



Eco-Delta Supplemental Owner's Manual



CONGRATULATIONS!

Congratulations and welcome to the Sun Seeker Recumbent family! You have selected one of the most comfortable and advanced recumbents on the market. Please read this manual before riding your Sun Seeker Recumbent. In this manual you will find that we cover the basics for setting up and understanding your new recumbent.

IMPORTANT:

This manual is only a supplement to the main Recumbent Bicycle/Tricycle Owner's Manual. Read it before you take the first ride on your new recumbent bicycle/tricycle, and keep it for reference.

NOTE:

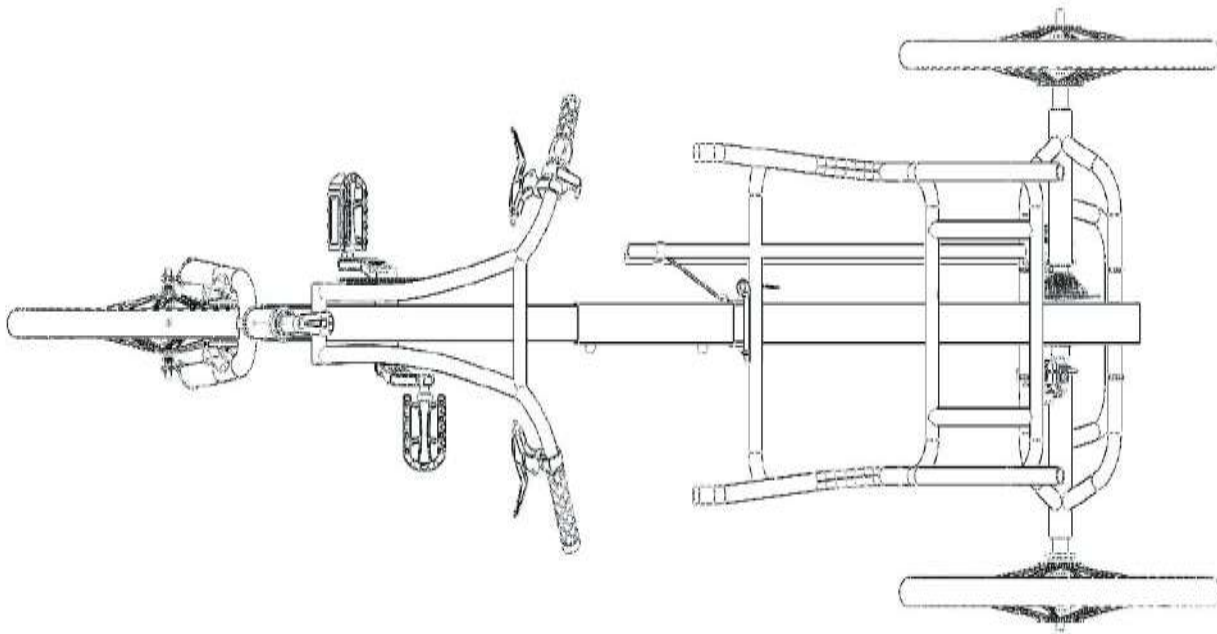
This manual is not intended as a comprehensive use, service, repair or maintenance manual. Please see your dealer for all service, repairs or maintenance. Your dealer may also be able to refer you to classes, clinics or books on bicycle use, service, repair or maintenance.

Eco-Delta Specifications

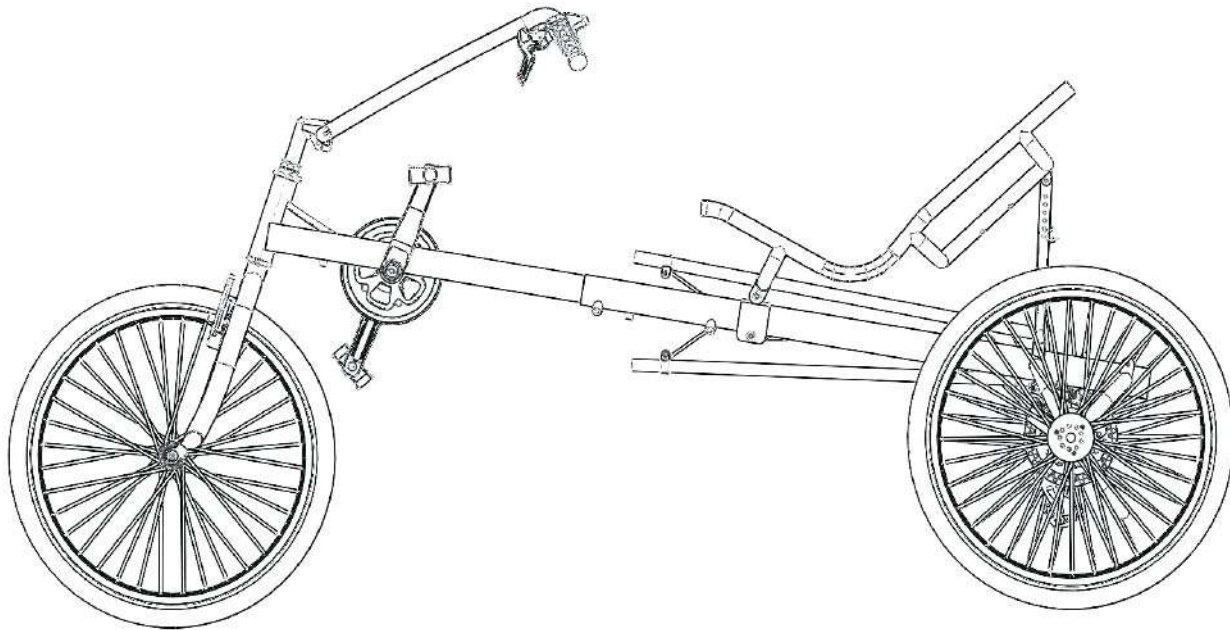
Model:	Eco-Delta SX
Style:	Delta Trike
Frame Material:	Hi-Ten Steel
Fork Material:	Hi-Ten Steel
Handlebar Material:	Steel
Steering System:	Over Seat
Seat Type:	1-piece - Padded Base w/Steel Frame & Full Mesh
Wheelbase:	42-1/2" - 63" (126 – 160 cm)
Overall Length:	68-3/4" – 82-1/4" (125 – 209 cm)
Width:	30-1/2" (77.5cm)
Bottom Bracket Height:	20" (51cm)
Seat Height:	20-1/2" – 22-3/4" (52-58cm)
Weight:	57 lbs.
X-Seam :	31" - 53" (31-79cm)
Weight Limit:	300 lbs.
Gear Inch Range:	22 - 55
Headset:	Threaded Steel
Drive Type:	Direct 7 speed Derailleur
Pedals Type:	Toe Clip Compatible
Crankset:	Single Alloy 170mm 38t
Bottom Bracket:	Square Taper
Chain Type:	KMC Z-51
Front Derailleur:	N/A
Rear Derailleur:	Sunrace RD-M37
FW/Cassette Range:	13-32
Shifters Set:	Sunrace TS-M28 Twist
Brake Levers:	Promax Locking Linear Pull
Brake Caliper Front/Rear:	Promax Linear Pull / Promax DSK-400 Mechanical Disc
Rims / Spokes:	Alloy Single Wall / Stainless Steel
Tires / Size:	Kenda Kwest 20x1.50 40-65psi
Water Bottle Cage Mounts:	2-Handlebar / 2-Seat Back
Note: Specifications subject to change without notice.	

