



The Hornet LW is designed to fit on 1.5" schedule #40 Iron water pipe. You must first decide on your mounting pole and get that set up first. It must be strong and safely built to withstand the strongest winds in your area. Always try to mount wind turbines as high as possible since there is more wind the higher you go above ground level. However in certain areas good wind is available at only 12 feet high. Some examples of this are high desert plains, mountain tops and passes, beach front properties and cliffs. You will have to do some testing to see how high you want to go with the mount. Consider carefully that higher mounts are generally more expensive to install, maintain and service. They also take a greater degree of skill to put up and take down. The most common mount is a 20 foot piece of 1.5" Sch. 40, with 4' in the ground. If you have a welder you can weld guy wire eyelets near the top and a tilt hinge and ground rail at the bottom and create a very inexpensive mount. As the Rule, you should always mount your turbine 30' higher than the nearest trees or buildings effectively making your turbine 30' above the "ground" in essence.

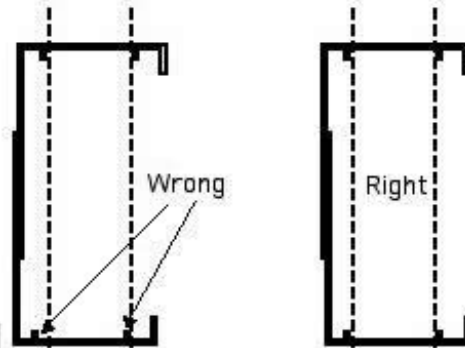
No Slip Rings - Our advice on slip rings is to use heavy rubber coated welding cable and don't worry about twisted wire. Twisted wires in the pole are an overrated problem in small wind turbines. Heavy rubber welding cable tends to simply unwind when it is under tension and the wind turbine head favors turning in the opposite direction to

effect unwinding. Welding cable has also magical qualities when it comes to taking continuous twisting and has incredible abrasion resistance when rubbing inside the pipe. Welding cable will last for about 50 years (Not even slip rings will last 50 years)

NO OTHER TYPE OF WIRE HAS ALL THESE QUALITIES EXCEPT WELDING CABLE!

In all the mfg's testing slip rings eventually failed and required maintenance while over 100 small test turbines equipped with rubber welding cable operated with exceptional dependability for over 12 years now and counting.

Hornet LE Assembly Instructions - The Hornet LE is designed to fit on 1.5" schedule #40 Iron water pipe. You must first decide on your mounting pole and get that set up first. It must be strong and safely built to withstand the strongest winds in your area. Always try to mount wind turbines as high as possible since there is more wind the higher you go above ground level. However in certain areas good wind is available at only 12 feet high. Some examples of this are high desert plains, mountain tops and passes, beach front properties and cliffs. You will have to do some testing to see how high you want to go with the mount. Consider carefully that higher mounts are generally more expensive to install, maintain and service. They also take a greater degree of skill to put up and take down. The most common mount is a 20 foot piece of 1.5" Iron sprinkler pipe. If you have a welder you can weld guy wire eyelets near the top and a tilt hinge and ground rail at the bottom and create a very inexpensive mount.



Do not overlap frame brackets the wrong way! They both look the same BUT one is bent 1/8" off center for the overlap of the other. If you reverse them the turbine head will bind on the pole and not spin properly.

Step #1 - Place shaft collar lock on the 1.5" pipe about 9" down the pipe. Now place the turbine frame head on the pipe. Now place the other collar lock on top of the pipe to securing the turbine frame on to the pipe. Leave some slop to the fit so the frame does not bind when pivoting. Use some thick grease on the shaft before assembling so the head can pivot easier.



Step #2 - Bolt the PMA on to the head. It only fits one way because of the spacers. Use only 3/8" jam-lock nuts provided!



Step #3 - Remove the nut and lock washer.

