



# **CycleSimplex Bike Rack Assembly Instructions**

## **CycleSimplex Simple Loader Two Bike Rack V7.0**

## **Precautionary and Maintenance Information:**

All straps must be used at all times.

When you are not carrying trike(s)/bike(s), you can either leave the straps attached through the slots or remove them. If you leave the straps on the rack, they should be connected just as they would with the trike or bike on the rack, otherwise they may be lost.

There is always some flex in metal. Because of this you should check and tighten bolts before each use.

You should check the straps for wear before each use and replace if they show any wear.

This trike or bike rack will extend quite a distance behind your vehicle. Caution must be used not to “bottom out” on sharp dips or rises in your path. Your rack or trike(s)/bike(s) may also extend beyond the sides of your vehicle so caution is required not to hit the rack or your trike(s)/bike(s) on other objects.

## **Liability Information**

CycleSimplex, LLC’s liability from all causes is limited to the purchase price of the trike or bike rack.

## **Warranty Information**

This trike or bike rack may be returned unused for any reason by the purchaser to CycleSimplex, LLC within 15 days of its receipt by the purchaser. For full refund, returns must be packaged so that no damage occurs to the rack in shipment and the trike or bike rack is received by CycleSimplex in like new condition...

CycleSimplex, LLC warrants the trike or bike rack from defects in material or workmanship for 90 days from the date the purchaser receives the product. During that 90 day period, CycleSimplex, LLC will at its sole discretion either replace defective components or refund the full purchase price of the trike or bike rack upon return of the trike or bike rack in like new condition. There may be a 15% restocking fee. The customer pays for return shipping.

# Material List CycleSimplex Simple Loader Two Bike Rack V7.0

Task	Hex Head Bolts	Flange Head Bolts	Round Silver Washer	Lock Washer	Nylon Washer	Self Lock Nuts	Channel Nuts	Spacer	Square Washer	Square Nut
Attach both the 38" Bike Channels and Internal Supports to the Tilt-up		4 – 3/8" x 3"				4				
Attach both sides of the 32" Bike V-Trays to the 38" Bike Channel		4 – 3/8" x 1 3/4"							6	4
Attach both Long Wheel Stops with 2 holes to the Bike V-Trays		4 – 3/8" x 1 3/4"	4			4				
Attach both Strap Holders to two Bike V-Trays		4 – 3/8" x 1 3/4"	4			4				
Attach Bike Vertical Top to Bike Vertical Bottom		2 – 3/8" x 1"		2					2	2
Attach two L-Brackets for Bike Verticals to Tilt-Up	2 – 3/8" x 3 5/64" Hex with Hole	2 – Cotter Pins	12			2 with slots				
Attach Bike Vertical Bottoms to L-Brackets	2 – 3/8" x 1 5/64" Hex with Hole	2 – Cotter Pins	10			2 with slots				
Attach Corner Brackets to Bike Vertical Top		4 – 3/8" x 2"				4				
Attach Tilt Mechanism Sides to Tilt Up	1 – 3/8" x 3" Clevis Pin	1 – 3/8" x 3"				1				
Attach Tilt Mechanism Sides to Tilt Insert		2 – 3/8" x 3"				2				
J-Bolt	2 - 7" J-Bolt Assembly									
<b>3/8" Totals</b>		<b>4 Cotter Pins</b>	<b>30</b>	<b>2</b>		<b>19+4</b>			<b>8</b>	<b>6</b>

Item	Rg2 v7.0 Qty
Tilt-Up – 2” square black tube 34” long	1
Tilt Sides – Black 5” x 6 5/8” with 5 holes	2
Tilt Insert - 1.25” or 2” square black tube 16.5” long	1
Bike V-Trays 32” long with 4 holes	4
Bike Vertical Bottom and Top – 1” x 1 5/8” aluminum channel 24” long	4
Internal Strut Support (1/4” x 1” x 8”)	2
Bike Channel - Silver channel 1 5/8” x 1 5/8” x 38”	2
Cam Buckle Strap 18”	4
Cam Buckle Strap 56”	4
7” J-Bolt Assembly	2
L-Bracket	2
Flat Bracket Strap Holder	2
Corner Bracket	4
Long Wheel Stop two hole	2
Shims (Only for a 1.25” Hitch)	2

# CycleSimplex Simple Loader Two Bike Rack V7.0



(4) Bike V-Tray, 32" long with 4 Holes



Tilt Up for One Trike and One Bike rack



Tilt Insert (May be 2" or 1.25" square)



