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CycleSimplex Bike Rack Assembly Instructions

Simple Load One Trike Rack v7.0

Precautionary and Maintenance Information:

Caution: There are sharp edges. Wear gloves during assembly so as not to harm yourself

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. If the rack arrives damaged the cost of repairing the damage may be deducted from the refund.

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

Material List Simple Load One Trike Rack v7.0

Task	Carriage/Hex Head Bolts	Flange Head Bolts	Round Silver Washer	Lock Washer	Nylon Washer	Self Lock Nuts	Channel Nuts	Spacer	Square Washer	Square Nut
Attach 24" Trike Strut Channel to Trike Strut Square Tube		2- 3/8" x 2"				2				
Attach passenger side 36" Trike V-Tray to 24" Trike Strut Channel		2 - 3/8" x 1 3/4"				2			2	2
Attach driver side 36" Trike V-Tray to Trike Strut Square Tube	1 - 3/8" x 5" 1 - 3/8" x 4 1/2"		2(Thick) 2(Reg)			2		(2) 2"		
Attach Long Wheel Stop with 2 holes to driver side Trike V-Tray		2 - 3/8" x 1 3/4"	2			2				
Attach Strap Holder to passenger side Bike 36" V-Tray		2 - 3/8" x 1 3/4"				2				
Attach 36" Crossbar to Trike Strut-Square Tube using the U-Clamp		2 - 3/8" x 2				2				
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				
Attach Trike Strut to Tilt-Up using U-Clamp		2 - 3/8" x 3" Hex Head				2				1
3/8" Totals			4 Reg 2 Thick			17		2	2	3
Attach (2) L-Brackets to Trike Crossbar		2 - 1/2" x 1"		2			2			
Attach 36" Crossbar to Trike Strut-Square Tube using the U-Clamp (middle hole in U-Clamp)		1 - 1/2" x 1"		1			1			
1/2" Totals				3			3			

One Trike Rack v7.0



Trike Strut – Square Tube (The Delta Is 47” Long and the Tadpole Is 36” Long)



Trike Crossbar



Tilt Up for One Trike 20” long



Tilt Insert (May be 2” or 1.25” square and 16.5” long)



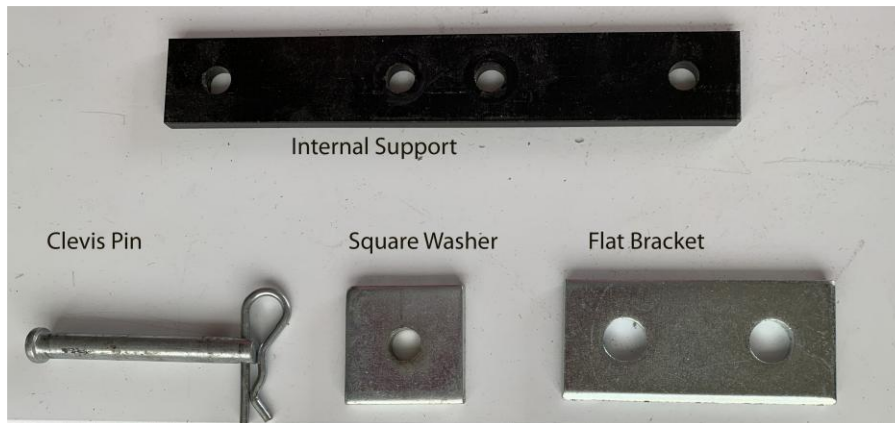
Trike Channel



L-Bracket



Tilt Mechanism Sides



Internal Support

Clevis Pin

Square Washer

Flat Bracket

You may not have all of these



V-Tray Trike Passenger Side



V-Tray Trike Driver Side

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.

