Western

THE WESTOWER

INSTALLATION INSTRUCTIONS

With compliments

Mit freundlichen Grüßen

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THE WESTOWER

Installation Instructions

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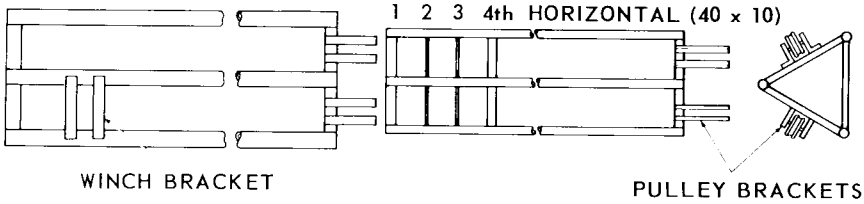
The following general instructions apply to all models of **WESTOWER** and must be followed, plus the later sections applying to your particular tower.

1) SECTION ASSEMBLY

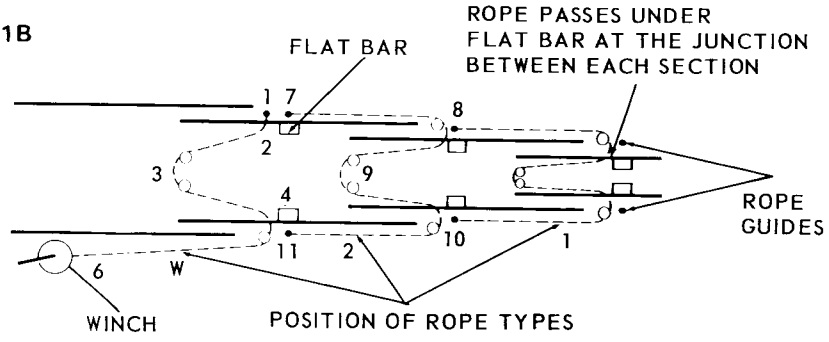
For ease of delivery it may be that the **WESTOWER** has been delivered in its various sections. These should be placed in the approximate position for erection and slid one inside the other as in Figure 1A. Ensure that the pulley brackets line-up on each section. Slide each section in as far as the 4th horizontal bar (the large flat one). The flat bar on top (when erected) of one section should be positioned as shown in Figure 1B.

FIG 1A DIAGRAMMATIC REPRESENTATION OF SECTIONS



Locate the winch rope 'W' and attach the thimble end with a M12 x 60 bolt to position 1. Thread the plain end of this rope under the flat bar, position 2, and through the inner section, down round the pulley, position 3, at the base of the inner section, back up the inside of the same section, under the flat bar, position 4, and over pulley, position 5, down to the winch, position 6. Ensure that the flat bar is in the position indicated. This procedure applies to all bottom tower sections on both STANDARD and HEAVY DUTY versions. See the leaflet supplied with the winch for method of securing the end of the rope 'W' to the winch. Bolt the winch to the tower with two of M10 x 25 nuts/bolts.

FIG 1B



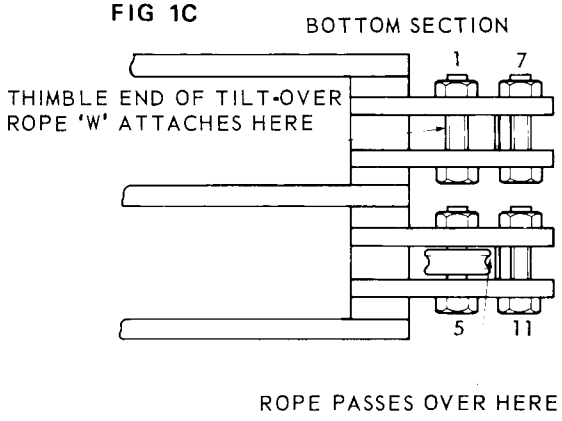
To assemble the raising ropes for the other sections use the prepared ropes with 'Tallurit' crimped ends.

Place one end at position 7 with M10 x 25 bolt, over pulley, position 8, down under pulley at position 9, over pulley at position 10 and fix the other end with a M10 x 60 bolt at position 11.

Other inner sections follow the same procedure. Check that the routing of each cable is as in Figure 1B and that the rope runs on the pulley **NOT** the rope guide. This guide is provided to help ensure that the rope does not come out of the groove in the pulley, but correct pulley and rope running should be checked **BEFORE** applying tension to the rope.

Check the movement and operation of the safety locking catch.

FIG 1C



IMPORTANT

When raising the tower one should get the feel of the winch'. If you notice the winch suddenly become difficult to wind, **STOP!** Investigate the cause! The most likely cause is that the ropes are not correctly positioned in the tower sections. Lower the tower and check to find the cause.

When everything is running satisfactorily fully extend the tower **WITHOUT** the aerial/floodlights on and make sure that it rests on the safety catch. The tower can then be lowered and the aerial/floodlights fitted.

2) HEAD UNIT ATTACHMENT

The head unit provided will attach to two sizes of tower. Select the method of fixing appropriate to your tower as shown in Figures 2A, 2B or 2C. Adjust the nuts (1) so that the head unit is squarely mounted and then tighten nuts (2).

