



308 Industrial Park Road
 Starkville, MS 39759 USA Ph:
 (662) 323-9538 FAX: (662) 323-6551

MK-160A

160 Meter Add-on Kits

for 18HT Hy-Tower

INSTRUCTION MANUAL

General Description

The MK 160a Modification Kit allows the "Hy-Tower" to go from 160 to 10 meters without mechanical switching.

Theory of

With the MK 160a Modification Kit installed, the "Hy-Tower" can be automatically switched from 80 to 160 meters without any physical switching. The trap disconnects the 160 meter wire from the "Hy-Tower" antenna when operating on 80-10 meters, and allows the wire and tower to act as a 1/4-wave antenna on 160 meters.

Standing Wave Ratio

The SWR on this antenna will depend on the type of ground system used. If you have a very ineffective ground, the SWR will be harder to get lower, unless radials and ground rods are installed.

NOTE: See ARRL Antenna Handbook for information on ground systems for low frequency antennas.

Specification

Electrical

Maximum power..... 1 kW

Mechanical

Overall length of L1 approx. 105 ft

Alumoweld® is a registered trademark of Copperweld Bimetallic Group

L1-Should be approximately 105 ft./32 meters long and then trimmed for resonance on desired part of 160 meters. See note on page 2.

Shorted end of the 40 meter trap should be butted up against the top plate of the Hy-Tower and on leg holding the 10 meter stub.

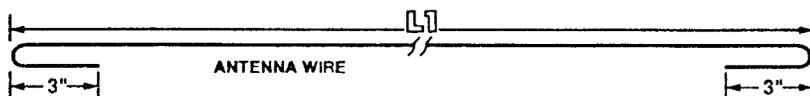
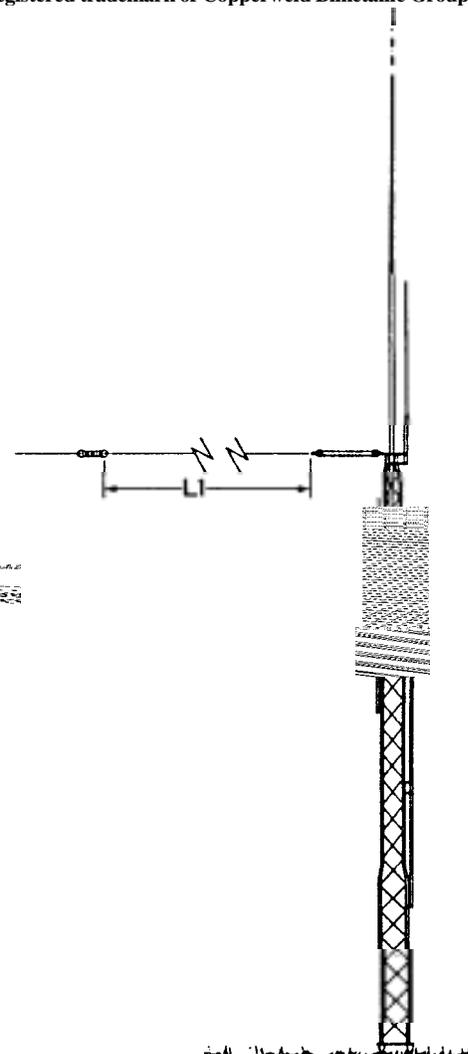


