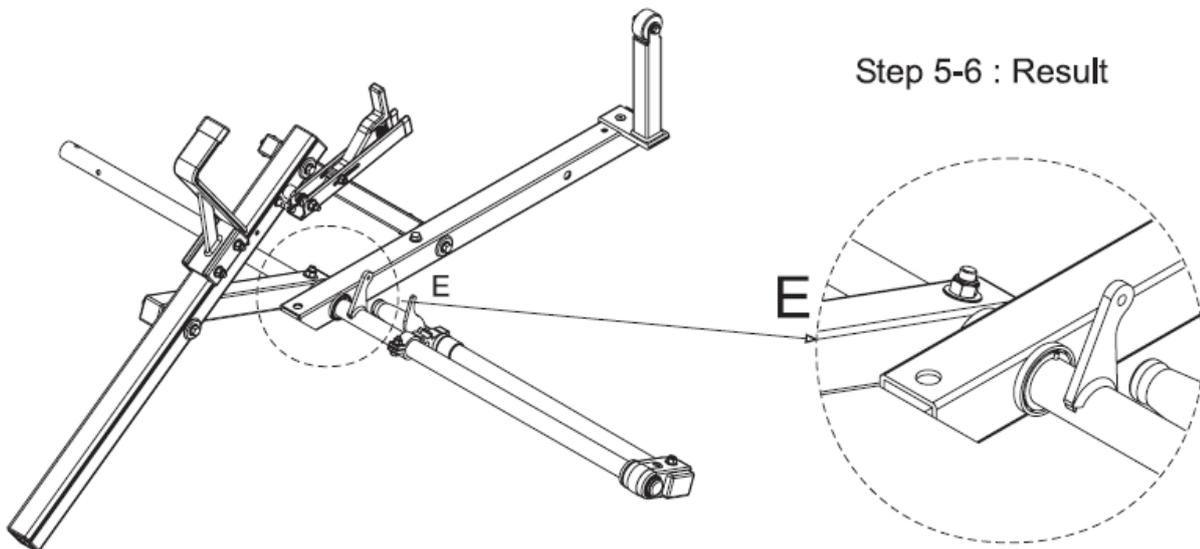


REAR ROTATOR ASSEMBLY - Cont'd

Step 5-6 : Drive Shaft, Drive Arm
Bolts Assy.



