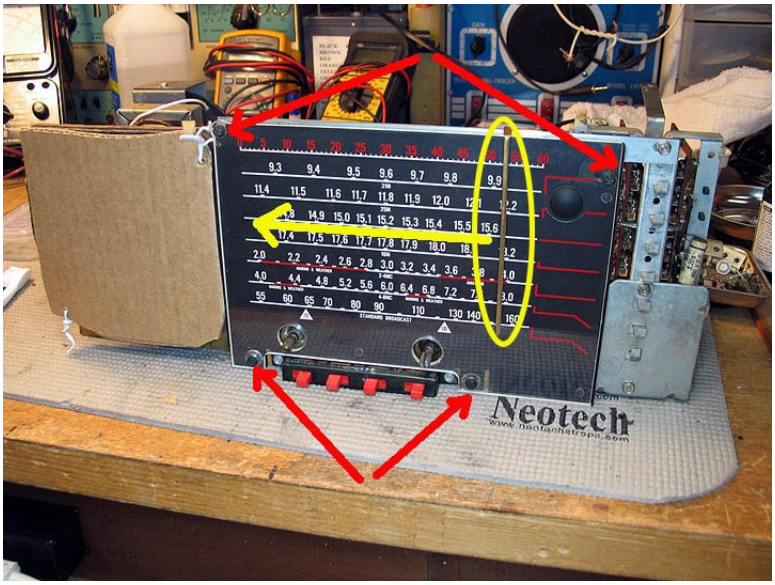
Re-Stuffing the Multi-Capacitor Can
in
600 Series Zenith Trans-Oceanics

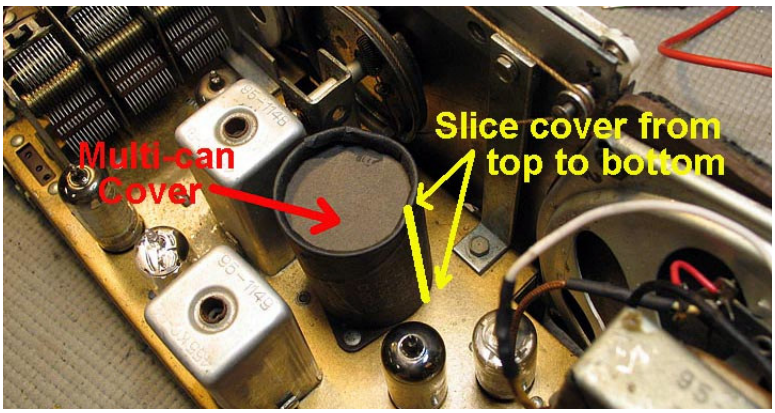
600 Series Zenith Trans-Oceanic radios have a four section multi-capacitor can located behind the dial face. When recapping the radio, it is necessary to replace these four electrolytic capacitors. The can contains a 60uF cap rated at 150 vdc, and 40uF cap rated at 150 vdc, a 20uF cap rated at 150 vdc, and a 200uF cap rated at 10 vdc.

While there is room to tack the 220uF cap under the chassis if desired, it is much simpler to cut the multi-cap can open, remove the old capacitor matrix, and replace with new, modern capacitors. There is plenty of room in the can for all four new capacitors, and you will not be disturbing any of the wiring under the chassis.

Step 1. Remove the dial face and backing plate by removing the four screws that hold the assembly in place. Move the dial pointer as far it will go to the left, then gently lift out the dial face and plate from behind the pointer.

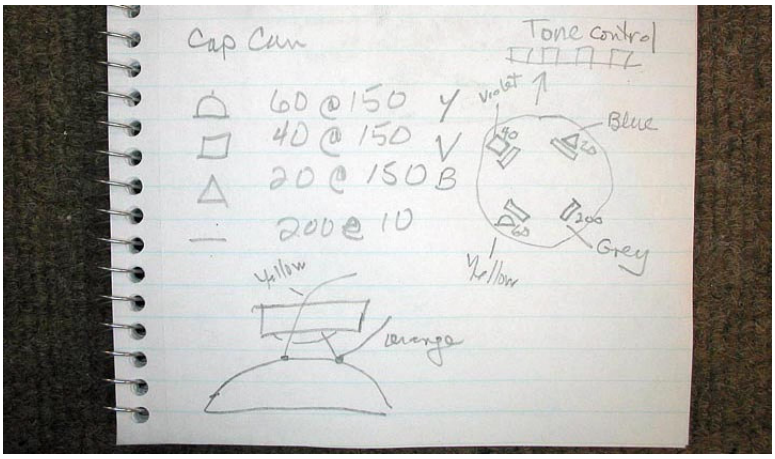


Step 2. Remove the cardboard cover from the multi-capacitor can. Sometimes heating it with a hair dryer will loosen the glue enough to remove it, but I find this seldom works. I use a sharp hobby knife to slice down the side of the cardboard cover and then pop it off.