Figure 2
 Overall Length - L1 Antenna Wire

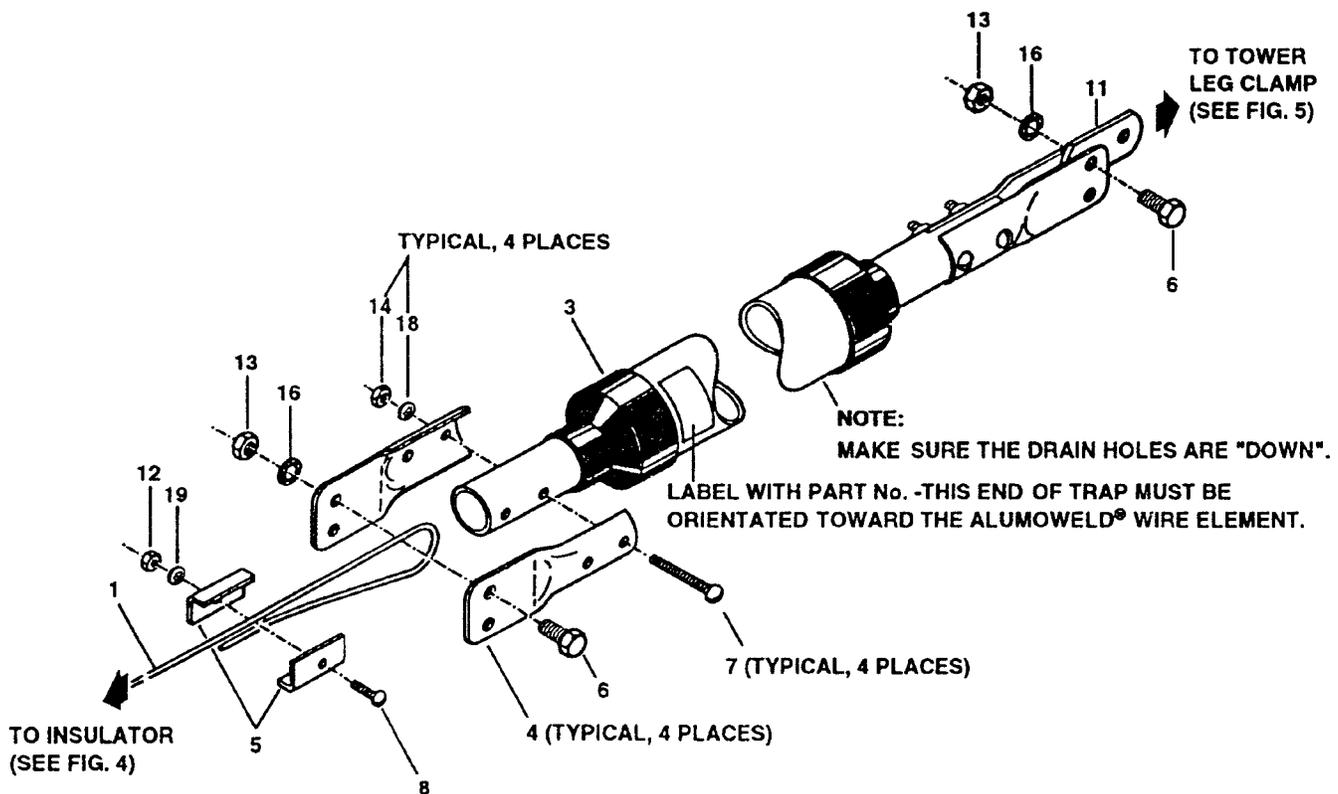


Figure 3
Assembly

Installation

NOTE: The end of the trap which has the part number label attached must be pointed in the direction of the insulator as shown in Figure 3. This is very important for proper operation of the antenna.

Cut the 160 meter antenna wire (L1) to the length shown in Figure 2. Do not forget to allow an extra 3" plus the bend of each end for the attachment to the 40 meter trap and end insulator.

NOTE: It is always best to cut the wire a few feet longer than shown, and wrap the wire back on itself until the antenna is tuned for the proper frequency.

WARNING: Do not climb tower. Do not attempt to climb this tower under any circumstances. Serious injury or fatality may result.

In order to install the MK 160a Modification Kit on the top of the "Hy-Tower", the tower will have to be lowered. It is the responsibility of the user to install this kit on his tower. The manufacturer DOES NOT assume responsibility for any accident in the installation of this product.

Bend one end of the wire and attach to the 40 meter trap as shown in Figures 2 and 3. Do not forget to clip off the excess wire extending past the wire lock (see NOTE).

Attach the leg clamp and shorting strap as shown in Figures 3 and 5, to the leg with the 10 meter stub attached. Make sure the clamp is as close to the top of the tower as possible.

