



CYCLONE MOTOR KIT INSTALLATION INSTRUCTIONS

INTRODUCTION AND DISCLAIMER

The Cyclone Motor Kit is supplied as a set of do-it-yourself parts for the user to install on their bicycle. Each installation will be different and therefore it is the responsibility of the purchaser to determine the best way to install the kit on their particular bicycle. The following instructions should be considered as general guidelines only - your installation will be slightly different. If you do not have the mechanical ability to correctly and safely install this kit, you should obtain the services of a professional bicycle shop or other qualified technician. Installation and use of this kit will create a motorized vehicle that has exposed moving parts, electrical connections and high powered batteries. Any or all of these components can be dangerous! Federal Law mandates that no person under the age of 16 shall operate a motorized bicycle. Because this kit is installed, maintained and operated by the purchaser, Electric Mountain Bikes and Cyclone-USA disclaim any responsibility for injury, damage or other consequences arising from the use of this product. Always wear a helmet, ride responsibly and observe all Federal, State and Local laws.

WARRANTY

The Cyclone Motor Kit is warranted to be free from defects in workmanship and materials for a period of 90 days from the purchase date. All warranty claims must be made in writing and defective parts must be returned to Cyclone-USA at the purchaser's expense after obtaining a return authorization number. Defective parts will be repaired or replaced at the sole option of Cyclone-USA. Return shipping to the customer will be paid by Cyclone-USA within the continental United States. This warranty does not cover abuse, normal wear and tear, operation in wet or dusty conditions or physical damage. Modified parts or portions of the kit which have been used other than directed are not covered. Motors and controllers that fail because they have not been properly fused are not covered. There is no other warranty either express or implied. Cyclone-USA's total liability shall not exceed the actual purchase price of the motor kit or components purchased from us.

GETTING STARTED

Installing the Cyclone Motor Kit will require some basic mechanical and bicycle maintenance skills as well as general and specialized tools. If you are not able to do the installation yourself, your local bicycle shop should be able to do all the work necessary to install the kit. In addition to a clean, well lighted work area, you should have these tools:

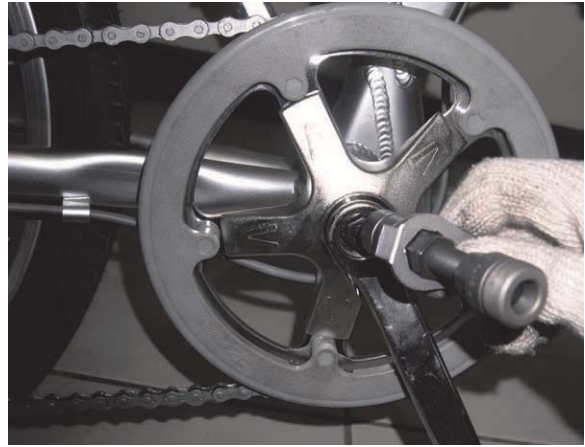
1. Basic general hand tools including a mallet, wrenches, screwdrivers etc.
2. Specialized bicycle tools including a crank removal/installation tool, a bottom bracket wrench and a chain breaker. These tools are available individually at reasonable prices at Jenson-USA - on the web at <http://www.jensonusa.com/store/sub/116-Tools.aspx>. An excellent kit that includes these tools and more is the Park BK-2 Roll-up Mechanic set, priced at about \$150.
3. A multi-meter, either digital or analog, is also helpful. Available at your local Radio Shack.

Before you begin working on your bike, read through these directions completely. Pay particular attention to Step 3 because it shows the spacing that is normally required to install the kit using the supplied bracket.

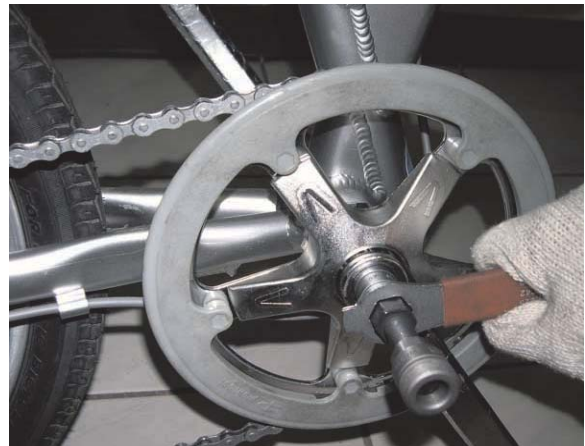
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1. Using a crank removal tool, remove the crank arm nuts.

