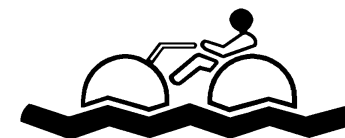


Aqua-Cycle International, Inc.  
Post Office Box 2129  
Yorba Linda, CA 92885-1329  
800-970-2688 Toll Free  
714-970-2688 Phone  
(888-970-0467 Fax)  
www.aqua-cycle.com  
Email: assembly@aqua-cycle.com



## AQUA-CYCLE ASSEMBLY

This section will guide you through the assembly process. The second half of this booklet covers maintenance instructions to keep your Aqua-Cycle in tiptop shape.

**Please read all assembly instructions before you begin.**

**NEED HELP?** Give us a call. It is better to get your questions answered rather than hope what you are doing is correct. Your Aqua-Cycle will last for many years if assembled correctly.

These instructions are in the order that works best for quick assembly. Complete each step before going to the next. As you start each new step read all the instructions for that section before proceeding.

If you have several Aqua-Cycles to assemble, do them one at a time. It is much better to assemble and check out each one before proceeding to the next one. Assembly line work does not give the best results nor is it any faster.

*ECO-FRIENDLY—We no longer market recreation products that have been chemically “brightened”. The use of any substance or process that does not meet the three-fold criteria of biodegradability, zero (net) environmental impact and full scope reuse/renewability has been discontinued. We have long been concerned with protecting both our customers and the ecosystems in which our customers enjoy our products. This decision is based upon our continuing commitment to responsible, earth friendly business practices.*

## NOTES AND CAUTIONS

**SAFETY**—Never allow your Aqua-Cycle to be operated without the fork guard and belt guard properly installed. This is for the protection and safety of your users.

**ANTI-SEIZE COMPOUND**—Included with the assembly parts is a small tube of anti-seize compound. Put a small dab on each bolt along the thread before screwing on the nut. As the nut is tightened the compound will be spread around the thread to keep the nut from seizing up (galling) on the bolt. Galling is a common problem with stainless steel lock nuts and bolts unless anti-seize compound is used. If the nut and bolt seize up there is no way to separate them. Cutting, grinding or twisting the bolt apart is the only solution. It is very important to use this compound.

**REAR WHEELS**—Do not over-tighten the nuts and bolts when mounting the rear wheels onto the axle. Follow the directions carefully. If you over-tighten the nuts, very small (almost invisible) cracks will develop in the center part of the wheel causing it to take in water during rotation.

**FRONT WHEEL**—Carefully tighten the hex nuts against the front wheel bushings on the front axle. Follow the directions to avoid forcing the bushings into the center tube by over-tightening.

# AC5 Aqua-Cycle

## Assembly and Maintenance Instructions

**PEDAL SCREWS**—Do not over-tighten the pedal screws. Forcing the pedal screws tight on new pedals can create stress in the plastic and shorten their life.

### FUTURE MAINTENANCE

Aqua-Cycles are extremely rugged and will last for many years, but periodic maintenance is necessary. Aqua-Cycle maintenance tips are located in the second half of this booklet. If you have any questions concerning the care and maintenance of your Aqua-Cycle please call our office.

**Your Aqua-Cycle bearings should be replaced every 200 hours of use.** Keep a spare Bearing Replacement Kit on hand for each Aqua-Cycle. Proper replacement of the bearings will protect your Aqua-Cycle from hidden, but significant damage.

**The bearing wear that is a result of using the bearings beyond 200 hours causes stress damage to the rear axle and pedal crank.** This stress accumulates with every rotation and will eventually result in a broken rear axle and/or pedal crank. Changing the bearings will stop the stress damage, but will not undo what has already accumulated as a result of not replacing the bearings as recommended.

