

HG-50MT2

50 FOOT CRANK-UP TOWER

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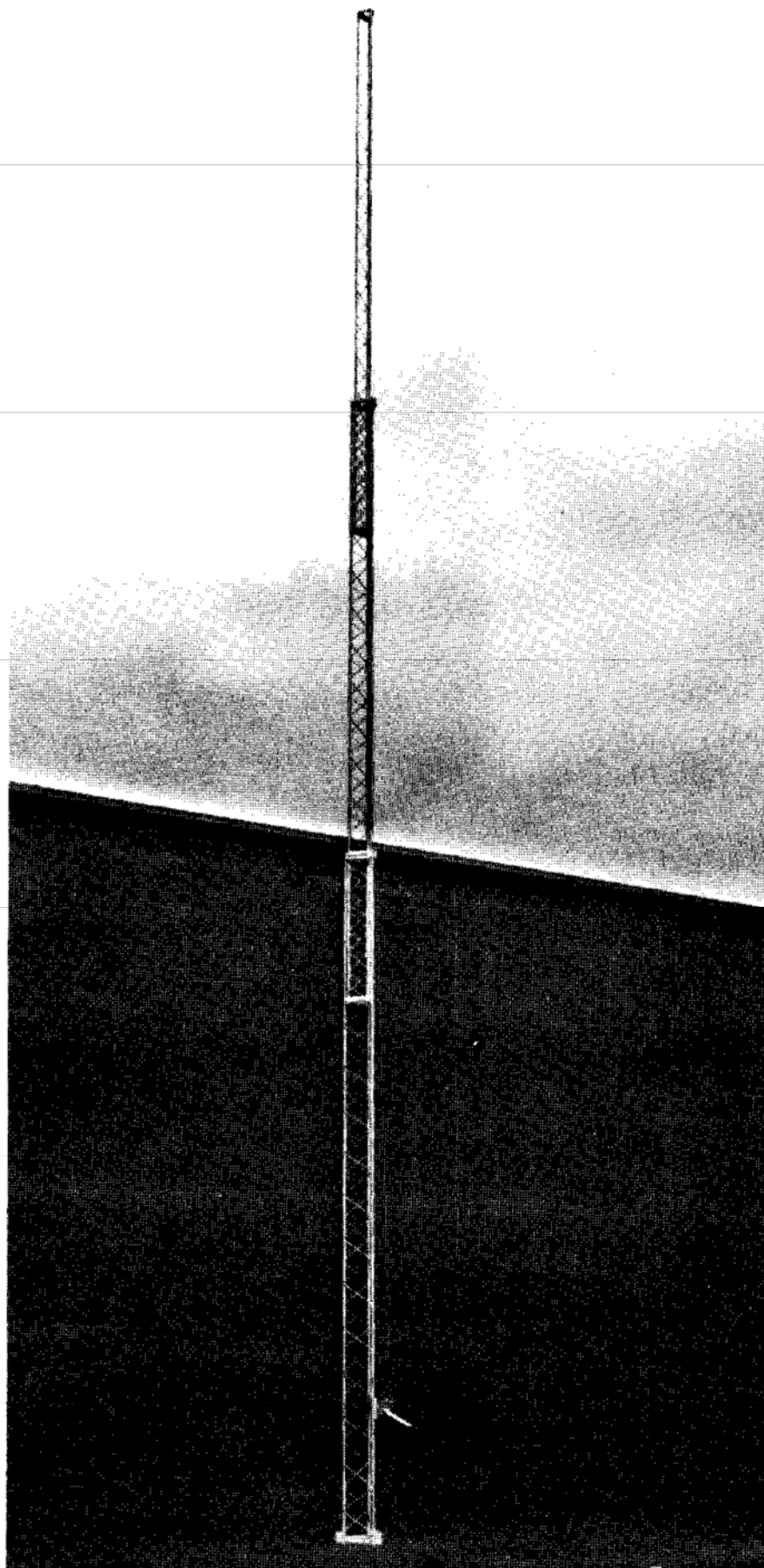
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Overall View of the HG-50MT2

