



OWNER'S MANUAL

2012



POCKET



Villager



TRAIL



ROAD



EXPEDITION



FCO



Introduction

Thank you for purchasing a Catrike! You made a great decision by buying a fine quality product that performs well and will bring you fun and good times for years to come.

Please take a moment to read through this document, especially the sections on safety and riding tips. You may find that the most comfortable place to be while you're doing this is sitting (stationary) on your trike!

We hope you enjoy owning and riding your Catrike!

Happy Trails,

Paulo Camasmie,
CEO Big Cat HPV, LLC

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Safety and riding tips

Safety tips

Riding safely depends on many things, from proper equipment to alertness to your attitude on the road. Above all, use common sense.

The ideal place to ride your Catrike is bicycle trails & paths. Catrikes are probably the best choice in that setting. You will enjoy the view, relax and socialize. You will have the most comfort, peace of mind and fun. If you elect, however, to ride on streets, you will have to do it at your own risk and know that whether it is a regular bicycle, a recumbent or a tricycle you have to be very careful. Because a trike is low to the ground you have to be extra careful with cars and trucks. Therefore you have to take great care to make yourself visible. In part, you do this with equipment such as brightly colored clothing and helmets, use of the safety flag that comes with every Catrike, and also with blinking lights and reflective stickers. But you also have to ride in such a way that you engage the attention of motorists, making eye contact, signaling your intentions, being courteous, smiling and waving. Use your voice to get attention. You also pay a lot of attention when riding in traffic and you obey all traffic laws and rules of the road. The positive side is that recumbent tricycles are very much a novelty, and once you make sure that you are being seen, you generally find that motorists leave you more room and respect when you're on our Catrikes than they do when you're on upright bicycles. Nevertheless, always assume that they don't see you.

Reflective and high-visibility gear is great (and we use it all the time), but it's no substitute for lights when riding at night or in low-light conditions. The new super-high-output LED rear lights are very effective. Any small headlight (those that look like flashlights) may be enough to help oncoming motorists see you, but it's not sufficient to actually light your way. If you're going to ride at night, spend the money and get a good headlight.

While it may seem silly to wear a helmet on a low-slung tricycle, you should always do so. It's very hard to tip the trike over, but it can happen. Also, if you have a close encounter of the worst kind with a car or stationary object, chances are you won't stay on the trike. Always wear a CPSC-approved cycling helmet when riding your Catrike. A brightly colored helmet also helps motorists see you.

You're very low, and it's possible for road grit to get whipped up by the wind or kicked up by passing cars and hit you in the face. This is especially true in the spring in areas where sand is used on the roads in winter. It's a good idea to wear sunglasses to protect your eyes. You may also want to wear gloves. It's easy to reach the ground on your Catrike, and getting a palm full of sand and ground glass is no fun.

We strongly recommend the use of a mirror. Don't rely entirely on it. Turn and look before changing lanes or turning across the line of traffic.

Riding along a line of parked cars presents a particular danger for those on low-slung bikes and trikes. Motorists have a habit of opening their doors suddenly without looking behind them...and even if they do look, they're concentrating on looking for oncoming cars, not a low trike. When riding along a line of parked cars, look for occupants inside as you approach. If you see someone sitting in the car, give them a bit of extra room.

Pedestrians, too, often aren't looking where you are. Use caution when approaching crosswalks and use your bell, horn or your voice to alert those who may be stepping into the street.

If you carry loaded panniers, avoid putting the weight too high and too far aft, or it can cause poor, even unsafe, handling.

Riding tips

If you don't have experience with recumbent tricycles, you may find that for the first few rides you experience noticeable pedal steer (pushing hard on the pedals makes the trike swerve) and brake steer (grabbing one brake harder than the other causes the trike to swerve). These two phenomena become much less noticeable as you gain experience. Pedal steer is minimized or eliminated by pedaling smoothly at a fairly high cadence, rather than mashing hard. Brake steer is minimized by braking smoothly and evenly...if the trike lurches under braking you're overdoing it (it's like driving your car...you don't stand on the brakes every time you slow the car; rather, you learn to modulate the pressure so that the car does not lurch).

The smoothest, most enjoyable ride comes when you learn not to over control the trike. The steering is very responsive, and does not require much input at all to make the trike change direction. The less you try to steer, the smoother the ride will be.

It's possible to get the trike up onto two wheels, but this should be avoided. It puts a lot of stress on the components and can cause loss of control. Bicycle wheels, hubs and tires are not designed for heavy lateral loads, and if you go up on two wheels you're asking them to do something they were never meant for. Your Catrike is wonderfully responsive and handles very well, but it's possible to overdo it. Use common sense. You'll find that the trike stays more firmly planted when going around a corner at speed if you lean to the inside of the turn.



CAUTION: The brakes on your Catrike are very powerful. It is quite possible to do a "stoppie" on the Catrike (lock the front wheels and lift the rear wheel off the ground by jamming on the brakes). In extreme cases, you can hit the chain rings on the ground and damage them. Use common sense. Don't use maximum braking unless you really need to. (At high enough speeds, the trike won't lift the rear wheel...it will just skid. And at very low speeds, there isn't enough momentum to hit the chain rings on the ground.)



CAUTION: Brake Steering: Our frames are designed for a diminished brake steer effect. However keep in mind that the trike is not a heavy vehicle such as a car. It does not have hydraulic, electronics or self correcting mechanisms either. It is instead, a very light recreational vehicle with a mechanical steering linkage that carries a rider sometimes over 8 times its weight. Therefore the weight & dynamics of the driver can exert total control over the capabilities of the vehicle. It does demand that the rider develops proper riding skills, such as smooth pedaling, smooth steering and smooth breaking and that it is always conscious when riding. The Catrike has front brakes only, since in a breaking situation 90% of the weight is transferred to the front of the trike. The front brakes are also independent, meaning that you can break the right wheel only, or the left wheel only. Therefore, especially in high speed or downhill situations, it is mandatory that you pull both brakes at the same time and with the same intensity. If you elect however, to brake only with one brake, this could cause the trike to steer out of your path and cause serious injury or death.



CAUTION: Our peace boom and boom clamp is designed for high pressure clamping and has an indexing system to keep the boom from twisting more than a few degrees. Make sure the boom clamp is tight enough, so the boom will not twist while you pedal. The indexing tab should be used as a guide; it is not intended to keep the boom from twisting under pressure. Just like a bicycle seat post clamp, it is the rider's responsibility to check the boom clamp for tightness. There is a plastic shim included between the boom and the main frame to eliminate any gap and to increase clamping action. Make sure the plastic shim is correctly placed before riding your Catrike. If for any reason, you are unable to install or tighten the boom clamp or are missing the boom shim, please do not ride your Catrike and contact your Catrike Dealer. Failure to do so might cause the boom to twist and cause serious injury.



Maintenance tips

Make it a habit to inspect your trike from time to time, especially when new. Fasteners have a habit of working loose at first and this can cause a safety hazard. Also, you'll find that the right front wheel tends to pick up debris from the edge of the road faster than the left front wheel, because it's running closer to the curb. Catrikes come with Kevlar-belted tires for puncture resistance, but this does not mean they're immune to flats.

Keeping your trike clean will maximize its life. Wash it from time to time, but avoid the use of pressure washers. They do a great job of getting dirt out of tight spaces, but they do an equally good job of driving lubricant out of where it needs to be. It's better to use a bucket of water, mild detergent and a soft brush.

Many new owners tend to over-lube the chain. It should not be dripping with lube. A properly lubricated chain looks dry and clean, and while it may leave a bit of a mark on your hand if you grab it, it should not be a gloppy mess. Use your favorite lube and follow the instructions.

Always keep your tires filled to the recommended pressure (printed on the tire sidewall). The tubes are not entirely airtight, and the tire will lose pressure over time. Trikes by nature will scrub the tires a bit, so they may not last as long as they would on a bicycle. Overly aggressive riding will shorten tire life.

Your seat mesh will stretch a bit and settle in over time. It's not meant to be drum-tight...it's meant to support you comfortably. Pull the straps tight from time to time when the trike is new...eventually the mesh and straps will settle into a stable configuration that you'll find is quite comfortable.