FIG 2A

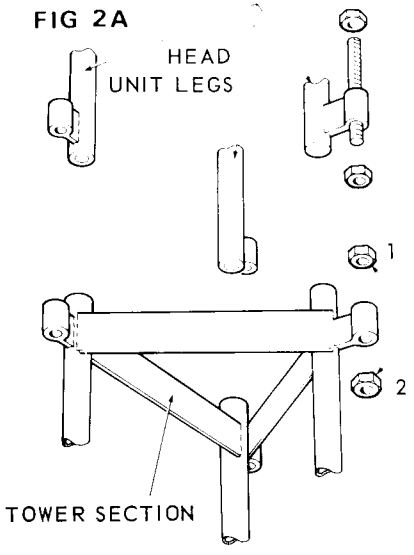


FIG 2B

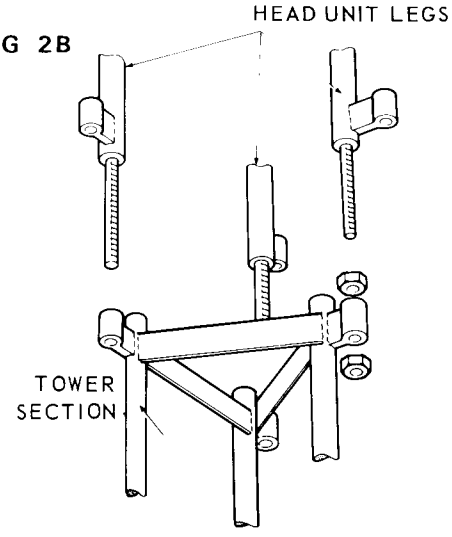
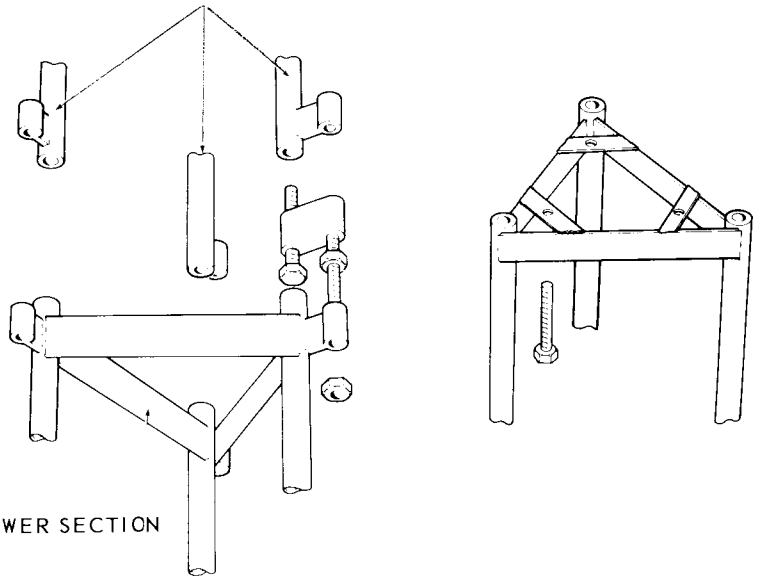


FIG 2C HEAD UNIT LEGS



3) BASE INSTALLATION

Refer to the appropriate section for your tower.

(A) Framed Post (FP) Type

This type requires a concrete block as indicated in Figure 3A.

The post can be supported in position by placing a piece of timber or other material available through the frame about half-way up and resting the ends on supports as shown. By raising/lowering the support of 'A' and 'B' and adjusting the prop, the post can be set upright with a spirit level or plumb line.

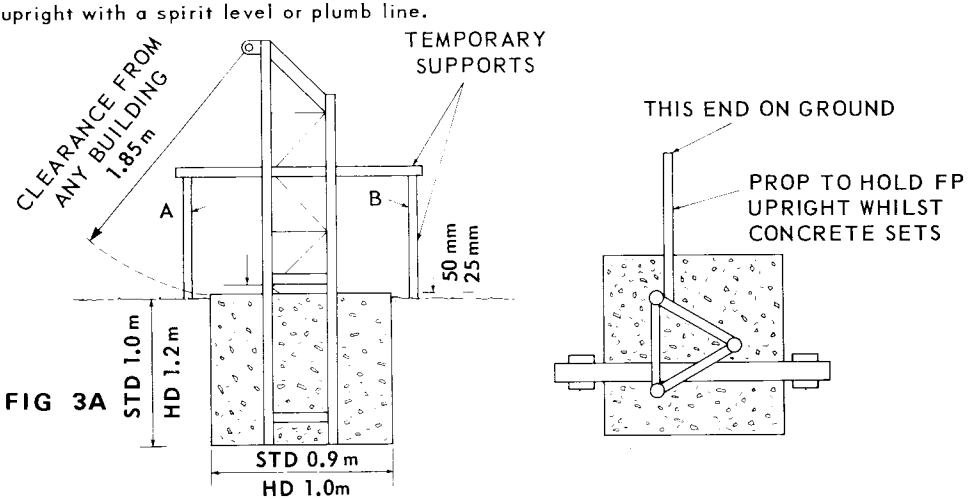


FIG 3A

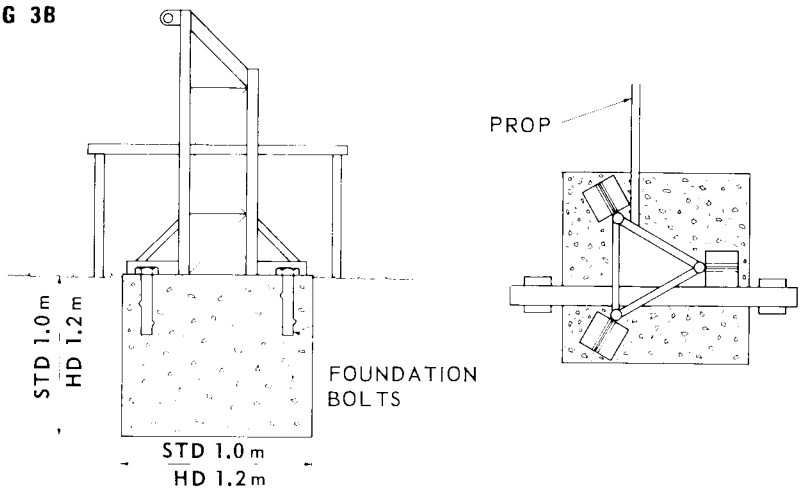
(B) Framed Base Plate (FBP) Type

A concrete foundation is required in Figure 3B and the FBP type base should be suspended over the prepared hole in the ground with the bolts (M20 x 300) already inserted through the lugs provided.