Step 5-6 : Result

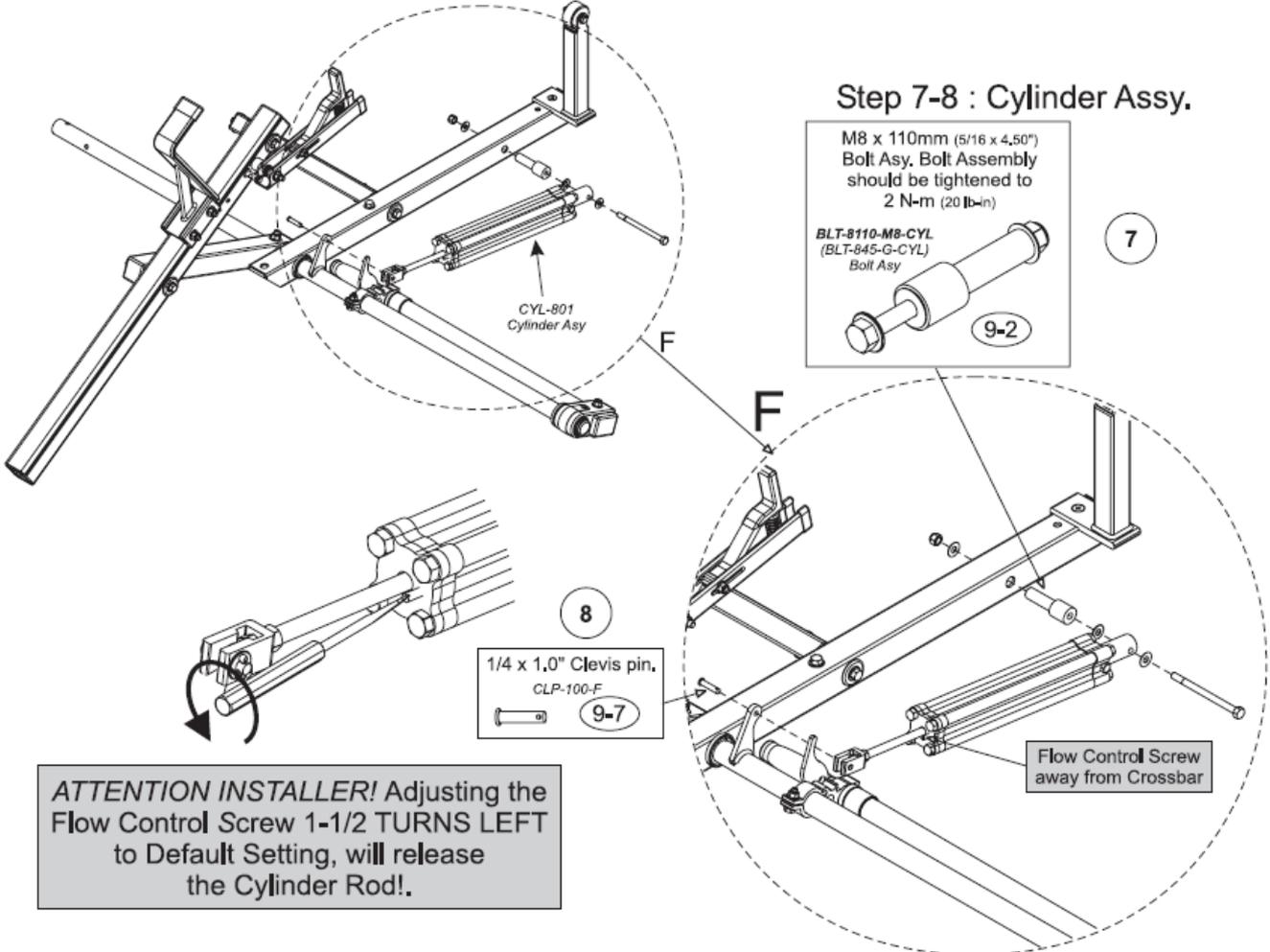




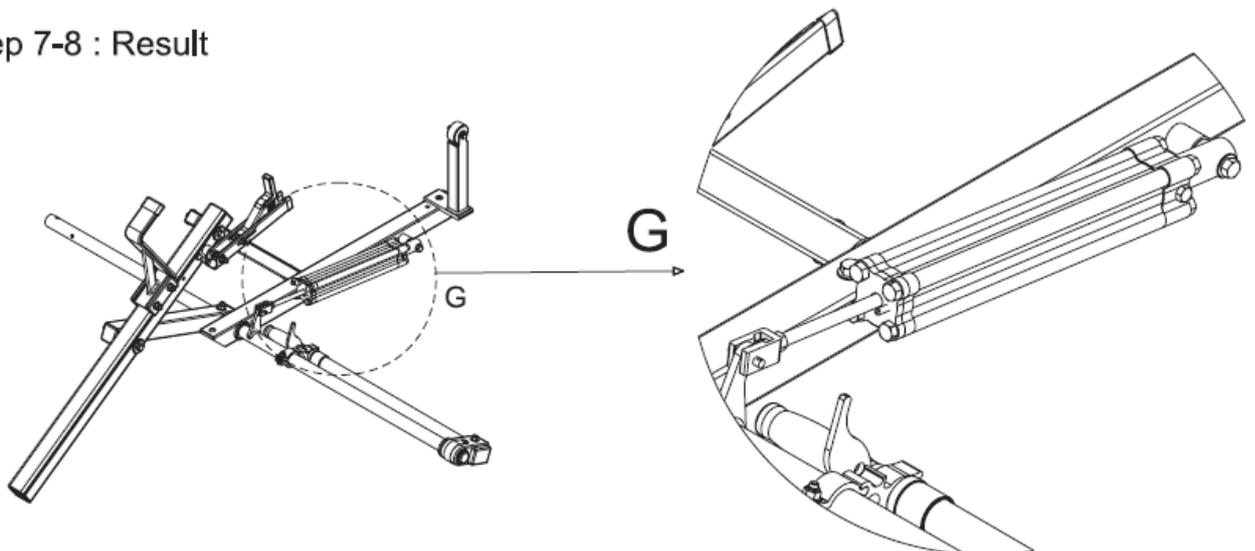
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REAR ROTATOR ASSEMBLY - Cont'd