Eco-Delta Reference Views

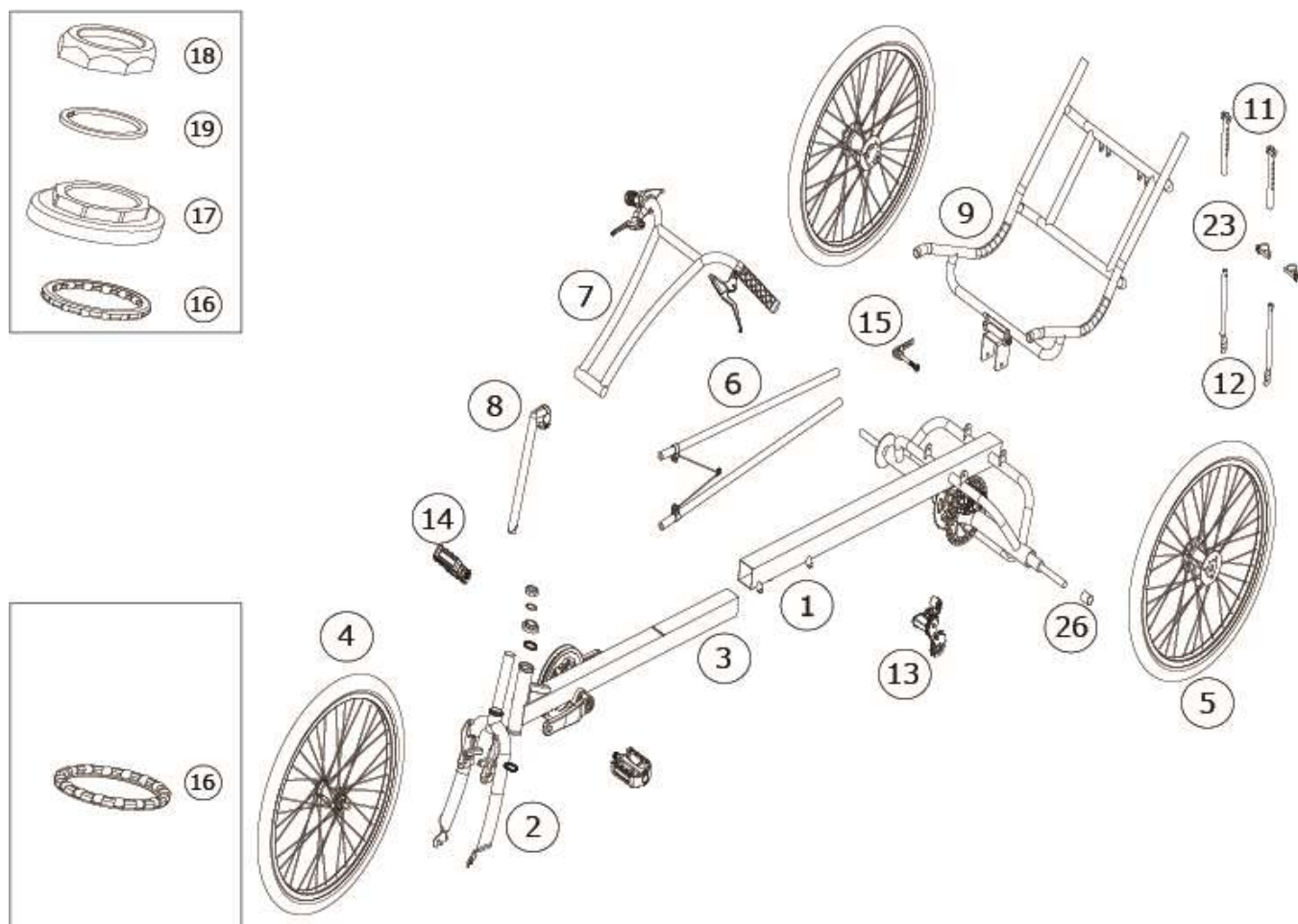
Side View



Top View



Eco-Tad Assembly Reference



ECO-DELTA PARTS LIST		
ITEM	DESCRIPTION	QUANTITY
1	Main Frame Assembly	1
2	Fork Assembly	1
3	Crank & Front Wheel Boom Assembly	1
4	Front Wheel Assembly	1
5	Rear Wheel Assembly	1
6	Chain Tube Assembly	2
7	Handlebar Assembly	1
8	Handlebar Stem	1
9	Seat Frame Assembly	1
10	Seat Mesh (Not Pictured Above)	1
11	Upper Seat Strut 5/8"x 150mm	1
12	Lower Seat Strut 1/2"x 400mm	2
13	Rear Derailleur	2
14	Pedals	1
15	Quick Release Seat Pin M8*95mm	1
16	Headset Bearing	2
17	Headset Lock Nut	1
18	Headset Top nut	1
19	Headset Spacer	4
20	Chain (Not Pictured Above)	6
21	Cable Tie (Not Pictured Above)	4
22	Spare Bolt M8*110mm for optional Alloy Seat Frame (Not Pictured Above)	2