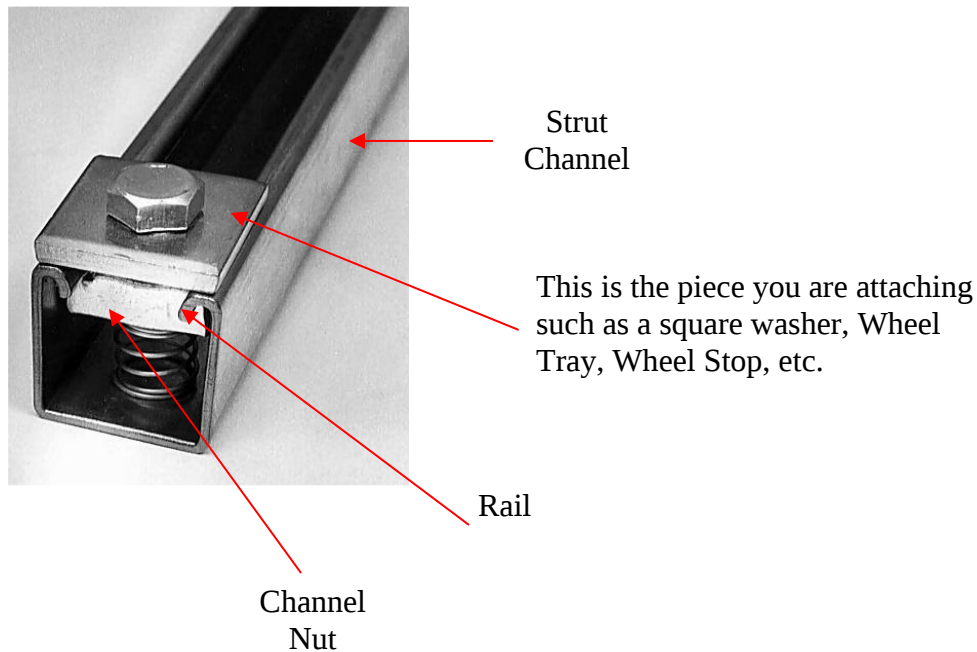
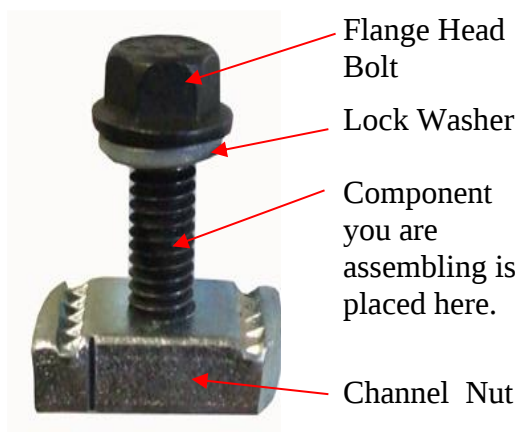


Figure 2: All Bolts requiring a Channel nut must be assembled in the following fashion. This is a Bolt and Channel Assembly. This does not come as an assembled part. You have to assemble each as required in the instructions.