Step 7-8 : Result



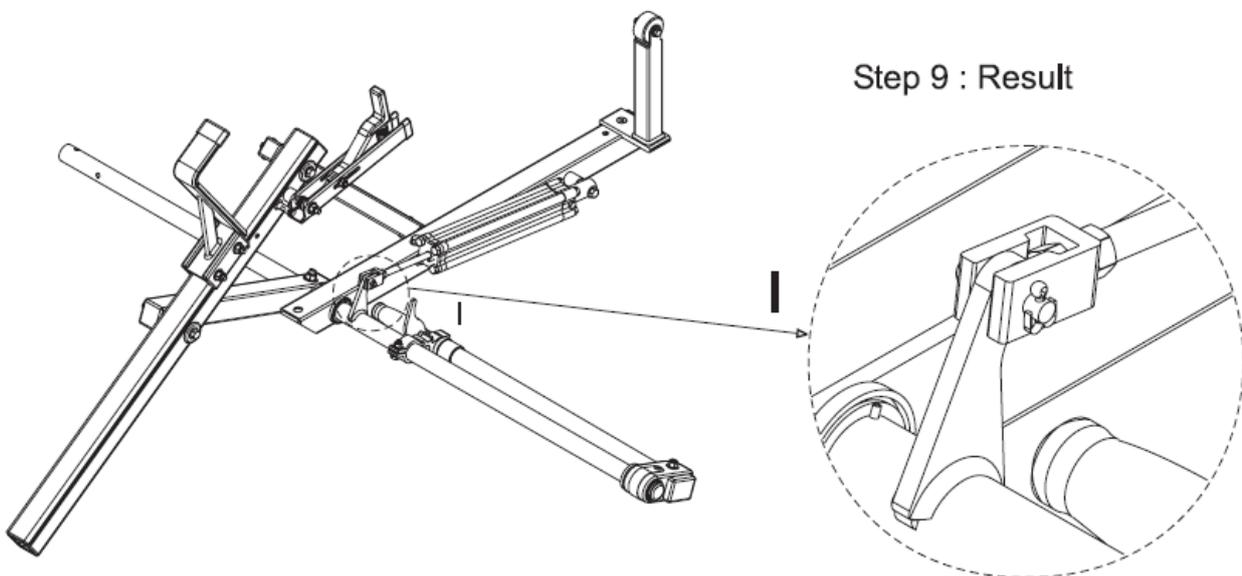
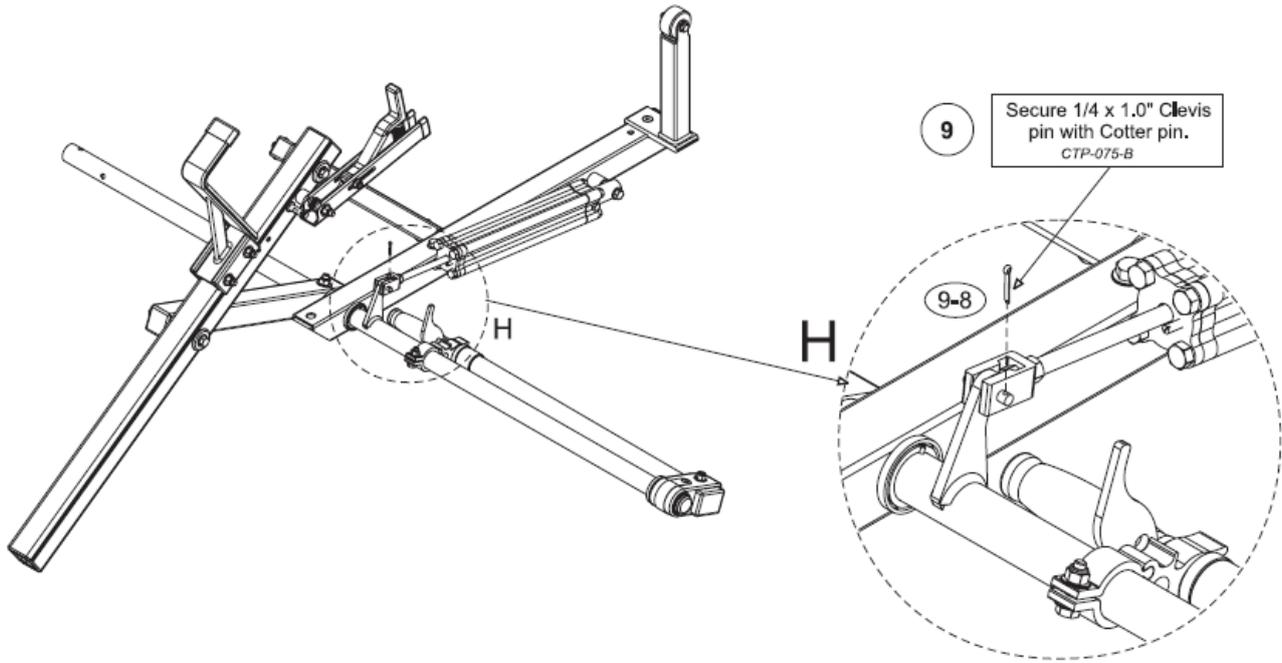


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REAR ROTATOR ASSEMBLY - Cont'd

Step 9 : Cylinder Cotter Pin.

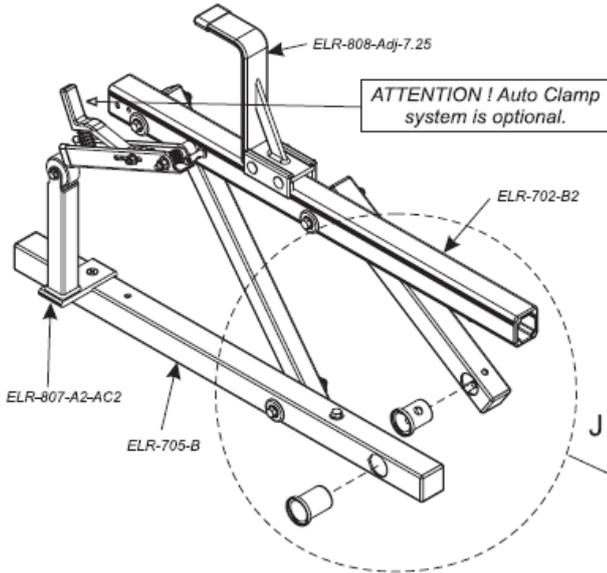




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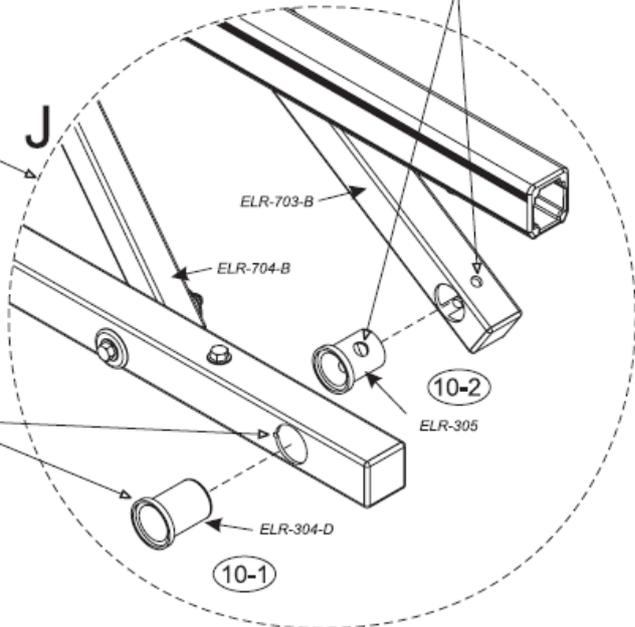
FRONT ROTATOR ASSEMBLY