If you've purchased the optional neck rest, we recommend placing the pad so that it's behind your neck, just under the lower edge of the helmet, and in a position that lets you rest your neck on it if you need to but which doesn't force you to have your neck on it all the time. The neck rest is nice and soft, but it does transmit road vibration.

If you're adjusting the trike to fit another rider, make absolutely certain that the chain is of the right length. In order to get the maximum possible gear range, the Catrike drive train pushes the derailleurs close to their maximum capacity. The chain must be long enough to handle the big chain ring/big cog combination...if it's too short; it's possible to severely damage the drive train by shifting into this gear combination and applying power. You can get away with a slightly slack chain, but NEVER ride with a chain that's too short.

Improper toe can cause extremely rapid tire wear. Toe is set by the mechanic during installation of the tie rod. We've heard reports from the field of improperly set toe, with resulting excessive tire wear. Don't assume it's been done right! Check it yourself. Toe is checked by measuring the distance between the front tires at approximately axle height ahead of the axle, then comparing this measurement with the distance between the tires behind the axle. The difference should be no more than 1/16 inch with the front narrower than the rear. See the section on toe in the assembly instructions to learn more.



You will see on the bottom of your trike your frame serial number.

Serial numbers for the trikes are as follow:

CTV# for Villager
CTT# for Trail
CTP# for Pocket
CTR# for Road
CTE# for Expedition
CT7# for 700

It is very common among Catrike owners on the net to identify themselves with their names followed by their trike models and serial numbers. Welcome to this nice group.

Assembly instructions



Your Catrike should be fully assembled, tested and fine tuned by your Catrike dealer or local bike store. Here are the assembly instructions in order to show how this process is done.

The first step is to inventory the parts:

A complete trike includes:

- Main frame with cups for headsets in place. The idler pulley and chain tube also are pre-assembled and installed on the frame.
- Quick-release boom clamp.
- Boom.
- Seat mesh.
- One tie rod with two aluminum rod-end bearings, jam nuts, and tie rod bolts.
- Two spindle/axle assemblies with headsets, hollow axles, axle spacers (when required), and dust caps installed.
- Adjustable handlebars.
- A plastic boom shim.
- Quick-release rear wheel skewer.
- Brake cables and two lengths of brake cable housing.
- Gear cable housing.
- Cable ferrules and cable ends.
- Flag mount.
- Safety flag.
- Derailleur hanger with screw.
- Computer sensor mount
- Space Neck Rest (for Expedition and 700).
- Rockshox Monarch R Shock (for Road).
- Two front wheels with tubes and tires installed.
- One rear wheel with tube and tire installed.
- Disk brakes
- Brake levers
- Shifters
- Cassette
- Crank Set
- Front derailleur
- Rear derailleur
- Bottom bracket
- Chain with (1) MasterLink
- Mirror
- Pedals

Other accessories such as a rack or fenders may also be in the box.

Tools required

To put your Catrike together, you'll need:

- A set of metric Allen wrenches.
- A set of English Allen wrenches.
- A small adjustable wrench. We strongly recommend against the use of pliers to hold and turn nuts. It only serves to frustrate you and destroy the nut.
- A bicycle chain tool.
- A small screwdriver (to adjust the derailleurs).
- A bicycle cable and housing cutter (ordinary wire snips tend to flatten and mangle the end of the cable).
- Torx driver.
- Park FRW-1 cassette installation tool (for standard cassette).

Also very good to have but not absolutely mandatory are:

- Anti-seize compound (available at any automotive store).
- RTV or silicon sealant is recommended instead of thread-lock. The strong bond of thread-lock can damage aluminum threads.
- Zip ties.
- Bicycle pedal wrench.
- "Fourth hand" tool (a cable stretcher...handy for holding the cable while you make derailleur and brake adjustments).
- A good bicycle maintenance book. There are many excellent ones out there...pick your favorite.
- Sharpie indelible marker (to mark the location of the boom once it's adjusted to fit you).

! IMPORTANT NOTE !

The frame and many other parts of your Catrike are made of aluminum. It is VERY easy to strip aluminum threads, especially if steel fasteners are going into them. BE CAREFUL not to cross-thread or over tighten any fastener!



TIP: An easy way to estimate the proper tightness for aluminum fasteners is to use two or three fingers on the wrench. This limits the amount of force you can apply to the tool. Use two fingers for small fasteners, or three for larger ones.

Because we have no control over how tightly you assemble your Catrike it is extremely important for you to re-check all of the threaded fasteners (pedals, axle bolts, and all other nuts and bolts) on the trike after you've ridden it for a couple of hours, just to make sure everything is still tight. Periodic checks during the riding season also are a good idea. Virtually all of the trouble reports we receive are nothing more than fasteners that have worked loose.

Begin assembly

Prepare the wheels.

- Attach the brake rotors to the front wheels using the screws provided with the brakes.

Both the brake rotors and the tread on the tire are directional so attention must be paid to how they are mounted. The direction of the brake rotor and tire must match!



The direction of rotation is indicated on the brake rotors.

Direction of rotation for the tires can be determined by looking at the tread. All treads have some form of "arrow" contour to them. The arrow is always pointing in the direction of rotation.



On the tire, the "arrows" point left, giving you direction of rotation.

Install the cassette on the rear wheel.

- When you remove the cassette from the packaging there will be two loose pieces. The ribs on the hub line up with the slots inside the cassette. One rib/slot is wider than the rest. Line this one up and push the cassette down over the hub. Line up the ring (the loose piece with the slots) with the ribs and snap it into place. Apply some grease to the inside of the cassette and carefully thread the cap into the cassette. Use the Park cassette tool to FIRMLY tighten this cap down.

Install the rear wheel.

- Insert the derailleur hanger into its recess on the right dropout and tighten the bolt.

Insert the quick release into the rear wheel, put the wheel into the dropouts, tighten and close the quick release.



Prepare the spindles.

- First, identify the right and left spindles.

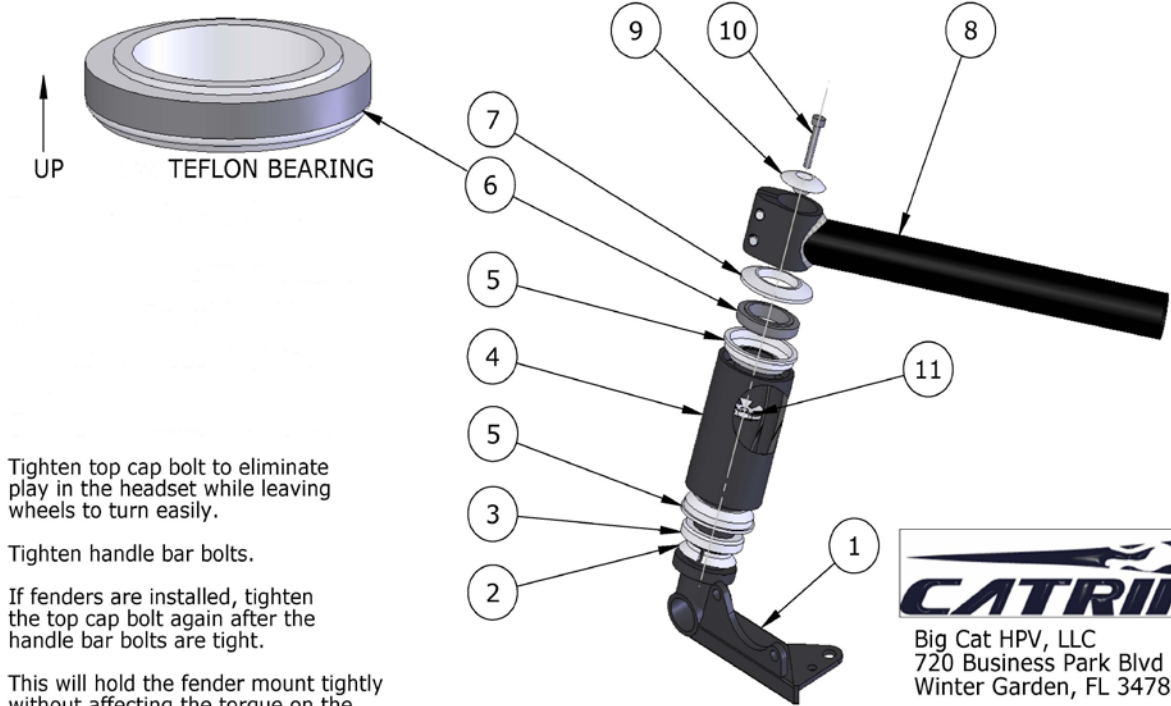
Mount the brake calipers on the spindles. The left-hand assembly has the brake caliper on top, and the right hand has the brake caliper underneath. Use the provided M6 washers between the head of the calipers mounting brackets and the plates to space out the bolt.

