



Installation Instructions of HLT series wind turbine system

Step 1: Location

So as to make the most of the wind turbine's generating effect and security operating, a proper install location would be extremely important.

1. Above all, the most important point in choosing a suitable place is about the soil condition, soft, sandy, rocky and place with various altitude or changeable terrain should be deleted from consideration.

2. To maximize the wind speed that wind turbine receives, the place should try its best to be far away from possible impediments.

3. Minimize the distance between the wind turbine and batteries, the shorter the distance, the less power lost during transmitting, reinforce the thickness of connecting cable could reduce the power consume as well.

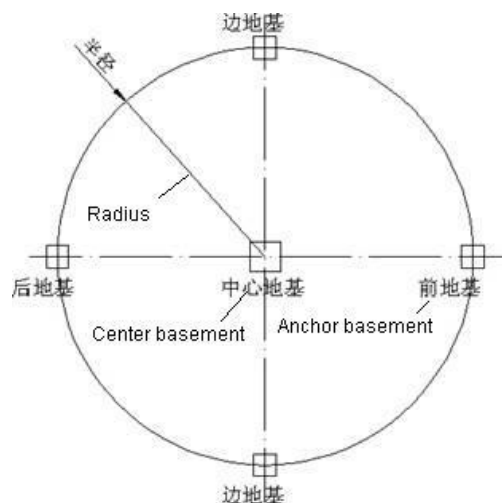
Step 2: Distribution of basement, tower and anchor block (take diagram 1, picture 1 as reference)

Instructions for distributing basement & anchor block:

1. Diagonal of anchor block should pass the central point of basement.
2. Distance between anchor block and central point of basement should be the same.
3. Height of the anchor block with the basement should be the same.

The pull forces would meet their adjustable balance only when the mentioned three premises are all achieved, or else the unbalanced pull force may cause bend or even collapse of the tower in setting up the wind turbine.

Diagram 1



Picture 1

Step 3: basic construction for basement and anchors

1. Dig out the center basement & anchor basement according to diagram 1, picture 1.



2. Fasten the steel basement on four stone bolts, four stone bolts should be vertical to basement (be aware that it's in compliance with the aperture of basement).
3. The angle between anchor and center basement should be between 60-80 degree, make sure the distances between anchors and center steel basement to be same, make sure every anchors stays approximately in a same height.
4. Fill the center and anchor basements with concrete.

Step 4: Installation of the tower and wind turbine

1. Wait till the concrete reach installing rigidity.
2. Firstly place the tower into the steel center basement and put the bolt into the connecting hole of basement & tower, fix it up with screw cap.
3. Put the tower on the prepared fork mounting support, the height should suit the afterward installation of wind generator with blades.
4. Educe the generator cable from the tower.
5. Install the combination of generator& rotor on the top of tower, a hoist machine could be used in hanging it up.
6. Install the tail plates and bar on the rotor which is connected between generator and tower.



Center basement and tower



Flange

anchor's wires



Fork mounting supporter



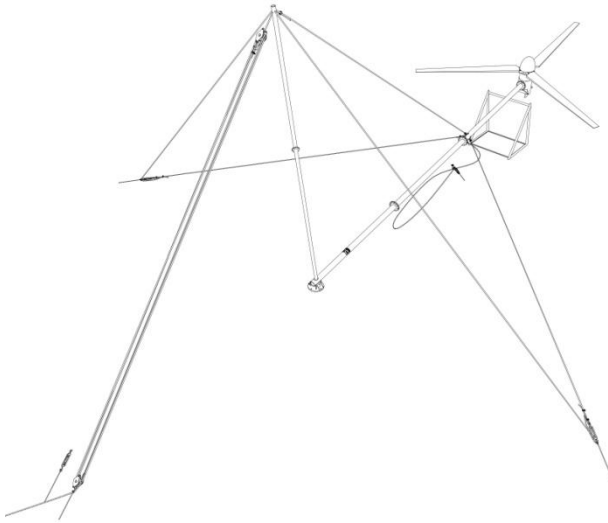
complete

Step 5: Blades installation

1. Keep the flange flat on the table, fix the blades properly according to the installation holes, insert the bolts, fasten the blade pressure pad, fix up the screw cap.
2. Do not tightly fix up the screw cap cause we need to adjust the distance among the three blades (permitted error:±5mm). Screw tight the cap after the balance adjusting is finished.
3. Install the finished blades on the front axis of the generator, fasten the wind cap and make sure all screws are tightly fixed.

Step 6: Tower setting up

1. Put four tightwires through the hole on the tower and lock them up with clamps, except the tightwire for the furthest anchor, all other three tightwires should now be connected to its corresponding anchor, do not lock them up cause the pull force needs to be adjusted after the tower is pulled up.
2. Connect the last tightwire to a winch or tractor with a at least 16 meters long guy cable (rope or chain cable or tightwire).
3. Put this guy cable through the top of 2*4, 2*5 ladder, this ladder acts as an auxiliary steeve.
4. Drive the winch\tractor slowly, follow the guy cable forward and pull up the tower gradually. In order to avoid unnecessary unbalance, with every 15 degrees (in angle) up of the tower, the winch\tractor should stop and check the tensility of the guy cables on both left and right side.
5. Keep on pulling the guy cable until the tower stands completely straight, fix the last guy cable with its anchor block.
6. Examine the tensility of every tightwire, if it's too tight then the tower may bend, if it's too loose then the tower may shake in directions. Adjust the tensility by tightening or loosing the flange bolts, always remember that an appreciably loosed guy cable would be much safer than the over tightened one.



Picture 2

Electric wiring

1. Connect the cable from generator to the three terminals accordingly on the back of the controller.
2. Connect the battery group to the terminals accordingly on the back of controller.
3. Make sure that the generator's rated output voltage, battery voltage, and inverter's input voltage to be same.
4. Don't confuse the polarity, otherwise, generator or inverter or battery group may be burnt.
5. Connect the inverter to the battery group or controller battery terminals.

Maintenance

The working background of the wind turbine would probably be very unfriendly; all types of weather condition would have chances to strike the machine. It'll be necessary to regularly check and maintain it.

1. During the initial days after installation or after great wind, check the guy cable's tensility in time and if necessary, make the adjustment.
2. Check all connecting cables to make sure there is no damage or corruption, make sure the electrical safety is well secured.
3. Keep an eye on the electrolyte height of the batteries; compensate it whenever you find it become lower than standard.
4. Under fierce or storming weather condition, we strongly suggest putting down the tower in advance so as to avoid unpredictable loss.
5. Suggested examine & maintenance period is one time per month.