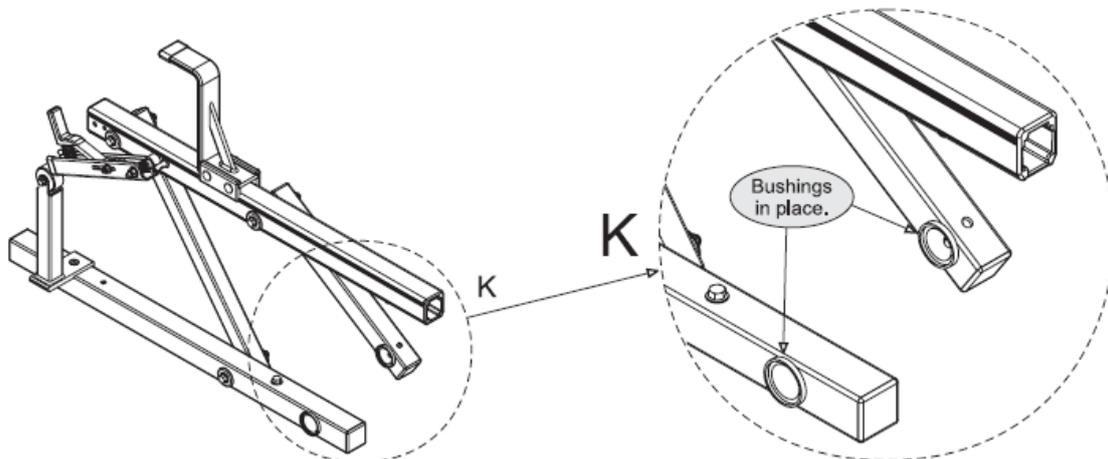
Step 10-11 : Insert Crossbar and Drive Arm Bushings.