### CHECK LIST OF UNASSEMBLED PARTS

(per Aqua-Cycle)

Rec'd	Per AC	Description
_____	1	Front wheel (matching color)
_____	2	Rear wheels (matching color)
_____	2	Rear Wheel hubs with cogs (stubs)
_____	2	Rear Wheel hubs without cogs
_____	1	Seat
_____	1	Frame (with belt guard preassembled)
_____	1	Fork guard with 2 top and 2 bottom pieces, 12 screws and washers
_____	1	Fork with fork pin, 2 bolts and nuts, 4 washers, and 2 fork bushings, and front axle (fork is shipped attached to Aqua-Cycle frame)
_____	1	Front axle, two lock nuts, two hex nuts, and two bushings (preassembled on Aqua-Cycle fork)
_____	12	Pedal halves and 24 screws (includes spares)
_____	9	½" x 4" wheel bolts (includes 1 spare)
_____	9	½" locking nuts (includes 1 spare)
_____	9	½" flat washers (includes 1 spare)
_____	8	Seat straps (includes 4 spares)
_____	1	Anti-seize compound tube
_____	4	Wheel Plugs—black plastic (includes 1 spare)
_____	1	Wheel plug wrench

(A few extra parts are included to help in case you have trouble during assembly.)

### TOOLS TO HAVE READY DURING ASSEMBLY

- 1 ½" Open end wrench
- 1 ½" Socket, six point recommended
- 1 ¾" DEEP socket, six point recommended

# AC5 Aqua-Cycle

## Assembly and Maintenance Instructions

### CAUTION PLATE

A red CAUTION plate is attached to the rear of the frame on the center channel for the owner and rental operators to see. It is a reminder that safety information should be shared with the riders, that the bearings should be replaced as recommended and that the Aqua-Cycle should not be operated without the fork guard and belt guard properly installed. Be sure the CAUTION plate is attached and readable.

### FORK GUARD

The fork guard covers the turning mechanism of the Aqua-Cycle. It protects against hands and fingers getting into the turning mechanism where they can be severely injured.

**Never allow an Aqua-Cycle to be used without the fork guard properly installed.**

### BELT GUARD

The plastic belt guard covers the pedal crank gear, axle gear and belt drive system. It protects against stray fingers and toes getting into that area.

**Never allow the Aqua-Cycle to be used without the belt guard properly installed.**

Have a wonderful time with your Aqua-Cycle.

# AC5 Aqua-Cycle

## Assembly and Maintenance Instructions

### WHEEL PLUGS

Be sure each wheel has wheel plugs and that they are tight in the wheels. A loose wheel plug will allow the wheel to take on water. Clear GE Silicone II caulking can be put on a loose wheel plug to seal it.

If you need a replacement for a wheel plug, use a standard 3/4" PVC or brass pipe plug (3/4" NPT) temporarily. To remove a wheel plug use the wheel plug wrench we sent with the Aqua-Cycle or a hex head of a machine bolt the proper dimension.

### BELT

Look for strands or fibers coming from the sides of the belt. Cut these off with a sharp knife. If not trimmed, they can snag on the gears and be stripped out of the belt, ruining it.

### BELT TENSION

If a clicking or snapping sound is heard when the Aqua-Cycle is pedaled, most likely the bearings have not been replaced recently or the frame has been bent or twisted. First replace all bearings with new ones to correct the problem.

If the problem still exists remove the rear bearings and re-drill the bearing mount holes to adjust the rear bearings farther away from the pedal crank bearings.

We have a belt tensioner kit that can be installed if no other solution works, to keep the belt the proper tension during pedaling.

### PEDALS

Check that all screws are tight and none are missing. Look for weathering and cracks in the pedals. Cracks indicate that the pedal will soon break. Replace broken, weathered or cracked pedals before the season begins for the comfort and safety of your riders..

### SEAT STRAPS

Check that the seat straps are tight and that they do not show signs of weathering and cracking, which is an indication that they will soon break.

### FRONT AND REAR BEARING BRACKETS

Inspect the welds. Look for small cracks in the welds which could allow the bearing bracket to break loose from the frame.

### TAR ON WHEELS

When you see tar or oil on a wheel, get it off quickly. Tar and oil will penetrate into the plastic wheel. The longer it is left on the plastic the deeper the stain that is left behind. Use gasoline or Bug and Tar Remover (sold in automotive stores) to remove the tar.

### SAFETY INFORMATION PLATE

A Safety Information plate is attached to the center tube of the frame in a position for each rider to see. Be sure each Aqua-Cycle has a Safety Information Plate attached to the frame center tube about 9" down from the neck and that it is readable.

