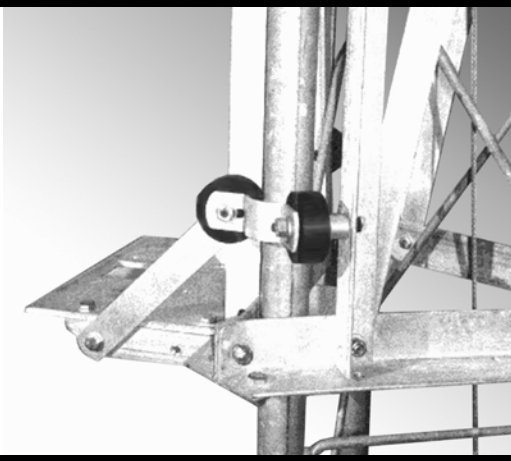


## Roller Bearing Set

The roller bearing set improves the smooth contact of the Hazer with the tower. The bearings roll over tower joints or other rough spots. Works on Hazers 2, 3, and 4. The roller set at right is shown on lower right corner of Hazer. A set like this is bolted to each of the Hazer's six corners.

HR-2040 Bearing Roller set of 6 and instructions.



# HAZER 4

DATE PURCHASED:

OWNER'S

## SAFETY RULES

1. **Never** mount any tower system close to wires or power lines. Stay **at least** 1½ times the overall height away from any power lines or wires.
2. **Never** attempt to touch someone who is in contact with power lines or wires.
3. **Never** climb the tower. Serious injury could result from a fall. This is even more dangerous when you are on a roof top.
4. If you drop something while working on a roof, **never** try to catch or stop it. Let it fall and keep your own balance secure.
5. Use the buddy system. **Always** have someone helping nearby.
6. **Always** keep children away.
7. **NEVER** attempt to install or attempt to repair equipment while under the influence of drugs, alcohol or any medication.

*Please keep these instructions in a safe place after installation.*

## GlenMartin WARRANTY

GlenMartin, Inc. warrants this **Hazer 4** for one full year. If this product fails to give the original purchaser complete satisfaction within one year from the original date of purchase, return it to the nearest authorized distributor and GlenMartin, Inc. will repair it, free of charge. GlenMartin, Inc. will not be liable for loss or damage to property or any incidental or consequential loss or expense from property damage due directly or indirectly from the use of this product.

**GlenMartin, Inc.**

13620 Old Hwy 40

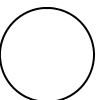
Boonville, Missouri 65233 USA

**(660) 882-2734** <http://www.glenmartin.com>



Revised 7/22/08

PACKAGE &  
INSPECTED BY:



## CONGRATULATIONS!

We would like to thank you for choosing a GlenMartin, Inc. **Hazer** for your Rohn tower. Your new **Hazer** is manufactured in the United States of quality materials, such as stainless steel bolts, aluminum and galvanized steel for durability and long life. With proper care, your Hazer will give a lifetime of use. Please take the time to regularly inspect your tower, Hazer and antenna system for any problems. Prevention is better than a cure.

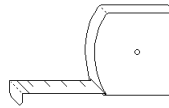
## TOOLS YOU'LL NEED FOR ASSEMBLY AND INSTALLATION



SOCKET SET



ADJUSTABLE  
END WRENCH



TAPE MEASURE

### **READ CAREFULLY - THEN PLAN YOUR INSTALLATION PROCEDURE CAREFULLY**

Your tower site should be a safe distance from all power lines. A safe distance is one and one-half to twice the height of the tower plus antenna. Remember that any contact with power lines can be fatal to you! All towers should be properly guyed. All tower installations should be grounded per local or national codes. All towers should be installed by trained and experienced personnel and should be inspected by qualified personnel at least twice a year.