CHAPTER 1 GENERAL INFORMATION

WARNING

**Installation of this product near power lines is dangerous.
For your safety follow the instructions.**

General Description	<p>This model is a 50-foot, side supported tower designed to support 6.0 square feet of antenna area with winds up to 50 mph. This all steel tower has a guide system that allows the tubing to be open at each end insuring complete galvanizing and total moisture drainage.</p> <p>The bottom section of the tower is supported by guying or by a side bracket attached to a building. The top two sections are self-supporting and extended from their nested position by the use of a manual winch.</p>
Unpacking and Uncrating	<p>Be sure to check your tower for any freight damage or missing parts. If you find damage, notify the trucking line that delivered the equipment immediately, and advise Hy-Gain of the damage. Send a copy of the freight damage claim to:</p> <p style="margin-left: 40px;">Telex/Hy-Gain Telex Communications, Inc. 8601 N.E. Highway 6 P.O. Box 5579 Lincoln, Nebraska 68505 U.S.A. Attention: Traffic Department</p>
Specifications	<p>Height</p> <p style="margin-left: 20px;">Extended 50.6 feet (15.42 m)</p> <p style="margin-left: 20px;">Nested 21 feet (6.40 m)</p> <p>Guying bottom section only</p> <p>Construction all welded construction with leg guides and "W" configuration torsion resistant bracing</p> <p>Material all steel</p> <p>Plating hot-dipped galvanized</p> <p>Wind Survival</p> <p style="margin-left: 20px;">(fully extended with max. load) 50 mph (81 kmph)</p> <p>Antenna Load Limits 6.0 square feet (0.56 sq. m)</p>
Equipment Supplied	<p>The HG-50MT2 tower is supplied complete, including anchor bolts and base plate. Guy cables are not supplied. The tower corresponds to the drawings contained in this manual. Refer to the Parts List section for a complete breakdown of parts.</p>

The parts list shows the standard commercial packaging. Any changes or modifications, if any, which may be incorporated as the result of special contractual agreements are covered under Contract Requirements.

Equipment Required But Not Supplied	Description	Use
	1 tool box with common hand tools	Tower Assembly & Base Foundation
	1 measuring tape 12'	Base Foundation
	1 level	Base Foundation
	1 power drill with $\frac{3}{8}$ " bit	Attaching Tower Bracket to Wall

WARNING DO NOT CLIMB

Do not attempt to climb this tower under any circumstances. **Serious injury or fatality** may result. Keep hands and feet outside of tower. Do not attempt to reach inside the structure unless the tower has been fully retracted against the lower stops.

NOTE: The Hy-Gain Crank-Up Tower comes equipped with a rotator support plate for mounting a rotator at the top of the upper tower section. This plate will support approximately 100 pounds of vertical load.

CHAPTER 2

SAFETY PRECAUTIONS

WARNING

Before you start installation of your tower let us warn you of the danger of letting any part of your metal tower system touch electrical power lines — YOU MAY BE KILLED!

General Safety Rules

Hundreds of people are killed each year because they don't use common sense when they install their towers or antennas. It happens more often than you realize. Someone falls off of a roof or gets electrocuted by touching a power line with an antenna tower or metal ladder.

There is no such thing as a good tower site if it is near electrical power lines. Unfortunately, most tower systems and, in many cases, the ladders used during an installation are metal. If any metal tower part or ladder touches a power line, it completes an electrical path from the power line through the metal tower and the installer (YOU!).

DON'TS

1. Don't install any tower near power lines.
2. Don't install a tower on a windy day.
3. Don't try to do the job by yourself.
4. Don't try to catch the tower if it starts to fall.
5. Don't try to remove any metal objects from the power lines.
6. Don't be afraid to call the power company for advice when picking a tower site or removing a fallen tower from the power lines.
7. Don't remove winch handle; use safety chain with lock to secure.
8. Don't climb tower; use separate ladder or lower tower for antenna rotator servicing.
9. Don't overload. The design load limit is 6.0 square feet of antenna on a 2 foot mast for winds up to 50 mph.