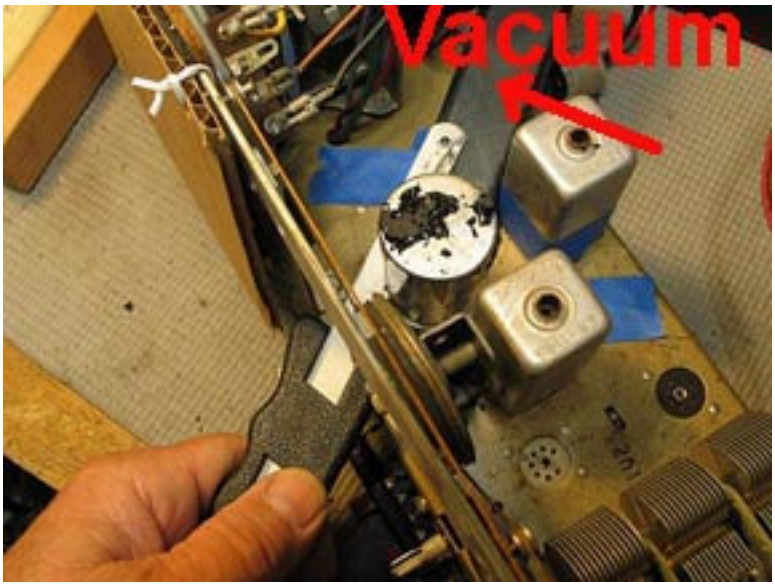


I repair the cover with masking tape, than paint the tape black. When the paint dries, the repair is virtually invisible. Avoid cutting the can where the capacitor values are embossed.

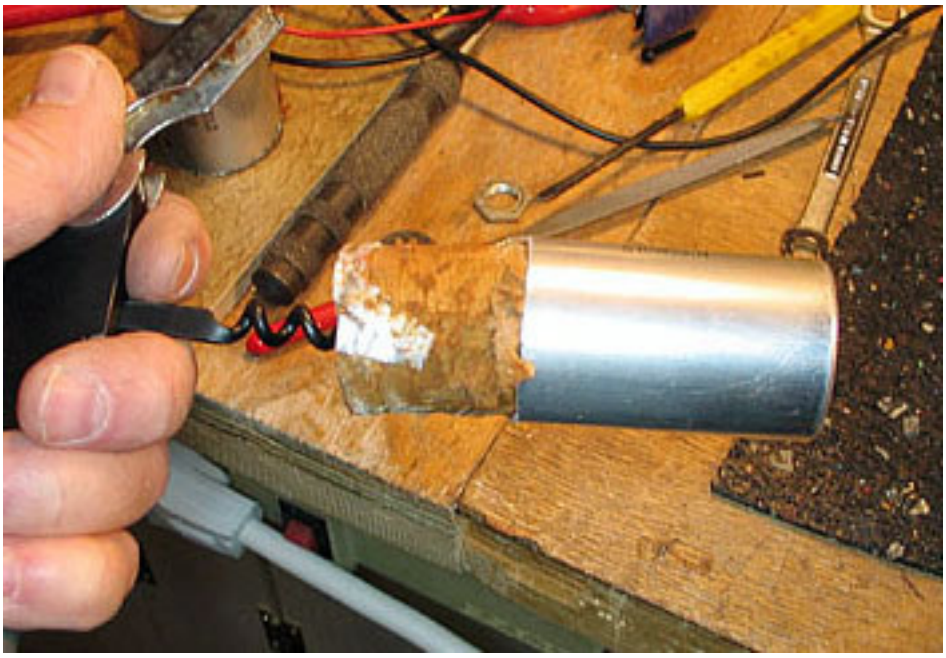
Step 3. Write down the capacitor values embossed on the can cover. Note the symbols next to each value. There will be a triangle, a square, a half circle, and a blank. These same symbols will be found next to the correct terminal under the chassis for each positive capacitor lead. Choose a color code for each lead and write it down. I use colored shrink tubing.



Step 4. With the dial removed, and the cover off, the can may now be cut off using a hacksaw blade in a handle. Use masking tape to cover tube sockets and other places where metal filings could get into the chassis. I prop a vacuum cleaner crevice tool close to the can and turn on the vacuum while I am cutting. The space is very limited, and it will take about ten minutes to cut the can using short strokes. Cut about 1" to 1-1/2" from the bottom of the can.