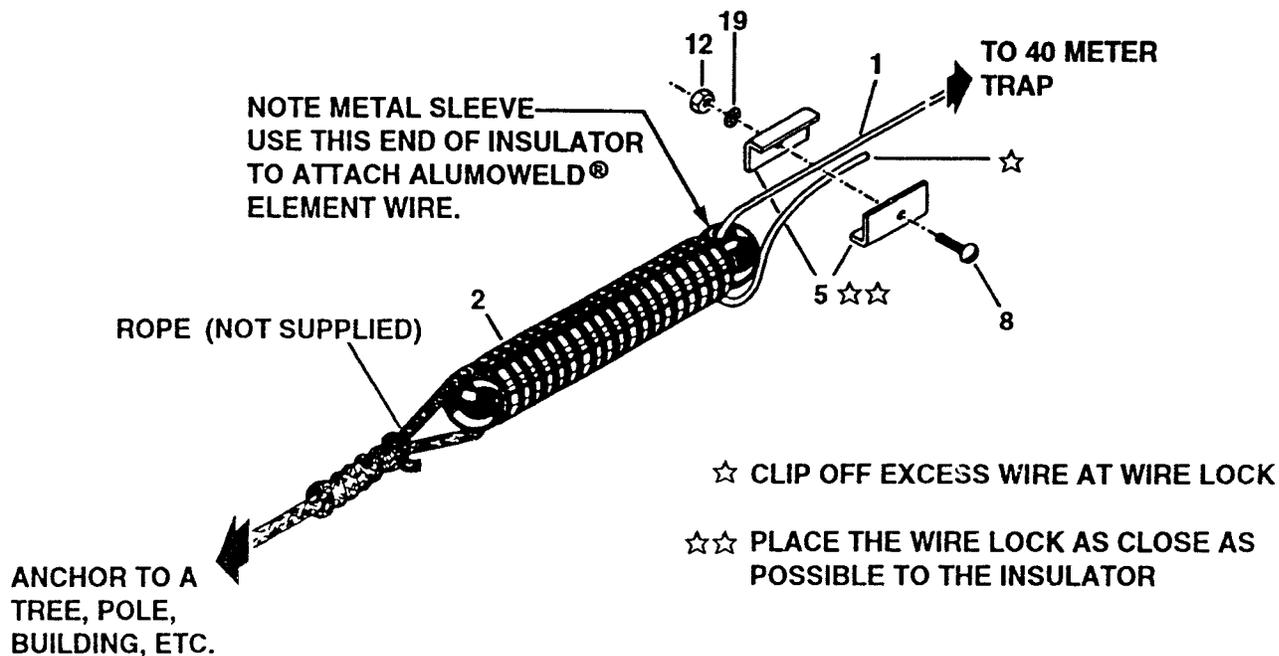


Figure 4
Antenna Wire to Insulator

Assemble the MK 160a modification kit as shown in Figure 4 and 5 and attach it to the shorting strap. Make sure the drain holes on the trap are facing downwards and the end of the trap, with the part number label attached, is facing towards the insulator.

Remove the twists and kinks from the wire prior to the installation to insure that the trap does not rotate in the final mounting position.

Attach the insulator end of the MK 160a Modification Kit to a stationary point (tree, pole, building, etc.) at the same height or higher than the tower attachment point.

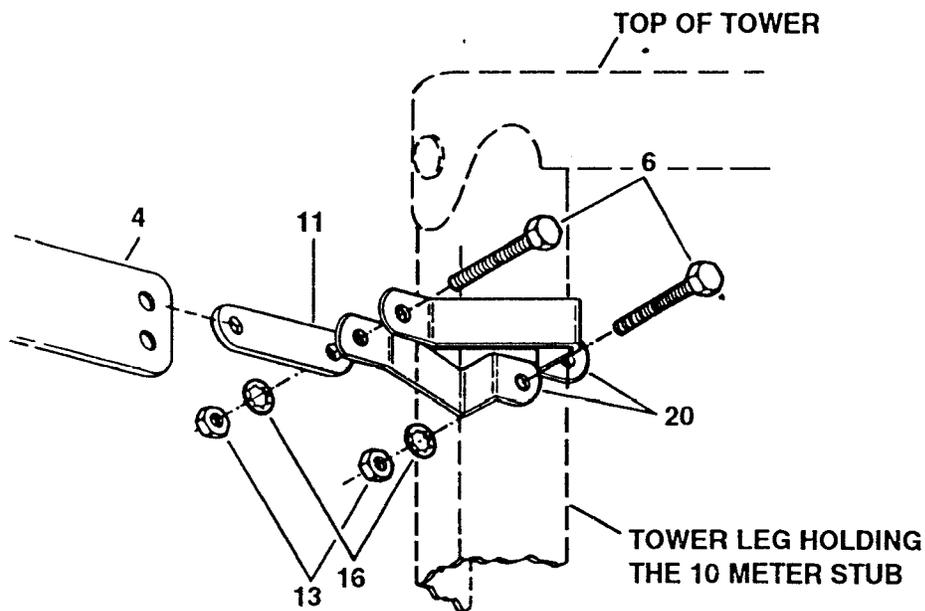
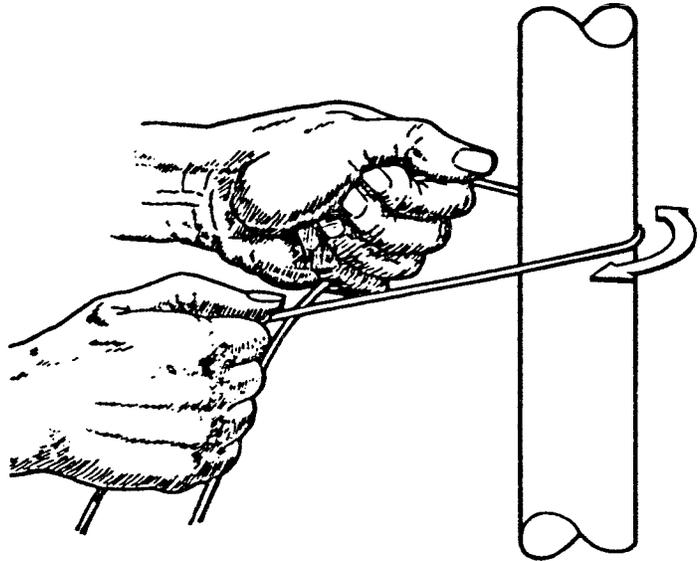