# AC5 Aqua-Cycle

## Assembly and Maintenance Instructions

- 1 Socket extension 8" to 12"
- 1 3/8" or 1/2" Drive ratchet for above sockets (1/2" recommended)
- 1 3/4" Open end wrench or 10" square jaw Vise Grips
- 1 Hammer
- 1 Philips head screwdriver
- 1 Can of WD-40 or equivalent silicone spray lubricant
- 1 Pen or pencil

### PREPARATION OF TOOLS AND PARTS

Unpack the box containing all of the bolts, nuts, washers, screws, pedals, fork guard and seat straps. Remove the fork from the frame. Keep the fork guard in the plastic bag for now.

Note how the front axle is installed on the fork. That is how you will reassemble it with the front wheel. Now remove the axle from the fork, but do not take the parts off the axle at this time.

Count all the loose parts. Be sure that your count matches or exceeds the Check List per Aqua-Cycle. In the rare instance that any parts are missing call our office and we will send them out immediately and can specify parts to purchase locally to finish assembly until the missing parts arrive.

All Aqua-Cycle bolts, nuts, washers, and screws are high grade stainless steel so they will not rust. If you must use replacements that are not stainless, replace them with stainless parts as soon as possible.

Check that the tools listed are close by. The 1/2" socket and 1/2" open end wrench are for the fork assembly. The 3/4" socket, socket extension, and 3/4" open end wrench or Vise Grips are for the rear and front wheel assembly.

### LET'S GET STARTED WITH ASSEMBLY

To begin assembly, place the frame right side up as it will be when assembled. In this position the frame will be resting on the belt guard and steps, with the neck pointing up.

### SEAT ATTACHMENT

The seat is held in place by four nylon straps inserted through holes in the seat legs and tightened around the frame.

Attach the rear legs first. The rear legs of the seat allow for two positions. Select the seat's forward-most position (the back notch on the rear legs). Note that there is a hole in the front of the rear seat leg, one in the back of the leg, and several underneath the leg including two in the middle ridge. Ignore the holes directly above where the seat would set on the frame because you will only use the front-middle hole.

Place the seat on the frame in the forward-most position and push a strap into the front-middle hole. Take a second strap and push it through the back hole so it hits and slides underneath that front strap. Keep pushing the back strap so it slides along the front strap and eventually comes out the front-middle hole. Now remove the front strap and leave the strap that came from the back unattached for the moment. Repeat this process for the other rear leg.

# AC5 Aqua-Cycle

## Assembly and Maintenance Instructions

On each front leg, push a strap through the outside hole and out of the inside hole.

Once all four straps are through the proper holes bring them around the frame and through the strap buckles. Tighten them and double the excess back through the extra loop buckles. Looping this excess part of each strap through the buckle adds additional strength to the locking mechanism.

Push the excess of each strap into the nearest seat leg hole to keep it out of the way.

### FORK ASSEMBLY

Before removing the fork pin from the fork, mark the bottom of the pin with an arrow pointing toward the front of the fork. This will help you get the pin back into proper position so the bolt holes will match up. Remove the two bolts, fork pin, and fork bushings from the fork.

Insert the two plastic bushings into the frame neck tube. You may need to use a rubber mallet or hammer to gently tap them all the way into the tube.

Place the fork onto the neck tube. Slide the fork pin (with the arrow on the bottom) into the top of the fork, and through the upper fork bushing, neck tube, lower bushing and fork lower hole. Be sure that the arrow you put on the bottom of the fork pin is pointing to the front of the fork.

Match up the bolt holes in the fork pin with those in the fork. Re-install the two bolts, nuts and washers (one washer at the bolt head and one at the nut) to hold the fork pin in place, and tighten.

### FORK GUARD

For each Aqua-Cycle there is a fork guard in a plastic bag which has been uniquely fitted to it. The number on the bag matches a number on the Aqua-Cycle (8th and 9th digits of the serial number). Matching the correct fork guard to each Aqua-Cycle will make assembly easier.

The fork guard covers the turning mechanism at the neck tube. It is attached by #10 screws and washers. The holes are predrilled. Wrap the guard around the fork with the wings snug to the frame. Install two screws with washers to secure the wings. Install two screws into the top gussets (neck tube support brackets).

Install the top front (F) and top rear (TR) covers onto the fork. Install the bottom front (F) and bottom rear (BR) covers the same way.

Never allow the Aqua-Cycle to be used without the fork guard installed.

