

Co-Pilot **Single** Travel Bikes

Packing and Traveling
with your Co-Motion bike

Pinion Co-Pilot



**Eugene Oregon
USA**

Toll free 1-866-282-6336

Congratulations!

The **Co-Motion Co-Pilot** equipped with a *Pinion* gearbox is an excellent choice for world travel. These instructions will help you feel comfortable with packing and assembly of your new bike. Soon enough you'll be looking for more destinations to take your bike with you.

Your Co-Pilot bike is designed to fit into a 26 x 26 x 10" travel case. These dimensions are important because they fall within the non-oversize bag regulations stipulated by most airlines, saving you from additional bag fees.

Using our Co-Pilot travel case you will have room for the complete bike plus some essentials like pedals, tools, clothing, maps and small bike bags. Keep in mind the Co-Pilot travel case is designed to meet the airline regulations, therefore it won't have room for racks, panniers or fenders.

Getting Started

The first rule here is to avoid rushing and situate yourself in an area with enough room for you, the bike and the travel case. You'll need the following items, at a minimum, and your particular setup may require additional tools:

- Universal spanner that fits the S&S couplers
- A multi-tool or Allen tools in sizes 4mm, 5mm, 6mm
- A pedal wrench for your particular pedal type
- Torx T25 wrench and Centerlock rotor tool if needed
- Some rags or towels to clean up grease
- A sharp pair of scissors and paint pen
- A bag of zip-ties and Padding kit ready to cut or install
- Torque wrench with Allen adapter

If you're not familiar with bicycle terms, a knowledgeable friend or bicycle maintenance manual will be helpful.

Step-by-Step

Using your coupler spanner, loosen both couplers just enough so that they will turn easily by hand. Standing over the bike, push the spanner toward the non-drive side of the bike, counter-clockwise to loosen.



Next use the appropriate pedal wrench and remove your pedals. (**Note:** the left pedal is reverse threaded. With wrench pointed upward, both pedals loosen when rotated toward the back of the bike. Counter-clockwise for the right pedal, clockwise for the left pedal). Remove any water bottle cages, pannier racks and all accessories like bags, frame pumps, lights and computers.





Use an Allen wrench to loosen the seat post clamp and remove the seat post with saddle attached. Turn the bolt counter-clockwise to loosen but do not remove the bolt. After the post has been removed re-tighten the bolt slightly so it won't come out during transit.



Use your cable splitters to separate the gear box cables and rear brake cable. **Note:** turn only the female side of the splitter (side with no set screws) counter clockwise to remove.



Use the appropriate Allen wrench to remove the handlebar stem's faceplate. Replace the faceplate and bolts after removal so that the parts don't get lost.

Loosen the gearbox cable housing adjusters on the upper section of the down-tube. Once they are removed the cables and adjusters can be removed from the frame.



Now you can remove the wheels and fenders if installed on the frame and fork. We recommend removing the disc brake rotors from the hubs to ensure they stay true during travel. You will need either a Torx T25 wrench or a Centerlock tool depending on your rotor type.

Fork Removal / Installation

Before removing the fork, you will need to remove the disc brake caliper and cut the zip-tie securing the brake housing to the fork blade.

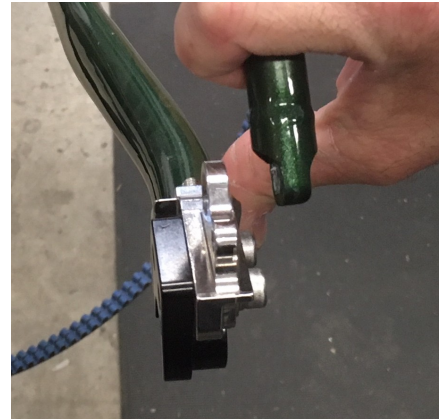


Next remove the stem's top cap, typically with a 5mm Allen. Loosen the stem's pinch bolts with an Allen wrench and remove the stem. Take careful notes of the orientation of spacers and headset parts. You will need this for installation later.



Push the top of the steerer tube down and out of the frame. The upper headset parts should slide off. If the top seal is tight, use something to drive the steerer tube down. Any solid but non-damaging item will work. **Note:** do not use a hammer for this process.

Using a Torx T25 wrench loosen the rear dropout bolt to remove the Gates belt or chain. Gently push the seat-stay tube and dropout away from each other until there is just enough room to slip the belt through the triangle. Replace the bolt and tighten. **Note:** it is not necessary to adjust the sliding dropouts during wheel removal or installation. These are used for initial tension or maintenance only. The belt tension will be restored when the rear wheel is re installed during assembly.



These Steps are recommended, but not absolutely necessary.