Alternatively, make a template of the bolt hole position and use the template to locate the bolts in the correct position.

Ensure that the concrete comes up and touches the underside of the mounting lugs. Failure to do this will mean the tower may not have support or be upright.

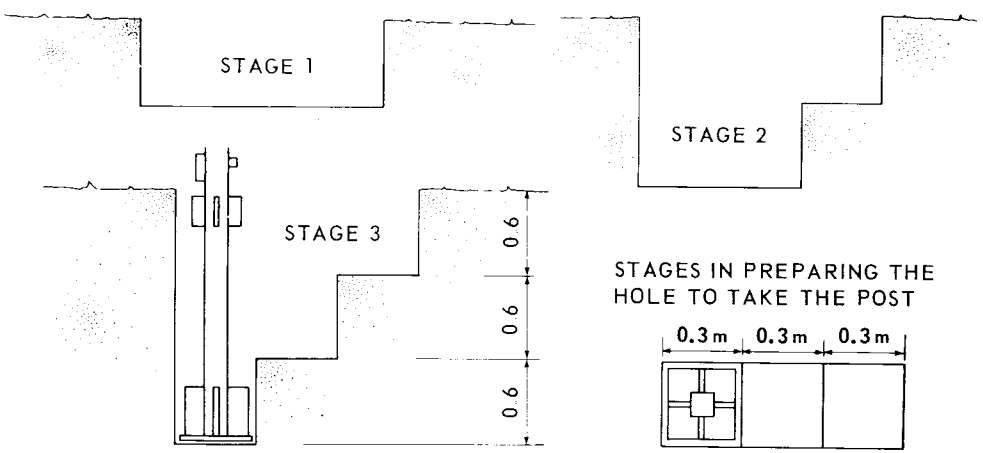
FIG 3B



(C) Post Mounted (P) Type

This type can be used without concrete where the soil is firm and the head load will permit this method. With very firm ground a 3S tower can be mounted by this method as in Figure 3C (i). Dig the hole as shown in Figure 3C (i) and insert the posts.

FIG 3C (i)



Set the post upright and fill the hole firmly with the soil removed. It is essential to ram the soil back with a heavy timber (eg. 4" x 2"; 100 x 50 mm) all the time to ensure that it is compacted firmly. The advantage of this system is that one can always dig the post out if one requires to move the post at a later date.

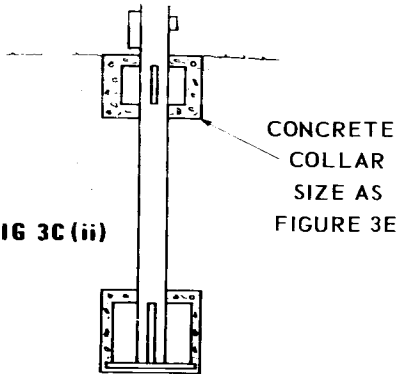


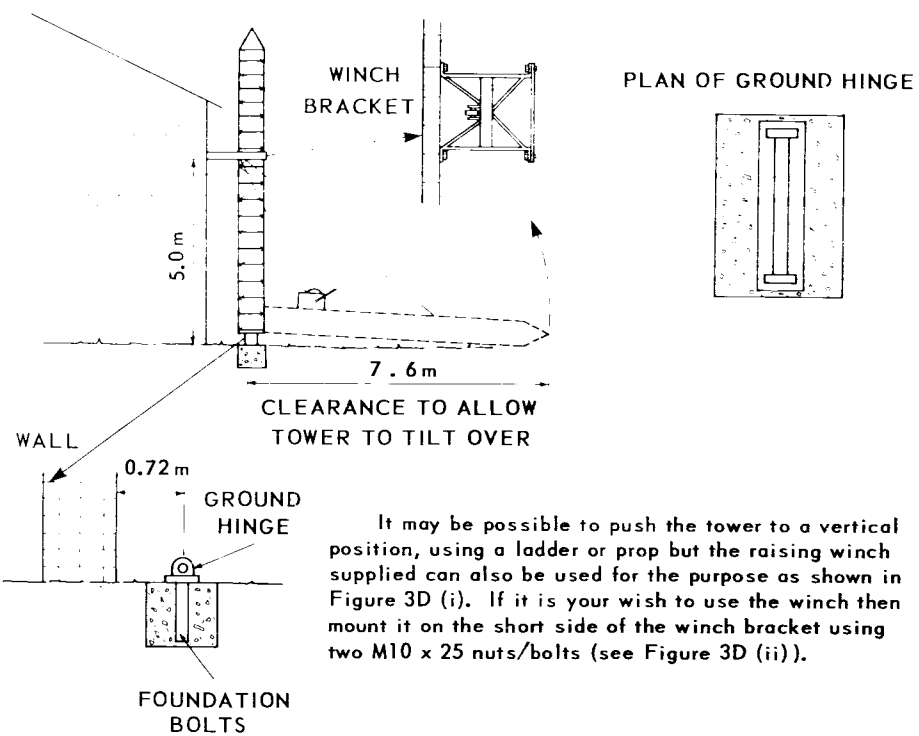
FIG 3C(ii)

Ideally however, we recommend that a collar of concrete be placed around the top and bottom as shown in Figure 3C(ii).

(D) Wall Mounted (W) Type

Prepare a concrete foundation as shown in Figure 3D (i) and mount the Ground Hinge with the two M20 x 300 foundation bolts. Ensure that this is positioned so that when the tower is installed, it will be vertical.

FIG 3D (i)



It may be possible to push the tower to a vertical position, using a ladder or prop but the raising winch supplied can also be used for the purpose as shown in Figure 3D (i). If it is your wish to use the winch then mount it on the short side of the winch bracket using two M10 x 25 nuts/bolts (see Figure 3D (ii)).