L-Bracket



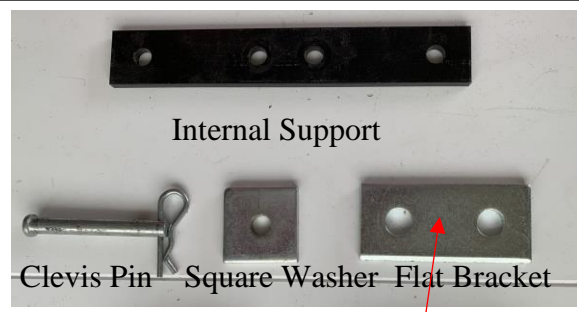
Tilt Mechanism Sides



(2) Bike Channel, 38", steel  
(2) Bike Vertical Top and Bottom, 24", aluminum



Corner Bracket



Internal Support

Clevis Pin

Square Washer

Flat Bracket

You will have (2) 3 hole flat bracket

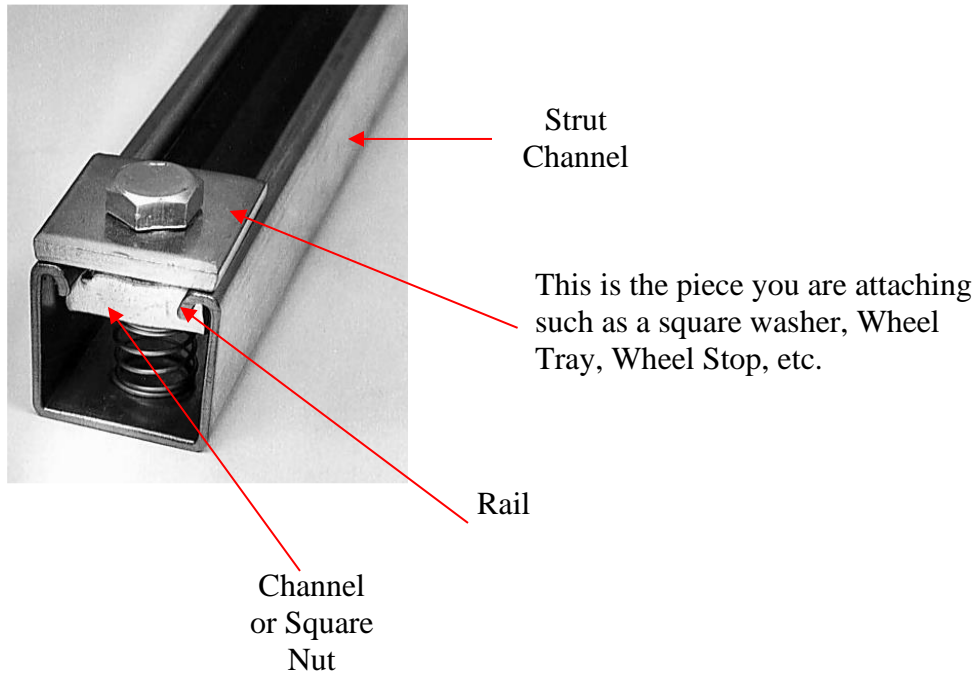
**You may not have all of these**



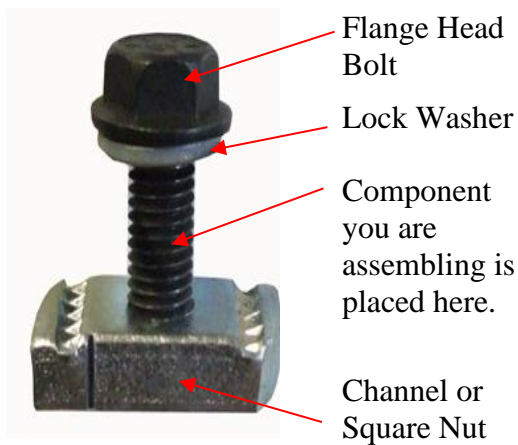
**Add a picture of a lock nut with a hole bolt**

**Figure 1:** The strut channel comes in various sizes. When we describe something as strut channel, it will look like the following with 3” long slots in the bottom:

When attaching components to strut channel, it is critical that all Channel Nut Assemblies must be tightened with the channel nut under the rail as shown below. The grooves in the channel nut must be up and under the rail of the strut channel. Your channel nut will not have a spring under it.



**Figure 2:** All Bolts requiring a Channel or Square Nut must be assembled in the following fashion. This is a Bolt and Channel or Square Nut Assembly. This does not come as an assembled part. You have to assemble each as required in the instructions.





**Step 1: Assemble Tilt Mechanism Sides, Tilt Up and Tilt Insert as shown in the picture below**

**If you have a 1.25" rack, do Step 2A. If you have a 2" rack, you will not use the Shims.**

### **Step 1A**

Place the two Shims on each side of the Tilt Insert so that they are over the two holes in the Tilt Insert. Pass the two 3/8" x 3" black Flange Head bolts through the two holes C and D in the bottom of the Tilt Sides, then the Shim, the Tilt Insert, the other Shim and the other Tilt Side (the shorter distance from Hole B to Hole C should be toward the bottom of the Tilt Sides). Place a 3/8" round silver washer and 3/8" self-locking nut on the end of the two bolts. Finger tighten. Do not tighten all the way yet.

Pass a 3/8" x 3" black flange head bolt through the Tilt Sides and the Tilt Up in Hole A. Place a 3/8" round silver washer and 3/8" self-locking nut on the end of this bolt. Finger tighten the nut.

