

30' AWOS Tower Model 8509



User's
Manual



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Theory of Operation

Product Overview

The Model 8509 30' Stacked Tower is constructed of heavy, 14 gauge special quality steel tubing in an 18-inch equilateral triangular pattern. The cross bracing is a zigzag design of continuous, solid steel rod electric welded to side rails every 15 inches.

The tower consists of three 10-foot sections, and a 5-foot footing section for mounting in a concrete foundation. The entire tower is constructed using precision machines and electric welded throughout. The tower sections are completely hot dip galvanized after fabrication to give permanent protection against

corrosion. Since galvanization is the last step in the process, all welding points and other points of construction are fully covered with molten zinc, which tends to seal itself should there ever be any breakage on the surface.

The Model 8509 is engineered to withstand 90 mph winds with a safety factor of 1.5. Guying kits are available from All Weather Inc. to increase the load rating. Table 1 shows the maximum area of attached equipment allowed at 30 feet above the ground under specific wind conditions.

This tower complies with EIA standards.

	Design Wind (MPH)			
	70	85	100	110
Max. Sq. Ft. Area	10	5	2	1

Table 1
Allowable Equipment Area

Installation

Foundation

The Model 8509 must be mounted in a concrete base. A footing section is included with the tower, and this section is set in the concrete according to the specifications shown in **Figure 1**. The base of the footing section should extend four inches below the concrete into compacted sand and gravel to allow for drainage.

The tower should be installed according to local building codes. When used in an AWOS system, install the tower according to the *AWOS Site Preparation Manual* (223-025).

Tower Lights

To install tower lights onto the Model 8509 tower, refer to drawing number T995063-007 in the *Drawings and Parts List* chapter of this manual.

Lightning Rod

To install a lightning rod onto the Model 8509 tower, refer to drawing numbers 1073-D06 (tower with a top plate) and M488111-M1 (tower without a top plate) in the *Drawings and Parts List* chapter of this manual.