P/N	Description	Qty
1	Main Frame	6
2	Lug	6
3	Cross Brace	6
4	Side Member	6
5	Platform Corners (1 w/latch)	4
6	Platform Corner Brace	4
7	Base Platform(Rotator shelf)	1
8	Top Platform	1
9	Center Brace	3
10	Pulley Bracket Assembly	1
11	Winch	1
12	Wire Rope with stop sleeve	1
13	Nylon Safety Latch Cord	1
14	Screws, nuts, etc.	1

**First** take an inventory of the parts received. Assembling your H-4 Hazer consists of three basic steps: **(a) constructing the Hazer; (b) fastening the winch to the tower at an appropriate level; and (c) installing a pulley assembly at top of tower and wire rope cable.** Then install the rotator, thrust bearing, mast and antennas. Check for easy up and down travel of the Hazer.

#### **Assembly Notes:**

1. When assembling the Hazer, leave screws loose and tighten each after your Hazer is completely assembled. A drop of oil or WD-40 may prevent the bolts from seizing. The bolt heads on the main frame should be toward the tower face and bolt threads outward. Ensure rotator and thrust bearing plates touch but do not overlap the main frame. Consult Figure 1. Three identical sides can be put together like

## Lightning Protection

You may have a mechanical ground, but do you have an electrical ground? The lightning rod is clamped to the highest extreme on the mast. The ground wire is connected to the lightning rod and should be one continuous piece all the way to the earth ground rod. A small loop is left



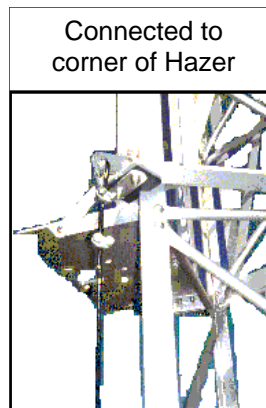
just above the thrust bearing allowing the mast to rotate. If you cannot use a lightning rod point because of the antenna, tape or wire tie the ground wire to the mast as far up as practical. This will provide some lightning protection to other components such as rotators, antennas, etc. When using a Hazer, the ground wire runs down the messenger line. From there to the ground rod system. This can provide the electrical ground required for long wire antennas. With rooftop towers the ground wire should run from the tip of

the mast, be connected to the tower and then all the way to ground. Grounding the tower cannot be over stressed. Local or national codes should be complied with. The head of the ground rod should be driven at least 6 inches below ground level and the ground wire attached to it with two **GR-4400** ground rod clamps. Ground your system to achieve a goal of 25 ohms or less ground resistance. Additional ground rods may be necessary to accomplish this. The ground cable, #4 by 19 strand bare copper is very flexible and is ordered separately. It is advisable to consult with an experienced lightning professional for installation.

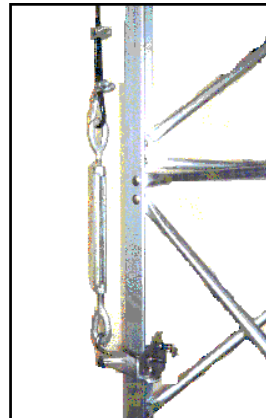
## ML-2500

### Messenger Line STRAIN RELIEF FOR RF AND ROTATOR CABLES!

A messenger line is fastened to the Hazer on one end and the tower leg at the bottom. All your rotor and coax and ground wires are plastic