23	Seat Strut Pin	2
24	Rear Wheel Nylock Retaining Nut M14	1
25	Rear Wheel Washer M15*2mm	2
26	Rear Wheel Spacer 23mm	1

Assembly Guide

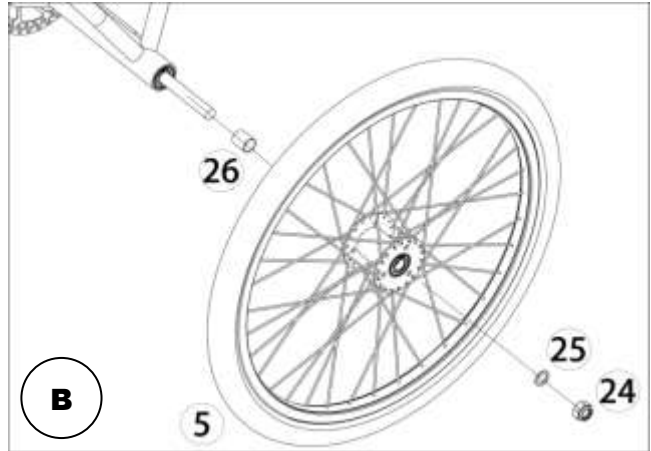
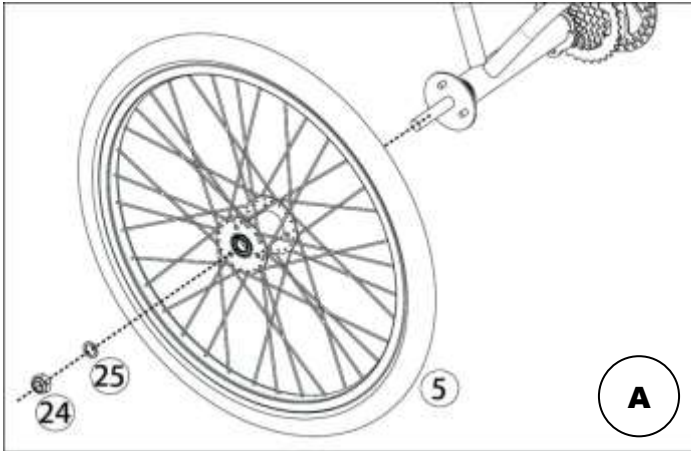
Rear Wheel Installation

1. Install #5 Wheel Assembly

Assemble #5 Rear Wheel, #25 Rear Wheel Washer M15*2mm and #24 Rear Wheel Nylock Retaining Nut M14 onto right side (drive side) rear axle. See Figure A.

Assemble #26 Rear Wheel Spacer 23mm, #5 Rear Wheel, #25 Rear Wheel Washer M15*2mm and #24 Rear Wheel Nylock Retaining Nut M14 onto left side (non drive side) rear axle. See Figure B.

NOTE: DO NOT OVER TIGHTEN the retaining nut on the LEFT side (non drive side). The nut should be tightened then backed off ½ turn to leave approximately 1 to 2mm of side play.