Install the spindles with headsets into the head tubes.

- Remove the top half of the head set assembly and slide the spindle up into the head tube. Replace the Teflon bearing and dust cover on the spindle. Install the handle bar support tube onto the spindle without tightening the bolts. For standard handlebar positioning, the handle bar supports should angle slightly up, not down (700 probably best to install handle bar support angled down). Replace the head set top cap and tighten it to 10 inch-pounds (or enough to eliminate play while leaving the wheels to turn freely). Now adjust the handle bars in the proper position and tighten them down.



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	SPINDLE		1
2	SPLIT CROWN RACE		1
3	BEARING		1
4	HEAD TUBE		1
5	CUP		2
6	TEFLON BEARING REPLACEMENT	REPLACES TOP BEARING AND CROWN RACE	1
7	DUST COVER		1
8	HANDLEBAR		1
9	TOP CAP		1
10	TOP CAP BOLT		1
11	STAR NUT		1



Install the front wheels.

- Attach the front wheels to their respective spindle/steering arm assemblies. First, re-identify the left and right wheels and set them on the correct side of the trike.



Loosen the brake caliper adjustment bolts. This will let the caliper float free while you're mounting the wheel.



Unscrew the quick release bolts. Remove them and the retaining washer from the end of the axle tube.

Now you can place the wheel in position, sliding the disc in between the brake pads. Place the wheel hub opening directly over the axle, then slide the axle through the hub from behind the spindle assembly. The quick release lever goes on the inside of the spindle. The bolt and its retaining ring go on wheel. Place the cone-shaped retaining ring (flat side in) against the hub, thread the quick release bolt in and hand-tighten it. Then close the quick release lever for a tight hold.

! IMPORTANT NOTE !

These quick releases hold the wheels on, so it's VERY important that they be kept secure. Check them from time to time.

Next, adjust the calipers. One of the nice things about the Avid disc brakes on your Catrike is that they are very easy to adjust:

- If the caliper mounting bolts have been tightened, loosen them.
- Adjust the brake pads; use the knurled plastic adjuster knobs on either side of the caliper until the pads are firmly contacting the rotor. First screw the larger knob (the one closest to the wheel hub) in until the disc is offset slightly away from the wheel hub. Then screw the smaller knob in until the rotor is held tightly.
- Tighten the caliper mounting bolts.
- Back off the pad adjuster knobs until the disc spins freely and without noise...about 1/2 turn each.

The wheel should now spin freely. If you hear any noise, back off the adjusting knobs a bit more until it goes away.

Now it's time to finish installing the handlebars you started when working on the spindles.

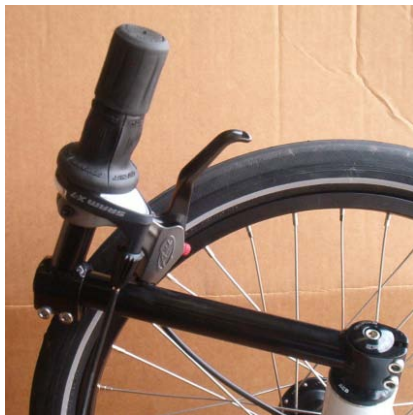
Install the brake levers and shifters on the grip portion of the handle bars. First, slide on the brake lever, then the shifter. The exact positioning and "twist" of these parts depends on how you install your adjustable handlebars. Find the best position and tighten them down. See the following section for determining your preferred handle bar positioning.

Adjustable handlebars

• Your new Catrike adjustable handlebars can be adjusted in many ways to give each Catrike owner a custom fit. The long, horizontal portion of the handlebar has a gentle incline to it. For those riders who prefer lower handlebars, this can be installed upside down to provide a gentle downward slope. The same holds true for the shorter grip portion of the handlebar. It has a gentle angle leaning forward, but can be reversed. You can see the difference in mounting in the pictures below. The picture on the top shows the recommended standard setup.

The handlebar sets come in left and right sides. When mounting them upside down, simply swap sides to keep the heads of the screws on the inside of the trike, making them easier to reach with the Allen key.

TIP: Be sure the tightening bolts are completely loosened before attempting to move or rotate the short grip portion of the handlebar to avoid scratching the paint.



They can be adjusted to be long or short for better ergonomics. When adjusting the handlebars in short, the excess post can be used for mounting mirrors or a computer.



They can be adjusted wide out for a better turning radius or in close to the body for better aerodynamics. The “twist” of the grip portion of the handlebar is also fully adjustable.

Install the tie rod.

Next comes the tie rod.

The rod goes under the seat side rails and over the main frame tube, and bolts in place on top of the small plates on the spindle assemblies.



• All tie rods come with one right hand and one left hand tie rod ends. For now, just install the tie rod. We'll be checking the toe later in the assembly instructions.

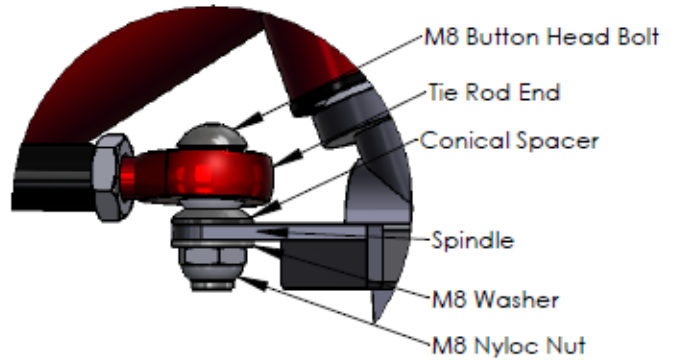
TIE RODS for all Catrikes except Villager

The conical spacer included on the tie rod assembly goes between the tie rod end and the mounting plate on the spindle as shown.

Assemble the trike, and check the toe.

If adjustment is necessary, loosen the jam nuts and **twist the tie rod** between your fingers to adjust the length.

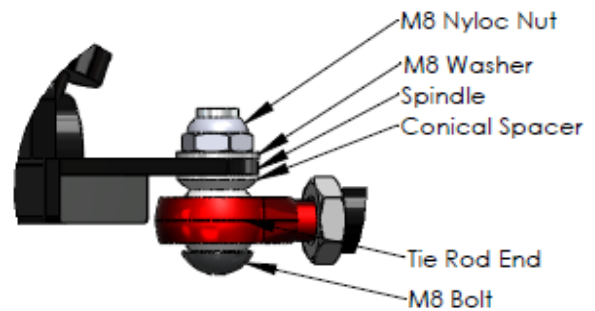
Make sure the rod ends are parallel when tightening the jam nuts. Flats are provided on the tie rod to fit an 11mm wrench.



TOE IN MUST BE CHECKED AND ADJUSTED BEFORE RIDING. VILLAGER TIE ROD INSTALLATION

The tie rod on the Catrike Villager installs underneath the mounting bracket.

The conical spacer included on the tie rod assembly goes between the tie rod end and mounting plate on the spindle as shown.



The tie rod fits under the mainframe and between the two chain tubes.



Bolt each rod end bearing to its spindle assembly, placing the ball of the rod-end bearing on top of the spindle plate. The bolt goes in from the top, and the nut goes on underneath the plate. Tighten everything snugly.

TIP: This is one of the few places on the Catrike where a steel bolt is threaded into a steel nut. The caution about the ease of stripping threads does not apply here.



! IMPORTANT SAFETY NOTE !