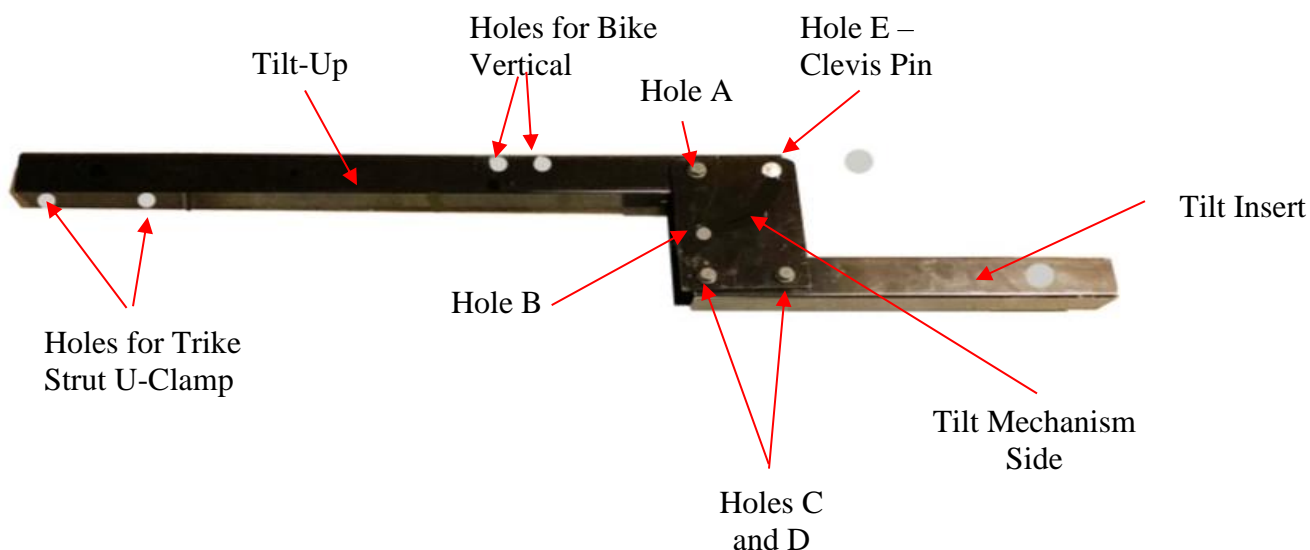
Pass the Clevis Pin through Hole E. Insert the Hair Pin into the hole in the end of the Clevis Pin. When you tilt the rack up, the clevis pin will be in Hole B

Tighten all nuts

If you want to tilt the rack up, remove the Clevis Pin from Hole C, tilt the Tilt-Up up and place the Clevis Pin in Hole B.

### **Step 1B**

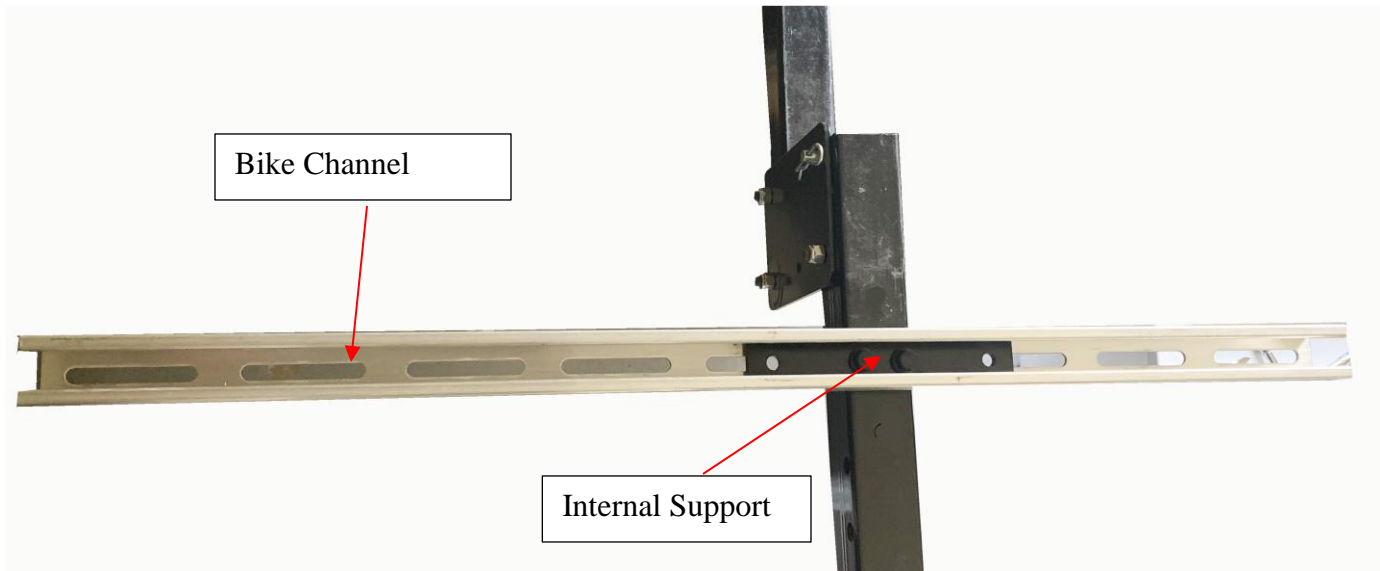
If you have a 2" rack you will do all the steps in Step 3A except you will not have the 2 Shims



## Step 2A: Assemble the Bike Channel and Bike V-Trays to the Tilt-Up

**2A:** Assemble Station 1 for the bike that is going to be closest to the vehicle. The 38" Bike Channel should extend more on the driver's side than the passenger side. How much more will depend on the radius of your bike's front wheel. It should extend the radius of your wheel more to the driver's side.

Place the Strut Support inside the Bike Channel which is a piece of metal 8" x 1" and 1/4" thick with 4 holes in it. The Strut Support should be placed over the two holes in the Tilt-Up closest to the vehicle. Two flange head bolts should be placed through the Strut Support, Bike Channel and the Tilt-Up with a flat washer and a self-lock nut on each bolt.