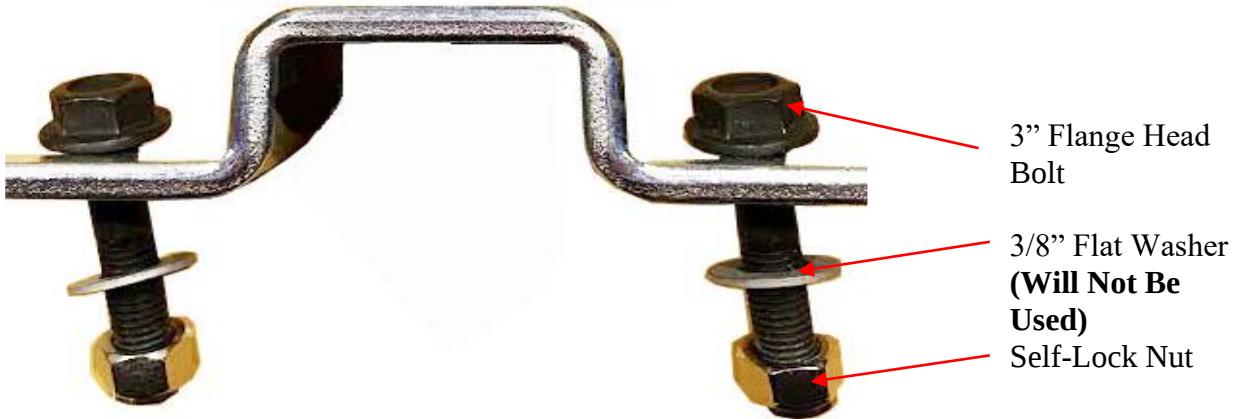


Step 1A: You will create one of each U-Clamp Assembly to be used later

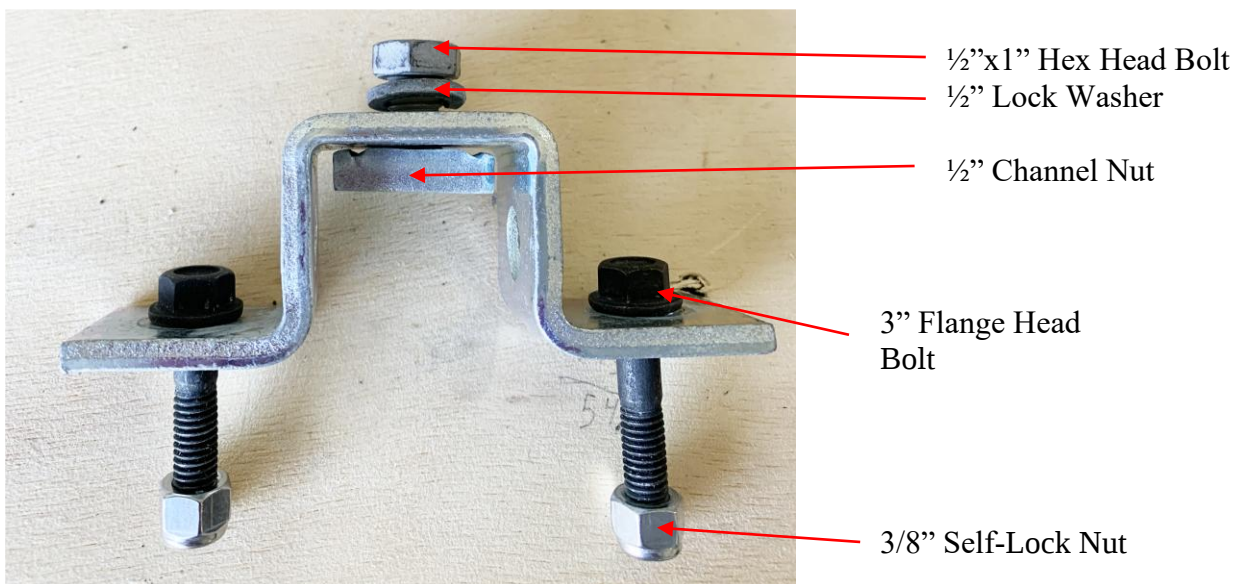
(1) Trike Crossbar to the end of the Trike Strut

(2) Trike Strut to the Tilt-Up

1. Trike Strut to Tilt-Up U-Clamp (1" Deep). This will be used in Step 4



2. Trike Crossbar to Trike Strut U-Clamp (1 5/8" Deep). This will be used in Step 7.



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

Step 2A

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

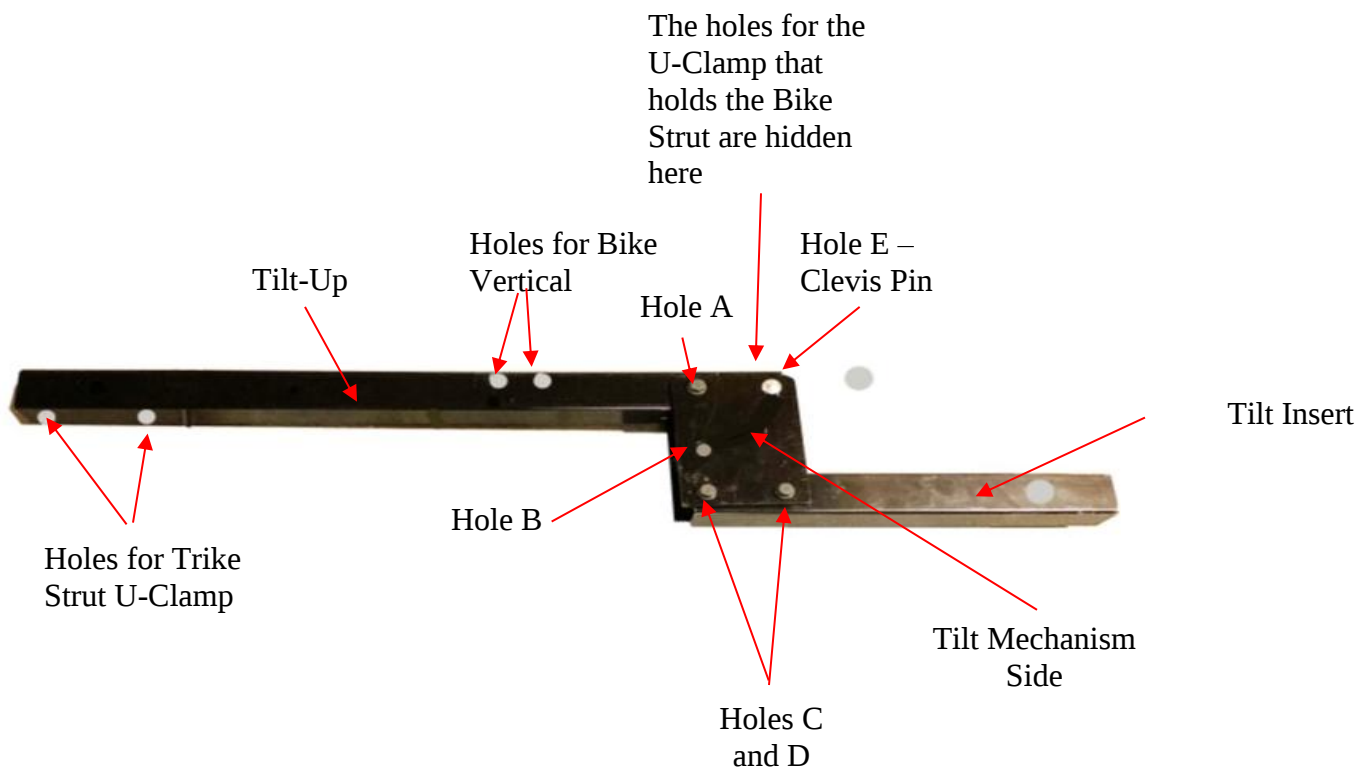
Pass the Clevis Pin through Hole E. Insert the Hair Pin into the hole in the end of the Clevis Pin.