The tie rod bolts should be kept tightened securely. If they get loose, the steering will get sloppy and the wheels may shimmy under certain circumstances. If the bolts fall out, loss of control could result. Check them from time to time!

Install the brake cables.

- This is done by threading the cable through the brake lever and fitting the small metal cylinder on the end into the recess in the lever. Screw the barrel adjusters on the bottom of the levers almost all of the way in (they'll be used later to take up slack during brake adjustment).

The procedure for the left and right brake is the same. Slide the brake cable housing on. You should have eight cable ferrules. Four are for the brake cable housings. Thread the cable through a ferrule, then through the housing, then through another ferrule.



Thread the end of the cable through the fittings in the brake actuating arm. The ferrule fits under the rubber boot. Loosen the cable clamp bolt, put the cable under the clamp plate, pull it taut and retighten the bolt. Using a bicycle cable cutter (preferred) or a SHARP pair of wire cutters cut the brake cable so that a few inches extend beyond the clamp bolt.

! IMPORTANT SAFETY NOTE !

The end of the cut cable **MUST** be sealed, or it will fray and cause a serious safety hazard. Those wires are sharp! Crimp on one of the included cable ends.

TIP: If you run out of cable ends, and can't get to a bike shop for more, you can use a drop of cyanoacrylate glue (Krazy Glue), some epoxy or a blob of solder to seal the cable ends.

Adjust the brakes

- First pull hard on both brake levers to seat the cables. Turn the barrel adjusters out until the levers do not bottom out when the brakes are applied fully. Screw in the lock nuts on the adjusters.

If the brake makes noise or drags, adjust the brake pad relief using the pad adjusting knobs.

Install the bottom bracket and crank set on the boom.

- Refer to the manufacturer's instructions for installation of these components.

Install the boom on the main frame tube.

There is a boom shim inside of the main frame. The boom will fit very snug inside your frame.

First insert the boom clamp on the boom with the indexing tab in the channel of the boom (make sure the indexing tab is toward the bottom bracket). Slide the boom clamp about half way up then insert the boom into the main frame. Now you can slide the boom clamp over the main frame tube and adjust the boom to the approximate length and tighten the quick releases enough to keep it from slipping. You can adjust it to the correct length later.



! IMPORTANT NOTE !

Never lubricate or wax the part of the boom that sits inside the frame. This can cause it to slip. Once it's adjusted, make sure it's tightened enough to avoid slipping under power.



CAUTION: Make sure the boom clamp is tight enough, so the boom will not twist while you pedal. Just like a bicycle seat post clamp, it is the rider responsibility to check for the boom clamp tightness. The boom clamp is designed for a high pressure clamp action. It also included a plastic shim to be installed between the boom and the main frame for zero gap and increased clamping action. Make sure the plastic shim is correctly placed and that the boom clamp is tight enough to avoid the boom to spin inside the frame. If for any reason, you are unable to install or tight the boom clamp enough, please don't ride and contact your Catrike dealer. Failure to do so might cause the boom to twist and cause serious injury.

Install the derailleurs.

- Install the front derailleur on the derailleur post. Line up the cage with the chain rings and position the curve of the derailleur cage so that it clears the big chain ring by about 2mm (1/8"). There should be a small plastic guide taped to the cage to assist you in this. Install the rear derailleur by bolting it in place.

Next, run the shifter cables.

- Cable guides have been provided on the boom and rear chain stay. The actual routing is not important, as long as sharp bends are avoided. The recommended routing for the left side (front derailleur cable) is to run the cable between the seat brace and the seat mesh (not yet installed) from behind before running it forward. Likewise, run the rear derailleur cable between the seat brace and the mesh from the front.



- Installation of the cables at the derailleurs is similar to the installation on the brakes. Put a ferrule on the end of each cable housing. Thread the cables into the derailleurs, pull them taut, clamp them down, trim and seal the ends. Before you clamp the rear derailleur cable in place, screw the barrel adjuster on the derailleur in as far as it will go, then back it off 1 to 1-1/2 full turns. Note that there is no adjuster on the front derailleur.

Install Pedals.

We strongly recommend that you use clip less pedals. They're not only safer; they're far more convenient and comfortable than using plain pedals.

! IMPORTANT NOTE !

The left pedal is reverse threaded. Make sure you don't try to install the pedals backwards, or you might strip the crank threads. Your pedals will be clearly marked so you can tell which is which.



TIP: Using anti-seize compound on the pedal threads will make future disassembly much easier and will help prevent damage to the threads in the crank arms.

Install the seat mesh.

Lay the seat mesh on top of your Catrike with the patch toward the top of the seat. Insert the buckles into each other on the back of the seat leaving the straps loose and position the seat mesh so that it is square on the frame, with the cutouts for the lower seat support tubes positioned properly and tighten all of the straps.



You will find that when you sit on the seat, the mesh will loosen a bit. This is normal. Adjust the position and re-tighten as needed. The seat mesh will stretch a bit at first, requiring re-tightening the straps, but will soon break in and stop moving. The comfort of the Catrike seat comes from the mesh cradling and supporting your body, so it's ok if the buckles slip a bit as they find their preferred tension. Trying to keep them drum-tight is not only futile, it's not as comfortable as letting them support your body fully. There are elastic strap keepers on the male straps. When the seat is fully adjusted tuck the excess straps under the elastic keepers. This keeps the straps nice and tidy and away from the chain and idler pulley.



Set the boom length.

- Sit on the trike, wearing shoes like those you'll have on when riding, and adjust the boom length. This is done by loosening the boom release enough to allow the boom to move, then putting your instep on one pedal and extending your leg fully (the boom will rotate...just move it back to vertical with your hand). You should be able to lock your knee, but not have to lock your knee. You can fine-tune the position later. Re-tighten the boom release (or pinch bolts) enough to keep the boom from slipping.

Humans are capable of producing some incredible power for very short periods of time when accelerating from a dead stop. If your boom is not clamped tightly enough, it will rotate and slip forward.

Install the chain.

- Start at the chain rings in the front of the trike. Run the chain through the front derailleur; between the main cross member and the tie rod; through the upper chain tube; under the idler wheel; over the rear cassette; through the rear derailleur and back through the lower chain tube. Now you can use the MasterLink to connect the chain together.



Note the chain routing above there is a chain guide tube (return) running beneath the cross member. The drive part of chain runs underneath the black guide pulley and over the top of the chain ring.

TIPS: It's easier to thread the chain if you immobilize the crank. This can get messy! Protect your work surface and keep paper towels handy. It's easy to thread the chain through the rear derailleur cage incorrectly. Make sure the chain runs cleanly through it, and not over the retaining tabs.

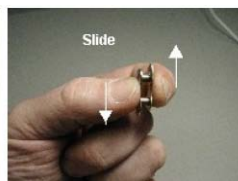
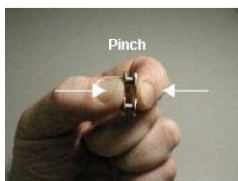
Adjust the chain length. To do this, shift onto the largest cog on the rear and the largest chain ring in the front. Pull the chain taut, so that the rear derailleur cage is fully extended. Then add two links. That will be close to the ideal length for the chain. Use the included PowerLink to hold the chain together.



If your Catrike will be used by more than one person, feel free to use two MasterLink so that the chain can be easily adjusted for other riders: simply set the trike up for the shorter rider, then insert a piece of chain long enough to accommodate the taller rider. If this short piece of chain is between two MasterLinks, adjusting the trike should take only a couple of minutes. It's a good idea to mark the boom for both length and orientation for each rider using a Sharpie marker, so that the setting can be repeated easily.

Just to be clear on what we mean by "two links," check the photo. Don't forget that the PowerLink counts as one link.

There's a trick to opening a PowerLink that seems to elude many people. First hold the link between your thumb and forefinger, and push the plates together (towards one another). Then slide them in opposite directions, as if you were snapping your fingers. Opening a PowerLink should be easy...if you find yourself reaching for a pair of pliers you're not doing it correctly.



TIP: It's easier to work on a chain under tension if you create a loop of slack and hold it in place with a stiff, bent wire, made from an old spoke or wire coat hanger.