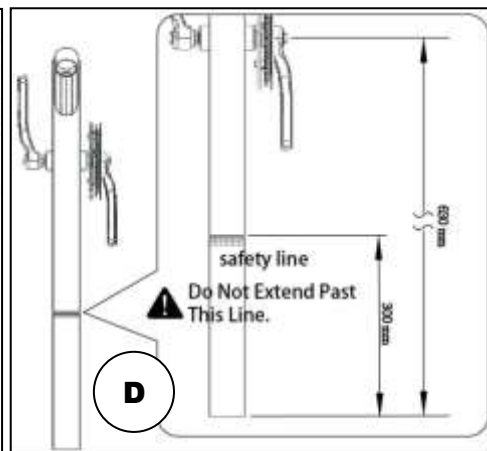
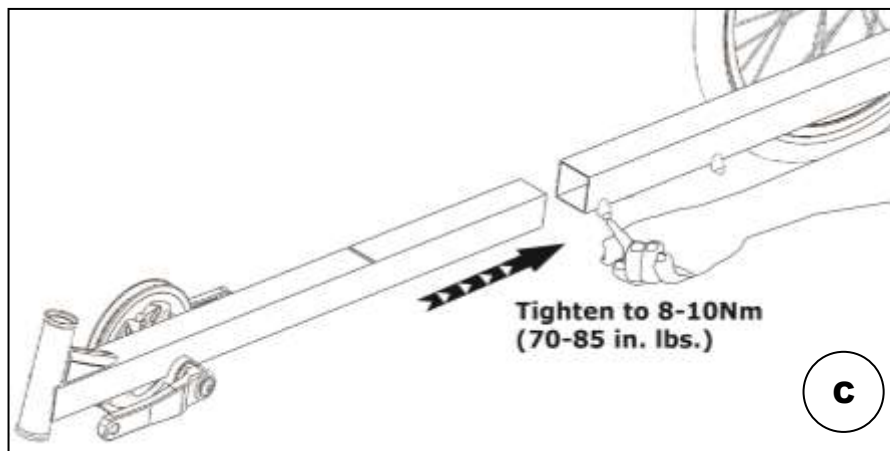


Crank & Front Wheel Boom Installation

1. Install #3 Crank & Front Wheel Boom Assembly

Insert #2 Crank & Front Wheel Boom Assembly into the front of the frame. For now, insert midway and secure boom bolts. See Figure C.

NOTE: DO NOT extend Crank & Front Wheel Boom Assembly past its marked safety line. See Figure D.

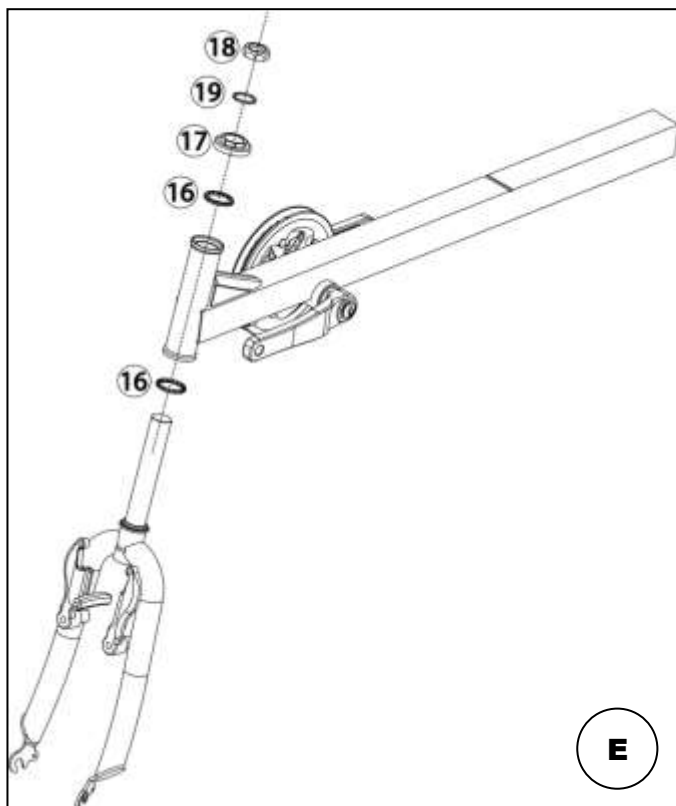


Front Fork Installation

1. Install #2 Fork Assembly

Assemble #16 Headset Bearing (lubricate bearing with grease) onto steer tube of #2 Front Fork Assembly. Insert steer tube into head tube as shown below in Figure E.

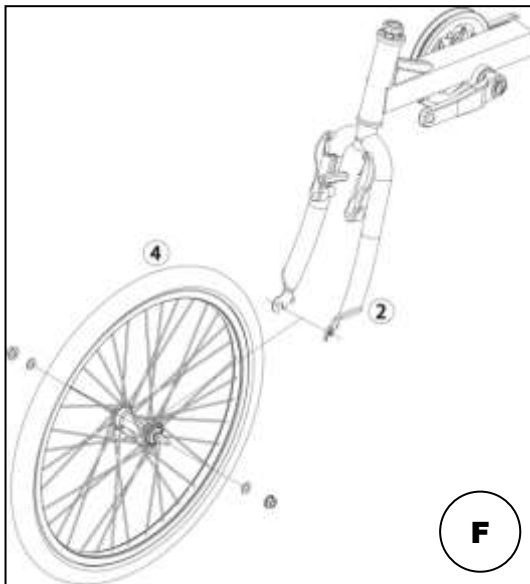
Assemble remaining #16 Headset Bearing (lubricate bearing with grease), #17 Lock Nut, #19 Spacer and #18 Top nut onto the remaining top portion of the steer tube.



