

PAC-12 Multi-band Coil Kit Assembly Instructions.

The PAC-12 multi-band coil kit is designed to replace a fixed coil in the antenna system. It provides continuous tuning from 40 meters through 10 meters. It uses a coil wound with tinned copper wire and a flying tap lead to adjust the effective inductance and thus the resonant frequency of the antenna system.

Contents:

The multi-band kit consists of:
1 PVC coil form
2 aluminum end caps
4 #8 screws and washers
3 crimp or solder lugs
1 roll of #18 tinned copper wire
1 clip lead



Assembly:

To assemble the coil kit, start by feeding the bare #18 wire through the holes at the end of the lengthwise slot along the coil form. Pass the wire into the hole through the tube and out the other side. A lug terminal should be installed on the end of the wire either by crimping or soldering the wire.



Next, install the endcaps into the PVC tube and secure with 2 screws and washers on the same side of the coil as the lengthwise slot.

A #8 screw with washer can then be inserted through the terminal end and attached to the other hole in the aluminum end cap through the coil form side.

Once the end of the wire is secured, begin winding the wire around the tube by laying it into the grooves formed by the threads cut into the coil form. Maintain tension on the wire as you wind. If you need to take a break, secure the wire temporarily with tape or other method so that the wire will not become loose.



Continue winding to the other end of the tube until you have reached the end of the threaded area of the form.

Next, cut off approximately 12 inches of wire to allow pushing it through the holes in the form and securing it with a ring terminal as was done with the first end.

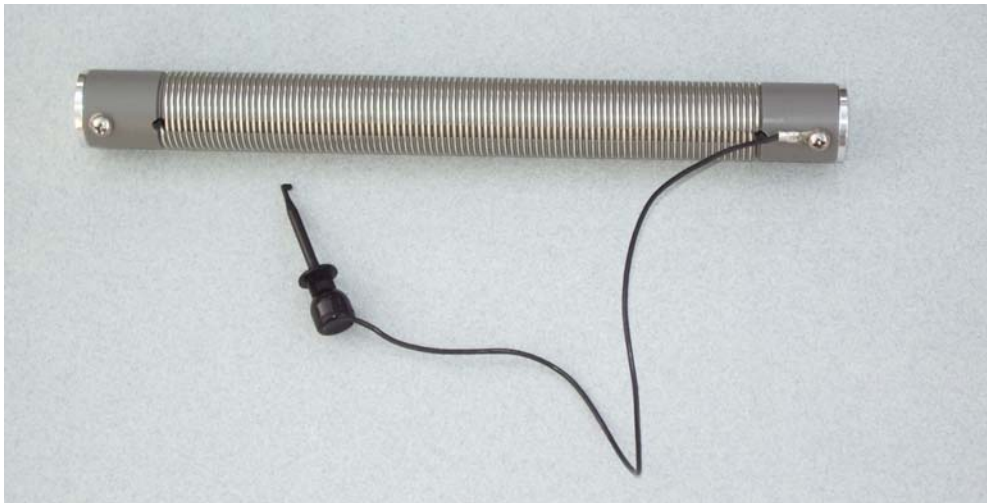
Should the wire be loose on the coil winding, you can use your hand to work it in a twisting motion to remove the slack and pull the excess at the end of the coil.

Once completed, secure the end by soldering or crimping the wire to the terminal and connect with a screw and washer.



The flying tap lead is created using the test clip lead with crimp terminal placed on the end. It is then secured under one of the screws at the end of the coil form and on the same side as the slot in the tube.

This completes the assembly of the PAC-12 multiband coil. This is how it should look when completed:

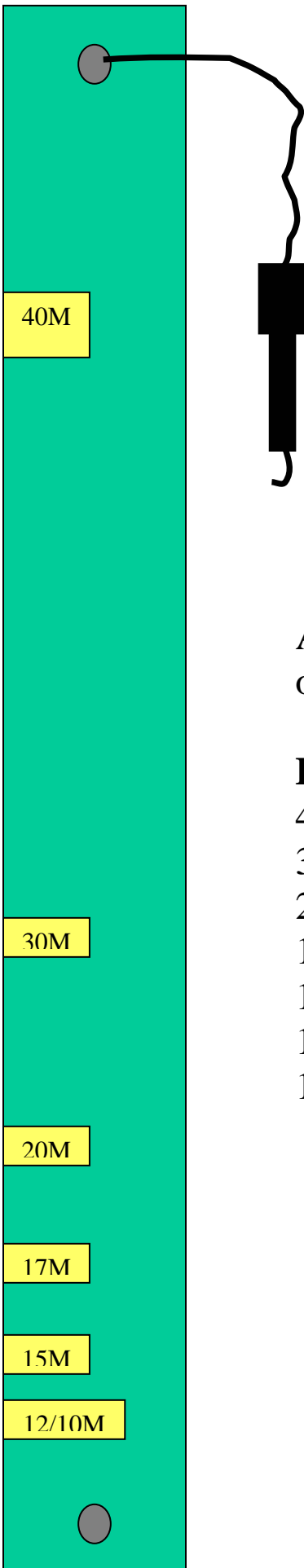


Operation:

Once assembled, the coil kit is installed into the PAC-12 antenna system just as with a regular fixed coil. It can be installed either with the tap lead up or down. The coil will cover all bands between 40M and 10M. For operation on 10M, the telescoping whip may need to be collapsed a bit as the antenna will be at or near a quarter wave without the coil.

The antenna should be tuned by moving the tap position, checking the SWR and if necessary adjusting the whip length to achieve a good match ($<2:1$). To insert the tap, grip the clip and press on the back end to expose the metal end. Align it parallel to the direction of the winding and while holding it extended, insert it between the turns of the coil in the desired area, rotate it by a quarter turn so that the metal end is under the turn and then release. Check the SWR and move up or down the coil as needed to achieve a match.

A chart and sketch are included on the next page for assistance in finding the tap points for each band. The next page can be printed and held next to the coil to aid in determining the tap location. The locations given are approximate and will vary with location.



Approximate tap points with tap lead end of the coil oriented up.

Band	Coil Tap Position
40M:	10 turns from top
30M:	57 turns from top
20M:	22 from bottom
17M:	10 from bottom
15M:	6 from bottom
12M:	1 from bottom
10M:	1 from bottom*

*1 whip section collapsed.