Fix the thimble end of the winch rope 'W' to a point, 5m up the tower. Pass the plain end over the pulley on the wall bracket and attach it to the winch in accordance with the winch instructions.

The company accept no responsibility to ensure that the wall is adequate for the purpose.

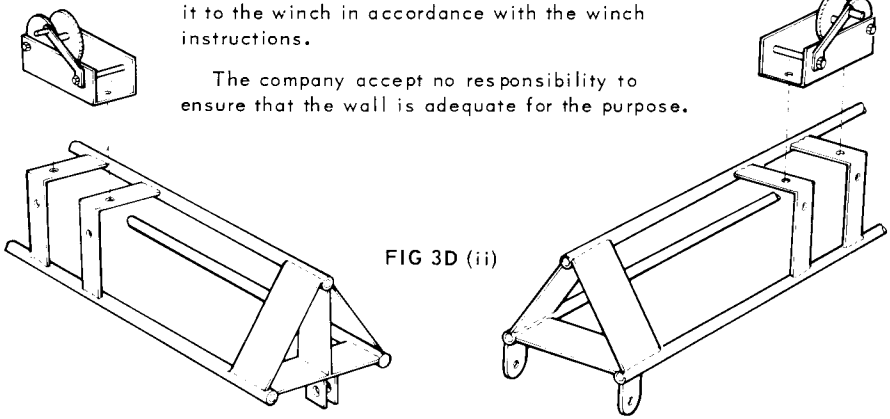


FIG 3D (ii)

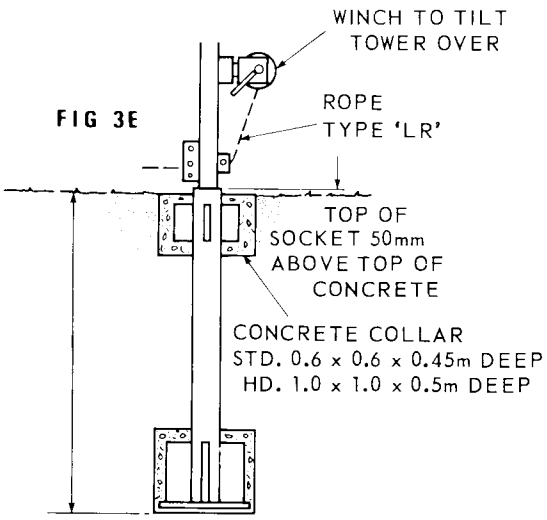


FIG 3E

(E) Socket Post (SP) Type

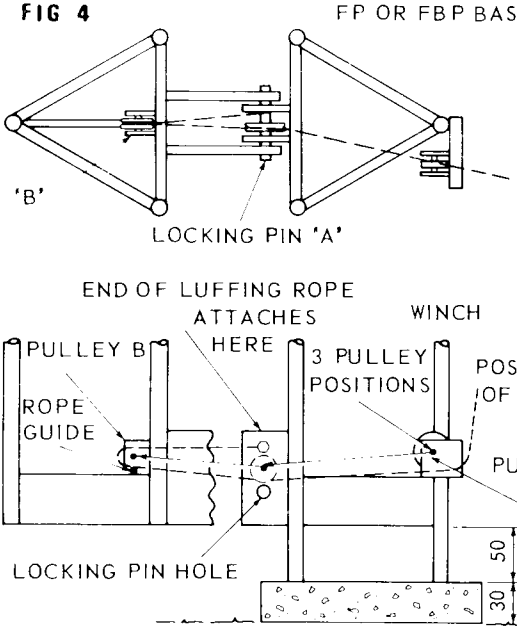
Dig a hole as in Figure 3C (i) and set the socket in the ground using concrete. Place the ground post into the socket before lowering them both into the hole and plumb the post upright. A separate socket is available from us when it is necessary to re-locate the tower. The top of the socket should be approx. 50 mm above ground level.

There is some clearance between the socket and the post to ensure an easy fit and the clearance can be taken up by pouring in sand as indicated in Figure 3E.

4) TOWER INSTALLATION

After the concrete has been allowed to 'cure' for about 3/4 days the tower can be placed on the base and fixed with the 20 mm dia. pivot pin (STANDARD WESTOWER) or 25 mm dia. (HEAVY DUTY) and Nylok nuts

FIG 4



5) TILT-OVER (LUFFING) EQUIPMENT

Mount the winch onto the base with the two M10 x 25 nuts/bolts. Attach the prepared thimble end of the 6mm dia. luffing rope to bolt hole 'A' (see Figure 4) with a M12 x 60 nut/bolt.

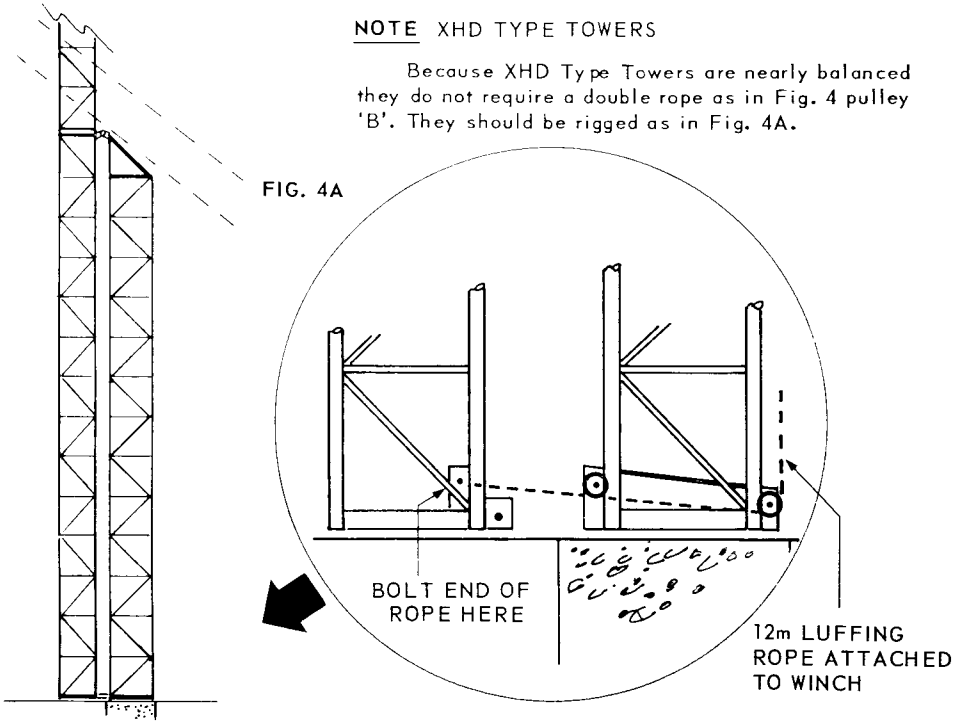
Pass the plain end over the top of pulley 'B' and back (between pulley and rope guide) and under pulley 'C'. Attach the end to the winch.