Adjust the derailleurs.

- Your Catrike should have shipped with information sheets for both the front and rear derailleur that describe this process. It will also be described in any bicycle maintenance book.

Air the tires.

- Fill the tires to the recommended pressure (you can find this on the sidewall of the tire).

Adjust the toe.

- Any vehicle with left and right wheels has a setting called "toe." This refers to the extent to which the front wheels point towards one another. Toe in means that the front edges of the wheels point inward slightly. Toe out means they point outward slightly.

The purpose of toe is to keep the steering nice and tight. All bearings have a little slop in them. By applying a bit of force to the entire system, it's possible to remove that slop. Too much toe and you cause the tires to scrub. This causes premature tire wear and increased rolling resistance. What you're looking for is just a little bit of toe.

Toe is checked by measuring the distance between the front wheels at axle height ahead of the axles, then comparing it to the distance between the wheels at axle height behind the axles. The difference should be only 1/16". It can be measured with a tape measure. Be sure to measure between the same points (e.g. inner surfaces of the front tires, centerline of tires, etc.) on both front and back.

Take a locking steel tape measure, hold the tape just above the boom, place the tape measure housing firmly against the wheel rim and extend the tape until the end is firmly against the opposite rim. Take careful note of the measurement.



Now do the same for the back of the wheel, running the tape just above the seat. The rear measurement should be no more than 1/16" greater than the front measurement. It's very important to get this right...if you have a quarter inch of toe your tires will wear out VERY quickly and your trike will handle oddly.

Sharp-eyed readers will note that if you use this method you won't actually be measuring points on the wheel that are 180 degrees apart. This is true...the boom and seat tubes get in the way of taking measurements that are actually at axle height. However, the difference between the measurement you get and the true measurement is very small.

TIE RODS

If adjustment is necessary, loosen the jam nuts and twist the tie rod between your fingers to adjust the length. Make sure the tie rod ends are parallel with tightening the jam nuts. Flats are provided on the tie rod to fit an 11m wrench.

Toe must be checked and adjusted before riding.

Seat Back Adjustability.

The Villager, Trail and Road have the ability to adjust the seat back to suit riders preference. The Villager's seat angle ranges from 35° to 55° (from horizontal), the Trail's seat angle ranges from 39° to 53° (from horizontal) and the Road's seat angle ranges from 39° to 47° (from horizontal). The Villager and Trail share the same system of adjusting the seat back with five different levels of adjustability. There are two seat brackets that can slide onto the quick release levers on each side. Once you choose your desired angle for the seat, tighten both quick releases to keep the seat angle in place. This is designed to provide a quick and easy way to change the seat angle when needed.

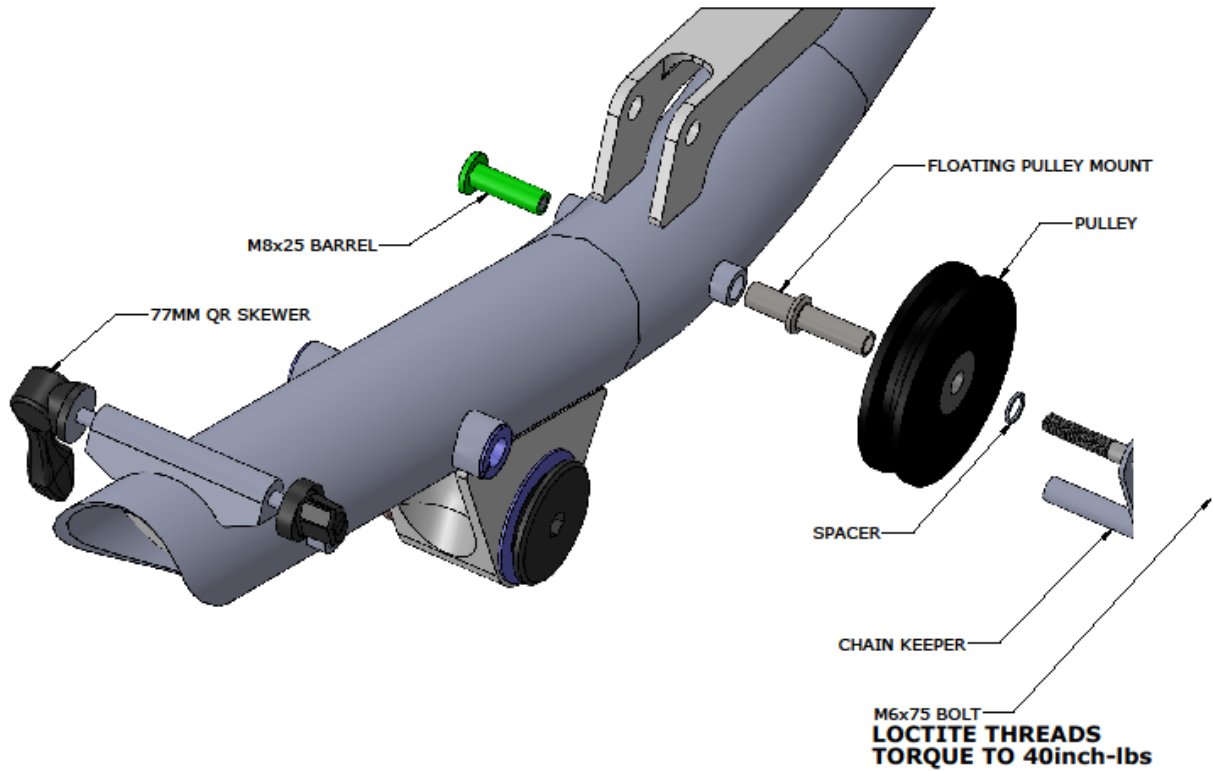


The Road adjusts to four different seat angles. The two seat brackets have counter bores or indentations that will allow you to choose your seat angle. There is one quick release that will provide the clamping action to keep the seat at the desired angle chosen. This system is also designed to provide a quick and easy way to change the seat angle when needed.