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 2B

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



Step 3–Assemble the Trike Strut – Square Tube and Trike Channel Assembly as shown below:

3A: If you have a delta trike, use this Step 3A. Lay the Trike Strut Channel (24” long) and the Trike Strut - Square Tube (1.25” x 1.25” x 47” long) as shown below so that the total length of the two components is your delta trike’s wheelbase plus 10 inches

3B: If you have a tadpole trike, use this Step 3B. Lay the Trike Strut Channel (24” long) and the Trike Strut - Square Tube as shown below so that the total length of the two components is the distance from the back edge of the rear wheel to the axel of the front wheels plus 2”.

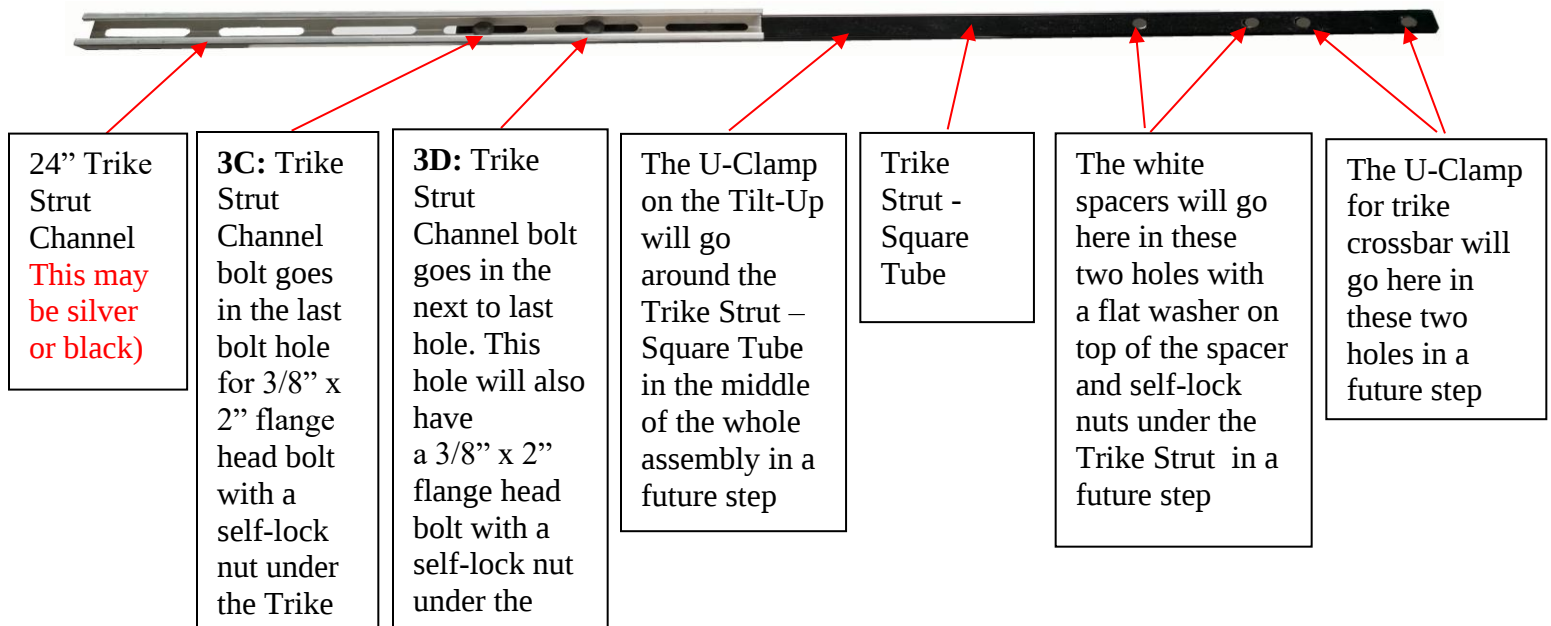
For either type trike do the following:

3C: Fasten the 24” long Trike Strut Channel on top of the Trike Strut – Square Tube. Using the last two holes to the left end of the Trike Strut – Square Tube. Pass a 3/8” x 2” flange head bolt through the Wheel Extension and the last hole to the left in the Trike Strut – Square Tube. Place a flat washer and then a self-lock nut on the bolt and finger tighten.

3D: Do this again for the next to last hole to the left of the Trike Strut – Square Tube and the Wheel Extension. This will be depicted in below.

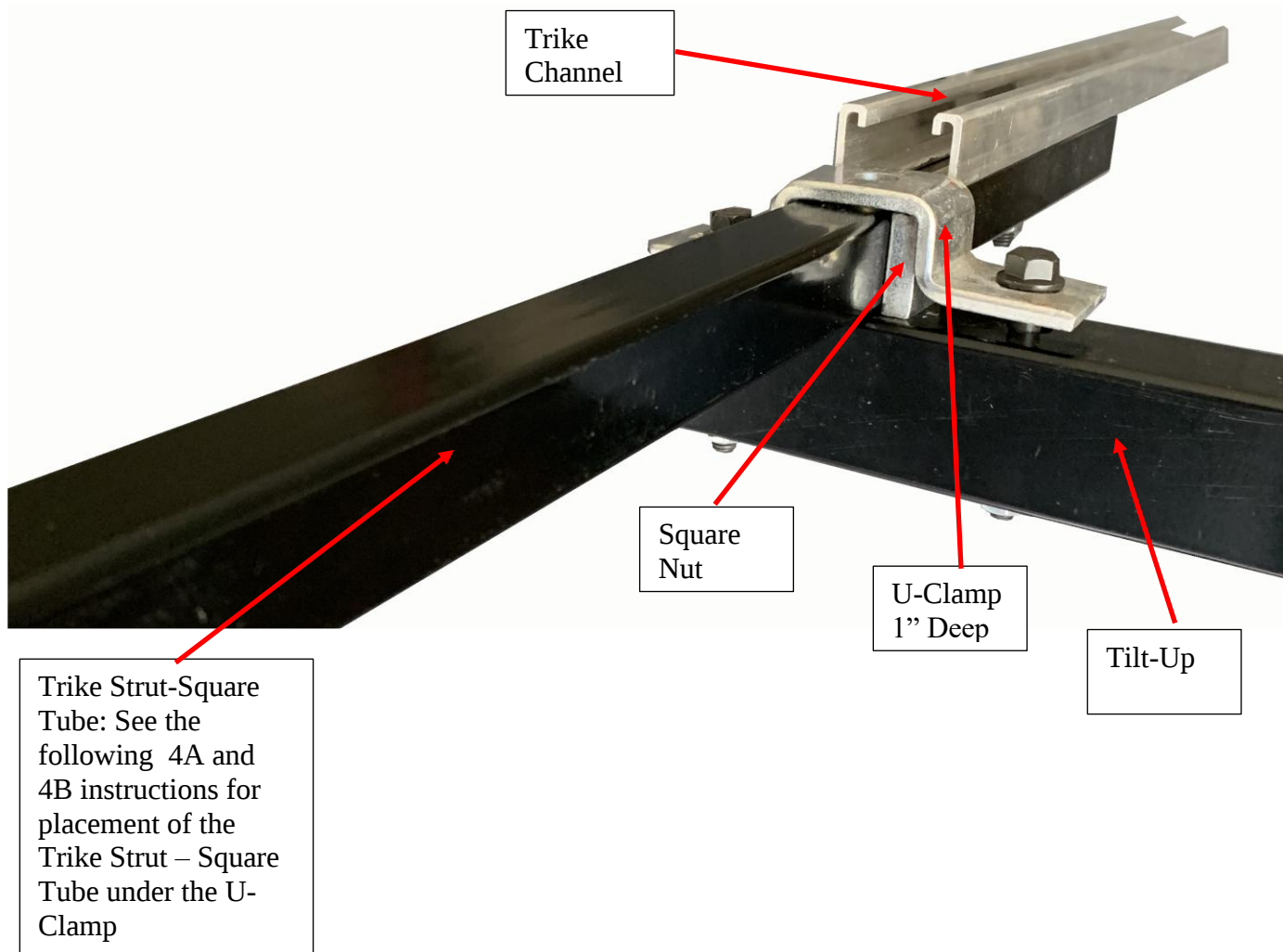
Tighten both nuts

This Assembly will be attached to the Tilt-Up with a U-Clamp later



Step 4: Attach the Trike Strut - Square Tube and Trike Channel Assembly made in Step 3 to the Tilt-Up using the U-Clamp.