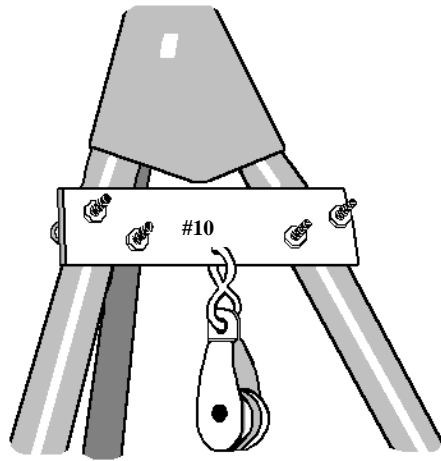


Connected to  
corner of Hazer

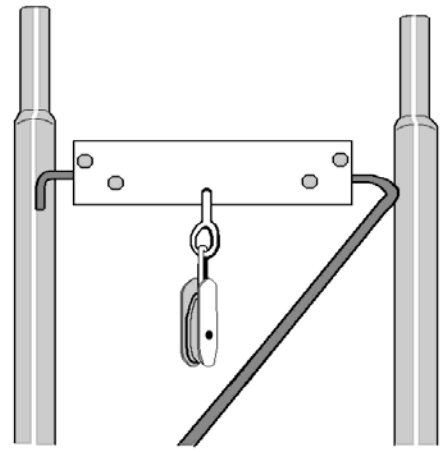


Connected at  
bottom of tower

wire tied to the messenger line. This prevents strain and elongation to your cable and keeps them from slapping against the tower. The messenger is electrically transparent but very strong Kevlar cable. Simply secure your rotator and coax cables to the messenger line with nylon cable ties (we recommend one tie every 16 inches, not supplied). It's a great way to prevent cable stretch while using your HAZER! PLEASE specify Kevlar cable length or tower height.



**Figure 7**  
Pulley Block installed on tapered Rohn top section. U-bolts are used.



**Figure 8**  
Pulley Block installed on regular Rohn section. Hex head bolts and two #2 lugs form a strap across the horizontal tower cross brace.

## Recommendations on Mounting Antennas

1. Mount rotator.
2. We recommend using a Thrust Bearing to support the mast.
3. Use the shortest mast necessary to match installation.
4. Always keep tower, mast & antennas 1 1/2 times the height away from overhead power lines.
5. Adjust rotator, thrust bearing and mast so they are concentric (centered to themselves).
6. We strongly advise lightning protection for your tower. Ground your system to achieve a goal of ground resistance at 25 ohms or less. See our tower accessories catalog.