DO'S

1. Do install your tower away from power lines. Check the distance to the power lines before you start installing—we recommend you stay a minimum of twice the length of the tower assembly away from all power lines.
2. Do install the tower on a calm day and assure yourself of having plenty of daylight to complete installation.
3. Do stay clear if the tower starts to fall or come in contact with power lines.
4. Do call the power company to remove fallen towers from power lines or to help pick out a safe antenna site.
5. Do crank tower down to retracted position when winds are anticipated to exceed 50 mph.

If someone is accidentally electrocuted, don't touch him or the tower if he is still in contact with the tower or downed power lines. Use a dry stick, such as a broom handle or wooden ladder, etc., and in one sweep, push the person free from the tower or knock the wire away and off the victim. Do not allow the wire to touch the victim again. Have someone call the power company and an ambulance.

Site Selection

The tower requires a concrete base approximately 24" x 24" x 18" deep. Among the factors to be evaluated in selecting a tower are the types of earth at the installation site and the nearness of power lines or overhanging tree limbs. Soil conditions around the tower foundation should allow access to the tower during all weather conditions.

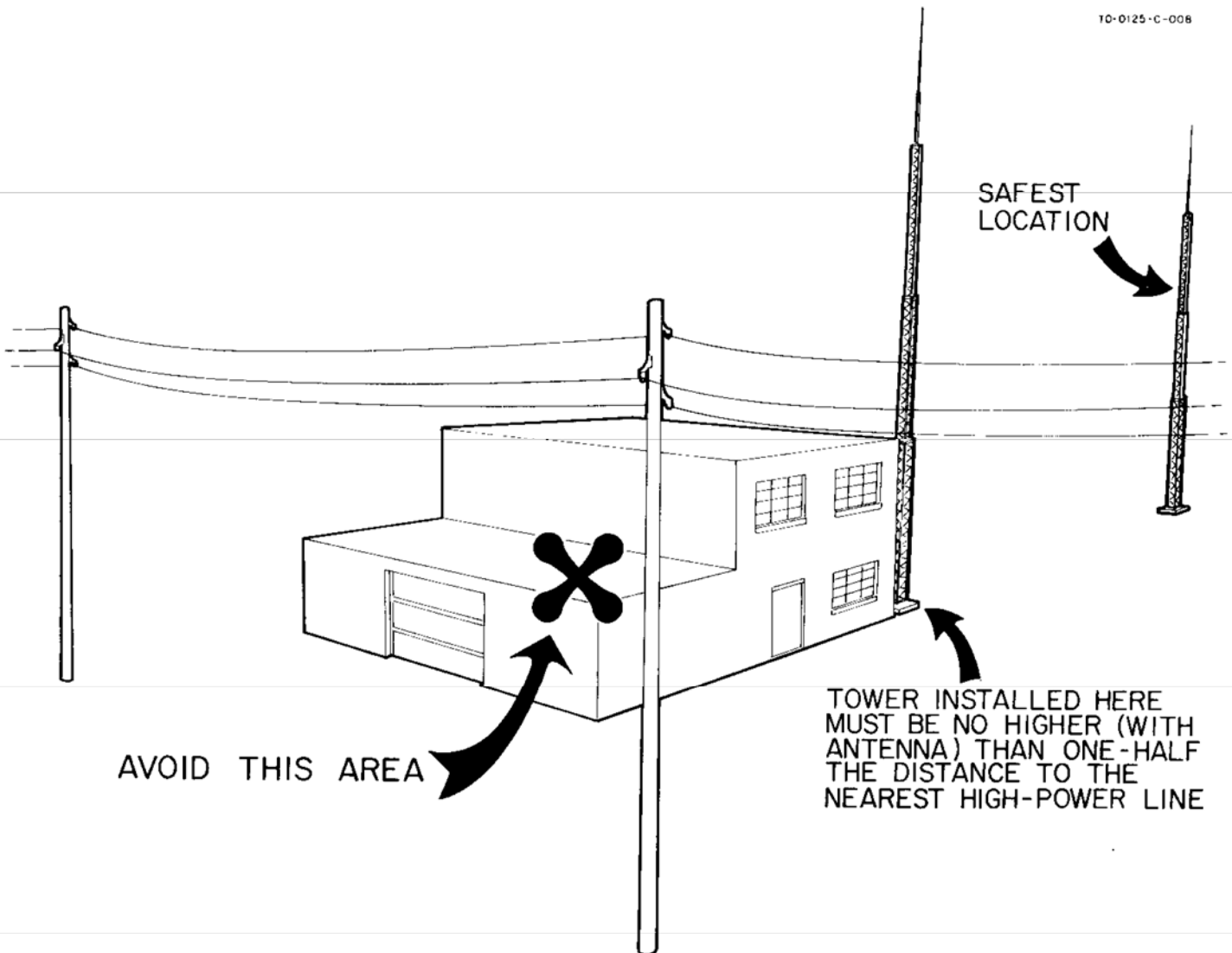


Figure 1
Safe Location of Tower

CHAPTER 3

INSTALLATION PROCEDURES

Planning Your Procedure

Good planning is a key to a successful and safe tower installation. If you're not sure about a careful and safe installation, don't try to do it yourself. Call for professional help (Yellow Pages under Towers or your local power company).

The tower should be as close as possible to its related equipment. Determine the best possible site while thinking about power lines, but also think about overhanging tree limbs that may be blown into the tower during high winds.

Foundation

Dig a hole 24" square x 18" deep.

Pour in concrete and vibrate well to eliminate all voids.

NOTE: The tower base plate shipped with the tower can be used as a template to align the anchor bolts in the concrete.

The tower base plate must set level to allow the tower to stand vertical. Use a carpenter's level when building your concrete forms. Check for levelness again after base plate has been installed on concrete. Tap base plate lightly to level.

After the concrete is poured, push the 3½" x 8" concrete anchor bolts through the three holes in the base assembly.

Adjust the base plate so the tower can be hinged from the two parallel ears and when erected will stand next to your building or overhang of your roof. See Figure 2.

Push the concrete anchor bolts into the wet concrete so the base plate sets directly on the poured concrete.

Allow the concrete to cure for seven days before installing your tower.