As shown below you are going to place the U-Clamp over the Trike Strut – Square Tube and attach the 1” U-Clamp to the Tilt-Up using the two 3/8” x 2” flange head bolts in Step 1. The U-Clamp will not be snug against the Trike Strut- Square Tube so you will have to put a Square Nut inside the U-Clamp as shown below. Gradually tighten each 3/8” bolt evenly so that the U-Clamp holds the Trike Strut – Square Tube and the Square Nut tightly. It is OK to bend each arm of the U-Clamp a little as you tighten the bolts.



If you Have a delta rack, use Step 4A:

4A: Align the Trike Strut – Square Tube and Wheel Extension Assembly within the U-Clamp and over the Tilt-Up so that the Assembly is 5” longer on the side with the Trike Wheel Extension

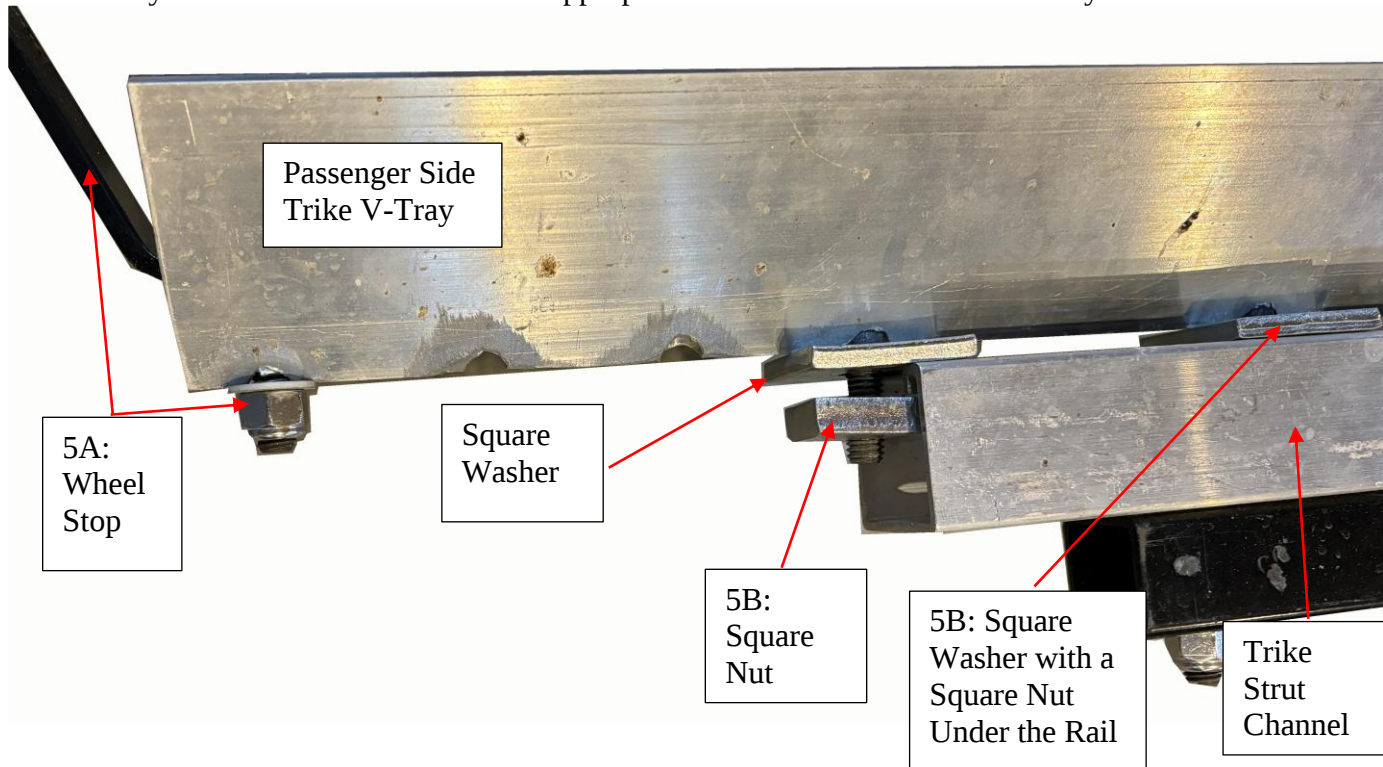
If you have a tadpole rack, use Step 4B:

4B: Measure the distance from the back edge of your rear tire to the end of the boom by the front wheels. Divide that length by 2. This is the distance from the outside end of the Wheel Extension to the U-Clamp in the picture above. You may have to slide the Trike Strut – Square Tube within the U-Clamp later to align the trike behind the vehicle.

Step 5: Assemble the Trike V-Tray Passenger Side and attach it to the Trike Channel. The Trike V-Trays are both 36" long.

5A: Attach the Wheel Stop to the V-Tray with two $\frac{3}{8}$ " x $1\frac{3}{4}$ " flange head bolts. Put a flat washer next to the head of each bolt and pass the bolts through the V-Tray and place a flat washer and a self-lock nut on each bolt and tighten. **The picture shows only one bolt**

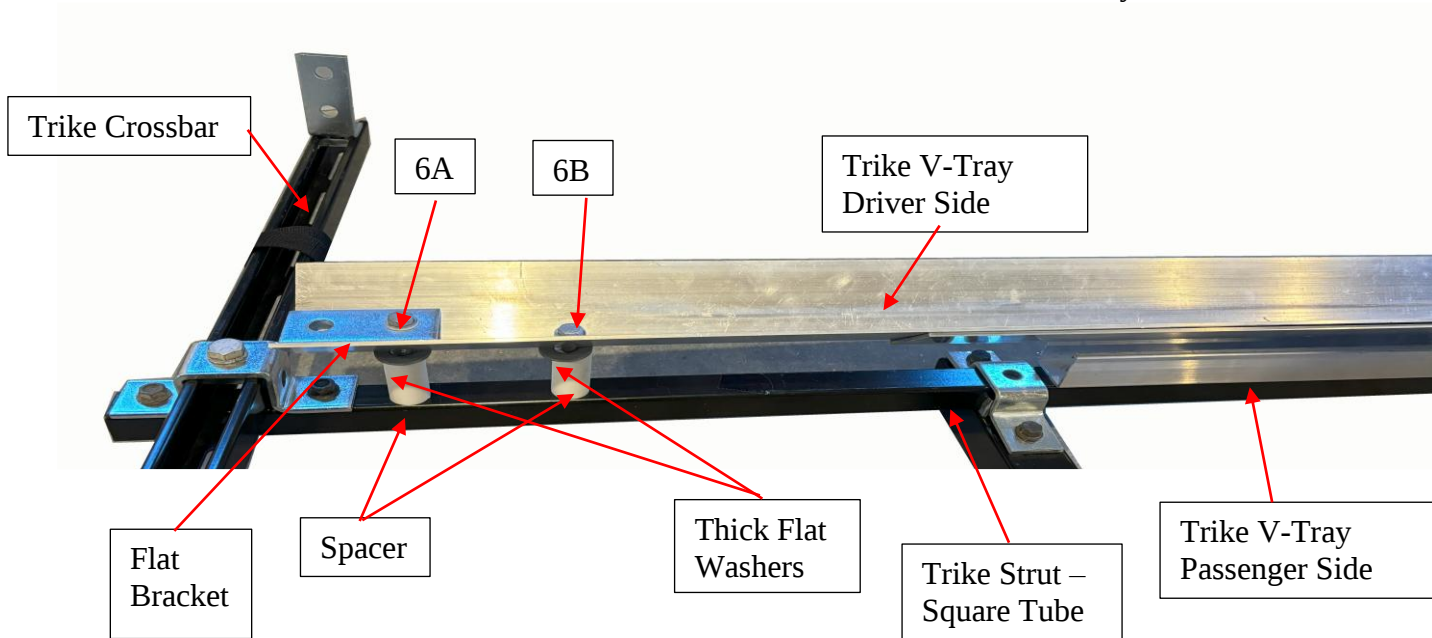
5B: Place a flat washer next to the heads of two $\frac{3}{8}$ " x $1\frac{3}{4}$ " flange head bolts and pass the bolts through the trike driver side V-Tray as shown below. The bolts go through the 4th and fifth holes from the end. There will be a square washer and square nut on the ends of the bolts. Slide the V-Tray into the Trike Channel to the appropriate distance for the wheelbase of your trike.