Removing the Gates belt ensures that it will arrive safely, however some travelers prefer to minimize the time invested in packing and reassembly.

Crank Removal / Installation

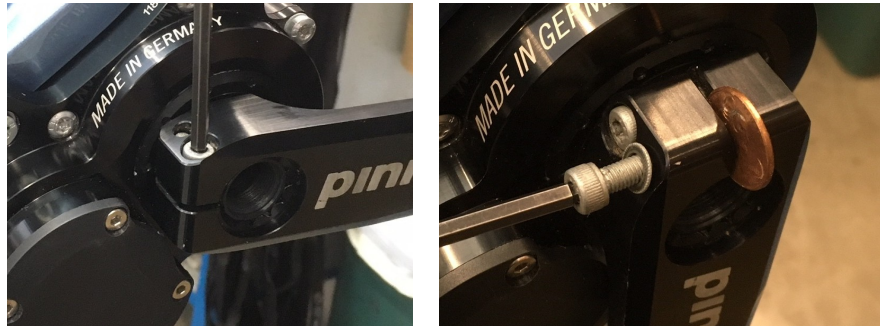
To ease in packing the bike we recommend removing the Pinion crank arms. Start with removal of the spindle cap bolts using a 8mm Allen wrench on both crank arms.

Note: The bolt torque spec when installing the crank arms during re assembly is 10 Nm for both the cap bolt and pinch bolts.



Crank removal is not absolutely necessary, however it will make your bike fit more easily into its case while also minimizing potential damage

Starting on one side of the bike, loosen the two pinch bolts using a 4mm Allen wrench. Next remove only the outer bolt and re-thread from the opposite side of the arm. Place a penny or similar object into slot while tightening the outer bolt. Once the bolt touches the penny, continue to turn bolt one full turn. This should open the crank arm slot enough to allow easy removal. **Note:** avoid over-tightening this bolt during crank arm removal. Replace the outer bolt to it's normal position and repeat steps on the other crank arm.



Protecting your Co-Pilot

If your padding kit has not yet been cut to length, this is the time to do it. Grab your scissors and paint pen. Sharp scissors are recommended as the fabric is tough. The goal here is to protect each painted surface as best as possible.



It is helpful to mark the padding sections with a paint pen or silver permanent marker (available at home improvement or craft stores). This will help for future identification and placement.

With the fork removed and all accessories aside, we can now separate the frame into two sections by fully loosening each frame coupler. Turn toward the non-drive side of bike.



Start with the widest (5.0") rolls of frame padding, this will cover the larger diameter frame tubes like the top tube, down tube, head tube and seat tube. Measure the distance of each tube section and add 1-2.0" beyond where the coupler stops. Label each section as you go and repeat the steps for each front-triangle tube.



Take the next widest (3.75") roll of padding and measure correct lengths needed for the chain-stay tubes and fork legs. It may be necessary to notch the padding on one section to clear the disc brake tab on the fork. The remaining 2.25" wide padding will cover the seat-stay tubes.



Note: When notching the frame padding, only cut half-way across the width of the padding. Also, the height of the cut or notch should match or be slightly less than the height of the obstacle. In this example we're cutting around the seat-stay bridge. The same process would be used for a brake mount.

The padding is stretchy so these notches don't need to be exact. Shorter height cuts are often better than taller cuts.



Now we're Packing!

Keep in mind there is not one perfect recipe for packing your Co-pilot bike in the travel case. Frame sizes, fork sizes and handlebar types vary greatly for each individual. However, over the years we have learned that these basic steps apply to most coupled bikes. The following is just one possible way to pack your bike for airline travel.

Place the front triangle into the Co-Pilot travel case first, with head tube oriented toward one of the corners. The center of the case should be reserved for drive-side hub on the rear wheel.

If your total fork length is less than 26", like the one pictured here, you can place the fork on the opposite side of the front triangle. If it's longer it will need to be packed diagonally in the case., and possibly on top of the rear wheel.



Be sure to handle the Gates carbon belt according to their owner's manual for safe travel, do not bend or twist the belt. The owner's manual is also a great resource for installation, correct tension, proper alignment, regular maintenance, and how to recognize when it's time to replace the chain-ring, cog or belt.

You can add small parts to the case like pedals, stem, drive belt, tools, etc. **Note:** we strongly suggest wrapping all loose items inside bubble-wrap padding or inside towels and spare clothing.



Next, place the rear wheel in the case atop the front frame section. Deflating the tires until you achieve a snug fit. You may find the wheel fits better with the cog facing down rather than up. We've inserted hub protection caps on the top side of both hubs to help prevent scratches and evenly distribute the load.