**2B:** Assemble Station 2 for the bike that is going to be furthest from the vehicle. The 38" Bike Channel should extend more on the passenger side than the driver side. How much more will depend on the radius of your bike's front wheel. It should extend the radius of your wheel more to the driver's side.

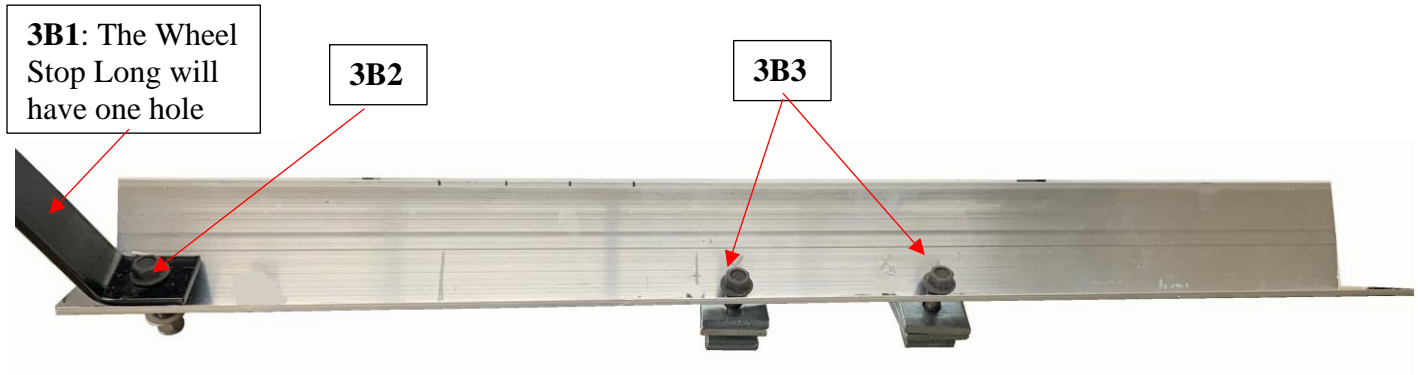
Place the Internal Support inside the Bike Channel which is a piece of metal 8" x 1" and 1/4" thick with 4 holes in it. The Internal Support should be placed over the two holes in the Tilt-Up furthest from the vehicle. Two flange head bolts should be placed through the Strut Support, Bike Channel and the Tilt-Up with a flat washer and a self-lock nut on each bolt.

**Step 3: We will now assemble the 32" Bike V-Trays.**

**3B1:** Place a Long Wheel Stop over the two holes closest to the end of one of two 32" V-Trays. This will be the driver side V-Tray of Station 1 and the passenger side of Station 2

**3B2:** Pass two 1 3/4" flange head bolts through the holes in the end of the Long Wheel Stop and then through the V-Tray holes closest to the end. Place a flat washer on the bolts and two self-lock nuts on the end of the bolts, Tighten the nuts.

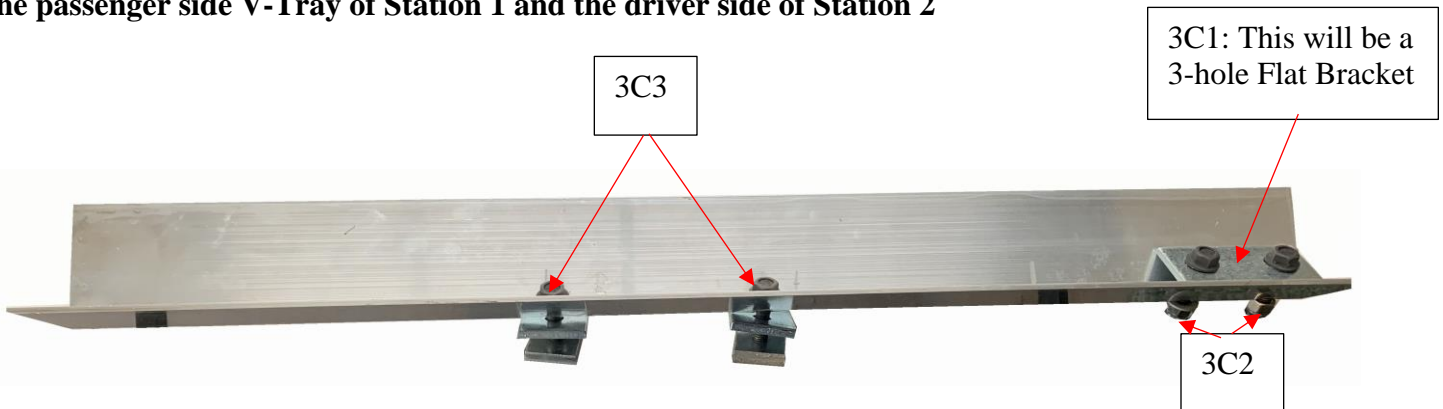
**3B3:** In the other two remaining holes of this V-Tray place a 1 3/4" flange head bolt in each hole in the V-Tray. Slide two square washers onto each of the bolts under the V-Tray and then screw two square nuts onto each of the bolts. Screw the square nuts onto each bolt so that the bolt comes just through the square nuts. You will later slide the flat washers on top of the Bike Channel and the square nuts under the rails of the Bike Channel. **This will be the driver's side Bike V-Tray for Station 1 and the passenger side for Station 2**



**3C1:** Place a 3-hole Flat Bracket Strap Holder on the other two of the 32" V-Trays using the two holes that are 1 7/8" apart at the end of the V-Tray. (a 2-hole is shown in the picture)

**3C2:** Pass two 1 3/4" flange head bolts through the two holes in the Flat Bracket Strap Holder then the V-Tray so that the empty hole is on the end of the V-Tray and place one flat washer on each bolt and a self-lock nut. Place an 18" strap between the bolts of the Flat Bracket Strap Holder and slightly tighten the nuts. (Strap not shown) You will tighten the nuts all the way after you adjust the straps when you first place your bike on the rack. This will be the passenger side Bike V-Tray.