Step 6: Attach the Driver Side V-Tray to the Trike Strut – Square Tube

6A: Set the Trike V-Tray Driver Side on top of the Trike V-Tray Passenger Side as shown in the picture below. Place the two-hole flat bracket over the end hole in the trike v-tray and pass the 3/8" x 5" hex head bolt through the flat bracket the V-Tray, the spacer and the trike strut square tube. The spacer should have a thick 3/8" washer between the spacer and the v-tray. Place a 3/8" self-lock nut on the end of the bolt and tighten a little.

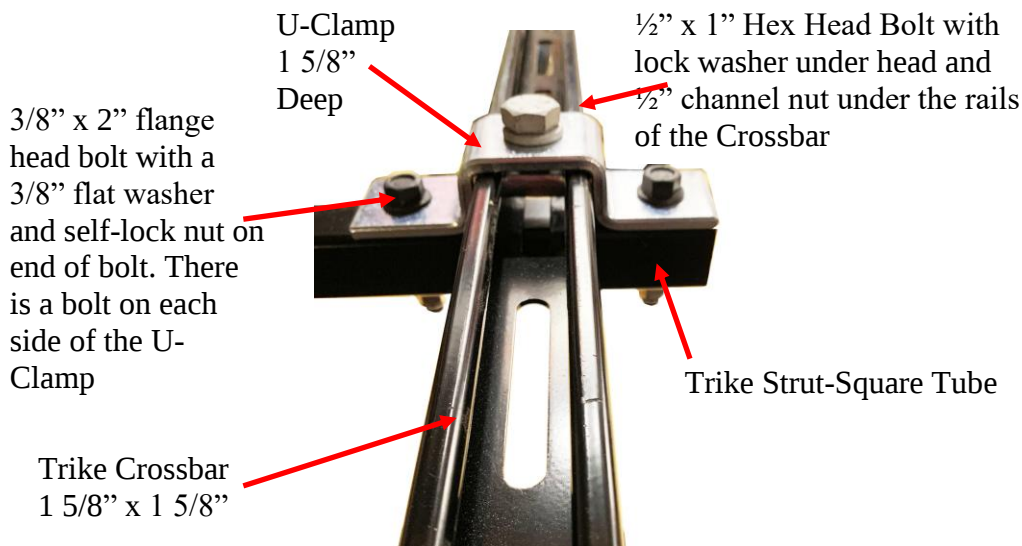
6B: Do the same with the 3/8" x 4 1/2" hex head bolt with the other hole in the v-tray.



Step 7– Assemble the Trike Crossbar to the Trike Strut – Square Tube.

The Trike Crossbar U-Clamp and Trike Crossbar will be placed on the passenger end of the Trike Strut – Square Tube indicated above

The U-Clamp (Step1) will attach the Crossbar to the Trike Strut as shown below.



Step 8: Attach the (2) L-Brackets to the Trike Crossbar: Measure the distance from the outside of one tire to the outside of the other tire. This will be the distance between the L-Brackets. Place a ½" lock washer under the head of each 1" x ½" hex head bolt and place the bolts through each L-Bracket.

Place a channel nut on the end of the bolts. Slide the channel nuts inside the Trike Crossbar so that the channel nuts are on the rails of the Crossbar and tighten so that the L-Brackets are on the outside of each wheel.

The L-Brackets can also go to the inside of each wheel.



1" x ½" hex head
bolt with lock
washer under the
head and channel
nut on the end

Picture of Finished Rack



The straps holding the front wheels of the tadpole trike or the rear wheels of the delta trike will be like straps in the picture below.



Straps on both the dual wheels that go around the Crossbar and the wheel of the trike

The straps holding the rear wheel of a tadpole trike or the front wheel of a delta trike is shown below.



Straps that go around the Wheel Stop and the rear tire of a tadpole trike and the front tire on a delta trike