Figure 5
Installation to Tower Leg

Hints on Handling Alumoweld® Wire

To meet the numerous request for a non-corrosive, super strength wire, Hy-Gain is now using Alumoweld® wire in many wire-type antennas and mounting kits.

Alumoweld wire meets Military Specifications for virtually all environmental conditions. The wire is designed for areas of high humidity and salt exposure, like the less durable forms of wire, but the lasting properties of Alumoweld® are far superior. Conducting properties closely approach that of pure aluminum making it ideal electrically for RF use.



There may be some difficulty encountered in working with the wire due to its tendency to kink. Kinks may be removed by a pole or similar stationary curved object and working the wire back and forth as shown in Figure 6.

Figure 6
Hints on Handling Alumoweld® Wire

Alumoweld is a registered trademark of Copperweld Bimetallic Group

Parts List

No.	Part No.	Description	Qty.
1	691458	Alumoweld® wire, #12 x 125 ft.....	1
2	861021	Insulator, end.....	1
3	877234	Trap, 40 meter.....	1
	878610	Parts Pack.....	1
4	167236	Trap connector clamp.....	4
5	167238	Wire lock.....	6
6	506708	Bolt, 1/4"-20 x 1/2", hex	2
7	504739	Bolt, #10-24 x 1 1/4", round	4
8	500185	Bolt, #8-32 x 1/2 ".....	3
9	500183	Bolt, #6-32. x 3/8".....	3
10	504098	Bolt, 1/4"-20 x 1 1/2", hex	2
11	163378	Shorting Strap	1
12	556990	Nut, #8-32, hex	3
13	554099	Nut, 1/4-20, hex	2
14	554071	Nut, # 10-24, hex	4
15	555888	Nut, #6-32, hex	3
16	562961	Lockwasher, 1/4", internal	4
17	566344	Flat washer, 1/4 ".....	2
18	565697	Lockwasher, #10, internal.....	4
19	560035	Lockwasher, #8, internal	3
20	163300	Tower Leg Clamp.....	2

hy-gain® LIMITED WARRANTY

Hy-Gain Warrants to the original owner of this product, if manufactured by **Hy-Gain** and purchased from an authorized dealer or directly from **Hy-Gain** to be free from defects in material and workmanship for a period of 12 months for rotator products and 24 months for antenna products from date of purchase provided the following terms of this warranty are satisfied.

1. The purchaser must retain the dated proof-of-purchase (bill of sale, canceled check, credit card or money order receipt, etc.) describing the product to establish the validity of the warranty claim and submit the original or machine reproduction of such proof of-purchase to **Hy-Gain** at the time of warranty service. **Hy-Gain** shall have the discretion to deny warranty without dated proof-of-purchase. Any evidence of alteration, erasure, or forgery shall be cause to void any and all warranty terms immediately.
2. **Hy-Gain** agrees to repair or replace at **Hy-Gain's** option without charge to the original owner any defective product under warranty, provided the product is returned postage prepaid to **Hy-Gain** with a personal check, cashiers check, or money order for \$8.00 covering postage and handling.
3. Under no circumstances is **Hy-Gain** liable for consequential damages to person or property by the use of any **Hy-Gain** products.
4. Out-of-warranty Service: **Hy-Gain** will repair any out-of-warranty product provided the unit is shipped prepaid. All repaired units will be shipped COD to the owner. Repair charges will be added to the COD fee unless other arrangements are made.
5. This warranty is given in lieu of any other warranty expressed or implied.
6. **Hy-Gain** reserves the right to make changes or improvements in design or manufacture without incurring any obligation to install such changes upon any of the products previously manufactured.
7. All **Hy-Gain** products to be serviced in-warranty or out-of-warranty should be addressed to **hy-gain, 308 Industrial Park Road, Mississippi 39759, USA** and must be accompanied by a letter describing the problem in detail along with a copy of your dated proof-of-purchase.
8. This warranty gives you specific rights, and you may also have other rights which vary from state to state.