Note: we highly recommend you use zip-ties or straps to secure frame sections to the wheels. The goal is to prevent frame components from moving or shifting during travel. Start with securing the rear wheel to the front triangle and fork.

To help ensure the belt ring, or chain-ring, stays true during travel we made a simple cardboard envelope with tape. Start with a square piece of thin cardboard just larger than the diameter of the ring. Cut a wide slot half way across the square, wide enough to clear the drive mechanism. Cut another square piece of cardboard to match the first and tape on the three longest sides. Slide the protector over the ring.





Now you can place the rear triangle on top of the rear wheel, drive-side facing down. The cardboard envelope you created will sit on the rear wheel.

Note: be sure to add some padding or bubble-wrap on top of the non drive-side crank spindle facing up. This will help protect the spindle and front wheel.

With the rear triangle installed you can find the best placement for the handlebars and seat-post/ saddle assembly. This may require removing the rear triangle several times to confirm best placement for these components.

With a road drop handlebar, it's best to tuck the bar-ends through the spokes and under the rim of the rear wheel. In this example, the handlebars are resting on top of the drive-side chain-stay and seat-stay tubes. So, it is placed inside the rear triangle.



Note: After you find the best layering method secure the rear triangle, handlebars and seat-post with zip-ties or straps to prevent any movement of components.

Once you find the best placement for the handlebars and seat assembly, you can add the front wheel on top, with hub cap facing up. Remember to deflate the tire first. Close the case gently, massaging the tire into the lid as you close it. Make sure that nothing is protruding or interfering with the lid. Next, secure the zippers to confirm the case will close properly.

Open the lid and secure the front wheel to the rear triangle with zip-ties or straps. You may find there is additional room for other pieces of cycling gear. Be sure to weigh the travel case as to not exceed the 50 lb airline regulations. This will help avoid any over weight fees during check in.



Finished!

You are now ready to explore our beautiful planet by bicycle! Please don't hesitate to contact us with any questions you have during packing or re assembly. When navigating the airport, the Co-Pilot travel case will roll best when pulled behind you rather than pushing it.

Assembly

Assembly is essentially the reverse of the packing process, and it is very important that the following items are tightened and adjusted properly:

Start by hand tightening the couplers first, then make sure that the spanner hook is squarely engaged into the corresponding slot on the sleeved nut before you begin final tightening. The couplers should be tightened to 35 lbs. This is equivalent to 70 lbs. of pressure on the end of the 6-inch spanner wrench. If you have any trouble tightening the couplers, stop immediately and inspect the threading for grit or debris. No threads should be visible when the coupler is fully tightened. A very small amount of fluorinated Teflon grease is recommended for lubrication. This special lube is available from the Co-Motion web site and should be applied at least once a year. **Note:** S&S recommends you check tightness of these frame couplers before every ride.



Make sure the wheel thru-axles, seat post clamp, stem bolts and brake caliper bolts are all properly adjusted and tightened to proper torque specs. *Check every bolt twice before riding the bike to be certain.* **Note:** Torque specs are listed on the back page.

During crank arm re installation, make sure the splines are aligned properly and the arms are 180-degrees opposed before tightening the cap bolts. **Note:** the Pinion crank arms should only be installed on the spline using the cap bolt to push the arm onto the splined spindle. Do not push crank arms any farther on the spindle shaft than what the cap bolt will provide. There should be a gap between the arms and both the belt ring and gearbox, by design.

A Word of Caution

If you are not confident of your ability to verify the proper adjustment and therefore the safety of this bicycle, **please** have it checked out by a professional bicycle mechanic before you ride. We don't want anyone to get hurt. Also, there are many good books and classes on bicycles and their maintenance available worldwide.

Torque Specs

Always refer to the component manufacturer's recommended specs for torque values. Component materials will vary along with recommended torque specs. Often these torque specs will be printed or laser etched on the component itself. Use a torque wrench to ensure proper tightness and verify by hand.

- Co-Motion seat-post clamp - 5 Nm
- Co-Motion thru-axles - 10 Nm
- Co-Motion sliding dropout bolts - 10 Nm
- S&S couplers - 35 lbs.
- Stem faceplate - typically 5 Nm for aluminum
- Stem pinch bolts - typically 5 Nm for aluminum
- Stem top cap for bearing preload - 5 Nm minimum
- Pinion crank arm cap bolt - 10 Nm
- Pinion crank arm pinch bolts - 10 Nm
- Disc brake caliper mounting bolts - 10 Nm

**Co-Motion Cycles Inc.
4765 Pacific Avenue
Eugene, Oregon 97402**

E-mail: sales@co-motion.com
Toll free: 1-866-282-6336
co-motion.com