10
Insert Large Black Plastic Bushing through the Crossbar as shown. Line up Bushing key to the key cut

11
Insert White Plastic Bushing through Drive Arm as shown. Line up Bolt hole.



Step 10-11 : Result

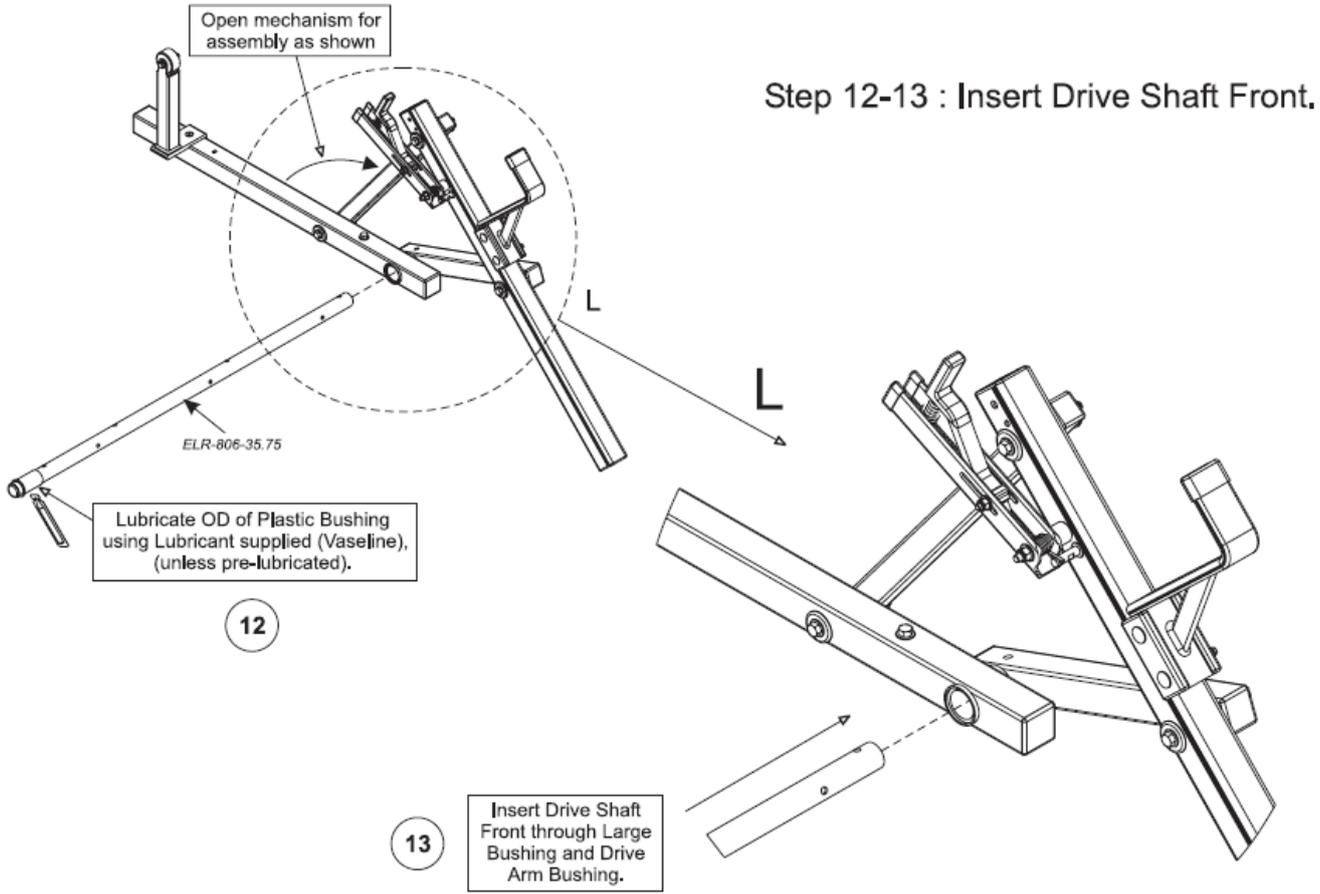




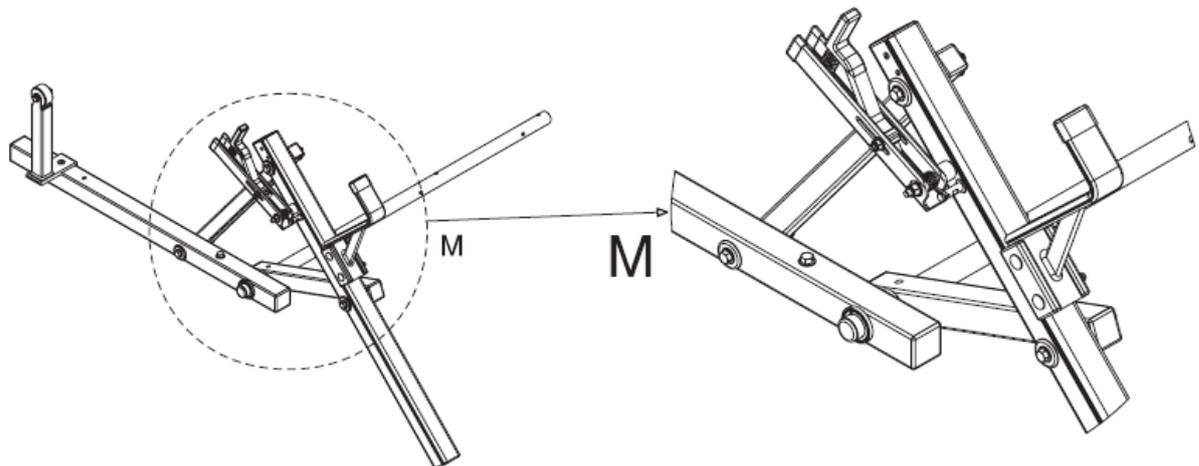
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FRONT ROTATOR ASSEMBLY - Cont'd