### REAR WHEEL ASSEMBLY AND HUBS

With the seat and fork attached, flip the Aqua-Cycle frame upside down so it rests on the handle bar and the top edge of the seat back.

Prepare the eight ½" x 4" bolts for assembly by putting a small amount of anti-seize compound along one side of the threads. Just "a little dab will do it."

**Wheel Hubs.** There are two different hubs per wheel. The hub with cogs (stubs) goes in the outer center of the wheel (side of the wheel with fins) and the other (plain) hub goes on the wheel next to the axle plate.

# AC5 Aqua-Cycle

## Assembly and Maintenance Instructions

one leg. If off-center, possibly the wheel has "slid" on the center tube and more tube sticks out of one side than the other. If so, remove the wheel, saw off the excess tube on one side and reassemble the wheel on the fork. If spacing is needed between the wheel and fork, add stainless steel washers between the fork leg and the hex nut.

### FRONT WHEEL BUSHINGS

Be sure these are in good shape and have not been forced into the center tube causing it to split.

### FRONT WHEEL AXLE

Check that the hex nuts are tight against the wheel bushings and the fork legs are being held tight against the hex nuts by the outside lock nuts.

### PEDAL CRANK

Check the gear, bolts, nuts and washers. Be sure everything is tight and that there is no damage to the gear. A worn or cracked gear will ruin the belt in a very short time.

Be sure that the pedal crank lock collars are properly installed on each end of the pedal crank. These keep the pedal crank gear aligned with the rear axle gear and provide extra strength to the frame.

### REAR AXLE

Carefully inspect the rear axle and gear to be sure all bolts, nuts, and washers are tight. Be sure that the gear is not cracked or broken. Even slight wear or damage can ruin the belt in a short time. Be sure the gear plate is smooth and does not rub harshly on the side of the belt.

Be sure the axle lock collars are tight against the inside edge of the side axle bearings to keep the axle gear in alignment with the pedal crank gear. If misaligned, the belt can be severely damaged.

### REAR WHEEL

If you are getting water in the wheels, most often the center hub area of the wheel has been damaged. Remove the wheel from the rear axle, then remove the wheel hubs and inspect the inner parts of the wheels. Look for hairline cracks or damage around the bolt mounting holes.

If damage is found or suspected, clean off all sand, salt, dirt or oil and remove any loose plastic. Scuff and scar the surfaces both on the wheel and adjacent hub surfaces where repair is desired. Put clear GE Silicone II Caulking around each bolt hole, small cracks and the axle hole.

Apply the caulking like tooth paste. Don't spread it around. When the hub is inserted, the caulking will spread out to cover the surfaces.

Cracks in the wheel are usually caused by over-tightening the bolts which squeezes the plastic together and crushes the wheel center area. The nuts should be snug, but not tight.

After the wheel is reinstalled on the axle, let the new caulking dry and cure for at least 24 hours before putting the Aqua-Cycle in the water.

# AC5 Aqua-Cycle

## Assembly and Maintenance Instructions

sure that all pedal screws are tight. Inspect the wheels for visible cracks or missing wheel drain plugs. Check that the seat straps are tight. Inspect the welds for cracks and signs of fatigue.

### SEASONAL MAINTENANCE & INSPECTION

Before each season replace all bearings, bushings, pedals and seat straps. Check all the other parts to be sure that they will make it through the season. Remember that an Aqua-Cycle out-of-service can cost you many times more in lost revenue than the cost of the replacement part. It also can be bad public relations and endanger your customers should something break during rental.

#### BEARINGS

The Aqua-Cycle is designed to transfer wear and stress to the bearings. Bearings are far less expensive than replacing a broken axle or pedal crank. **The AC5 Aqua-Cycle bearings must be replaced after every 200 hours of use.**

If you do not replace the bearings as needed, bowing and stress are transferred to the rear axle and pedal crank, which then fatigues the metal. This fatigue accumulates and will eventually cause the rear axle and pedal crank to break in half, needing replacement. Do not rely on your ability to see when the bearings need replacement. By the time the wear is visible, irreversible damage has already been done to the rear axle and pedal crank.