**3C3:** In the other two remaining holes place a 1 3/4" flange head bolt in each hole in the V-Tray. Slide one square washer onto each of the bolts under the V-Tray and then screw square nuts onto the bolts. Screw the square nuts onto the bolts so that the bolts come just through the square nuts. You will later slide the flat washers on top of the Bike Channel and the square nut under the rails of the Bike Channel. **This will be the passenger side V-Tray of Station 1 and the driver side of Station 2**

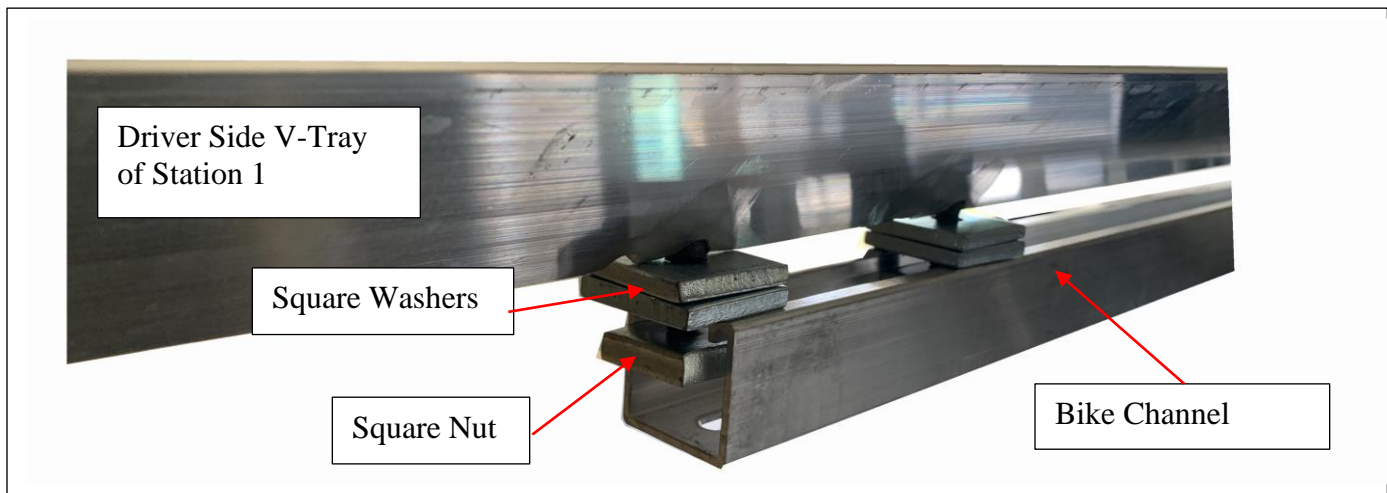


**Step 4: We now will assemble together the Bike Channel and the two V-Trays called the Bike Assembly for Station 2**

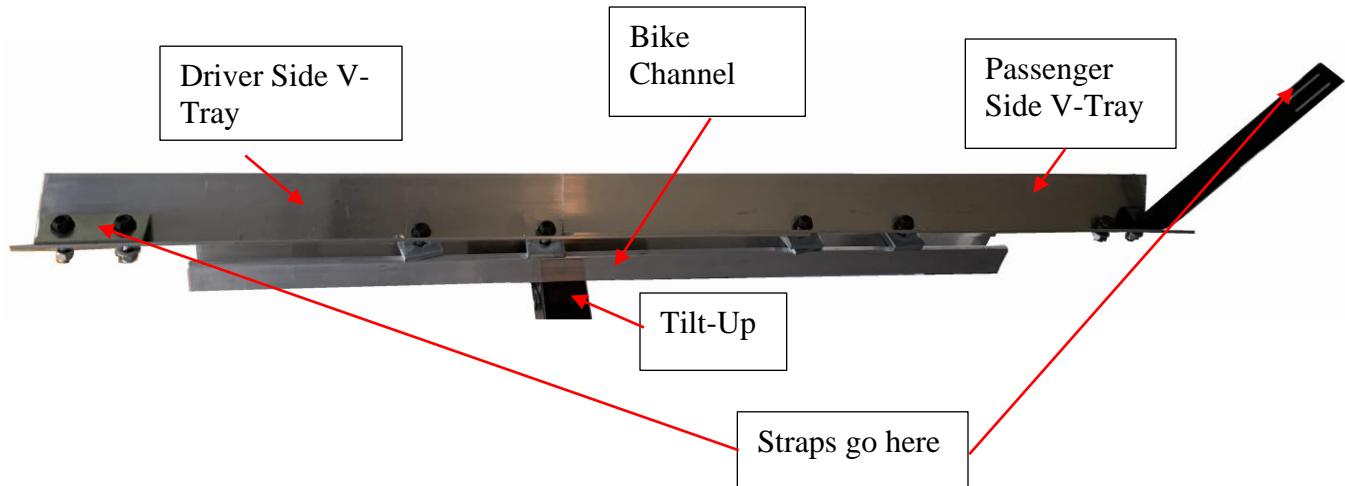
First you will slide each of the V-Tray Assemblies you made in Step 3 onto the Bike Channel. We are showing below the Driver Side V-Tray Assembly on Station 1 with two flat washers. The Passenger Side V-Tray Assembly will slide onto the Bike Channel from the other side for Station 1. **Please Note: The Driver Side V-Tray Assembly for Station 1 with two square washers on each bolt will slide into the driver side of the Bike Channel Assembly and be on top of the passenger side assembly. The Passenger Side Bike V-Tray Assembly for Station 1 with one square washer on each bolt will slide into the passenger side of Bike Channel Assembly and be under the driver side V-Tray for Station 1.**