### TB-25 Thrust Bearing



### MC-10 Mast Adaptor

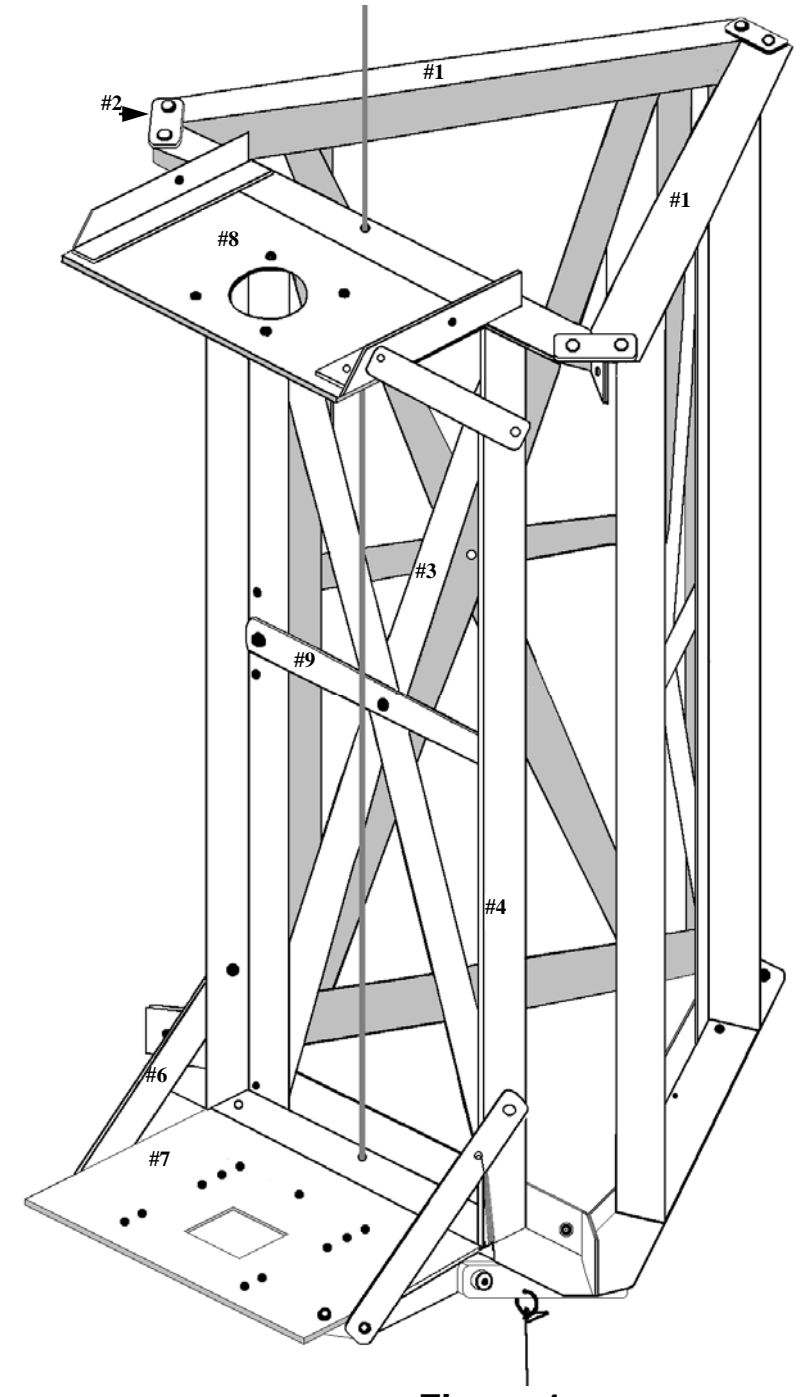
figure 6 and then add the top and bottom rotor plates to one side.

2. The lower left platform corner (part 5) includes the safety latch. Install the stainless steel spring between the corner brace (part 6) and the latch. See figure 3. Next fasten the "S" hook in the latch and tie the pull cord to the "S" hook. To lower the Hazer, it must first be raised about an inch and a half so that when you pull the cord the safety latch is disengaged past the "Z" braces of your tower when it comes down.

3. Install the cable starting at the bottom of the Hazer, figure 6, up through Hole A, then up through Hole B, then up the outside of the tower through the wire rope pulley at the top end of the tower and down the center of the tower to the winch. The cable is tied into the winch as in figure 2.

**WARNING:** The wire rope cable must pass through Hole B to prevent the Hazer from being winched off the top of the tower!

4. Make sure the winch handle has clearance between the tower legs and braces, figure 5, and rotates freely. Use a saddle clamp between the winch and the tower leg. Figure 4. The tower "Z" bracing may have



**Figure 1**

to be bent slightly to allow the winch to center up. It is preferable to locate the winch on the leg of the tower opposite of the rotor face, but any leg will do.

5. A thrust bearing (optional part #TB-25) should be mounted on the top plate to help support the mast. The counter bored holes of the top plate face down to allow more bolt penetration into the thrust bearing. If a fixed mast that does not rotate is desired consider using our part number MC-10.

6. Your rotor should be tested for free rotation, vertical alignment and concentricity with the top bearing plate mast hole.

7. Tower guying is preferred on the tower itself, placing the guys just above the Hazer on the tower. An optional method is to place guys on the Hazer. Additional part #2 lugs are provided to be used at location Hole C as in figure 6.

8. The rotor cables and antenna coax should be tied to a strain relief cable. Our messenger line kit (optional ML-2500) provides the necessary items. The messenger line prevents the cables and coax from stretching and from slapping against the tower. The non-conductive nature of our Kevlar messenger line also helps prevent line loss.

9. Some rohn towers may have bent braces which have to be adjusted inward to clear the Hazer. We also have an optional roller bearing kit (HR-2040) that makes smoother travel on the tower.