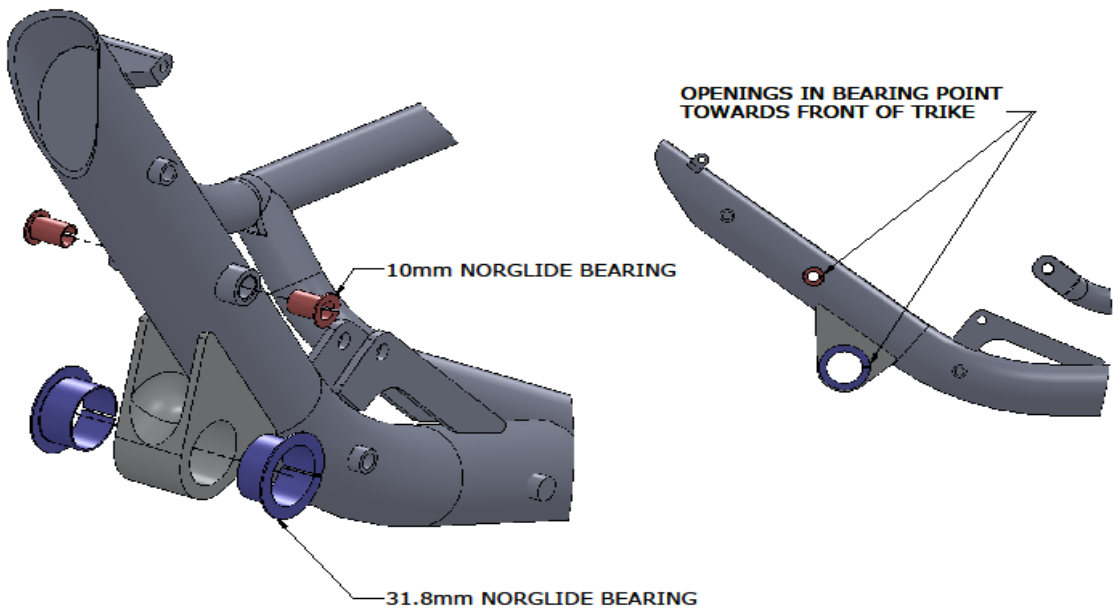


Catrike Road Assembly Instructions

2012 ROAD REAR SUSPENSION FLOATING PULLEY AND QR SKEWER

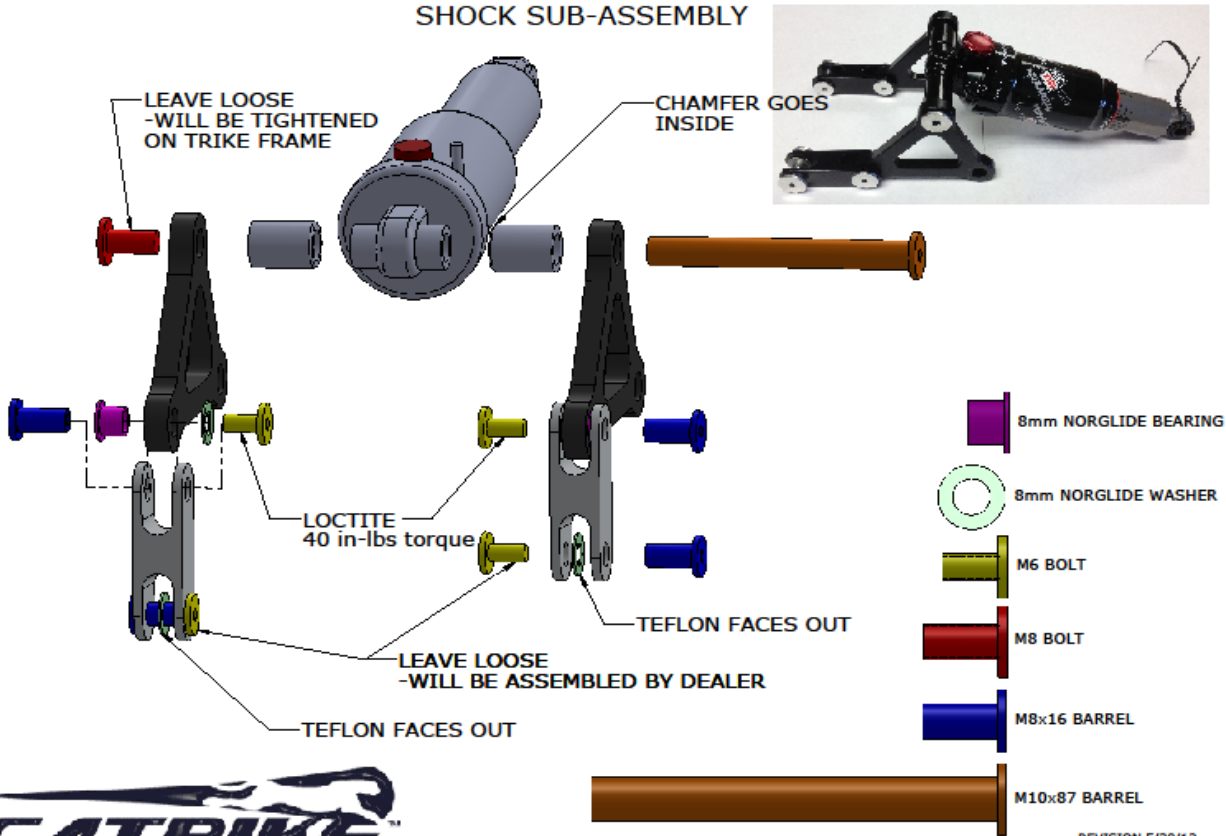


2012 ROAD SUSPENSION BEARING INSTALLATION



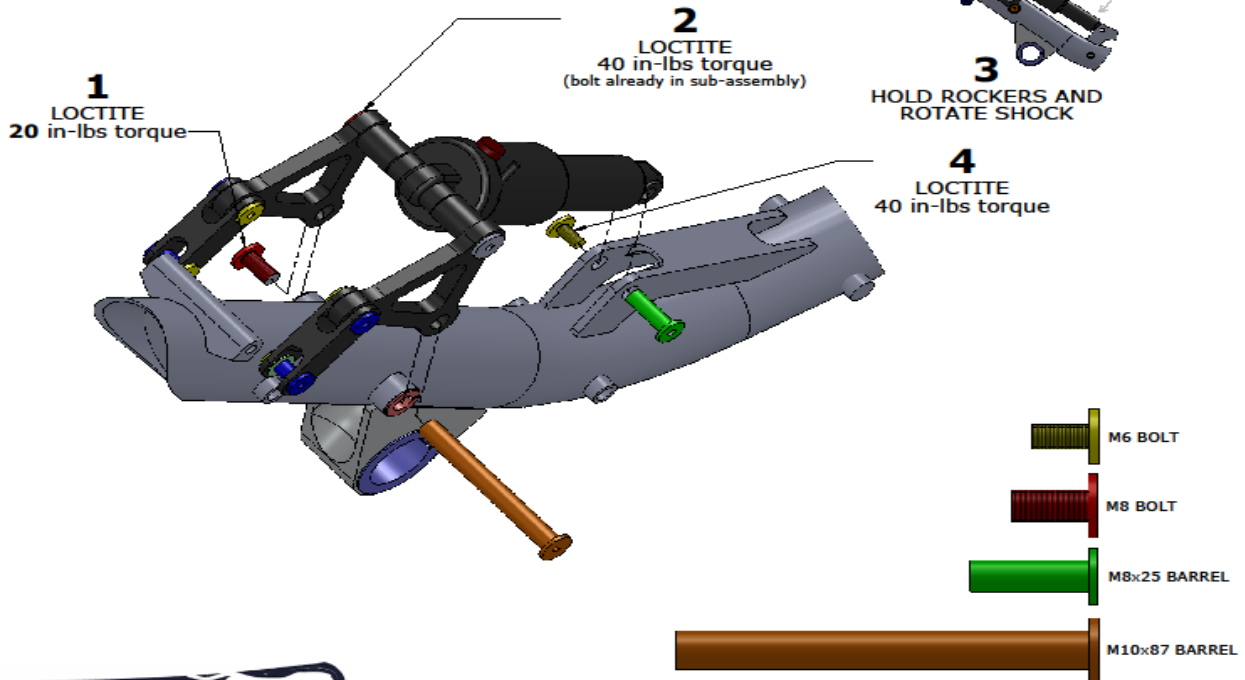
REVISION 5/30/12

2012 ROAD SUSPENSION SHOCK SUB-ASSEMBLY



REVISION 5/30/12

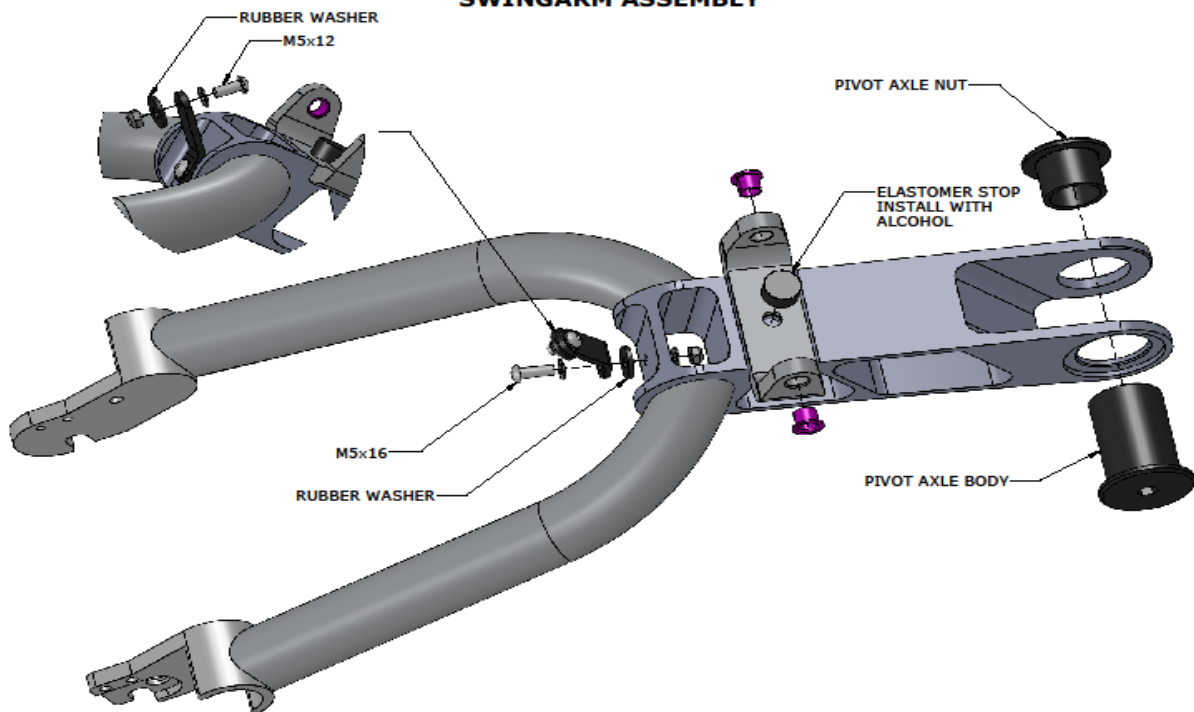
2012 ROAD SUSPENSION SHOCK MOUNTING ON FRAME



