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## MODEL MK-80

14AVQ ADD ON KIT  
80 Meter

# INSTRUCTION MANUAL

## GENERAL DESCRIPTION

The Hy-Gain MK-80 add on kit contains of the necessary parts and instructions to make a Hy-Gain 14AVQ vertical • 10 36" spokes (2 extra) resonate on 80 meters. The 80-meter kit • Loading coil assembly features stainless steel hardware and hose clamps. The loading coil is wound onto a 1 inch fiberglass tube using #14 Teflon insulated wire for extended life. The antenna is capable of 1 KW PEP on meters.

1. Remove the parts from the packaging. Check to see that each is present using the packing list above.
2. Place a 4-40 screw in each of the 16 loading coil assembly and secure holes on the capacitance spoke rings them in place by tightening the 4-40 and secure them using a 4-40-kep nut. Refer to figure 1. Snug each one using a 5/16" nut driver. Be careful not to lose the screws and nuts.
3. Place the large end of the 1 1/8" X 17" aluminum tubing over the end of the loading coil assembly tube as shown in Figure 1.
4. Secure the tubing in place with one of the supplied hose clamps. Be sure to place the connection tab between the aluminum tubing and the clamp as shown in Figure 1.
5. Place the remaining hose clamp onto the aluminum tube. This clamp is used to

## PACKING LIST

- 5 hose clamps all
- 18 4-40 screws (2 extra)
- 18 4-40 kep nuts (2 extra)
- , 1 1/8" X 17" aluminum tube 80-

secure the MK-80 to an existing AV 14AVQ antenna. See Figure 1.

6. Place four capacitance spokes into each of the spoke rings located on the 80 meter loading coil assembly and secure holes on the capacitance spoke rings them in place by tightening the 4-40 and secure them using a 4-40-kep nut. Refer to figure 1. Snug each one using a 5/16" nut driver. Be careful not to lose the screws and nuts.

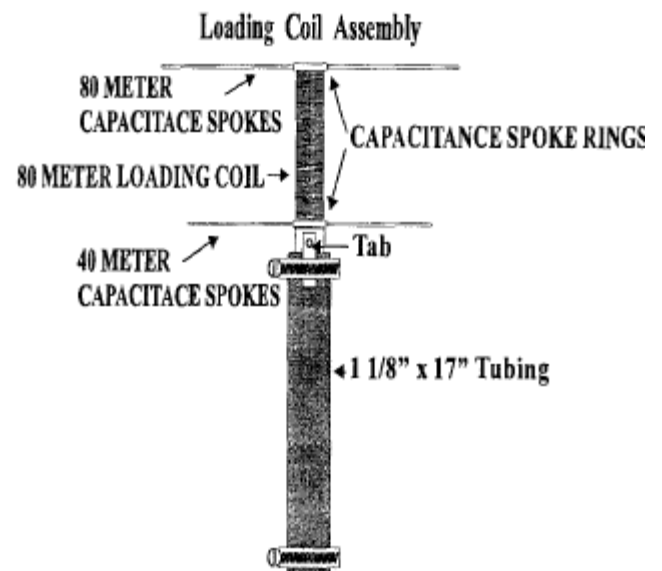


FIGURE 1

## SETUP

The AV- 14AVQ should be assembled and tuned using the instructions supplied with the antenna. The following section describes the preparations for the installation of the MK-80 to the AV-14AVQ.

## PREPARATION

1. Assemble the antenna using the supplied instructions. Figure 1 on page 4 of the AV-14AVQ manual gives approximate dimensions.
2. In addition to normal assembly, hose clamps need to be placed above each of the black covers on the traps. These will provide extra strength to the traps for the additional weight of the MK-80.
  - a. Place one of the hose clamps supplied with the MK-80 directly above the black ABS cover of trap 11-10. Figure 1 on page 4 shows the location of this trap.
  - b. Place one of the hose clamps supplied with the MK-80 directly above the black ABS cover of trap 14-15. Figure 1 on page 4 shows the location of this trap.
  - c. Place one of the hose clamps supplied with the MK-80 directly above the black ABS cover of trap 15-20. Figure 1 on page 4 shows the location of this trap.
  - d. Do not place tubing section M5 onto the antenna. If this section is

already on the antenna, remove it. Refer to Figure 1.

3. Place the assembled MK-80 onto the assembled AV- 14AVQ antenna. The 1 1/8" x 17" tubing has been fitted to accept the AV- 14AVQ.
4. Secure the tubing in place by tightening the hose clamp placed on the MK-80 in step 5 of the assembly section.
5. Follow the instructions given to choose a mounting location for the antenna. NEVER INSTALL AN ANTENNA NEAR POWER LINES.

## TUNING

Place the antenna in its final operating location for tuning. Connect an SWR analyzer to the antenna with a suitable length of 50 Ohm coax. An SWR meter and radio may be used instead of an analyzer.

### 10,15,20 METERS

Tune the AV-14AVQ according to the instruction manual. Figure 1 on page 4 gives the dimensions for operation on 10, 15, and 20 meters. Remember to start with the 10 meter band.

### 40 METERS

The antenna length above the 20 Meter trap is the frequency adjustment for 40 below for proper tuning. Follow the steps below for proper tuning. Never cut the capacitance spokes on the rounded ends.

1. Check the resonance of the antenna on the 40 Meter band. The SWR should be at a minimum near 7 MHz or below.
2. To raise the operating frequency cut small lengths such as  $\frac{1}{4}$  inch lengths from each of the four 40 Meter spokes. Check the resonance point again.

Continue the previous steps until the desired frequency is reached.

## **80 METERS**

The 2:1 band-width on 80 meters is approximately 40KHz. The top capacitance spokes are adjusted to change the resonant frequency on 80 meters. Cutting the four upper capacitance spokes will raise the resonant frequency. Follow the steps below for proper tuning. Never cut the capacitance spokes on the rounded ends.

1. Check the resonance of the antenna on the 80 Meter band with the spokes installed. The SWR should be at a minimum near 3.5 MHz.
2. To raise the operating frequency cut small lengths such as  $\frac{1}{4}$  inch lengths from each of the four 80 Meter spokes. Check the resonance point again.

Continue the previous steps until the desired frequency is reached.

## **SERVICE INFORMATION**

If you have a problem you are unable to resolve or if you need to order replacement parts, you should contact the Hy-Gain Customer Service Department.

You should fully research your problem by going through this manual before you contact the Customer Service Department.

You should retain your sales receipt or other proof of purchase for items that are still under warranty.

All requests, inquires, warranty claims, or for ordering replacement parts, you should contact:

Hy-Gain  
308 Industrial Park Road  
Starkville, MS 39759 USA

Tel: 662-323-9538  
Fax: 662-323-6551

## **NOTES:**

## ***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, Starkville, 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.