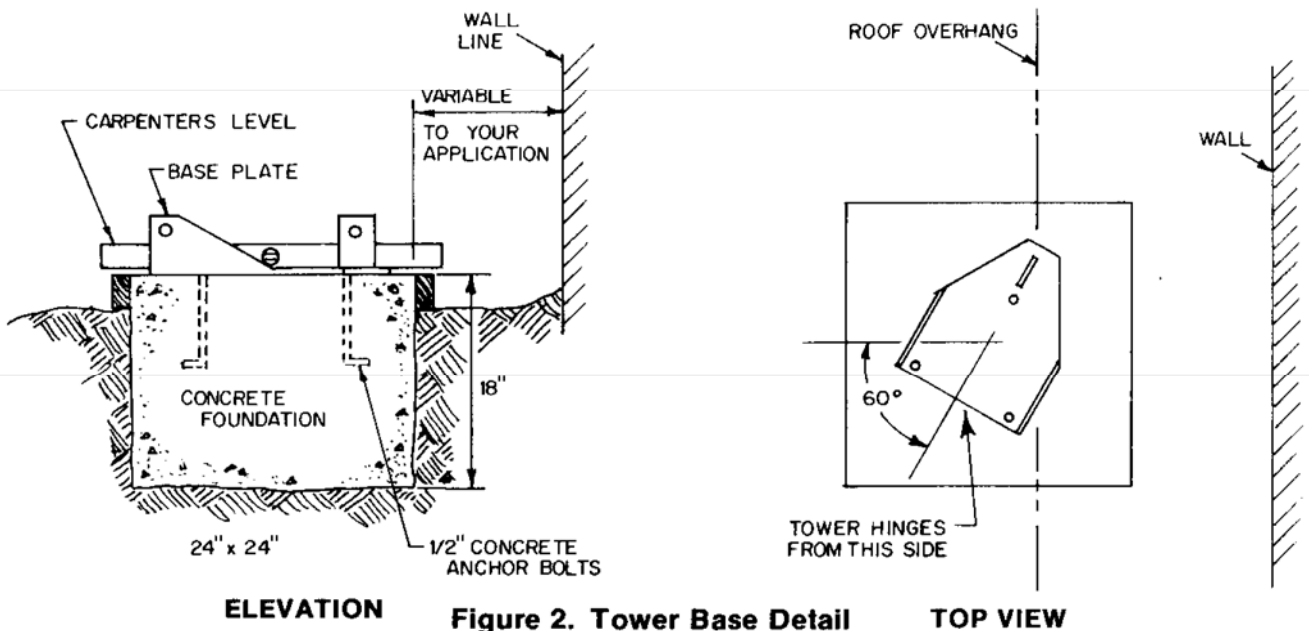


Figure 2. Tower Base Detail

Attaching Tower to Base Plate

Set your tower on the hinged side of the base, align the bottom holes of the tower with the holes in the base plate assembly. Install a single 3/4" bolt in each of the two parallel base ears. See Figure 3. Three-fourth inch (3/4") flatwashers are furnished for use as shims, if needed, between the tower leg and the base plate ears.

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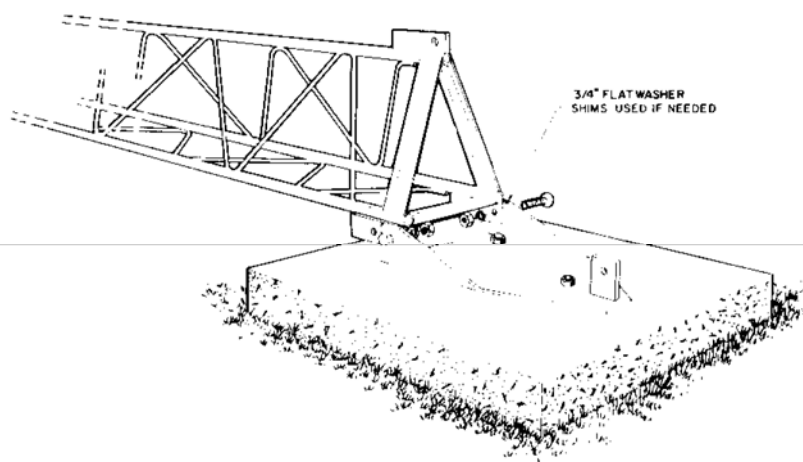


Figure 3
Attaching Tower to Base Tabs

Support the tower on a support, such as a sawhorse, and attach your antenna and/or rotator to the tower before raising the tower as shown in Figure 4. The support should not have any sharp edges that may come into contact with the winch cable.

NOTE: The antenna load limits should not exceed the limits listed in the specifications.