10. Two methods of mounting the pulley block are shown figure 7 and figure 8. A heavy duty pulley block is also available HR-3015.

11. Do not forget to consider tower grounding.

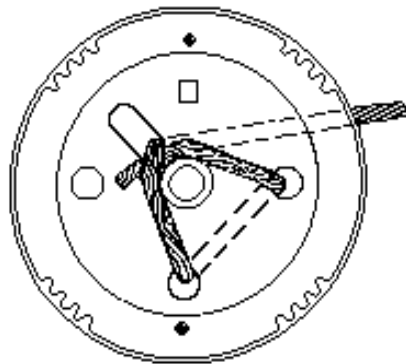


Figure 2  
WINCH CABLE  
ANCHORING METHOD

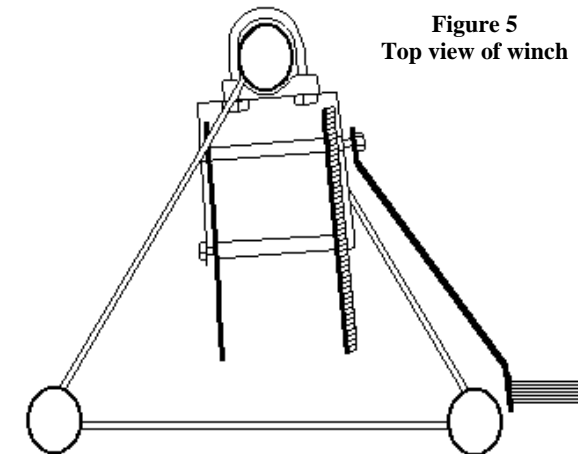
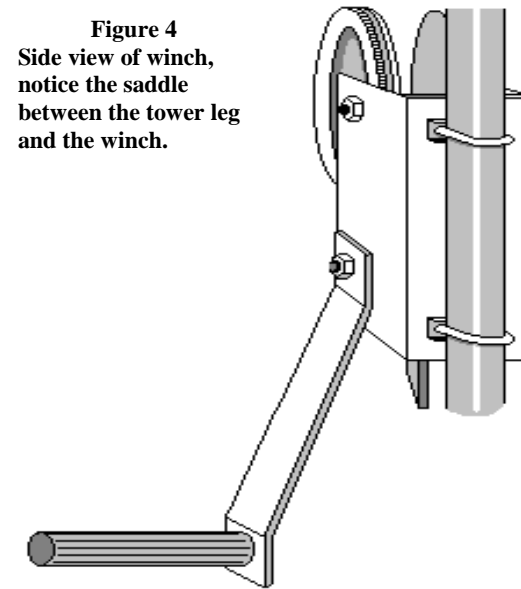
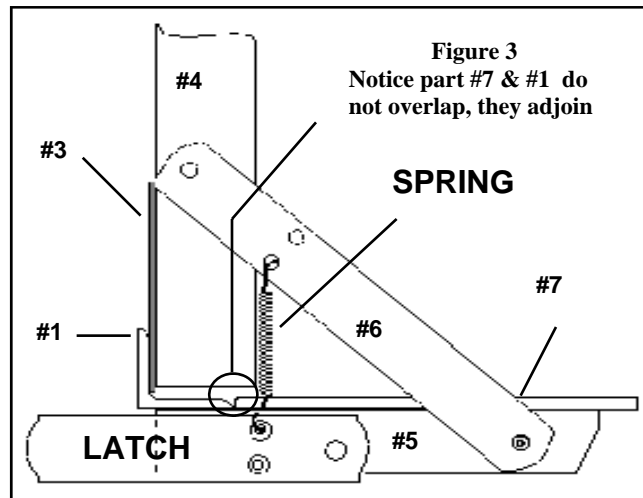


Figure 5  
Top view of winch