CATRIKE

REVISION DATE 5/30/12

2012 ROAD SUSPENSION SWINGARM ASSEMBLY



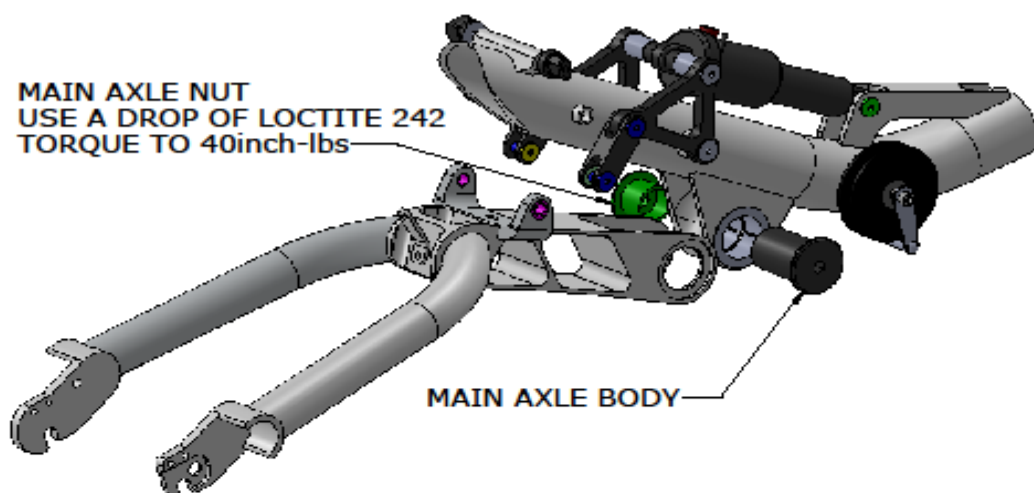
CATRIKE

REVISION 6/1/12



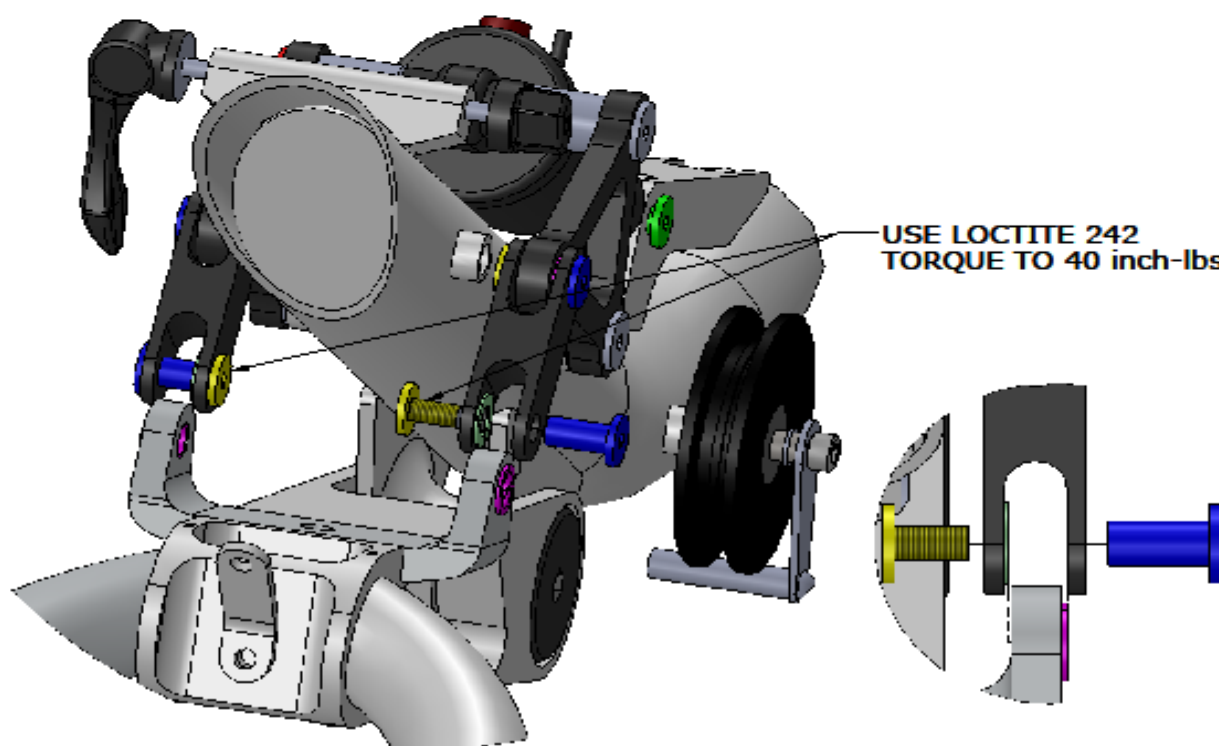
DEALER INSTRUCTIONS ROAD REAR SUSPENSION ASSEMBLY

MAIN AXLE NUT
USE A DROP OF LOCTITE 242
TORQUE TO 40inch-lbs



MAIN AXLE BODY

USE LOCTITE 242
TORQUE TO 40 inch-lbs



REVISION DATE: 5/25/12



Catrike Road Suspension Set-up Instructions

Monarch shocks can be set up and tuned for your particular weight, riding style, and terrain. When tuning suspension, always make one change at a time and write it down. This allows you to understand how each change affects your ride.

In this section you will set up and adjust the following two settings: Sag and Rebound

Sag is the amount of shock travel that is used as the rider sits stationary on the bike. The purpose of sag is to pre-load the shock and force the rear wheel down toward the ground when the bike is unweighted over small bumps. This helps to maintain contact and traction over rough terrain.

Typically, sag is 15 to 25 percent of available rear wheel travel.

To set sag on your RockShox Monarch rear shock, you will need to change the air spring rate (air pressure). Adjusting the air pressure will also determine the overall stiffness of the shock. The more air you put in, the firmer your shock will be. To find the optimal balance between your bicycle manufacturer's sag recommendation and your preferred shock stiffness, follow the sag setting instructions below:

Setting Sag

- Make sure the shock is set in the open position.
- Depressurize the air chamber by removing the air cap and depressing the valve core stem.
- Pressurize the air chamber to an air pressure equal to your body weight (psi to pounds).
 - **Note: As bicycle designs differ significantly, your bicycle may require different pressures or set up techniques. For example: lower leverage ratio bicycles require less air pressure to achieve proper sag. Use this set up technique as a starting point only.**
 - **Important: Do Not use air pressure above 275 psi.**
- Move the travel indicator o-ring next to the air can.
- Gently get onto your tricycle and sit in your normal riding position, then carefully step out of your Catrike.
 - **Important: If you jump on your tricycle or move too much while getting on or off, you will not get an accurate sag measurement.**

Check the location of the travel indicator o-ring against the sag value gradients marked on the shock body and verify your sag falls between the 15% and 25% range.