**Protect your Aqua-Cycle investment and the safety of your customers. Replace all bearings every 200 hours of use and at the start of every season.**

#### FORK

Remove the fork guard and inspect the fork welds, especially the welds below the lower of the two cross bars, looking for small cracks in the front and back of the fork legs. These cracks most commonly start on the front as a result of customers riding the Aqua-Cycle in waves and hitting the shore or playing "bumper cycle." Catch a crack and have it repaired before it develops into a full break. Reinstall the fork guard when inspection and maintenance is completed. Never allow the Aqua-Cycle to be used without the fork guard properly installed.

#### FORK BUSHINGS

The bushings in the fork turning mechanism should be checked and replaced annually. Also, check the fork pin for excessive wear. Be sure there is enough shoulder left on the bushings so the fork does not rub directly against the neck tube.

#### NECK

Inspect the welds around the neck where the fork attaches and check the gussets that strengthen the neck tube attachment. Look for small cracks in the welds that are an indication of a future break.

#### FRONT WHEEL

Inspect the front wheel for cracks along the center seam. Check that the drain plugs are properly inserted into the front wheel.

Check that the wheel is centered between the two fork legs without risk of rubbing on

# AC5 Aqua-Cycle

## Assembly and Maintenance Instructions

**Rear Wheel Installation.** Have someone help you install the rear wheels—it will make the process much easier.

Stand the rear wheel up and put the hubs into the rear wheel as far as possible. The wheel should be installed with the fins away from the seat so they do not splash water on the riders.

Insert a 1/2" x 4" bolt (with anti-seize compound on the thread) and a washer into each of the bolt holes, then lift the wheel with hubs and bolts onto the axle. Align and push the bolts through the holes in the axle plate and screw a lock nut onto each.

Do not tighten yet. Be sure the bolt head and washer are on the outside part of the wheel and the lock nut (without a washer) is against the axle mounting plate.

- If you cannot screw the nuts onto the 4" bolts remove one bolt and replace it with a 4 1/2" or 5" bolt and washer. Use one of the hex nuts (not a lock nut) from the front axle to "pull" the wheel hubs into the wheel. As you tighten the longer bolt the thread of the other 4" bolts should come through enough to put on the lock nuts. Tighten each of them somewhat and then replace the longer bolt with a 4" bolt, lock nut, and washer.

**Do not over-tighten the 4" bolts!** Tightening them too much will mash the center of the wheel and create hairline cracks in the plastic. Water can seep into the wheel through these cracks as it rotates and that damage will continue to expand.

Gently tighten the four nuts, turning one a few turns and then another and another—around and around the wheel several times. Normal tightening is to the point where the wheel seems tight on the axle, but not so far that the center of the wheel is squeezed together, mashing and cracking the wheel center area. If a wheel bolt or washer is still loose then tighten the nut a **little** more.

Repeat this process for the other rear wheel.

If you need a replacement for the wheel plugs, use a standard 3/4" PVC or brass pipe plug (3/4" NPT) temporarily. To remove a wheel plug use the hex head of a machine bolt of the proper hex dimensions.

#### FRONT WHEEL ASSEMBLY

**Front Axle.** This is a 1/2" by 25" stainless steel rod threaded at each end. It is shipped complete with two wheel bushings, two hex nuts, and two lock nuts. Disassemble these parts and place them together near the front wheel and fork.

Note the difference between the 1/2" hex nuts and the 1/2" lock nuts. The lock nuts have a nylon insert in the end and the hex nuts do not.

Inspect the front wheel and remove any plastic caps or bushings placed into the ends of the center tube for shipping.

Slide the axle through the center tube to be sure the passage is clear. Sometimes during manufacturing plastic gets into the center tube. It can be forced out using the front axle as a pusher. **DO NOT** strike the threaded end of the axle with a hammer because you will damage the threads.

Insert one front wheel bushing into each end of the tube. Slide the axle through the bushings so equal thread extends out each side. Screw a 1/2" hex nut (not a lock nut)

# AC5 Aqua-Cycle

## Assembly and Maintenance Instructions

onto each side of the axle. Snug them up against the bushings. Snug, but not tight.

The hex nuts serve to keep the bushings in place. If you over tighten the hex nuts the shoulder of the bushings will be forced into the tube, damaging it.

Attach the front wheel onto the fork by spreading the fork legs and putting the axle through the holes in the legs.