If you plan to re-use the upper metal part of the can, remove the old capacitor gunk with a cork screw. Since the can has a cardboard cover, I don't re-use the metal top. If you do re-use it, use a strip of metal duct tape to re-attach it to the bottom section.

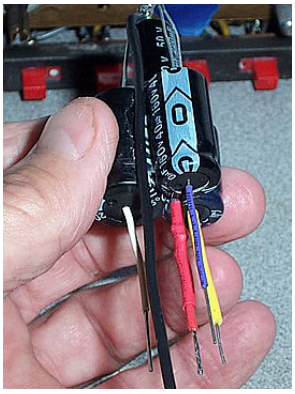


Step 5. Drill a ¼ " hole down through the center of the bottom part of the multi-capacitor can.

Step 6. Prepare the new capacitors for installation. 60uF, 40uF, and 20uF caps rated at 160 vdc are easy to find. A 22uF cap can be used in place of the 20uF if needed. For the 200uF capacitor, a modern 220uF capacitor rated at 10 volts or more is fine.

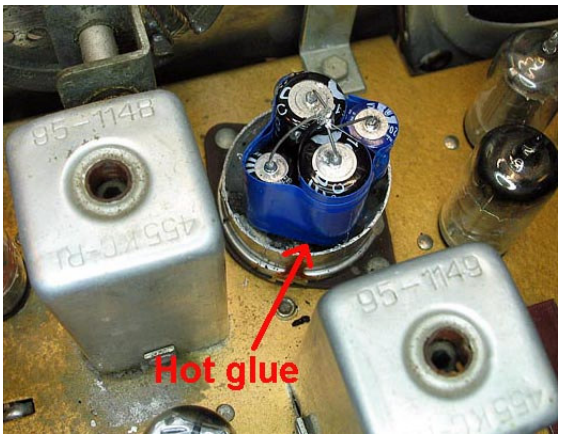
Assemble the new capacitors and tape them together with vinyl electrical tape. Solder the negative leads together, along with a black colored lead long enough to reach through the hole in the can base and under the chassis to one of the can lugs.

Slip a color length of shrink tubing over each of the four positive leads, making sure that the colors match the colors you choose in Step 3.

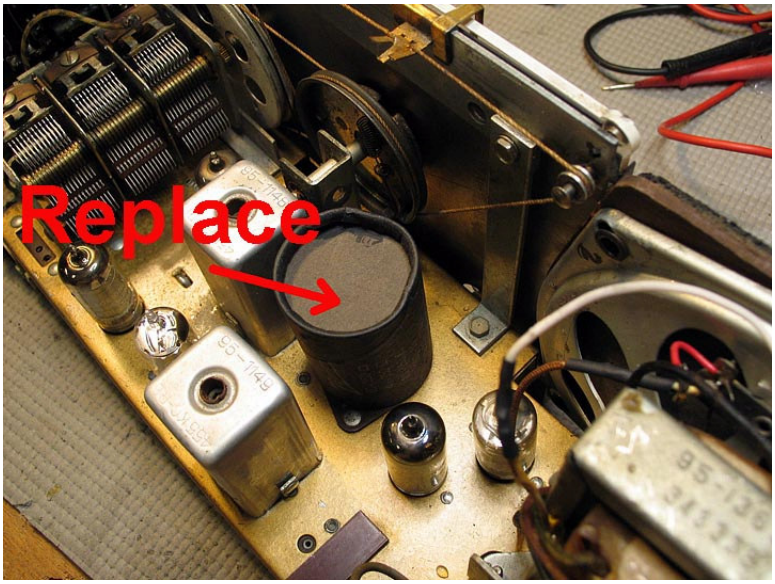


Step 7. Pass the four positive leads and the black negative lead down through the hole you drilled in the bottom of the can, and solder the four positive leads to the correct terminals. Verify the symbols next to each terminal. They may be hard to see, and a flashlight and magnifier will help. The black B- lead can be soldered to one of the can mounting lugs (but not to the radio's chassis!)

Step 8. Once the leads are soldered, double-check your work. Run some hot glue around the new capacitors from the topside of the chassis to hold them securely in place.



Step 9. Replace the cardboard cover, with the repair facing the dial plate. Re-install the dial. That's it.



The 500 Series Trans-Oceanic is very similar, but the multi-cap can is located on the rear of the chassis, so it is not necessary to remove the dial. For a step-by-step tutorial for the 500 models, see the H500 Restoration Guide pdf.