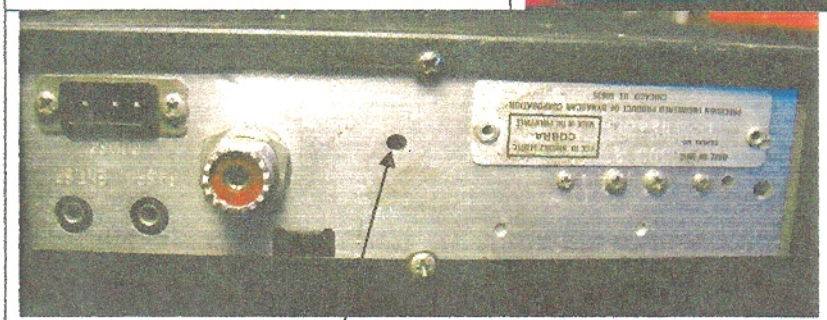
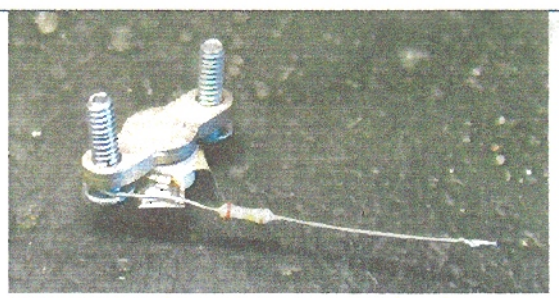
Cobra 148GTL Turbo Mod

MRF 455 Linear Final Upgrade



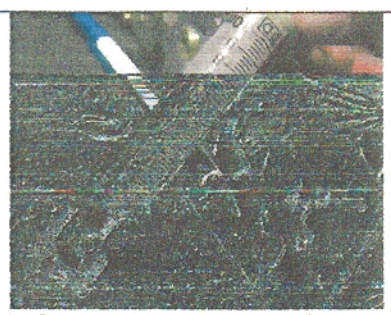
We use this mounting hole so we only have to drill one hole.

Using the final as a template I mark the spot for the second mounting hole with a center punch.

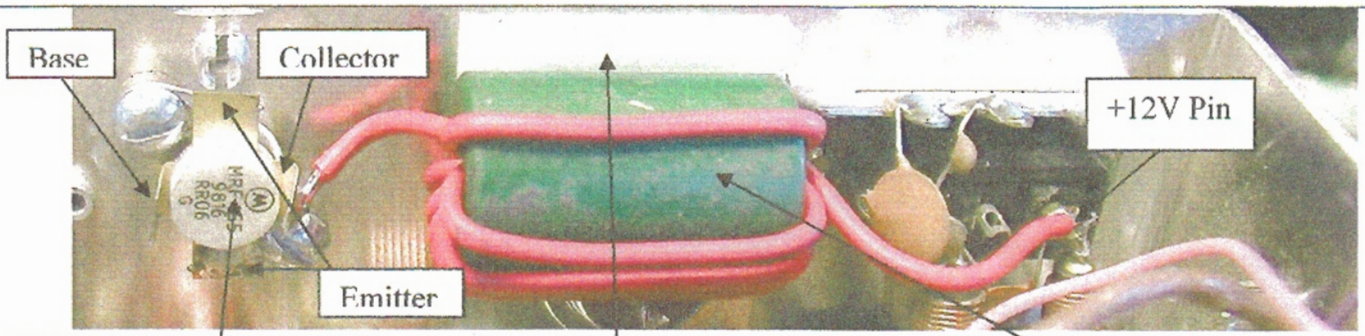


We need to install a ground wire from the mounting screw to the Emitter tabs on the final. I just use the stiff wire found on a resister bent in a U shape to go around the mounting screw.

Once you solder the ground wires and clip off the excess it should look like this.



Don't forget to apply heat sink grease.



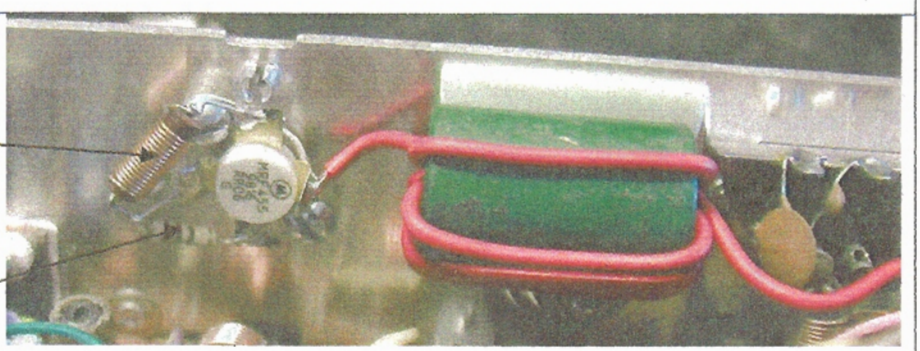
Go ahead and mount the final inside the radio oriented like this.