Check the correct running of the luffing rope and the tower can then be raised to the vertical position to check the functioning of all parts. We recommend that it then be lowered and the Head Unit attached as in Section 2.

NOTE XHD TYPE TOWERS

Because XHD Type Towers are nearly balanced they do not require a double rope as in Fig. 4 pulley 'B'. They should be rigged as in Fig. 4A.

FIG. 4A



6) SAFETY STOP

The **WESTOWER** is equipped with an automatic catch which prevents the section inside the base section from falling in the unlikely event of a rope failure during the raising operation. The cord which operates the catch should be SLACK during RAISING. During lowering the catch opening cord should be pulled to release the catch and enable the sections to be lowered.

BEFORE lowering it will be necessary to raise the tower slightly until the catch is freed. Pull on the catch rope whilst raising the tower until the catch releases. Then place the catch cord under your foot, thus enabling BOTH HANDS to be used on the winch handle.

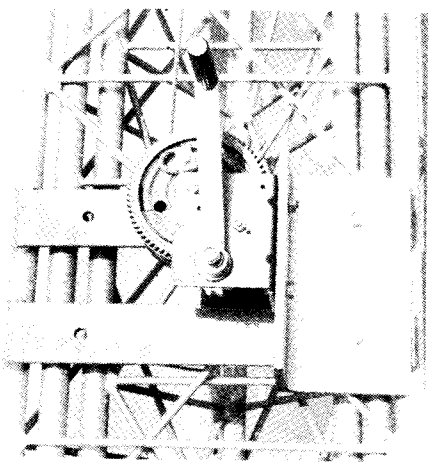
7) WINCH OPERATION

STANDARD **WESTOWERS** are fitted with standard winches. These have a one way ratchet which prevents the handle from turning in the wrong direction whilst RAISING the tower. When lowering however, it is necessary to release the ratchet. It is MOST IMPORTANT to note that great care must be taken during lowering not to let the handle slip.

As an alternative, we can supply SAFETY WINCHES in lieu of standard winches. The handle of a Safety Winch can be released during raising or lowering without it 'Flying round'. Safety Winches (see photographs No. 1) are supplied as standard equipment with HEAVY DUTY **WESTOWERS.**

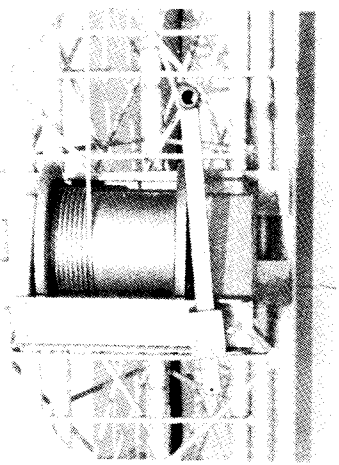
When winding any winch ensure an even winding and do not allow 'pile winding' (one turn on top of another) to excess. **IMPORTANT** - The handle of Safety Winches must **NOT** be removed.