Front Wheel Installation

1. Install #4 Front Wheel Assembly

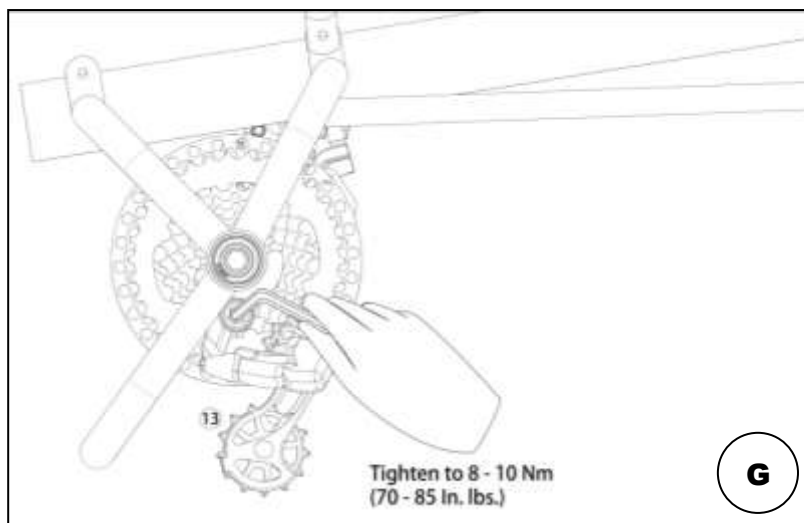
Insert #4 Front Wheel onto the #2 Fork drop outs. See Figure F.



Derailleur Installation

1. Install #3 Rear Derailleur

Install #3 Rear Derailleur onto the rear frame derailleur tab. See Figure G.



Chain and Chain Tube Installation

1. Insert Chain Into Chain Tubes

Insert the chain into the chain tubes. Make sure the “Y” spring brackets are pointed toward the rear of the trike.

2. Install Chain Onto Crank

Pull enough chain to go around crank. See Figure H.

3. Route Chain Through Derailleur

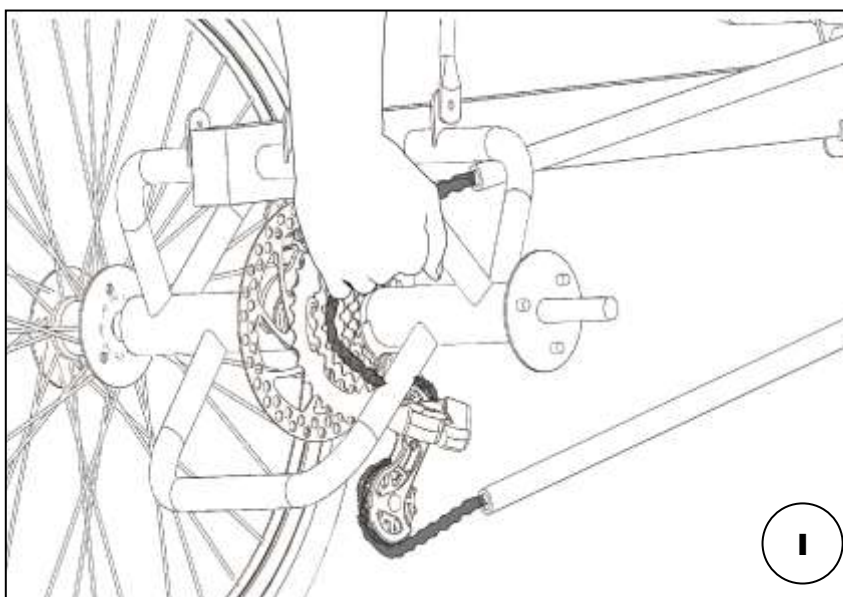
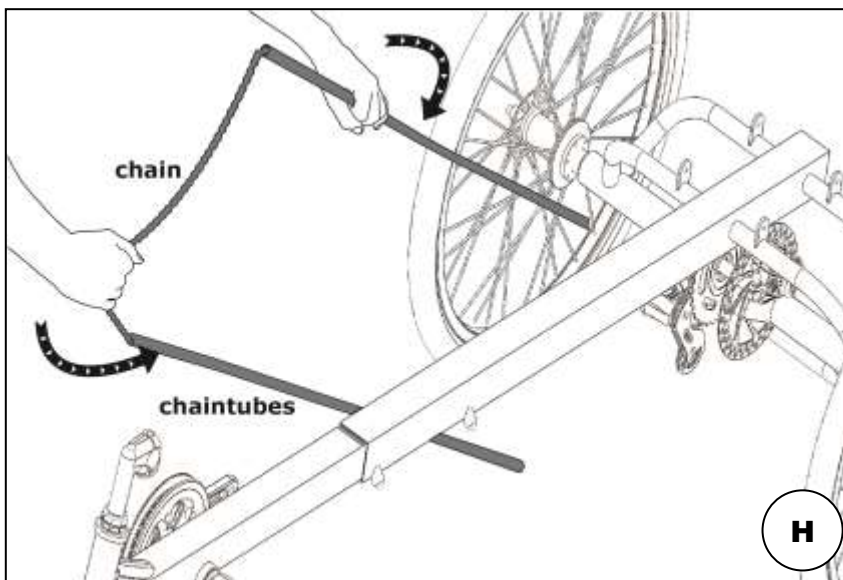
Route the open end of the chain through the derailleur then close the chain.

4. Install Chain Tube Bracket

Secure the brackets to the frame.

NOTE: Chain length is set for crank boom at its fully extended position. Chain and chain tubes may have to be shortened as necessary. Do not shorten until the rider has been fitted properly.