Step 12-13 : Result



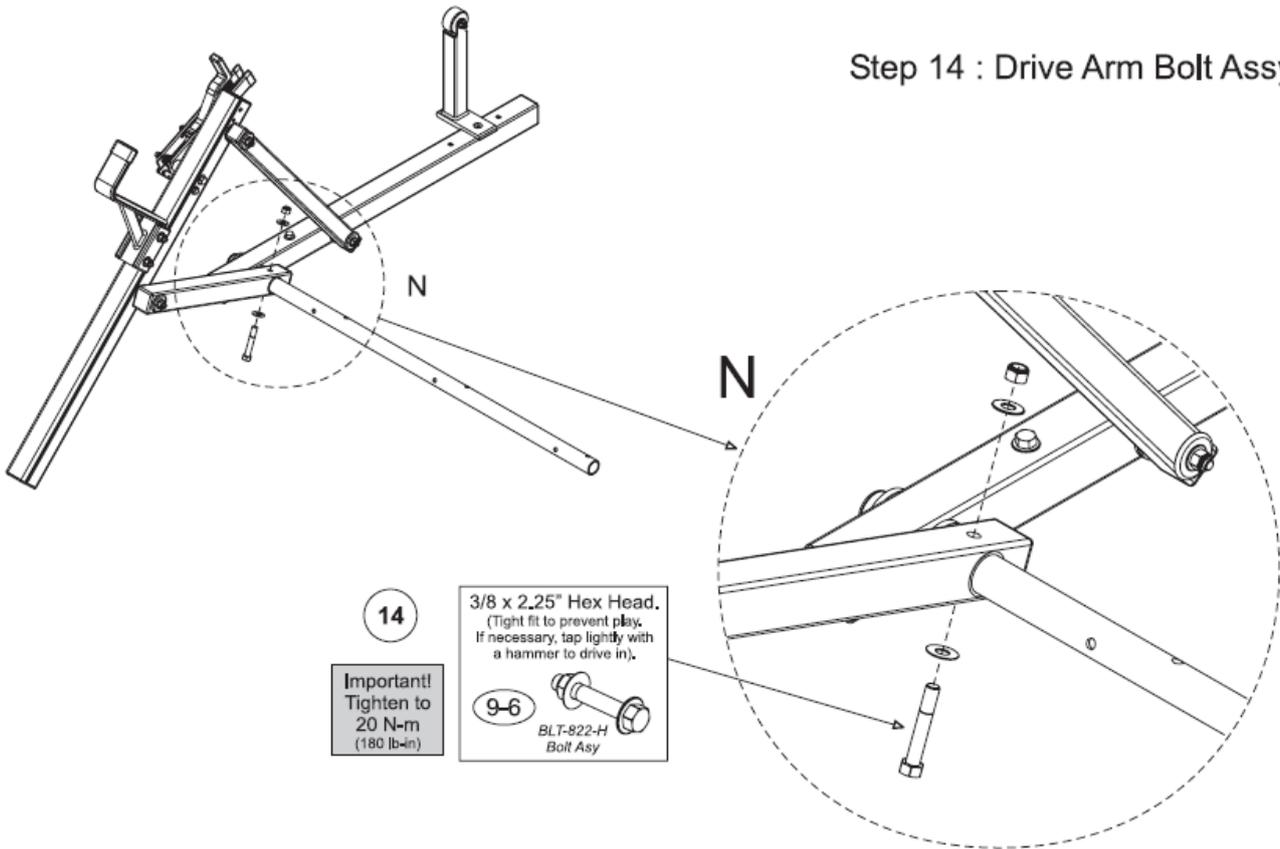


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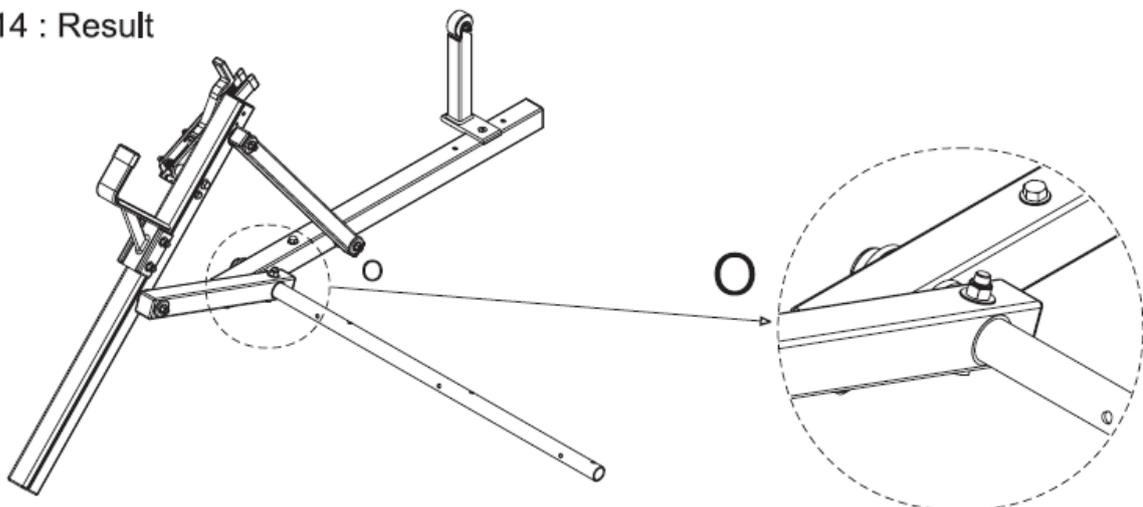


FRONT ROTATOR ASSEMBLY - Cont'd

Step 14 : Drive Arm Bolt Assy.