Photograph No. 1



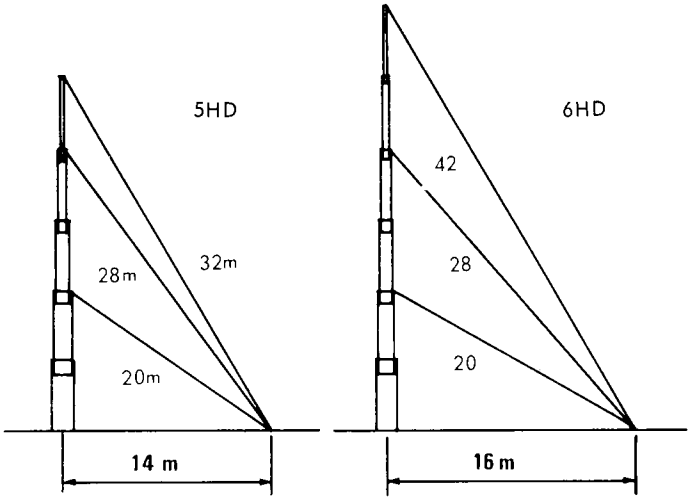
Safety Winch

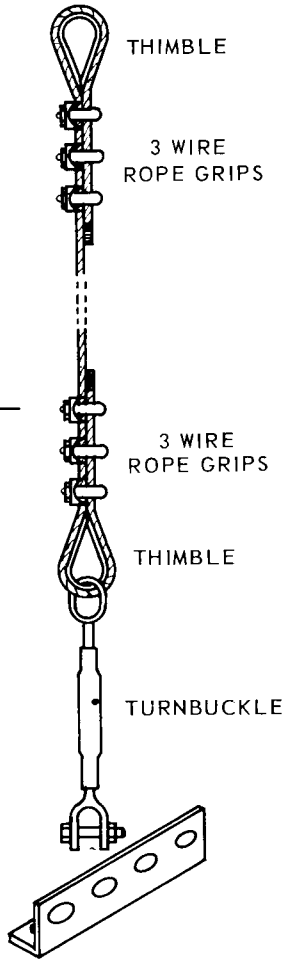
Photograph No. 2



Commercial Type Heavy Duty Worm Drive Winch

8) GUYING INFORMATION

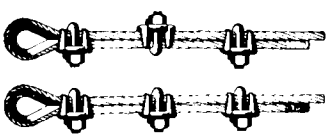




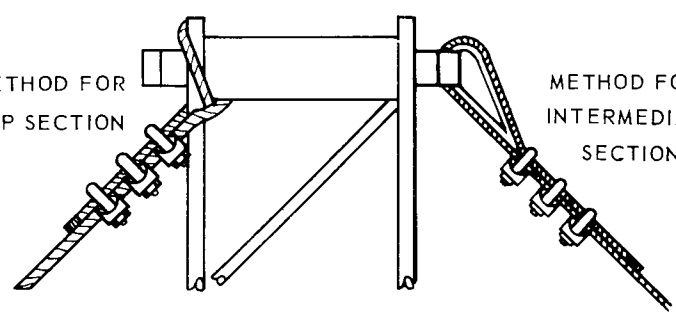
Proper Method of Applying Wire Rope Clips

The RIGHT WAY to Clip Wire Rope

The WRONG WAY to Clip Wire Rope



METHOD OF ATTACHING GUYS



GUYING CHART

This chart is supplied with each mast to facilitate the cutting of guy wires to accurate length.

TO USE:

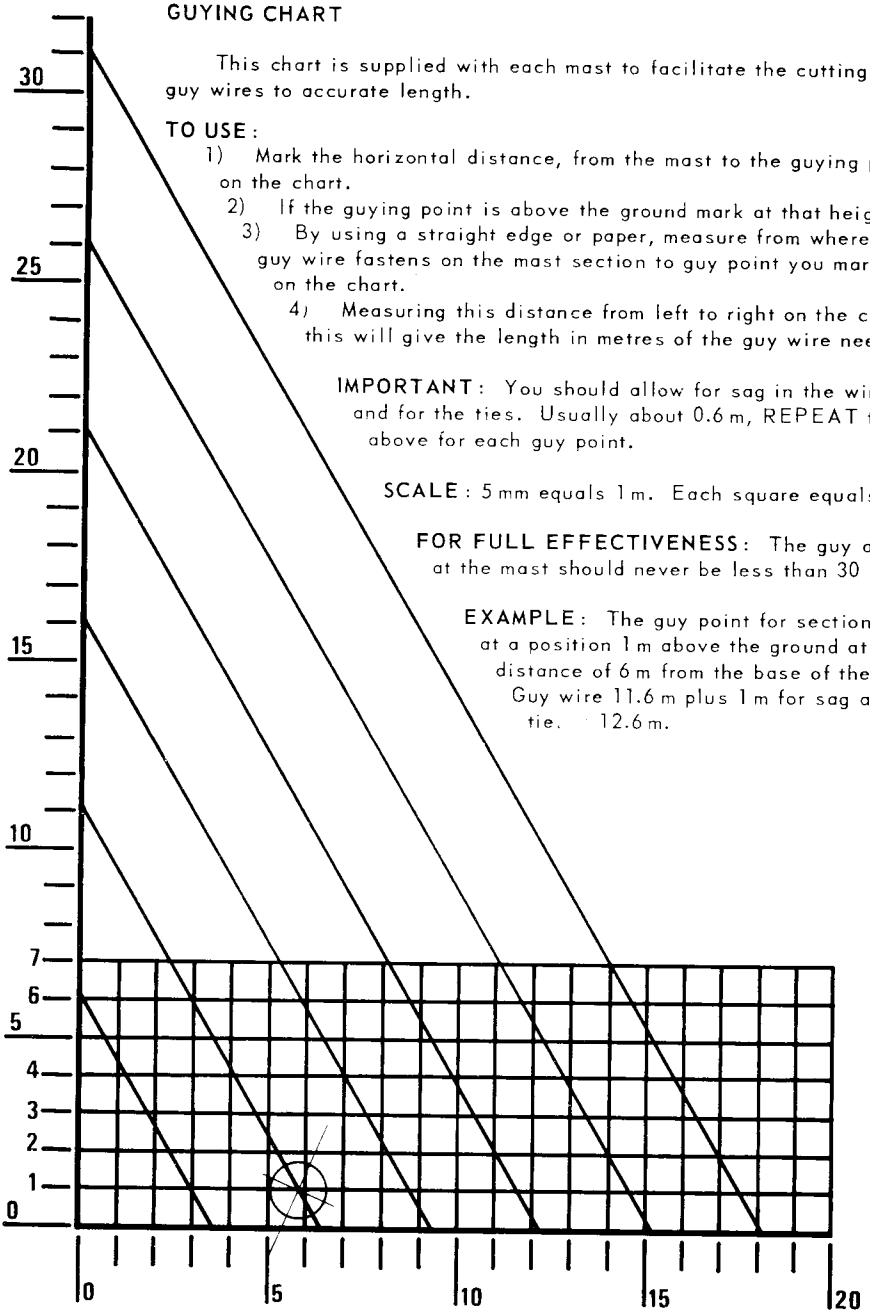
1) Mark the horizontal distance, from the mast to the guying point on the chart.
2) If the guying point is above the ground mark at that height.
3) By using a straight edge or paper, measure from where the guy wire fastens on the mast section to guy point you marked on the chart.
4) Measuring this distance from left to right on the chart, this will give the length in metres of the guy wire needed.

IMPORTANT: You should allow for sag in the wires and for the ties. Usually about 0.6 m, REPEAT the above for each guy point.

SCALE: 5 mm equals 1 m. Each square equals 1 m.

FOR FULL EFFECTIVENESS: The guy angle at the mast should never be less than 30 deg.