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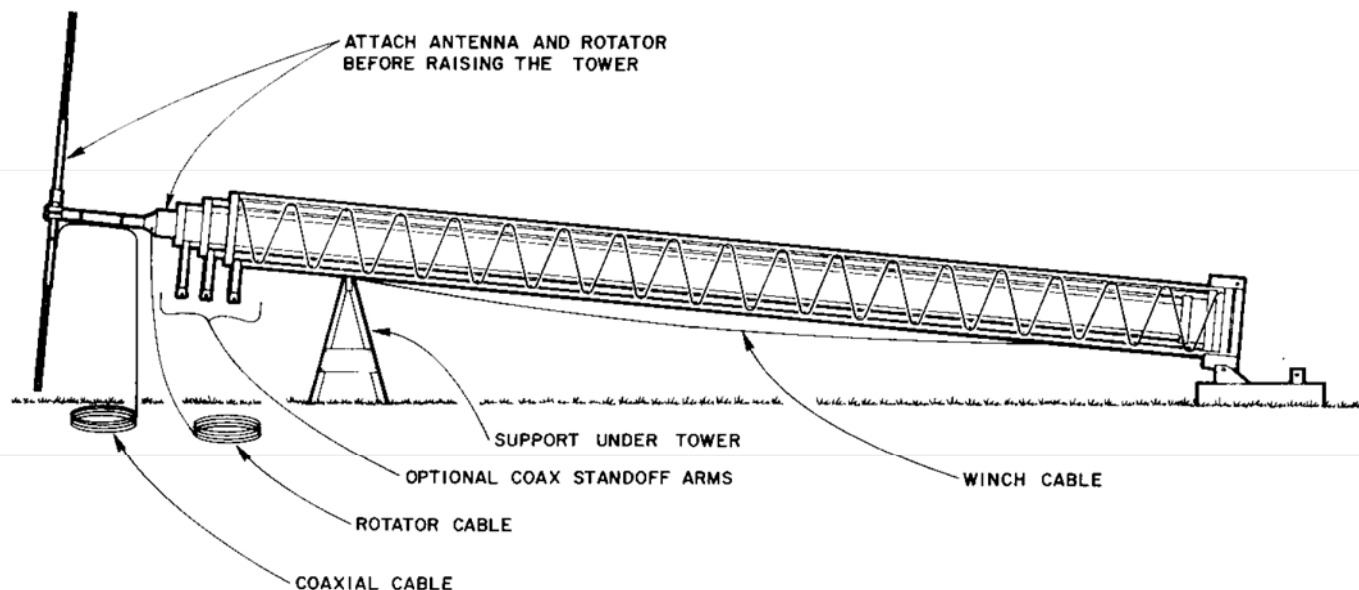


Figure 4
Supporting Tower while Attaching Related Products

Winch Cable

Untie the coil of cable from the top of the tower. Uncoil and lay it along the outside of the tower near the tower base.

Raising Tower

Push the tower up to the vertical position and bolt the third leg to the base plate with the 3/4" x 2" bolts and associated hardware.

Figure 5 shows only one typical application of the Roof Brace Bracket. Your application may vary from that shown. Use good judgement when attaching the bracket to any support structure. The manufacturer is not held responsible for improper anchoring methods.

Whatever your application, make sure the Roof Brace Bracket is attached to solid construction such as a rafter or a solid concrete wall with lag screws or bolts. Damage to the support structure and/or tower may result if proper anchoring methods are not followed.