**Each V-tray Assembly for Station 2 will be on the opposite side.**

The two square washers go on top of the Bike Channel and the square nut goes under the rails of the Bike Channel as shown in the picture below. Slide the V-Tray Assemblies in far enough so that the square washers sit completely on the rails of the Bike Channel.

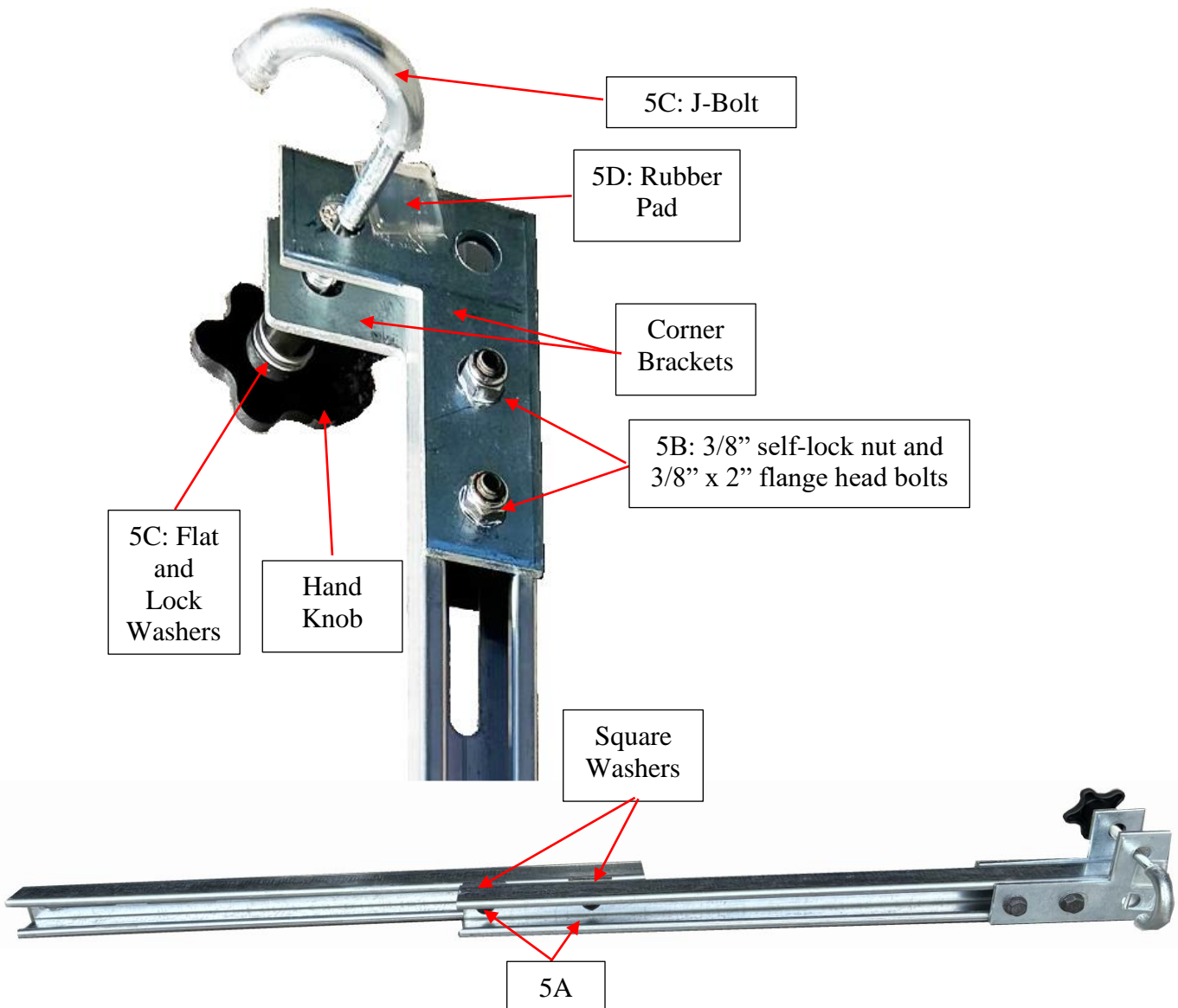


After completion of Step 4 the assembly should look like the picture below for Station 2. The V-Tray with 4 square washers will slide over the V-Tray with 2 square washers. The slide over and under each other so as to adjust for your bike's length. One strap will go under the Long Wheel Stop. The second strap will go on the other end under the Strap Holder. Once you adjust for the length of your bike, tighten all bolts.