EXAMPLE: The guy point for section 2 is at a position 1 m above the ground at a distance of 6 m from the base of the mast. Guy wire 11.6 m plus 1 m for sag and tie. 12.6 m.



Type VL Heavy Duty Commercial Worm Drive Safety Winch are supplied at extra cost. These have large diameter drums which meet British Standard recommendations.

9) MAINTENANCE

The **WESTOWER** is galvanised to give years of protection under normal atmospheric conditions. We recommend an annual inspection be made and if any spots of corrosion appear these should be 'touched up' with a cold galvanising paint.

The ropes should be inspected for signs of corrosion and replaced if necessary.

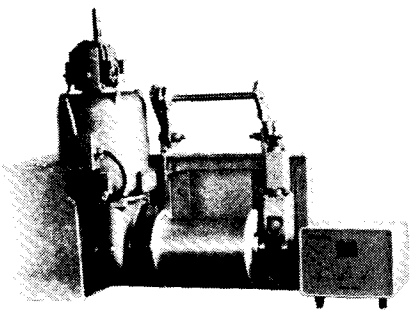
A liberal application of grease will help prevent corrosion to the winch parts.

10) ACCESSORIES

1. ELECTRIC WINCH

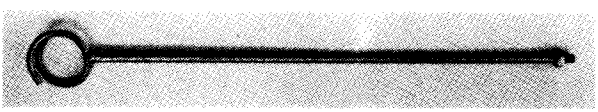
A 110/240v. AC (state which) electric winch is available to remotely raise or lower your Westower. This winch has a large diameter drum meeting British Standards together with safety devices to switch the winch 'OFF' when the tower is fully extended, fully lowered or when the winch rope becomes slack. A current overload trip is also built into the control circuitry.

The deck control unit has a digital LED readout indicating antenna height in metres (feet available also).

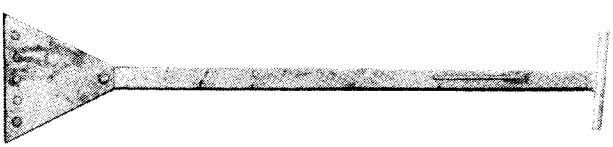


2. CO-AXIAL CABLE STAND OFF ARMS

These screw into a nut welded onto the flat bar at the top of each section.

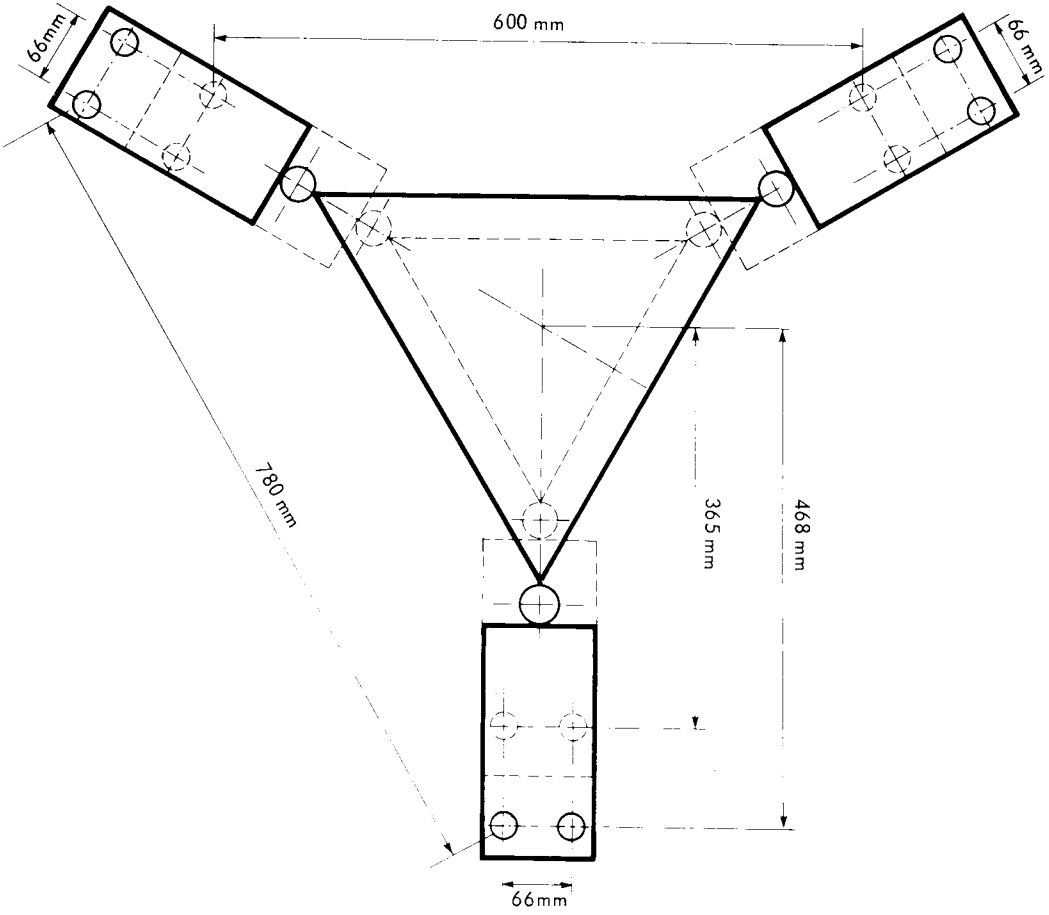


3. CONCRETE GUY ANCHOR.



11. BASE DRAWING

for Westower FBP H.D. and FBP Std.