Secure the axle with a ½" lock nut per side. With a ½" wrench holding the hex nut use another wrench to tighten the ½" lock nut against the fork leg forcing the leg tight against the ½" hex nut. Repeat on the other side.

When finished, each hex nut should be tight against the bushing, but not forcing it into the tube, the fork leg should be tight against the hex nut, and the lock nut should be *very tight* against the fork leg. The wheel should turn freely on the fork.

If you need a replacement for the wheel plugs, use a standard 3/4" PVC or brass pipe plug (3/4" NPT) temporarily. To remove a wheel plug use the hex head of a machine bolt of the proper hex dimensions.

### PEDALS

Install four pedals (eight identical halves) on the pedal crank. If the pedals are hard to rotate, loosen the screws slightly for the first few days of use while the pedals wear to match the pedal crank. After a few days tighten them.

### LUBRICATION

Lubricate the fork pin with WD-40 or a good quality silicone spray lubricant. This should also be done once a week during heavy use or anytime a squeak develops in the steering.

The pedal crank and rear axle bearings have been greased prior to shipment. Grease them once a week during normal rental periods. Some of the grease fittings are covered by the plastic belt guard. It has access holes over these fittings for greasing. A good quality marine grease is best and can be purchased from a marine supply or boat dealer.

### BELT TENSION

The Aqua-Cycle is shipped with the belt slightly tighter than necessary. Within the first week of use the bearings will wear just enough to be easier to pedal.

Remember to replace the bearings every 200 hours of use to avoid damage to the pedal crank and rear axle that accumulates with worn bearings. If you hear a popping or snapping sound as you pedal, probably it is time to replace the bearings.

If the bearing are relatively new and you cannot find any cause for the popping sound we have a belt tension kit that can be added to the Aqua-Cycle to help keep the belt the proper tension during pedaling.

Send us some pictures and interesting experiences of you and your Aqua-Cycle. With your permission we will put them on the Aqua-Cycle website. Have a wonderful time.

# AC5 Aqua-Cycle

## Assembly and Maintenance Instructions

## AQUA-CYCLE MAINTENANCE

A well maintained Aqua-Cycle will last for many years.

If your Aqua-Cycle is only for personal use, refer to this guide as needed. Rental operators should follow these lubrication and maintenance guidelines every week to keep the Aqua-Cycles properly maintained for customer safety, highest profits, and the least amount of down time.

NEVER allow Aqua-Cycles to be used without the fork guard and belt guard properly installed for the safety of the users and protection of the equipment. If you have a question please call our office.

### NEED HELP OR PARTS?

Give us a call. We can ship most parts within 24 hours. If you need them "yesterday", we can ship air freight, Federal Express, United Parcel Service or however you instruct us. Payment can be by check, bank wire, Visa, MasterCard or American Express.

When you call to order parts or for help with a replacement part, have the 12 digit identification number of the specific Aqua-Cycle involved. With this number we can quickly determine which series of parts you need or give instructions for making the replacement.

## WEEKLY MAINTENANCE & INSPECTION

### BEARINGS

The grease fittings on the pedal crank and rear axle bearings only take a moment to lubricate and will keep your Aqua-Cycle running smooth. Some of the fittings are covered by the plastic belt guard. These fittings are greased through access holes in the belt guard or by temporarily removing the plastic belt guard. Never operate the Aqua-Cycle with the belt guard removed.

To grease the Aqua-Cycle, flip it over so it is resting on the handle bar and top of the seat back. This way the wheels are free to turn and gives you easy access to the grease fittings.

Use a high-quality marine grease that holds up when exposed to water. Force enough grease into the bearings so a little comes out the sides. Rotate the pedal crank and rear axle to spread the grease around the bearings before turning the Aqua-Cycle right side up. Wipe off any excess so it does not collect dirt or grease, or get onto a rider.

### FRONT FORK

The top and bottom of the fork pin should be sprayed with WD-40 or a good silicone lubricant. Turn the fork while spraying so the lubricant runs down the pin and is spread from side to side. Lubricating the fork pin keeps wear to a minimum and the fork from squeaking.

### SAFETY INSPECTION

When lubricating your Aqua-Cycle, check for potential problems that can be repaired before they becomes major. Check all bolts and nuts to be sure they are tight. Be