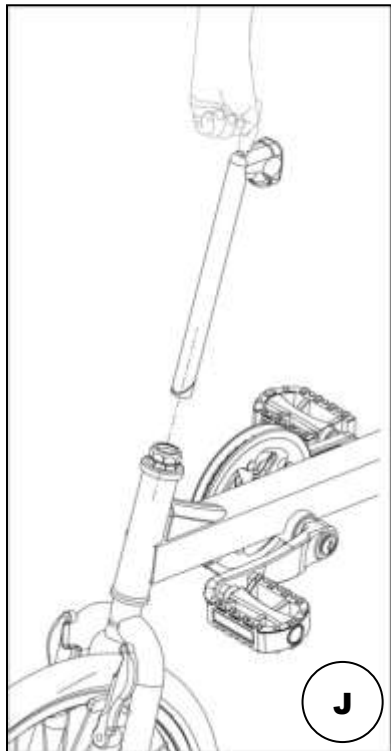
NOTE: Adjust the upper rear chain tube to be far enough from the freewheel to not affect shifting. See Figure I.



Handlebar Stem Installation

1. Handlebar Stem

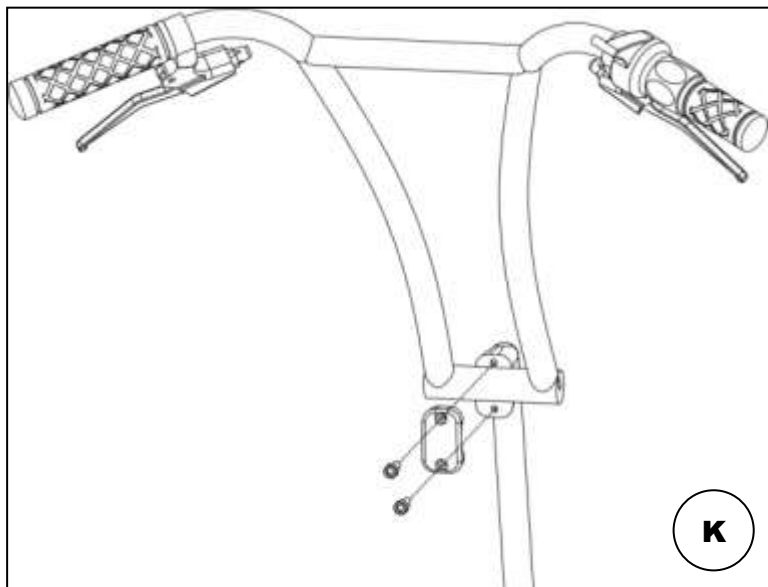
Install #8 Handlebar Stem into #2 Fork. See Figure J.



Handlebar Assembly Installation

1. Handlebar Assembly

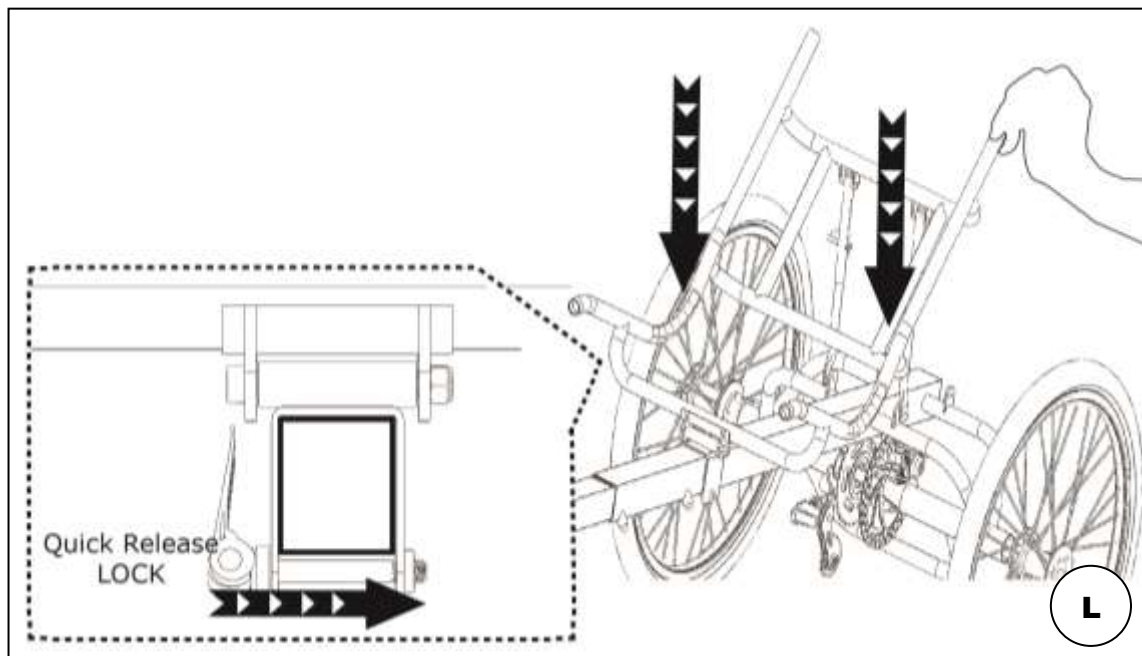
Install #7 Handlebar Assembly onto #8 handlebar Stem. See Figure K.



Seat Assembly Installation

1. Install Seat Frame Assembly

Install #9 Seat Frame Assembly onto frame and secure with #15 Quick Release Seat Pin M8*95mm. See Figure L.



