Moving the Station Master CB Vertical to 80 and/or 40 Metres

1) Do not change the length of the 27 MHz Station Master.

2) Remove the old 27 MHz coil.

3) We need to make the top bracket of the Station Master the same length as the bottom one. You will need a piece of aluminium sheet 80mm x 75mm x 2-3 mm. Fix in place with 3 pieces 3mm pop rivets. Fit the plate on the inside of the top bracket, which will give 280mm between ends of the bracket.

4) We need a piece of 50mm PVC pipe 280mm long. On this we need to wind the coil. The coil starts 20mm from the bottom, and we need to wind on 50 turns at 7 turns per inch. The copper wire is 2mm diameter. If you have access to a lathe, cut a groove in the wall of the PVC pipe. It's possible to wind it by hand with a small piece of rope as the spacer, taping as you go. Have fun with that!!

5) We need 4 pieces of thin sheet aluminium 50mm x 12mm. Bend one end 12mm at 90% so that you have 12mm up and 32mm flat. Pop these pieces into the end of the PVC pipe with the 12mm end fixed to the inside and the 32mm end across the bottom.

6) The coil will fit in the bracket now and pop from the top and bottom through the bracket into the holders each end of the PVC pipe. The coil needs to be 19mm from the orange pipe, which should make the PVC pipe just on the edge of the Station Master bracket.

7) Next, from the bottom where you started your coil, we need to solder a piece of plastic-covered copper wire as short as possible, and fix it to the bracket for an earth connection. I used residential builders earth wire - you know, the one that has green and yellow on the plastic cover.

8) Next, we need a piece of plastic covered copper wire from 6 turns up the coil to the middle pin of the SO-239 socket. Again as short as possible, and your best soldering technique!

9) Next, 40 turns up from the bottom - same thing. Solder in place to the coil and pop rivet the free end to the vertical element where the 27MHz coil was originally fixed.
80 metres = 40 turns
40 metres = 20 turns and so on

10) The pipe you are going to put it up on will have to be earthed and that's a must! Wind your coax feed into a choke having 10 turns close-spaced 150mm in diameter.

11) VSWR: Play only with the top wire for this. Set the antenna up as close to your eventual operating configuration as possible. Check the VSWR and move the top tap up or down one turn at a time to optimise. It should be possible to achieve nearly 1.1:1 VSWR.

12) A relay can be used to give more bands on the one antenna if you made taps for both 80 & 40 metres, or you could use a "wander lead" and banana sockets, but that will entail a trip out to the antenna base for every band change. It is possible to use an ATU for all band operation, but the performance will suffer substantially compared to a mono-band conversion.

13) When you are happy with the VSWR, silicone seal the works to keep the rain out, if you are fortunate enough to get rain, that is. ☺

Well that's about it. Hope you have fun. You'll hear me using mine on the 7055 kHz SSTV repeater. Let me know how you go. All the very best and LET US PUT SOME **FREE** HELP BACK INTO AMATEUR RADIO PLEASE??

VK4EM Merv Morrison


50mm PVC
bottom earth
of coil
50t 2mm copper
40t from bottom for 80
19mm space
6t from bottom
22t from bottom -40