

CONSTRUCTION HINTS- To complete the chassis supplied with this kit, the smaller holes for screws or rivets must be added. Also, the chassis must be bent at a right angle along a line running halfway between the long sides. It is suggested for easier assembly that as much tube socket wiring as possible be completed before the variable condensers are mounted. When installing these condensers, make certain there is clearance between the rotor shafts and the chassis holes, as a short circuit will result if they contact. Likewise, if a metal screwdriver is used when tuning it can slip and ground the rotor to the chassis. This can be prevented by installing a rubber grommet or taping the edges of the chassis hole.

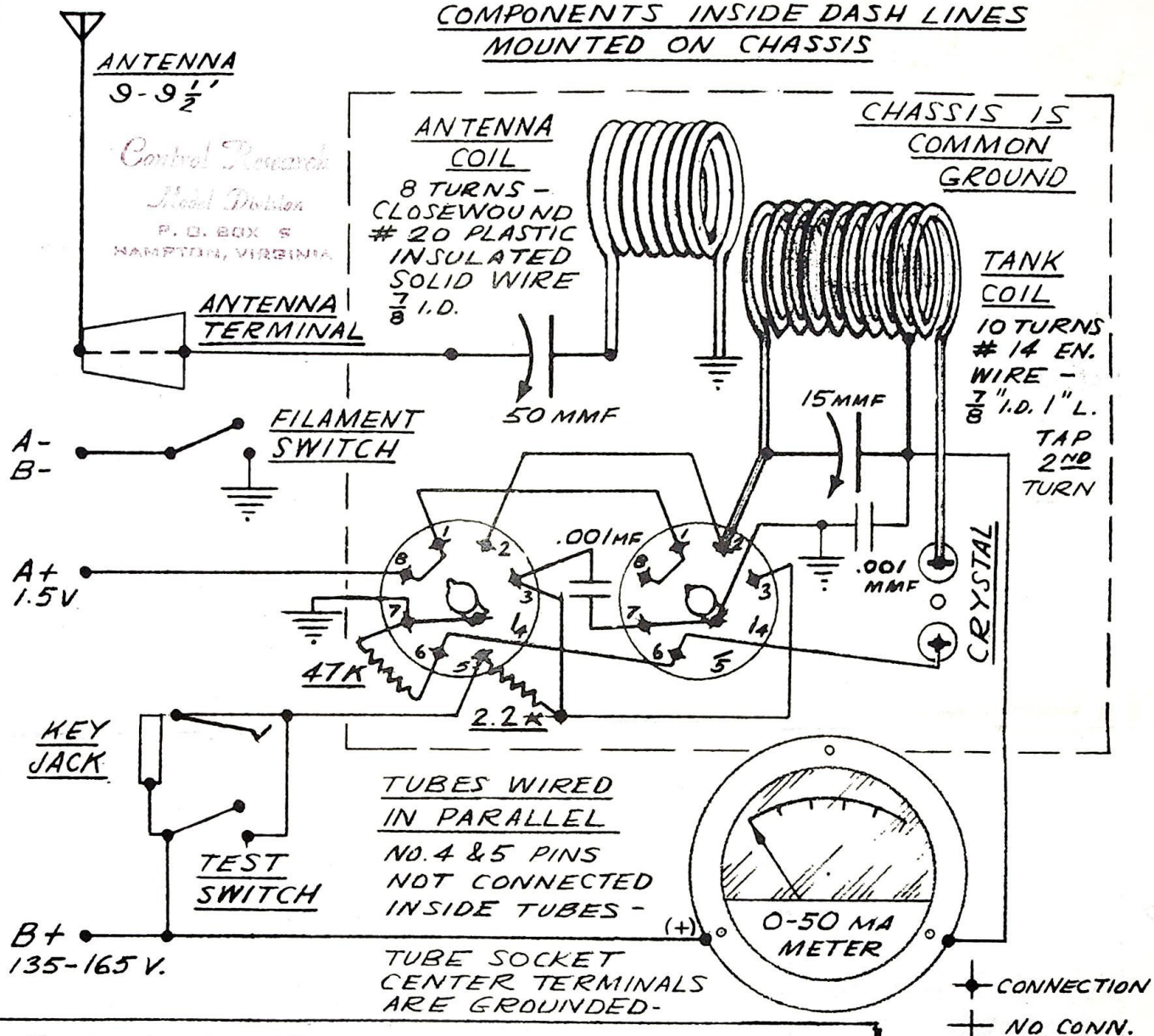
The antenna coil should be wound snugly on a $7/8$ " dia. form (not too tight as it will be difficult to remove). Dowel, a bottle, metal tubing make good forms- wind each turn right next to the other. Apply cement generously to the windings to secure them in place. When dry, remove from the form and the coil will be sufficiently stiff and self-supporting. It is important that the tank and antenna coils be firmly mounted in the relative positions shown. The coils are offset from $1/2$ to $5/8$ " on centers and spaced about $1/16$ " apart. Note, too, that the tank coil windings do not touch each other but are evenly spaced over a total length of 1".