2. Install Upper Struts

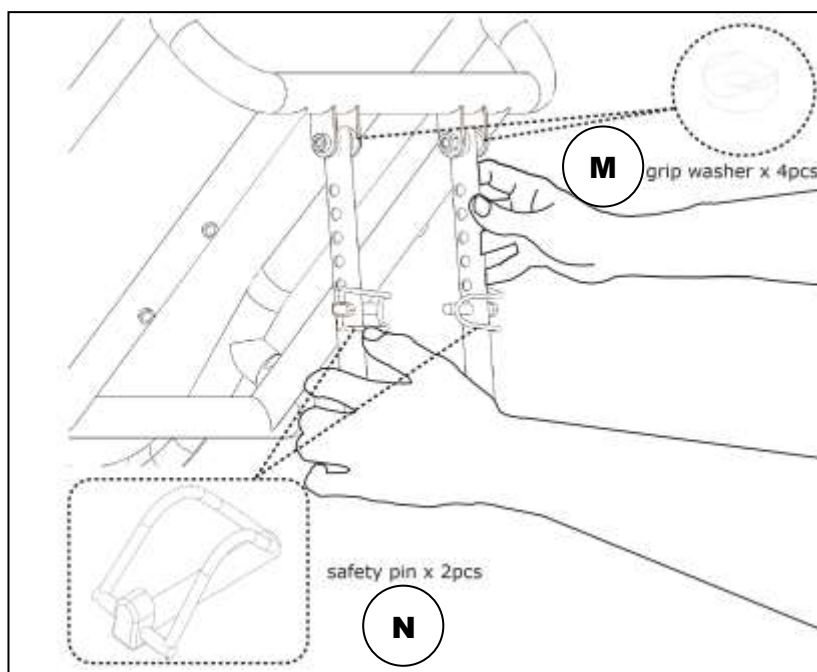
Install 2 #11 Upper Seat Struts and ½ moon washers to the seat frame with the provided hardware. See Figure M.

3. Install Lower Struts

Install 2 #12 Lower Seat Struts to the lower frame tabs with the provided hardware.

3. Strut Pins

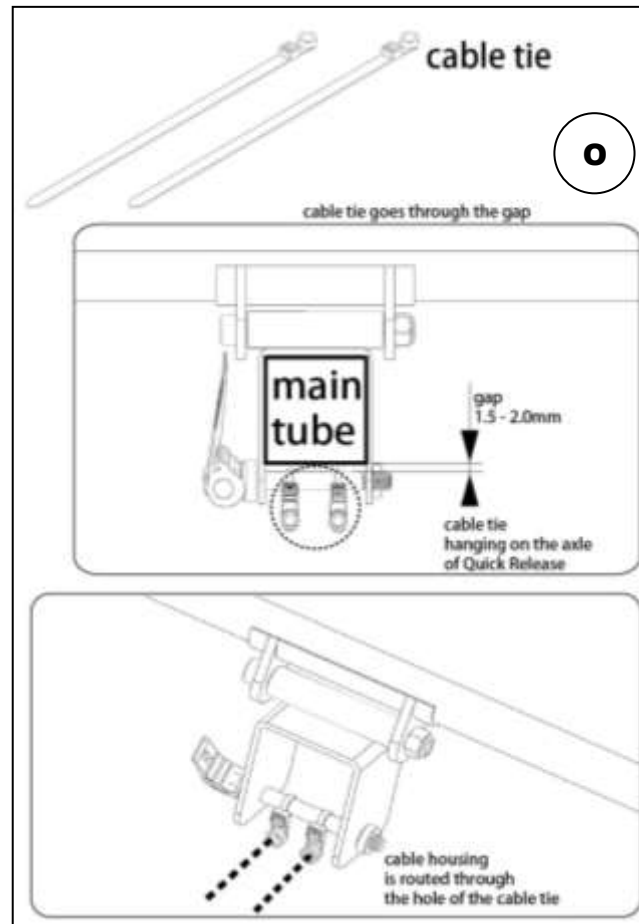
Insert the lower struts into the upper struts and use 2 #23 Strut Pins to secure the struts. . See Figure N.



Cable Guide Installation

1. Installing Cable Ties

Thread 2 #21 Cable Ties over the #15 Quick Release Seat Pin and zip them onto the pin. Trim the ties and route the rear brake and derailleur cable through the eye of the cable tie. See Figure O.



Pedal Installation

1. Installing Pedals

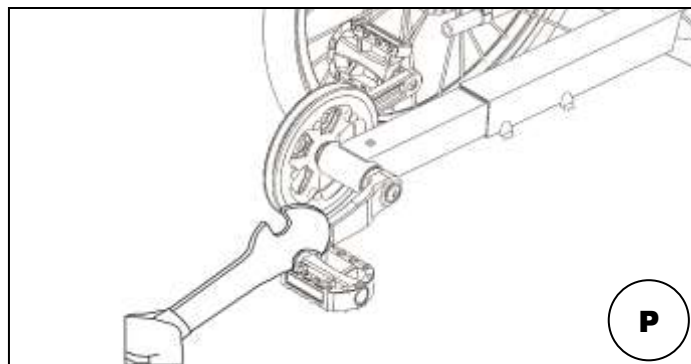
Apply grease to the threads of the pedal spindle. This will protect both the threads of the pedal and crank arm over time.

Use pedal washers where required.

Using your hands, thread the pedal spindle into the crank arm by turning it toward the front of the bike.

Once the threads catch use your pedal wrench to finish tightening down the pedals. See Figure P.

Torque down the pedals to a minimum of 300 in-lbs of torque.