If the sag is less than your bicycle manufacturer's recommendation, a lower air pressure should be used. If the sag is greater than your bicycle manufacturer's recommendation, a greater air pressure should be used.

Important: Make sure that the air valve cap remains on the shock at all times or the shock can prematurely lose air.

Rebound Damping Adjustment

Rebound damping controls the speed at which the shock returns to its full travel position after compression. The Monarch shock features a red rebound damping adjustment knob to dial in your rebound setting. Rebound is quickest when the adjustment knob is in the full counter-clockwise position (turned toward the rabbit) and slowest when the adjustment knob is in the full clockwise position (turned toward the turtle).





Install Mirror

- Your Catrike comes with a mirror. Remove the bar-end cap from the left handlebar and install mirror in the end of the handlebar.



Attach the flag

Your Catrike comes with a flag mount. Using the M5x16 socket head cap screw provided, attach it to the rear threaded hole of the left drop out. Place the flag in the mount and use a zip tie to secure it.



! IMPORTANT NOTE !

It is normal for cables and assembled parts to settle and “bed in” during the first several days of riding. It is important to go over the trike carefully during this break-in period and adjust anything that's loosened up. That means all fasteners, especially the axle bolts and the tie rod nuts and bolts.

Attach Computer Sensor Mount

There is a hole on both spindle assemblies to mount the Computer Sensor Mount on the desired side of your trike. The Mount and the Bolt should be on the bottom of the spindle assembly with only the lock-nut on top.



Attach Space Neck Rest

Remove the screws from the clamps to mount then on the top horizontal seat bar. Center the space neck rest and barely snug up the clamp bolts. You'll likely be moving this clamp as you adjust the neck rest.

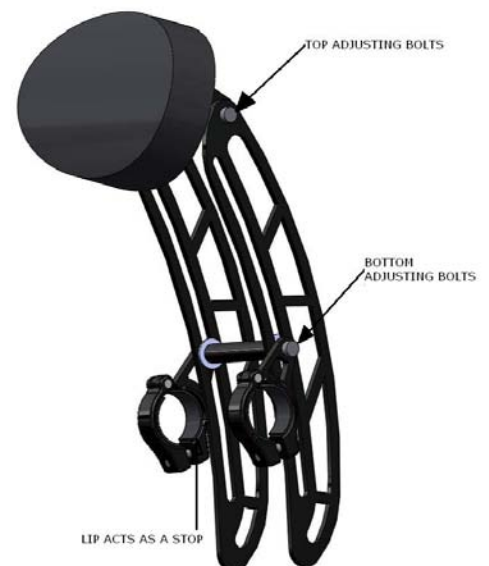
You can now adjust the space neck rest height and angle to fit you.

Loosen the bottom adjusting bolts to slide the side plates up and down to adjust height.

Loosen the top adjusting bolts to adjust the angle of the top of the space neck rest.

Once you have the neck rest where you want it, rotate the clamps on the horizontal seat bar until the neck rest stop is in contact with the side plate.

Tighten all the bolts and you are ready to ride in style!





Catrike Limited Warranty

Big Cat HPV, LLC warrants Catrike tricycle frames and steering components against defects in materials or manufacturing for 5-years, while owned by the original retail purchaser. The limited 5-year warranty on the frame and steering components does not apply to the paint/finish; this is covered under the limited 1-year warranty. Warranty coverage on Catrike proprietary components (excluding tires, tubes and cables) extends for 1-year while owned by the original retail purchaser. Warranty coverage of non-proprietary components will be covered by the warranty stated by their original manufacturers.

Warranty coverage is conditioned upon the tricycle being assembled and adjusted correctly, being operated under normal conditions and use, and being properly maintained. Proof of purchase is required for any claims made under this warranty. The warranty is valid for the original purchaser only and is non-transferable.

This warranty does not cover:

Normal wear and tear.

Any damage, failure or loss caused by accident, misuse, neglect, abuse, theft, or failure to follow instructions or warnings in the owner's manual. Any damage, failure or loss caused by use of tricycles for stunt riding, ramp jumping, acrobatics or other similar activities, or in any other manner for which they were not designed. Bending of frames, handlebars or wheel rims can be a sign of misuse or abuse. Any damage, failure or loss caused by the use of tricycles, not intended for such use as, power driven vehicles. The original owner shall pay all labor charges associated with the repair or replacement of all parts. Under no circumstances does this limited warranty include the cost of shipment or transportation to or from an authorized Catrike dealer or Big Cat HPV.

Useful product life cycle

Every Catrike tricycle and frameset has a useful life cycle. This useful life cycle is not the same as the warranty period. The warranty identifies the period of time that Big Cat HPV will replace the product if this becomes necessary. The length of the useful life cycle will vary depending on the riding conditions and care the trike receives. Competition, jumping, downhill racing, trick riding (e.g. riding on two wheels, wheel stands), trial riding, riding in severe conditions or climates, riding with extremely heavy loads or any other non-standard use can substantially shorten the useful product life cycle of a Catrike tricycle or frame set. Any one or a combination of these conditions may result in an unpredictable failure of a Catrike tricycle or frame set that would not be covered by this warranty. All Catrike tricycles and frame sets should be periodically checked by an authorized Catrike dealer for indications of potential failures including cracks, corrosion, dents, deformation, paint peeling and any other indications of potential problems, inappropriate use or abuse. These are important safety checks and very important to help prevent accidents, bodily injury to the rider and shortened useful product life cycle of a Catrike tricycle frameset.

Crash Replacement Program

If your Catrike tricycle or frameset ever fails in such a manner that the warranty is denied, you are still eligible for Catrike's crash replacement program. This program is intended to provide for a low cost frame replacement when a frame failure is determined to be caused by accident, crash, abuse or any other non-standard use. Please see your Catrike dealer for details. This crash replacement program is available to the original owner for the lifetime of the tricycle or frame set. Your proof of purchase will be required.



Limitations

Big Cat HPV reserves the right to make sole determination of whether any failure or damage claimed under warranty was caused by material or manufacturing defect. Proof of purchase from an authorized Catrike dealer is required for any limited warranty replacement/repair or crash replacement program.

The foregoing warranties are in lieu of and exclude all other warranties not expressly set forth herein, whether express or implied by operation of law or otherwise, including but not limited to any warranties of merchantability for a particular purpose.

Big Cat HPV shall in no event be liable for incidental or consequential losses, damages or expenses in connection with its tricycle products. Big Cat HPV's liability hereunder is expressly limited to the replacement of goods not complying with this warranty. Some states do not permit the exclusion or limitation of implied warranties or consequential damages, so the preceding limitations and exclusions may not apply to you.

Procedures

Warranty service will be performed by Big Cat HPV or an authorized Catrike dealer. Proof of purchase must be provided. Transportation to and from the authorized Catrike dealer is the responsibility of the purchaser.

Big Cat HPV will have the option of either repair or replacement at no charge for any defective product. In the event Big Cat HPV elects to replace a defective frame, a new frame of equal or greater value will be provided. The new frame may not be the exact model purchased. Big Cat HPV is not responsible for dealer labor charges for component changeovers when a frame is replaced after one year from the date of original retail purchase.

If you elect to repair a defective product yourself or use the services of someone other than a Catrike authorized dealer, or if you use a replacement part not supplied by Big Cat HPV, Big Cat HPV will not be liable for any damage, failure or loss caused by the use of such unauthorized service or parts.

This warranty gives you specific legal rights and you may also have other rights which may vary from state to state.

IF YOU HAVE A PROBLEM

Contact your Authorized Catrike Dealer. Proof of purchase required. Or contact:

Big Cat HPV, LLC
720 Business Park Blvd, Suite 22 Winter
Garden, FL 34787 USA Phone: (407)
905-0626
Fax: (407) 905-0820
<http://www.catrike.com>



Thank you for choosing Catrike. Excellent choice!

Next steps, please:

Register your product and give us your feedback online at:
www.catrike.com/registration.php

Look over Catrike resources and manuals at
www.catrike.com/resources.html

Participate in the Catrike message board at
catrike.yuku.com

Ride your Catrike as much as possible and spread the Catrike lifestyle

Happy Trails!

Catrike Team