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The Beam Pole

The beam pole has a number of features not possible with other means of supporting a beam antenna. A beam can be lowered in a horizontal position to within 7 feet of the ground if a wind storm threatens or if work on the beam or rotor is necessary. Since it can be run up and down the pole in minutes, the beam can be moved to any desired height for testing.

The pole should be set so that the beam is clear of obstructions. Dig a hole 4½ feet deep and large enough to receive the pole; place the butt at the edge of the hole and with the pole along the ground. It can be of any length but should have a 5 to 6-inch cross section at the top. A suitable pole can usually be purchased from your telephone or electric company for about $60.

Snap a chalk line the full length of the pole so it can be used as a reference mark. Trim the top of the pole so that a sheave housing can be fastened with lag screws. About 1 foot from the top, make two saw cuts 2½ inches apart, 1¼ inches deep, across the chalk line. Chisel out the wood between the saw cuts and smooth it out. Place one of the angle irons in the slot and bolt it through the pole with a ½ inch bolt. Do the same with the other angle iron about 2 or 3 feet above ground level at the butt end of the pole. Be sure that both top and bottom angles are in line.

Cut two pieces of ⅜ inch galvanized guy wire about 2 feet longer than the distance between the top and bottom brackets. Insert one end of each cable through the ½ inch outer edge holes in the top bracket and bend the ends back about 2 inches and fasten them securely with ⅜ inch cable clips. These clips should act as cable stops on the top side of the bracket; until the pole is erected the lower ends of these cables can hang free.

Run the 3/16 inch aircraft cable through the sheave and fasten the ends near the lower bracket temporarily with staples.

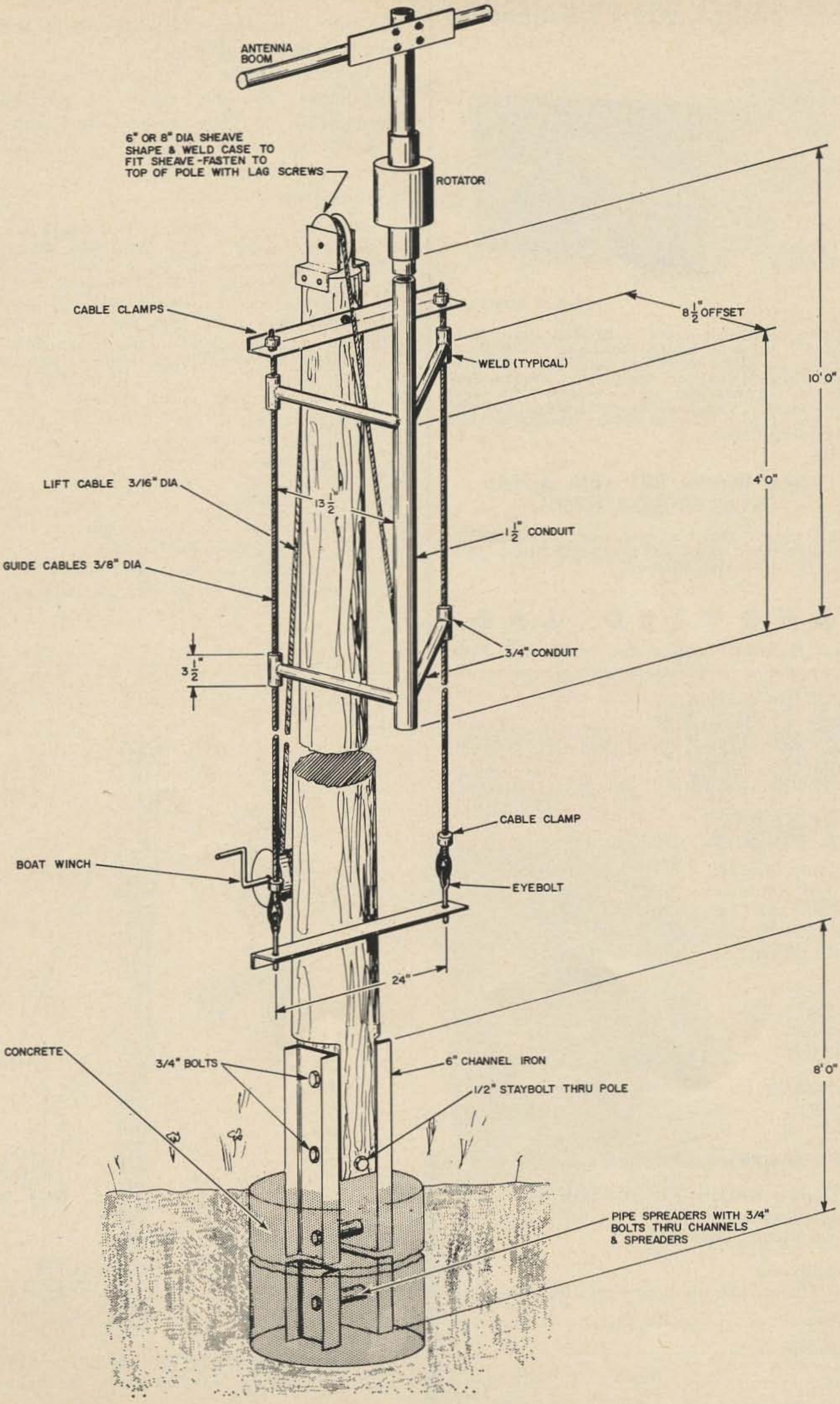
If the pole is to be set in the hole, the ground portion should be painted with some preservative, and the pole should also be painted. Setting the pole is a job for a telephone or electric company crew. They will usually do the job quickly for a reasonable price.