I used Double sided foam tape to hold the power inductor in place. This may not be a good idea because of heat built up

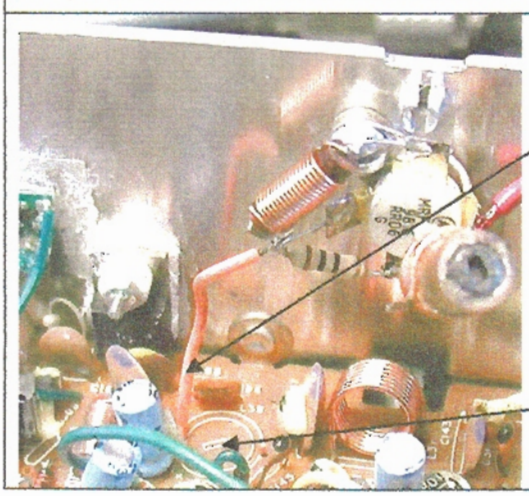
I like to use a ferrite core for the power inductor but I have seen this done with just a coil of wire and no ferrite core. I don't like that process because I believe it would add more stray RF to the internals of the radio. I use as many turns as will fit with 16 Gauge wire.

Note: ALL Brands of finals will have the emitter tab notched diagonally to make it easy to identify.

Mount an Inductor from the base of the Final to ground. Used to control bias. (Auto Bias)



10-ohm resistor mounted from base to ground. This reduces VHF spurious signals.



Install a wire from the base of the MRF455 to the left hole of L38.

Inductor L38 needs to be removed. We have to modify L38. See Next Frame

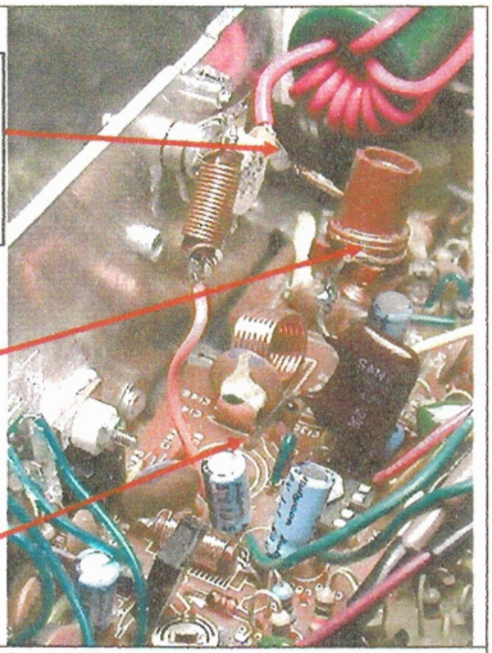
You need to remove two turns from inductor.

Solder on a 560pf Capacitor as shown.

Solder one end of inductor to Collector of final.

New Output Tuning control.

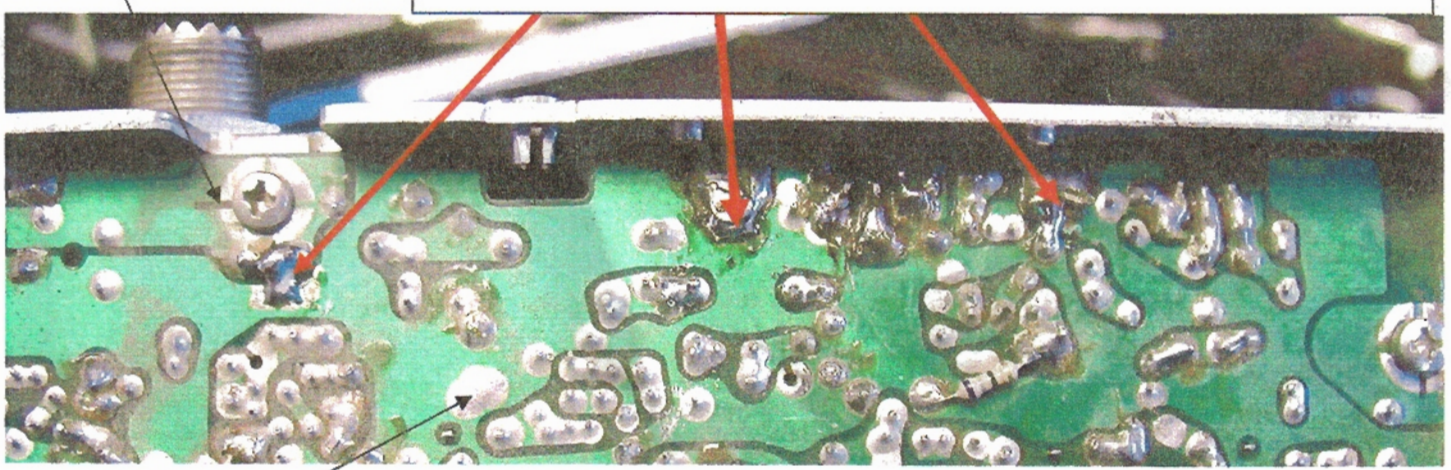
Other end of capacitor goes through old L38 hole.



Almost forgot. Because the chassis is originally floating ground the radio has to be modified to give a DC Electrical ground to the final (Mounted on the Floating Chassis Ground).

The DC Electrical Ground needs to be bridged to the Chassis ground. This must be done to supply the final with the DC Negative voltage that it requires. I use a small flat screwdriver to scrape away the green enamel to expose the bare copper. Once exposed you can use a blob of solder to bridge the grounds. NOTE: This radio will no longer work in one of those rare positive ground vehicles of the 50's and 60's once this is done.

Chassis floating ground.



DC Ground Trace Area.

If everything is done correctly, you should be ready to fire it up and do the final tuning. Set the dead key down to 6 to 10 watts and tune the slug in the Output Tuning Control for Max output. It doesn't seem to get any more complicated than that.