Step 14 : Result



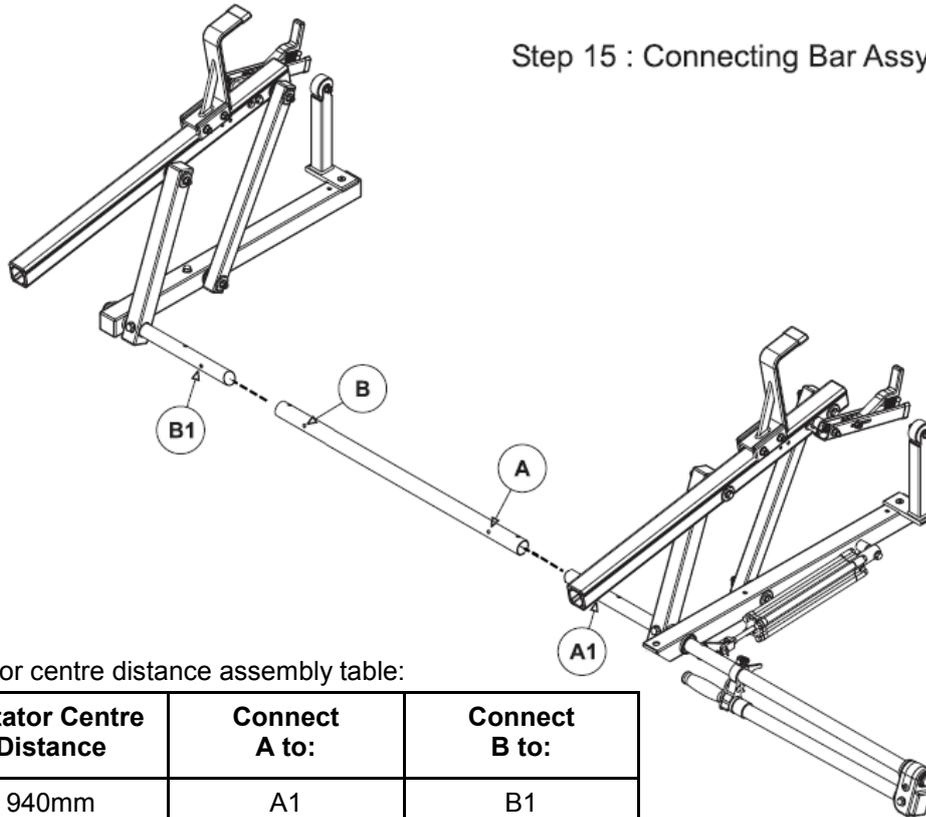


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FINAL ASSEMBLY

Step 15 : Connecting Bar Assy.



Rotator centre distance assembly table:

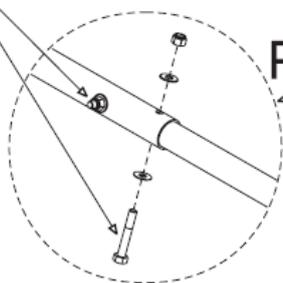
| Rotator Centre Distance | Connect A to: | Connect B to: |
|-------------------------|---------------|---------------|
| 940mm | A1 | B1 |

M8 x 50mm (5/16 x 2.0")
 Hex Head, Four places
 9-4
 BLT-8050-M8
 (BLT-820-G)
 Bolt Assy

15

Seal the ends of the connecting bar with silicon sealant

Important!
 Tighten to
 20 N-m
 (180 l-b-in)



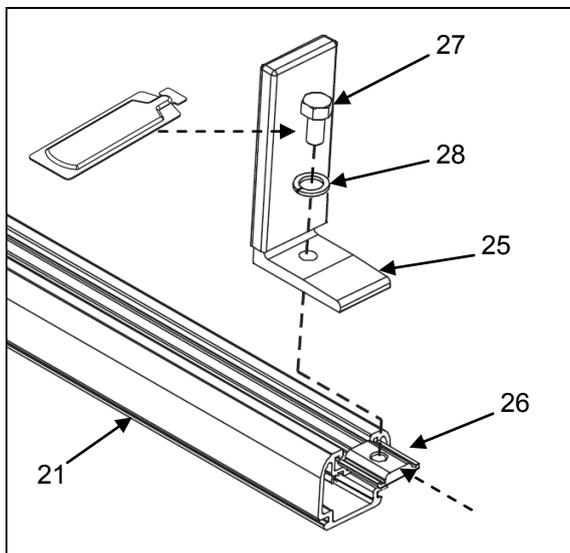
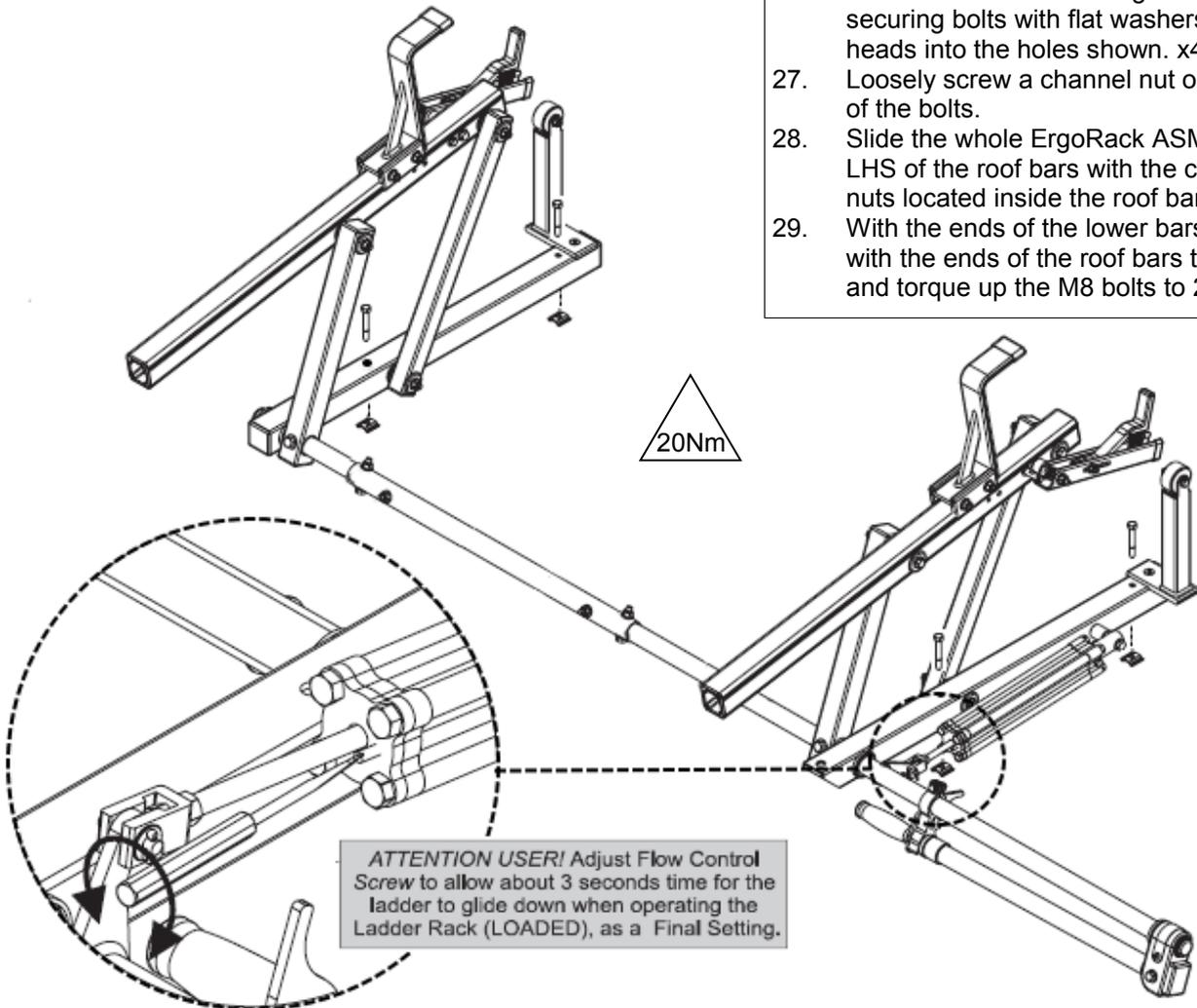