A hinge base for a pole, similar to those used on some flag poles can also be used. (See diagram for details). With a tilt-over installation, the pole can be raised with a car or truck, using a cable and a gin pole or crotch made out of two pieces of 2" x 8" x 14' long.

When the pole is set, you can tie the sliding frame to the pole several feet above the lower angle bracket. The two ⅜ inch guide cables can now be threaded through the upper and lower guides on the sliding frame. Place the ½ x 8 inch eye bolts in the ½ inch holes at the ends of the lower angle bracket. Pass the cables through the eyes. Pull the cables as snug as possible by hand. Bend the ends up in a tight, close loop and secure with ⅜ inch cable clips. Cut off the surplus ends of the cable. By using an iron bar or wrench to hold the eye bolts from turning, tighten the nuts on the eye bolts until the cables are tight; alternate the tightening between the eye bolts to keep the top and bottom angle brackets parallel.

Select the desired height from the ground and bolt the boat winch on the back side of the pole. Loosen the staple holding the back half of the 3/16 inch pull cable and fasten the end securely to the cable drum. Now loosen the staple holding the front half of the cable, pass it through between the guide arms of the sliding frame and fasten it to an eye that has been welded to the low end of the mast. Use one or two 3/16 inch cable clips. Wind the cable on the winch and raise the slide frame about a foot.

You are now ready to mount the rotor and beam on the 1¼ inch mast part of the sliding frame. Connect the feed line and set the beam so that it is parallel with the top bracket. This is necessary so that the beam can pass the top bracket. The beam will extend above the top of the pole by about six feet when it's pulled up so that the top of the guildes will hit the lower side of the top bracket. Give an extra pull with


ANTENNA BOOM
6" OR 8" DIA SHEAVE SHAPE & WELD CASE TO FIT SHEAVE - FASTEN TO TOP OF POLE WITH LAG SCREWS
ROTATOR
CABLE CLAMPS
8 1/2" OFFSET
WELD (TYPICAL)
10' 0"
LIFT CABLE 3/16" DIA
13 1/2"
4' 0"
1 1/2" CONDUIT
GUIDE CABLES 3/8" DIA
3 1/2"
3/4" CONDUIT
CABLE CLAMP
BOAT WINCH
EYEBOLT
24"
CONCRETE
3/4" BOLTS
6" CHANNEL IRON
8' 0"
1/2" STAYBOLT THRU POLE
PIPE SPREADERS WITH 3/4" BOLTS THRU CHANNELS & SPREADERS

the winch, so the pawl will engage the next notch to insure rigidity.

You now have a very satisfactory beam installation. No guy wires are needed and your beam can be lowered in a hurry for any reason. . . . W7GBJ

Material list

1 pole 5 to 6" cross section at top; length as desired.

2 pieces ¼" x 2½" x 2½" angle iron 26" long, ½" hole drilled at each end on 24" centers, ½" hole in center on opposite angle 13" from end.

⅜" galvanized guy line cable, to reach top and bottom brackets plus 2' for fastening.

3/16" air craft cable long enough to run from eye at bottom of mast through sheave at top and down to winch.

1 7" or 8" "Vee" belt pulley, ½" hub.

1 pulley housing.