Step #4 - Use a 5/16" hex wrench to hold the center of the shaft and turn the nut clockwise until hub is securely tightened. If you own an impact wrench that works even better for tightening the hub nut. (Do not over tighten with the impact tool)



Step #5 - The flat sides of the blades ALWAYS face the wind! The blade tips have a flat side and a round side. The round side of the blade faces the PMA. Be careful!! If you bolt on one or two blades backwards the performance will be terrible.



Step #6 - Bolt on the propellers as shown here. It is a tight fit so push the bolts through hard to keep the blades tight. In some cases you may wish to re-drill the 1/4" holes if the fit is just too hard.



Step #7 - Bolt on the tail and you are ready to fly it.

Warning:

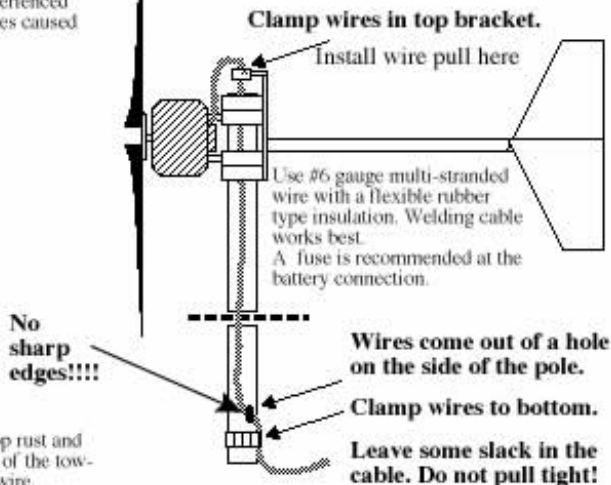
Please note that these blades are very sharp and can cause severe injury if handled improperly. Treat these blades with the same respect you would have for a sharp sword.

These blade sets can turn at well over 2000 RPM on a windy day and can cause severe bodily injury when they are spinning. Use extreme caution! Never mount or work on a wind turbine on a windy day. Never place a turbine in any area that can be accessed by inexperienced persons or children. We assume no liability for ANY injuries caused by these products.



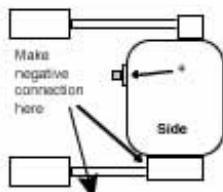
One wire systems use the pole as the ground. This helps stop rust and corrosion. The negative connection is placed at the bottom of the tower and then ran to the battery with the positive with regular wire.

Wire tensioning technique keeps wires from twisting.

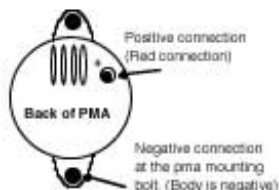


PAINT:

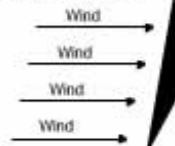
Hornets come unpainted so you will probably like to paint it your favorite color with a can of high quality spray paint before it goes up.

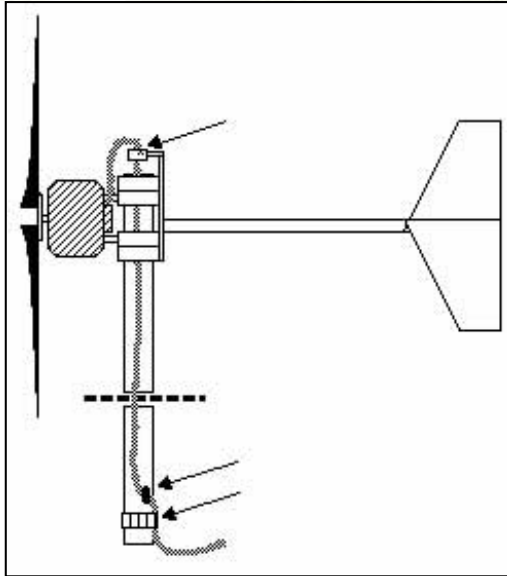


or on the bottom of the pole



The flat side of the blade always faces into the wind





- No Slip rings - Wire tension system keeps turbine from making too many turns in one direction. If wire gets tight the turbine head will favor turning the other direction. Tighten the wires securely into the clamp at the top of the head. Use good heavy wire.