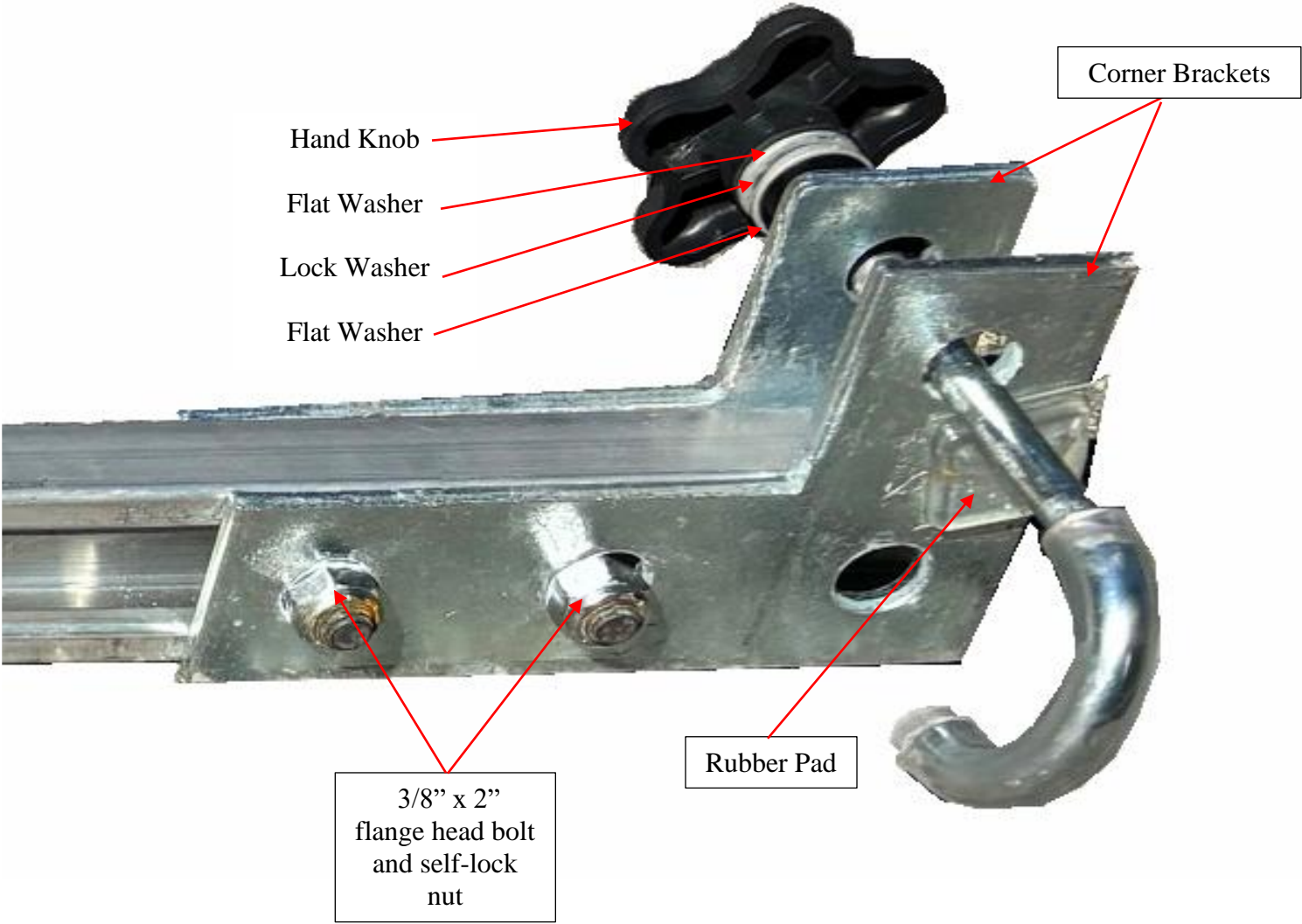


**Step 5: Fasten Bike Vertical Top on top of the Bike Vertical Bottom and assemble the Seat Post Holder Assembly:**

- 5A. Put the 24" Bike Vertical Top Channel under the 24" Bike Vertical Bottom Channel as shown in the picture below. Place a 3/8" lock washer on two 3/8" x 1" flange head bolts. Pass the bolts up through Top Vertical Channel and through the Bottom Vertical Channel as shown in the picture below and secure with the 3/8" Channel Nut under the rails of the Bottom Vertical Channel. Make certain the channel nut is under the rails of the Bottom Vertical Channel.
- 5B. Bolt the Seat Post Corner Brackets on each side of the Bike Vertical Top using (2) 3/8" x 2" flange head bolts. Pass the bolts through the Corner Brackets, Bike Vertical Top and place a 3/8" self-lock nut on the end of the bolts.
- 5C. Place the J-Bolt through the corner hole in the Corner Bracket and the Bike Vertical top. Place the black round spacer on the J-Bolt then a flat washer, then a lock washer, then another flat washer and then the hand knob and finally the self-lock nut on the J-Bolt. Make certain the J-Bolt slides easily.
- 5D: Peel off the protective paper and place the rubber Pad