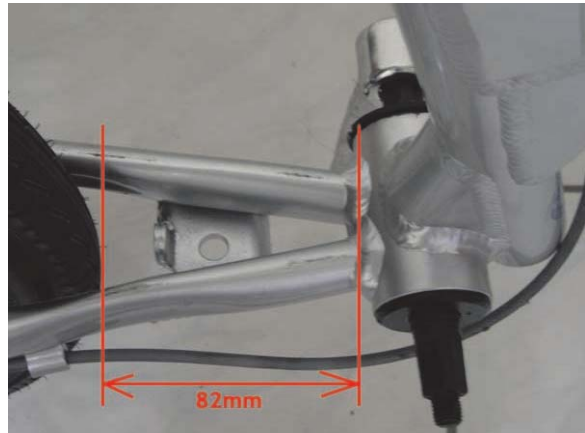


2. Use the crank removal tool to pull off both crank arms and chainwheel.



3. Check your frame for mounting space. The distance between the back of the bottom bracket and the rear tire should be at least 3.25" (82mm) for easiest mounting. If the distance is less than 3.25" you may need to fabricate special spacers or a custom mounting bracket.

Note that bike with v-brakes that mount in this area will not work with the kit unless you move the brakes to another location.



4. Next you will replace the bottom bracket spindle. Begin by removing the retainer nut. Because different brands of bikes use different types of nuts, yours may not look like the photo. You will probably need to obtain a special tool to do this job. Note that retainer nuts can be either right or left hand thread. Proceed carefully - if it does not loosen in one direction, try the other.



- 5.** Remove the spindle and replace with the longer one supplied in the kit. Use caution - if the bearings are not held in a retainer they can spill out on the floor and run away! Turn the bike on its side and work over a rag to prevent losing parts.

On the 500w kit, the long side of the shaft goes AWAY from the chainwheel side to allow extra clearance for the back of the longer motor.



- 6.** Install the motor mount bracket next. Note that the bracket is set back from the chainwheel side of the bike. Adjust the bracket until it is square to the bottom bracket then tighten all bolts.

Be certain not to pinch or bind any wires or cables that run through the mounting area.



- 7.** Mount the motor to the bracket using washers and self-locking nuts. Motor height will be adjusted later.



- 8.** Loosen the screws that hold the chainwheel to the freewheel center and apply threadlocker (Locktite) then retighten. Install the chainwheel / freewheel assembly to the threaded crank. Install both cranks to the bottom bracket spindle and tighten retaining nuts.

Note that the chain guard shown in the photo is only included with the 44 tooth chainwheel.



- 9.** Install the chain around the motor sprocket and idler. Adjust the motor height for adequate clearance between the motor sprocket and chainwheel. Adjust the motor lateral position so the sprocket aligns with the chainwheel and chain path. Tighten all screws - don't forget the front motor mount screw which is difficult to reach.



- 10.** With the bike supported on a stand, operate the pedals and shift through the gears. Observe the operation of the rear derailleur. If the tension arm is not in the proper position, you may need to add several links of chain. Usually about 3 links is all that is required. A chainbreaker tool is required for this job.



- 11.** To install the throttle, you must first move the rear derailleur shifter to the left side of the handlebars. At the same time you should replace the original brake handles with the ones supplied with the kit which have a safety cutoff switch that will switch off the motor when the brakes are applied. After installing the brake handles and moving the shifter, install the throttle on the right side of the handlebars. Note that the throttle has a small on-off switch built in.



- 12.** Plug together all parts of the wiring harness. Each connector must go together so that the small tab and the locking clip are on the same side. Do not force the connectors! Plugging the connectors together incorrectly will cause component failure.



- 13.** Finish the wiring by plugging together the battery and the main power leads from the motor. Again, take care that the connectors are properly oriented.

A fast-blow fuse rated at not more than 35 Amps MUST be installed in the power line. Fuse holders are included with Cyclone battery packs. If you are supplying your own batteries, you must provide fuse protection to avoid destroying the motor controller.

Use tie wraps (not included) to secure all wiring to the bike frame taking care to keep it away from any moving parts.

Before test riding, make sure your battery is fully charged. Double check tightness of all fasteners. Test operation of the bike on a stand before riding.

Good Luck and Have Fun!

