

Heights Tower Systems

TELESCOPING TOWER MANUAL

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 properly set 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 Dutton-Lainson electric winch can only operate continuously for up to about 3 to 5 minutes. After no more than 4 minutes of continuous operation, you must let the winch rest for a full 30 minutes, whether the tower is going up or coming down. The winch comes with an emergency crank, and is mounted on our tower in such a way that you can use this to crank the tower up or down if your electrical power source is cut off.

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

For Towers NOT Equipped with Limit Switch Sensors:

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 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-

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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 segments 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. The brake arms were bound together during shipment; before use of the Brake system, please remove any tie wraps or wires that are binding the brake arms and preventing them from sliding out.

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 brightly painted (purple) **Bottom Rests** welded to the outside tubes of the widest tower 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 alternatively colored brake arms (green) are an inch or so above the purple 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, pull the ENGAGE-Brake rope to set the brakes in place. Now, you will be able to gently lower tower 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 (green over purple). 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.) Also in the event where the weather creates icing, Brake may not work until ice melts off Brake and surrounding tower structure.

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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.

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. Contact Heights Tower Sys. for replacements.

MOTOR OPERATED FOLD-OVER-KIT:

Please see the 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 fully brought down into the retracted position.

The Gearmotor itself comes with a limited two-year warranty: please consult with the "Dayton Single- and Three-Phase Fractional AC Gearmotors -- Installation, Maintenance and Warranty Information" for details. The Grainger stock # for the Dayton Gearmotor is #6Z403, which is a triple reduction design, 22 rpm with 1105 in. lbs. of torque. The Grainger stock # for the Dayton Forward-Reverse Drum Switch is #6C013. Please call Grainger in the event of a problem with the drum-switch; the drum-switch is unlikely to have an extended warranty. Heights Tower Sys. can also provide replacements, since some are in stock.