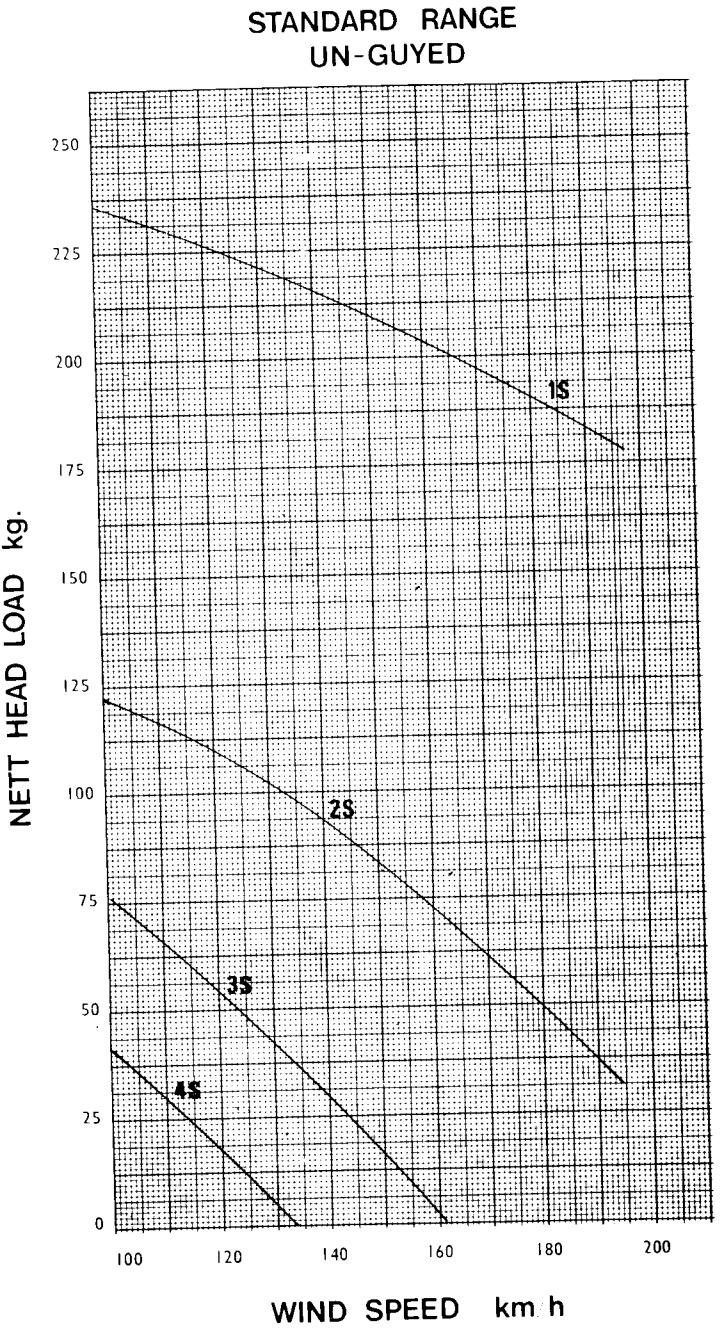


ALL FOUNDATION BOLTS ARE M20

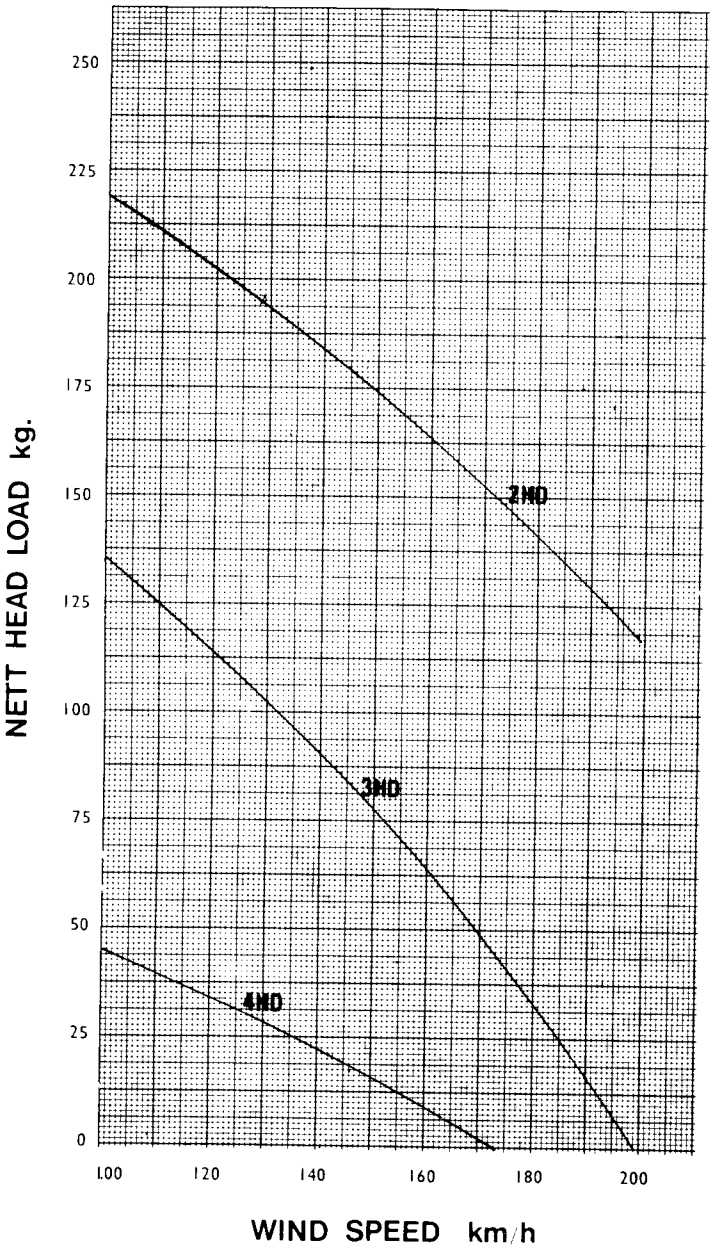
FBP HD

FBP STD

12) PERMISSIBLE HEAD LOAD



HEAVY DUTY RANGE
UN-GUYED



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