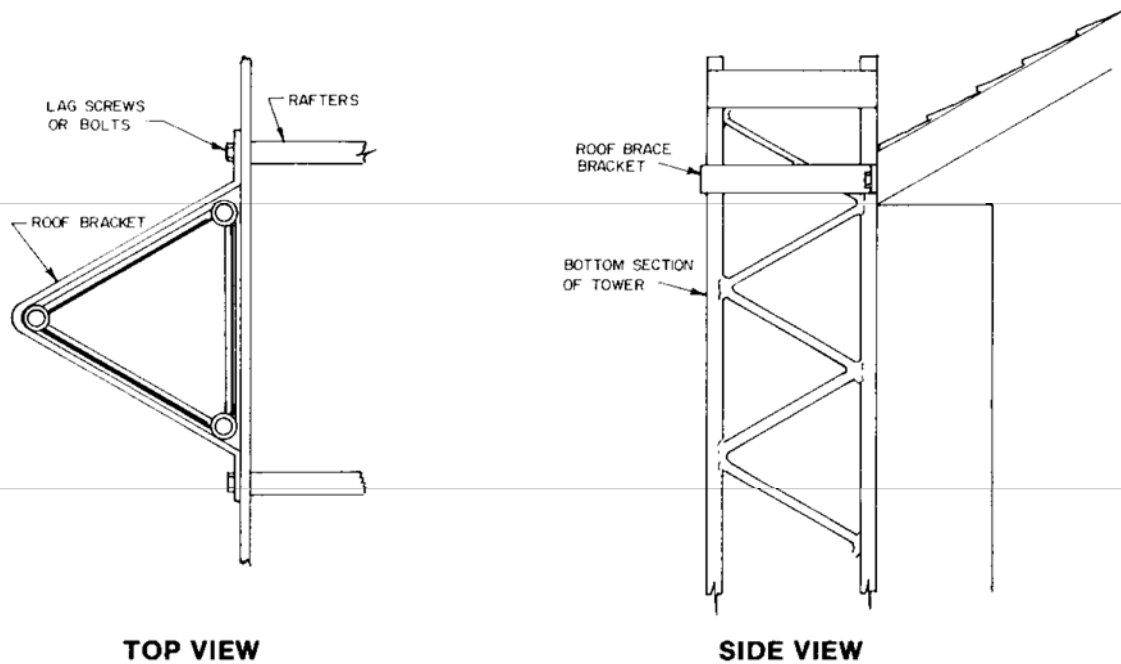


Figure 5
Attaching Roof Bracket Around Bottom Section of Tower

Attach winch assembly to tower winch plate as shown in the winch manual. Use the 3/8" bolts, nuts, washers, and lockwashers. Attach the winch cable as shown in the winch manual.

Lightning Protection

To protect your installation and your radio equipment, the tower system must be properly grounded. Drive a 4'-8' ground rod as close as possible to the tower structure.

Then connect a #8 (or larger) copper or aluminum wire between the base of the tower and the ground rod. Also, a static discharge unit (Hy-Gain Model LA-1, Order No. 229, Lightning Arrestor) should be connected to the antenna lead-in at the place where it enters the home. (Follow the instructions provided with the static discharge unit.)

**Tower
Maintenance**

To maintain proper and safe operation, inspect and lubricate your tower at least once a year; more often if subject to heavy or frequent use. Always be sure your tower is in the retracted position before attempting any maintenance procedures. Inspect all bolts for tightness including cable termination, winch, and base bolts.

Inspect raising cables and replace if excessively kinked or frayed.

Inspect pulleys and pins for excessive wear and replace as required.

Place a few drops of light machine oil on all pulley bearings.

Refer to winch manual for proper lubrication of winch.

PARTS LIST

NOTE: Item numbers may not necessarily be in numerical sequence and may appear more than one time, depending on how often a part is used, or identical parts being placed in different parts packs.

Item No.	Part No.	Description	Qty
	880114	Tower Assembly, 3 section, 50 ft.	1
1	871124	Cable sheave, 3" x 1/2" w/3/8" bushing	2
2	350685	Nicopress® sleeve, 3/16"	6
3	506880	Bolt, 3/8"-16 x 1 1/2", hex head	1
4	509320	Bolt, 3/8"-16 x 1", hex head	2
5	558137	Nut, 3/8"-16, hex jam	3
6	561295	Lockwasher, 3/8", split	3
22	380401	Pin, 3/8" x 1 5/8"	2
23	567105	Flatwasher, 3/8"	4
7	690193	Cable, 3/16", 39 ft.	1
8	690197	Cable, 3/16", 20 1/2 ft.	1
25	356788	Rope thimble, 3/16"	3
9	880113	Base plate assembly	1
12	380398	Roof bracket	1
13	500116	Bolt, 3/4"-10 x 2", hex head	3
15	557628	Nut, 3/4"-10, hex	3
24	590009	Cotter pin, 3/32" x 3/4"	4
	871078	Parts Pack, Product 126	1
14	509320	Bolt, 3/8"-16 x 1", hex head	3
5	558137	Nut, 3/8"-16, hex jam	6
6	561295	Lockwasher, 3/8", split	3
23	567105	Flatwasher, 3/8"	3
16	567626	Lockwasher, 3/4", split	3
18	560060	Flatwasher, 3/4"	3
17	871076	Winch	1
19	540035	Anchor bolt, concrete, 1/2"-13 x 8"	3
20	567066	Flatwasher, 1/2"	3
21	565872	Lockwasher, 1/2", split	3