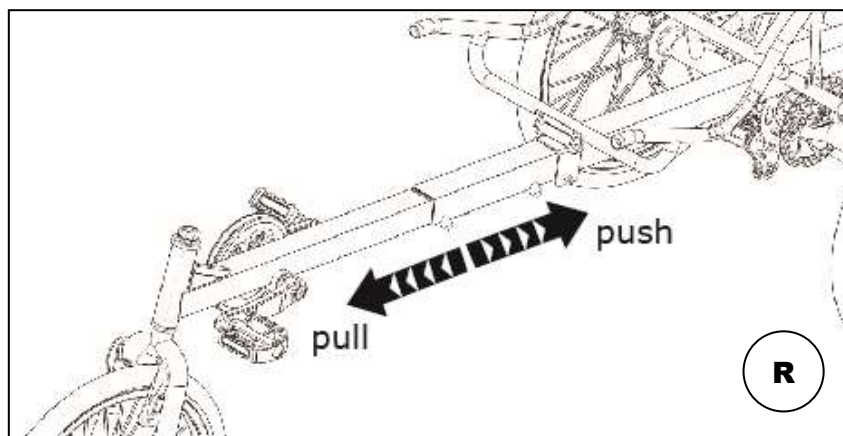
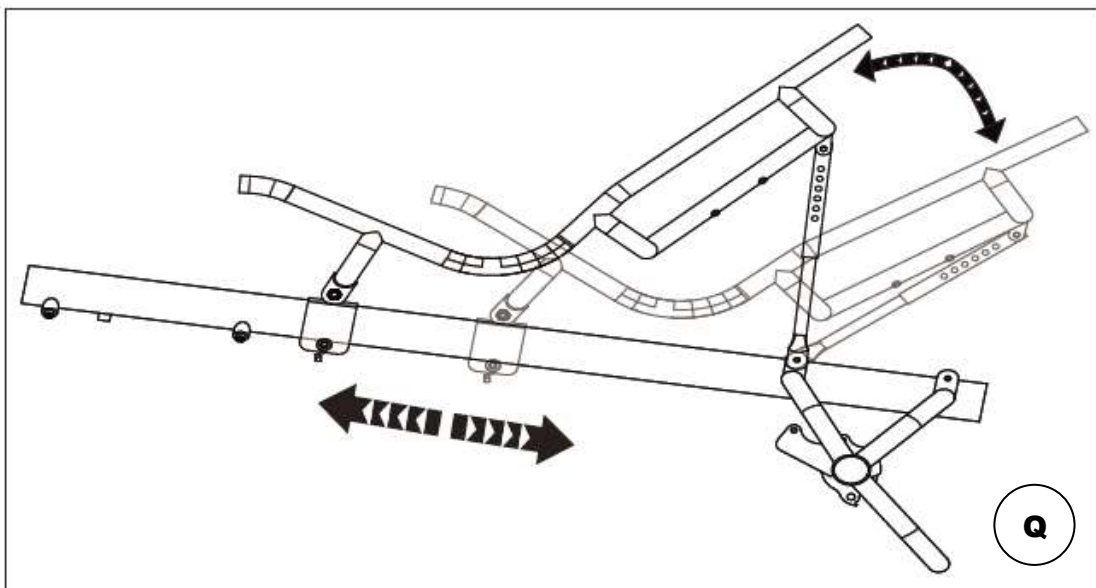



Fit Adjustment

1. Adjusting Seat and Boom

1. The goal is for your seat (and therefore your weight) to be as far back as possible when your set up is complete.
2. Loosen and slide the #10 Seat Frame Assembly rearward on the Main Frame until in a comfortable seating position. Adjust the seat angle by removing and reinstalling the #27 Strut Pins into a new position on the Seat Struts if necessary. See Figure Q.
3. Loosen the Crank Boom Clamp Bolts and position the boom so that when seated, your knee should be just slightly bent when the forward foot is in the farthest position. See Figure R.
4. Re-tighten the Crank Boom Clamp Bolts to the specified torque setting.
5. If you cannot extend your leg forward enough, you can then move the seat forward to get the proper fit.

Note: Your chain may need to be lengthened or shortened depending on your final seat and boom position. Seat struts can be trimmed and re-drilled as necessary to provide a perfect fit.



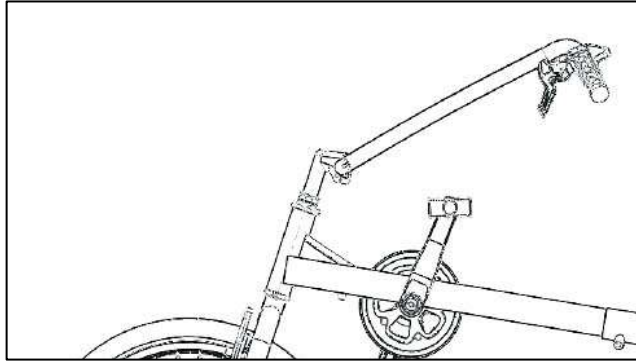
 **CAUTION:** Never lubricate or wax the part of the boom that goes into the frame. See Figure S.

2. Adjusting Handlebar and Stem

1. Stem height can be adjusted to provide desired toe clearance during pedal stroke.

NOTE: DO NOT extend stem past its marked safety line.

2. Handlebar can be rotated up or down for desired comfort. To prevent numbness of the hands or fingers be sure to keep your hand position just below the level of your heart while seated.



3. Once handlebar position is set you can now adjust the controls for comfort.

WARNING: Make sure once you have made all your handlebar, stem and control adjustments that you do not have any leg or knee interference with the handlebar or stem. Failure to do so may result in loss of control resulting in a serious or fatal accident.

