ADJUSTMENT OF WA6TEY BEAM

The following is a step-by-step procedure of adjustment of the beam designed by Ray Frost, WA6TEY. The objective is to obtain a pattern where the one and only responce lobe is cooincident with the boom of the beam, and a good match to 50 ohm line is realized.

1) The directors are carefully cut and installed as per plan. There is no adjustment of either director.

2) Install the driven element and reflector element wires. Do not solder the wire that goes to the feed line center conductor, or the splice in the reflector at this time.

3) With the reflector splice twisted together to provide connection, adjust the parimeter of the driven element for best VSWR at 146 MHz.

4) Adjust the parimeter of the reflector element for best VSWR.

5) Repeat steps 3) and 4) until VSWR is 1.1 to 1, or better.

6) Solder the connections on the driven and reflector elements.

7) Redistribute the wire in the driven element so that there is equal amounts of wire on each of the 4 sides of the loop. This does NOT include the space that may be occupied by an insulator at the feed point.

8) Set the beam up in an open field, away from any objects that may reflect the signal or interfere with the pattern of the antenna (such as your car).

9) Place a field strength meter several wave lengths away, resting on a wooden support at the same height as the beam. Do not run wires back to the beam location to a meter at that point. Use binoculars to see the meter deflection.

10) Swing the beam to obtain a peak reading on the field strength meter. Caution: Keep your body well below and behind the beam as you swing it.

11) Once peaked, get behind the beam and sight along the boom to see which side the beam may be biased to.

12) If biased to the right (i.e. points to the right of the field strength meter), redistribute the wire of the driven element toward the right. This is done by adjusting the length of the spreaders on the left and right. If biased to the left, redistribute to the left.

13) Repeat steps 10), 11), and 12) until there is no bias, right or left.

14) Adjustment is now complete. Crimp the metal tubing that holds the spreaders, using a large diagonal cutter or other suitable tool, to form a friction hold on the wooded spreaders.