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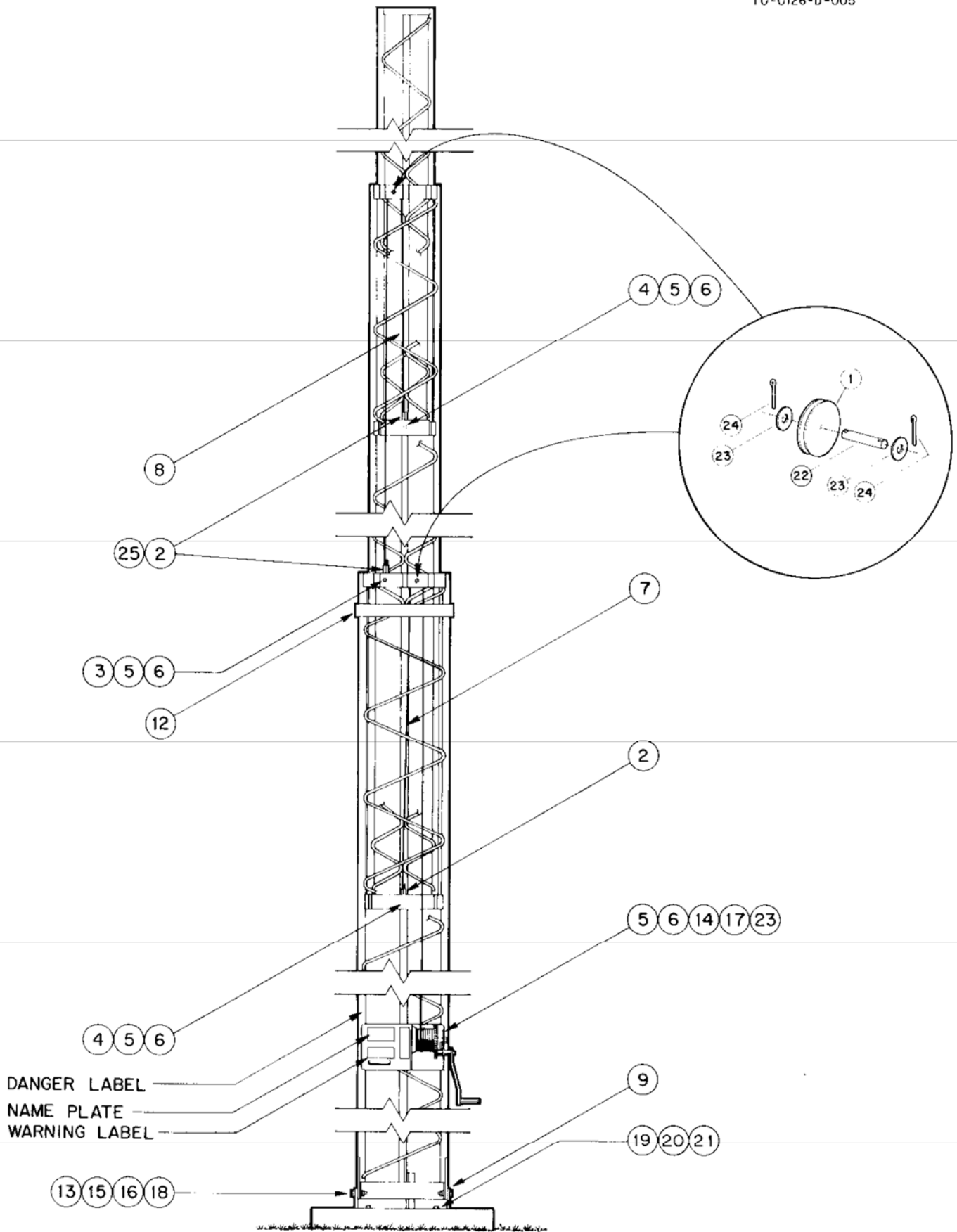


Figure 6
Tower with Call-Outs of All Parts