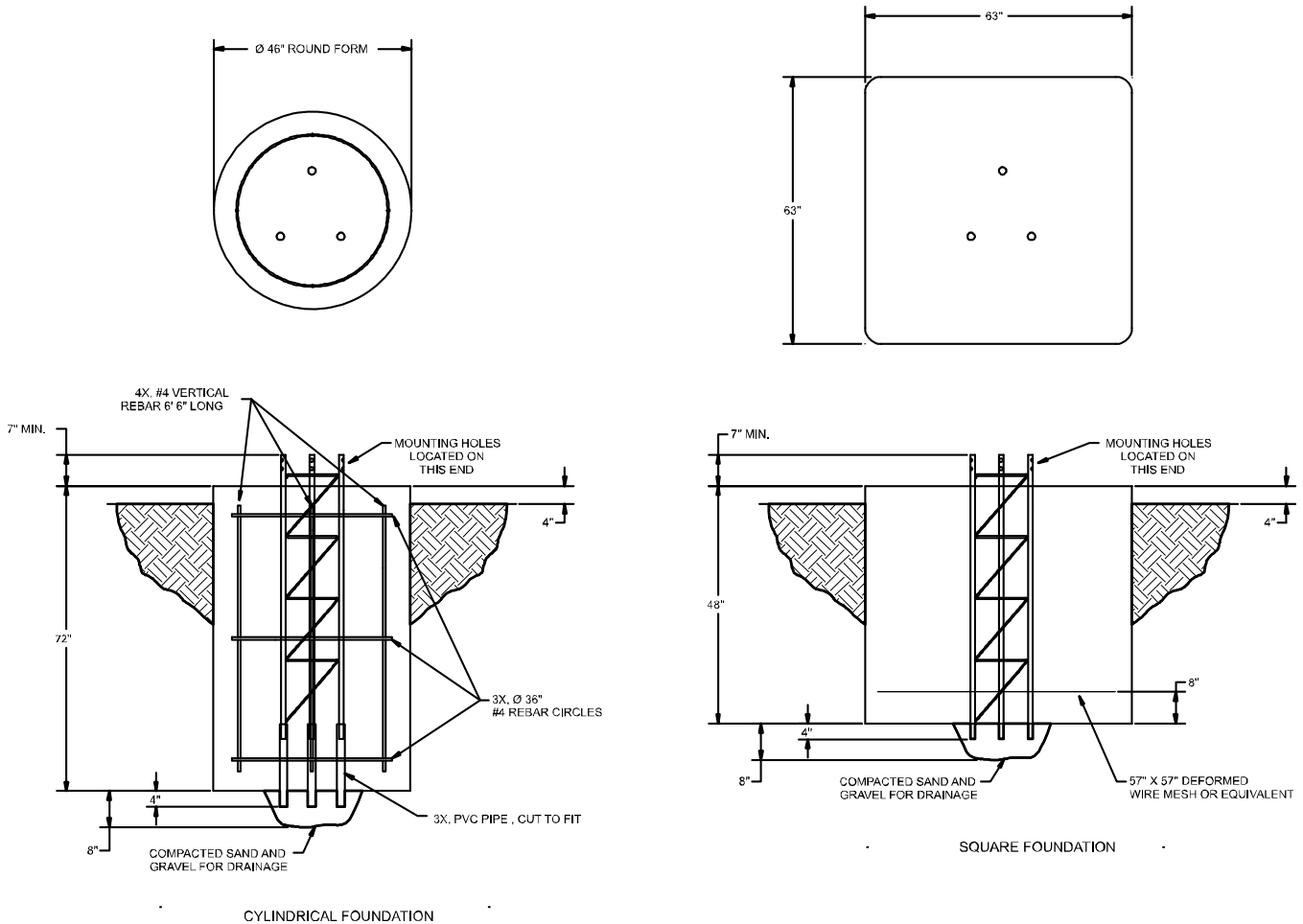


Figure 1
Model 8509 30' Stacked Tower Foundation

Maintenance

The only maintenance required with the Model 8509 tower is replacement of tower light bulbs. Both bulbs should be replaced upon the failure of one bulb.

AWOS Periodic Maintenance

Monthly Maintenance

Monthly maintenance consists of visually verifying that the tower lights are in working order. Replace both bulbs if any bulb fails.

Quarterly Maintenance

Quarterly maintenance consists of visually verifying that the tower lights are in working order. Replace both bulbs if any bulb fails.

Annual Maintenance

During annual maintenance, visually verify that the tower lights are in working order. Replace both bulbs if any bulb fails.

Warranty

Unless specified otherwise, All Weather Inc. (the Company) warrants its products to be free from defects in material and workmanship under normal use and service for one year from date of shipment, subject to the following conditions:

- a. The obligation of the Company under this warranty is limited to repairing or replacing items or parts which have been returned to the Company and which upon examination are disclosed, to the Company's satisfaction, to have been defective in material or workmanship at time of manufacture.
- b. The claimant shall pay the cost of shipping any part or instrument to the Company. If the Company determines the part to be defective in material or workmanship, the Company shall prepay the cost of shipping the repaired instrument to the claimant. Under no circumstances will the Company reimburse claimant for cost incurred in removing and/or reinstalling replacement parts.
- c. This warranty shall not apply to any Company products which have been subjected to misuse, negligence, or accident.
- d. This warranty and the Company's obligation thereunder is in lieu of all other warranties, express or implied, including warranties of merchantability and fitness for a particular purpose, consequential damages, and all other obligations or liabilities.

No other person or organization is authorized to give any other warranty or to assume any additional obligation on the Company's behalf, unless made in writing and signed by an authorized officer of the Company.

Specifications

Tower height	30'
Material	steel tubing
Distance between side rails	16¾"
Side rail diameter	1¼"
Side rail gauge	14 gauge
Leg cross-sectional area	0.3043 sq. in.
Unbraced length of side rail (distance between crosspieces)	15¾"
Section length	10.4'
Section weight	70 lbs.
Tower weight	245 lbs.
Concrete base width	48"
Concrete base depth	48"



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