# Close-Up of Seat Post Holder



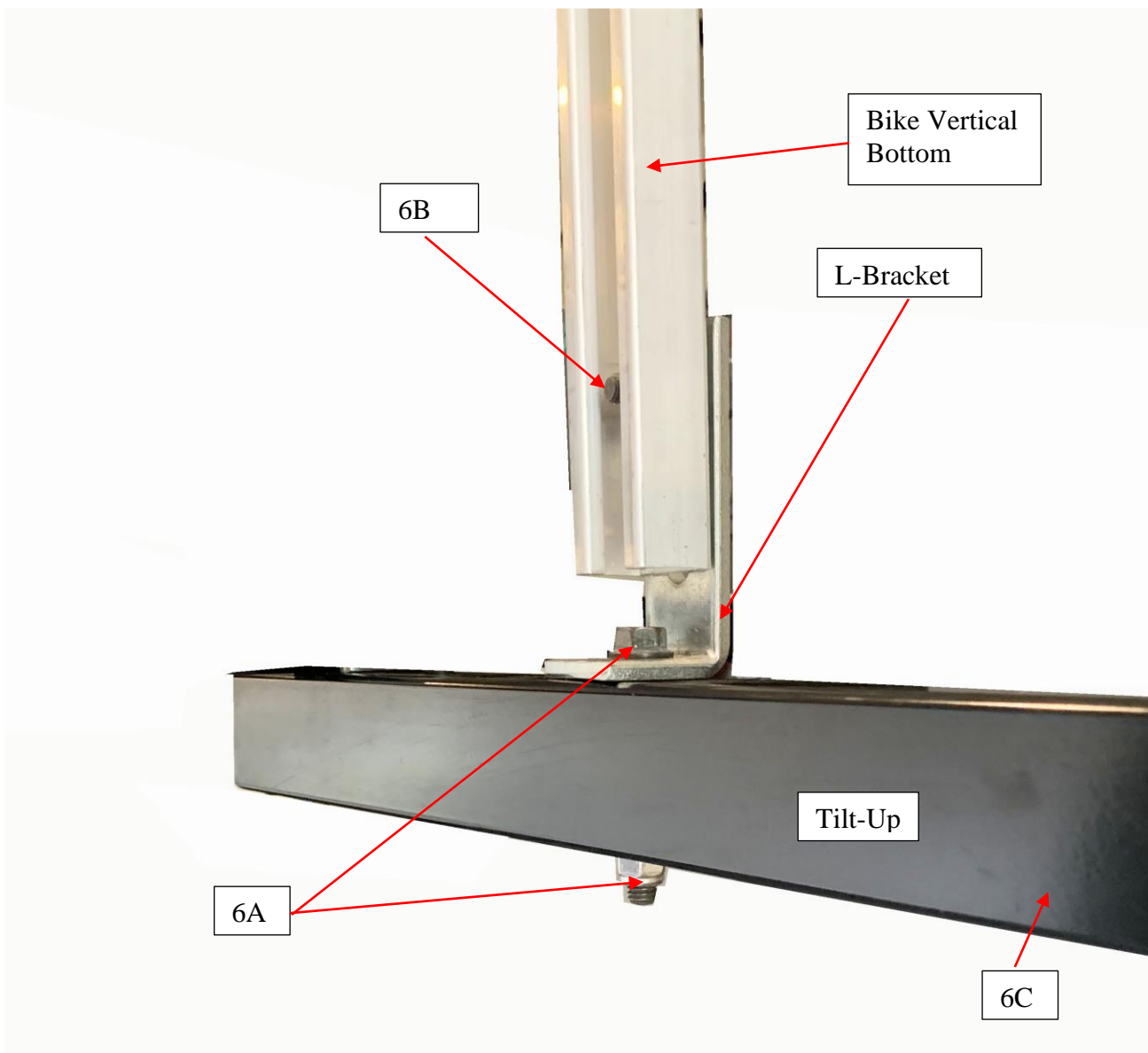


**Step 6: Attach the L-Bracket to the Tilt-Up and the Bike Vertical Assembly to the L-Bracket**

6A: Place (5) 3/8" washers under the head of a 3/8" x 3 5/64" hex head bolt with a hole for a cotter pin (**Only one washer is shown in the picture**). Place the bolt through the L-Bracket and the Tilt-Up in the hole that is 3 1/8" from the outer end of the Tilt-Up. Attach a 3/8" flat washer and a 3/8" slotted lock nut on the end of the hex head bolt and tighten snugly and put a Cotter Pin through a slot in the nut and the hole in the bolt. The nut should be snug but so that the L-Bracket can swivel. The L-Bracket will need to swivel when the Bike Verticals are attached to it, but it should not be loose.

6B: Place (4) 3/8" washers under the head of a 3/8" x 1 5/64" hex head bolt with a hole in the end for a hair pin. Pass the bolt through the bottom slot in the Bike Vertical Bottom and the top hole in the L-Bracket. Attach a 3/8" flat washer and a slotted lock nut on the end of the hex head bolt and tighten snugly so that the vertical can pivot on the L-Bracket and put a Cotter Pin through a slot in the nut and the hole in the bolt (**Cotter Pin not shown**). The nut should be snug so that the Bike Vertical Bottom can swivel. The Bike Vertical Bottom will need to swivel but it should not be loose.

6C: Do 6A and 6B for the hole that is 16.5" from the back end of the Tilt-Up



# Picture of Finished Rack