8 ⅜" x 3½" lag screws.

4 ⅜" cable clips.

2 3/16" cable clips.

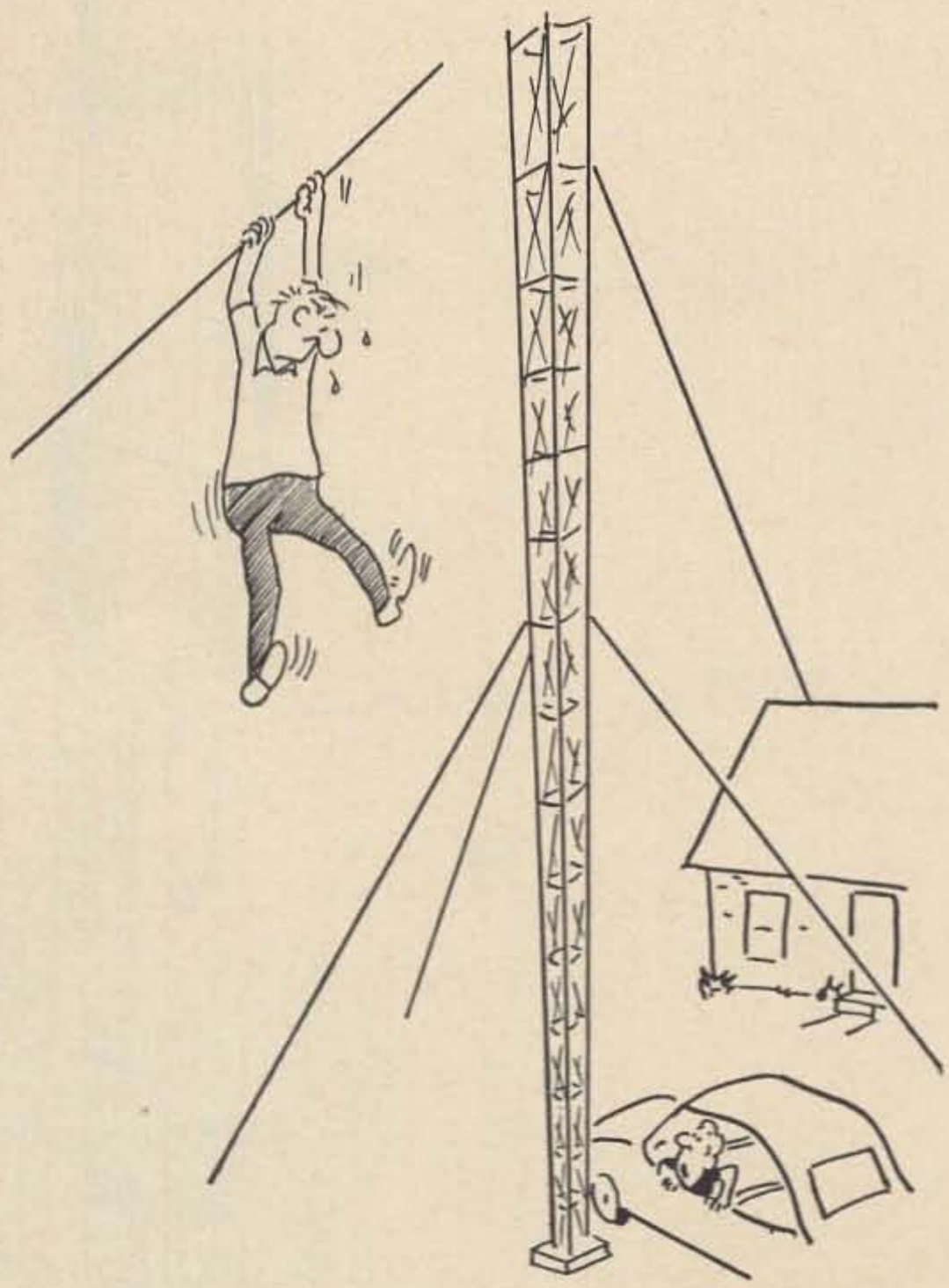
2 ½" x 8" eye bolts.

1 piece 1¼" x 10' thin wall conduit.

1 piece ¾" x 6' thin wall conduit.

1 ⅜" x 6" or 7" bolt and washers.

1 ½" or ⅝" x 12" or 14" bolt and washers



They didn't have any 20 foot Ladders at The Hardware Store, do you want me to try the Radiostore?