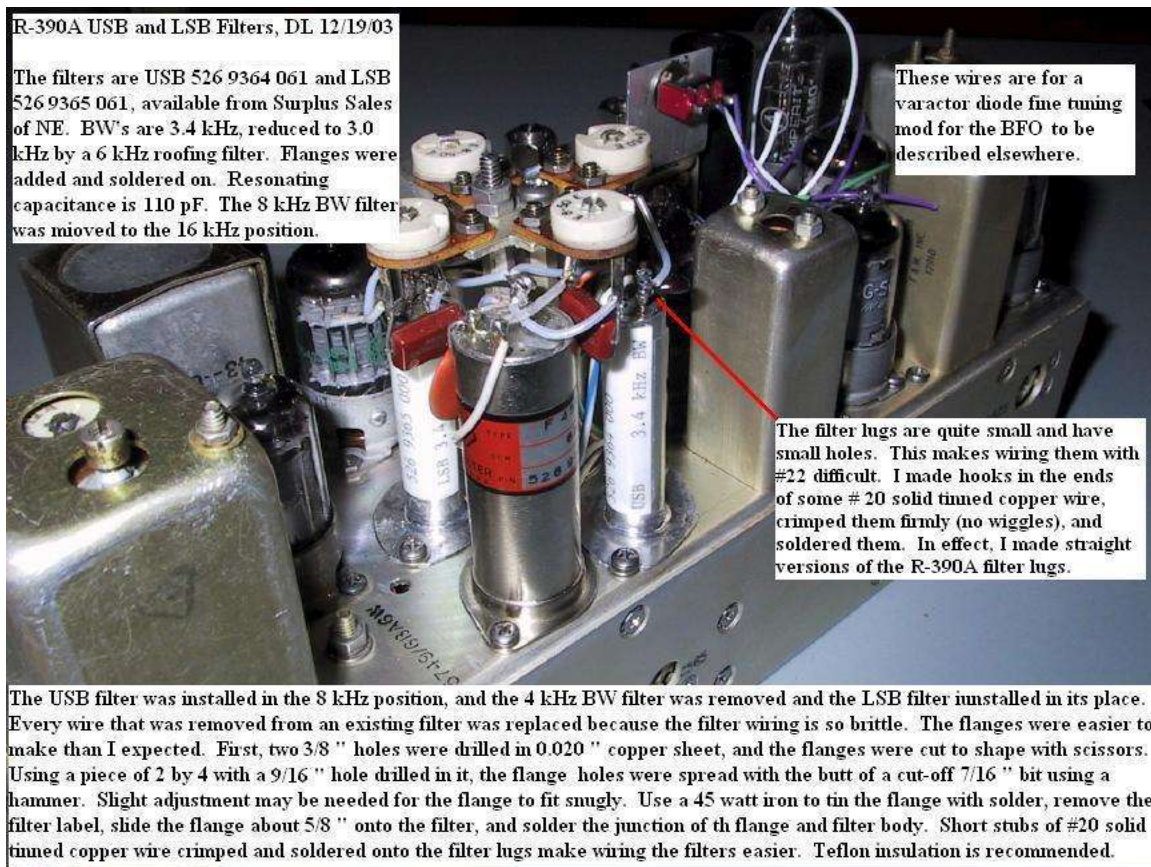


R-390A SSB Filters, I & II

Dallas Lankford, 9/5/04

About a year ago I took the photo below and inserted the accompanying text. Well, almost. The mod worked great, but there were some errors in the text, which hopefully are all corrected now. If you look closely at the photo, you will see that the filters have Collins part numbers with 000 extensions, not 061. That is not a typo. After buying the 061 filters from SSNe, I found some 000 filters on eBay. Until recently I labored under the mistaken notion that the filters were identical. But that seems not to be the case. The 000 filters require 130 pF resonating capacitors, while the 061 filters require 110 pF. This means that the 061 filters will probably not have the expected double peak if you use the existing 82 pF fixed capacitors attached to the 50 pF trimmers on the outputs, and use 82 pF fixed capacitors on the inputs. However, the single peak should tune the SSB filters correctly. Also, the USB 061 filter BW is about 3.9 kHz, much wider than the LSB at 3.4. The USB 000 filter is about 3.4, the same as the LSB. Since a 6 kHz BW roofing filter is used, it cuts off the “higher” SSB frequencies, so the BW anomaly doesn’t matter. Even if you used a 7 kHz BW roofing filter, it wouldn’t matter.



Recently I did a variation on the above mod, which is described below. In the first mod above the 4, 8, and 16 kHz BW filters were removed, the 8 kHz BW filter installed in place of the 16 kHz filter, and the USB and LSB filters installed in place of the 8 and 4 kHz BW filters respectively. That’s a lot of work. In the variation below it was desired to have 6 (6 roofing + 8)), 4, 3 (USB), and 3 (LSB) kHz BW filters, in that order. At

first it seemed that every filter would have to be removed. But then it occurred to me that if the 4 and 8 kHz BW filters were left in place, and only their inputs and outputs rewired, then only the 2 and 16 kHz BW filters would have to be removed. That is what I did.

On the top side of the filters, the "ground" wires are floated from DC ground because they are part of the AGC circuit. An RF ground is provided by a 0.01 mF capacitor attached to the 2 kHz BW filter. Since the 2 kHz BW filter has been removed, another 0.01 mF capacitor was added to the 8 kHz filter (the tan disk in the photo).

