

## Heights Tower Systems

# **TELESCOPING TOWER MANUAL**

### **UNPACKING OF THE TOWER:**

Once tower is finally on site, uncut the ½” wide steel band that is fastening the sections together at the top of the tower. Black tape holding the outer cable in place may also be removed.

Unpack the Winch from its box and attached to the tower mount in the correct direction. Please see the winch manual (from SuperWinch) if not clear on this. There is one (not two/either) directions and rotations for the winch to properly operate. If the wrong direction for the winch rotation is chosen, the winch will eventually stop working and seize up.

Make sure the main bottom cable does not weave into the tower lattices before attaching it to the winch drum; if this happens, lattice will be damaged. The cable needs to have a clear path.

### **OPERATION OF THE TOWER:**

Wait until the tower is erected into the vertical position before extending it for the first time; do NOT wind cable on the winch until the tower is vertical and stable.

When the tower is vertical and ready, slowly begin reeling in the winch. Carefully observe the winch and cable system while this is happening to make sure that you have kept the outer cable outside the outer segment (as directed earlier in this manual). If everything proceeds smoothly, continue to reel in the winch.

IMPORTANT: Your SuperWinch electric winch can only operate continuously for up to about 5 minutes. After no more than 6 minutes of continuous operation, you must let the winch rest for about 20 minutes, whether the tower is going up or coming down. A tower with 24 foot segments may be cranked up in less than 2 minutes.

Do not fold the tower over with the Fold-over-kit or Hinge Base unless the Crank-Up tower is fully retracted.

## Heights Tower Systems

### **TELESCOPING TOWER MANUAL**

There is a **STOP** (painted red) set at around 42" to 48" (1 to 1.25 Meters) from the top of the tower segment, which prevents the tower from over-extending. Try to visually identify this points and be prepared to stop the winch as soon as the bottom Roller Guide approaches Stop that are welded near the top of the largest tower segment. If the winch is not turned off by the time the second segment reaches the top, it will keep pulling on the cable and pulley system and damage might eventually result.

Next, if you have a Brake system, follow the instructions below on how to engage the Brake.

A telescoping tower does not have to be extended all the way up to its brake stops. The tower can be partially telescoped to any height less than the maximum. In fact, the lower the tower is extended, the more its wind-load capacity would be increased. So if your antenna system is signaling at a height lower than the maximum antenna height, it may be prudent to leave the tower at a somewhat less than maximum extended height, for wind-load capacity improvement.

Remember that for every foot or meter you lower the tower, you will multiply that reduction by the total number of tower segments. . . For example, if you have four segment in your tower, lowering the final stop location by 2 feet on the outer segment will reduce the overall height of the tower by 8 feet ( 2 ft. x 4 units = 8 ft.)

#### **For Towers Equipped WITH Manual Holding Brakes on the first segment:**

You will have two separate control ropes for the Holding Brake, one for retraction of the brake arms and one for the extension. If the Holding brake is used with a manual winch system, then the operator will have to wait to engage the brake once the upper Brake Rest on the tower is reached by segment extension.

In order to take the load off the winch when the tower is retracted and not in use, you must position the inside tower segment (with the Brake) above the (red) **Bottom Rests** welded to the outside tubes of the widest tower segment, at about the 20 ft. level of the first segment. These will support the retracted tower, allowing most of its weight to be taken off the winch and cable system. The person operating the winch must make sure the Brake arms are an inch or so above the red colored brake stops, in order to clearly extend the brake arms. If it is difficult to gauge the distances and depths from the ground, a small binoculars may be helpful. Once the brake clears the welded brake Rests,

## **Heights Tower Systems**

### **TELESCOPING TOWER MANUAL**

pull the ENGAGE-Brake rope to set the brakes in place. Now, you will be able to gently lower the tower on to the Rests by letting out a few inches of winch cable. Double check to see that the Brake Arms are resting on the Brake Stops. You should also notice that the cable has some slack in it, indicating that the tower is in fact resting on the brake and not the winch cable.

Be CAREFUL that no person allows their hands or feet to get between the Brakes and the Top Roller Guide, while the tower is able to retract. Tower should never be climbed when extending or retracting with the winch!

In the event where the weather creates icing, the Brake system may not work until ice melts off Brake and surrounding tower structure.

#### **MOUNTING THE ANTENNA:**

The antenna and mast may be mounted to the Top Plate and Rotator when the tower is in the horizontal or vertical position, but it would probably be easier to mount them when the tower is folded over in a horizontal position. The exact method with which you mount your antenna depends on its size and type; you may want to consult with the antenna manufacturer for specifics.

#### **MAINTENANCE OF TOWER:**

There are a few items on the tower that require periodic maintenance.

A. Cables -- Cables should be checked once a year or sooner for fraying ends and kinks. If more than a few single wire strands appear broken at any location, it is recommended to replace the length of cable. Do not confuse wire stands with peeled off paint fibers.

B. Roller Spools -- Eventually some of the roller spools in the end Roller Guide fixtures may show signs of wear or their edges may be worn over. They should be looked over about once a year. If excessive wear is noticed, customer should consider replacing the roller spools in question. Please contact Heights Towers for correct replacements.

#### **HINGING THE TOWER:**

Please see the Hinge Base or Fold-Over-Kit instructions on how to operate and maintain this system. It is important not to fold the tower over unless your telescoping tower is

**Heights Tower Systems**  
**TELESCOPING TOWER MANUAL**

fully brought down into the retracted position.

**Be sure to remove all but one bolt on each of the back two Hinge legs before tilting the tower over with a crane supporting it. One bolt is to be left in the front leg, and removed in the final minute before hinging the tower, but after the crane and sling(s) are attached.** The tower can hinge on only one 3/4" dia. bolt on each of the back legs, but if additional bolts are left in the hinges, then damage will occur to the bolts, base or tower legs.

**TOWER WARRANTY:**

The tower and accessorial structural items manufactured by Heights Tower Systems are warrantied for a period of one year from acceptance date. Warranty shall provide for repair or replacement and required service, such as the manufacturer views as necessary to return the tower structure to the same capacity as it was originally accepted, for any parts or areas of the tower found defective due to workmanship or sub-standard material.

Warranty does not cover defects or damage caused by neglect or misuse (customer must strictly follow all advice in owner's manual), accidents or natural and unnatural disasters or "Acts of God", such as earthquakes or tornadoes.

warranty does not cover reconditioning of oxidized or rusted surfaces, or re-painting of worn painted surfaces. Warranty shall be null and void if alterations or modifications are made to any part of the tower structure or accessories without prior express permission from the Heights Tower Systems. Warranty does not cover conditions exceeding our stated specifications, such as wind-loads resulting from extremely high winds or additional antenna mounting beyond the tower's capability.

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