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ASSEMBLE THE ErgoRack TO THE ROOF BARS

26. Place the M8 x 60mm ErgoRack securing bolts with flat washers under heads into the holes shown. x4
27. Loosely screw a channel nut onto each of the bolts.
28. Slide the whole ErgoRack ASM onto the LHS of the roof bars with the channel nuts located inside the roof bars.
29. With the ends of the lower bars level with the ends of the roof bars tighten and torque up the M8 bolts to 20Nm.



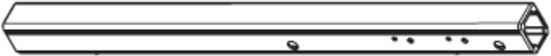
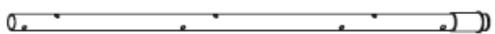
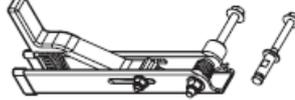
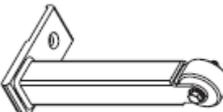
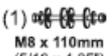
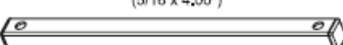
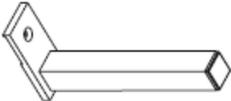
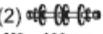
30. Slide a channel nut (26) into the end of the top profile of each cross bar (21) on the RHS only.
31. Apply anti seize compound to the threads of the M8 hex head screws (27).
32. Position a cargo stop (25) on top of a cross bar as shown, then secure it to the channel nut using hex screw (27) with spring washer (28) under head.
33. Tighten and torque up screw to 15Nm.
34. Repeat above for the other cross bar.
35. Install the plastic caps (22) to the ends of cross bars using self tapping screws (23).
36. Cut the rubber strips (24) to length to fit between the cargo stops and ErgoRack, then secure into the top of the cross bars.



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REPLACEMENT ErgoRack PARTS AVAILABLE

| | | |
|--|---|---|
| Replacement Parts: Rear Lower ELR-801-US3-B  | | (1)  M8 x 60mm (5/16 x 2.25") |
| Replacement Parts: Front Lower ELR-805-US3-B  | | (1)  M8 x 60mm (5/16 x 2.25") |
| Replacement Parts: Upper Asy ELR-702-B2  | Replacement Parts: Drive Shaft Front Asy ELR-806-36-B (Shortened) | |
| |  | (1)  3/8 x 2.25" (2)  M8 x 50mm (5/16 x 2.0") |
| Replacement Parts: Drive Shaft Rear Asy, LH ELR-812-50-B-L (Shortened)  | | Replacement Parts: Auto Clamp Asy, LH AAC-817-L (Optional)  |
| Replacement Parts: Connecting Bar Asy - 626mm  | | Replacement Parts: Auto Clamp Asy, RH AAC-817-R (Optional)  |
| | (4)  M8 x 50mm (5/16 x 2.0") | |
| Replacement Parts: Cylinder Asy ACL-125  | Replacement Parts: Drive Arm Asy ELR-803-B  | Replacement Parts: L Post Asy ELR-807-US3-AC2  |
| (1)  (1)  (1)  M8 x 110mm (5/16 x 4.25") | (1)  M8 x 110mm (5/16 x 4.25") (1)  3/8 x 2.25" | (1)  M8 x 65mm (5/16 x 2.50") |
| Replacement Parts: Rotation Arm Asy ELR-804-B  | Replacement Parts: Z Post Asy ELR-808-Adj-7.25  | Replacement Parts: L Post Asy ELR-807-US3  |
| (2)  M8 x 100mm (5/16 x 4.00") | | (1)  M8 x 65mm (5/16 x 2.50") |



Note: Maximum recommended collapsed ladder length for a 940mm rotator centre distance is 2.5mm. The maximum allowable overhang behind the rear cross bar is 700mm. The maximum allowable overhang forward of the front cross bar is 900mm.