We recommend that the coils be mounted on the condensers as shown. Clean about $1/4$ " of the enamel insulation off the tank coil at the tap position then join it with a good solder job directly to the condenser stator lug (stator refers to stationary plates; rotor refers to movable plates). Heavy wire conducts heat away rapidly-- use at least a 100 watt soldering iron and have it fully hot before attempting to solder. Tinning the wire beforehand will also help. After the tap is well soldered, carefully bend the ends of the coil wire as shown and secure with solder. The antenna coil is similarly mounted except that there is no tap position.

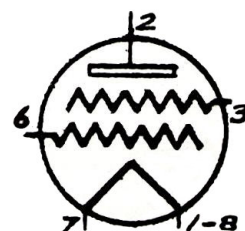
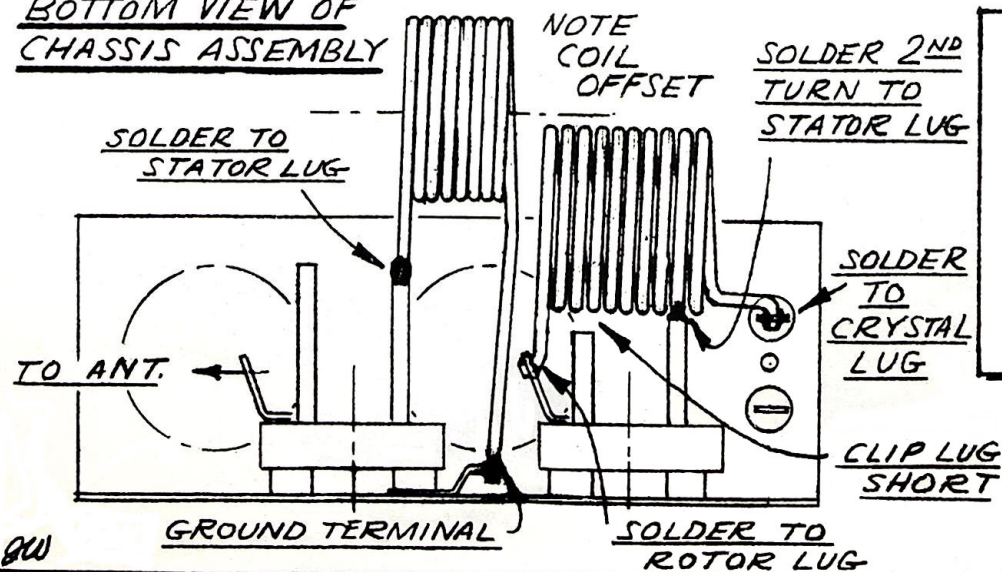
TUNING- First, without the antenna, rotate both variable condensers to minimum capacity (plates unmeshed). Connect power and close filament switch. Close key switch and observe meter reading- it should be somewhere above 20 ma. With a screwdriver (preferably non-metallic) slowly rotate the tank condenser shaft in a clockwise direction- the current should drop slowly then suddenly jump up. As soon as it jumps, turn the condenser slowly back until the current dips again, then back just a bit more so that the adjustment is not too close to the jump point. The current reading should be between 10 and 16 ma. Open key switch- operation at this low current should not be continued for more than a few seconds at a time as it causes high current flow in the crystal.

Connect antenna, then close the key- if current has not jumped up, rotate antenna condenser slowly clockwise until it does jump up. With the current high, rotate the tank condenser slowly clockwise until it dips again. However, the low current obtainable should now be a bit higher than before. Continue this process, increasing the antenna condenser clockwise adjustment each time until the current jumps, then rotating the tank condenser in the same direction to adjust for minimum dip. Each time this is done, the minimum current should be higher than before. Finally, as maximum loading is reached- somewhere between 25 and 35 ma- further rotation of the antenna condenser will show a lower dip when the tank condenser is reset. Then, back off the antenna adjustment so that the lowest current dip obtained is just below the maximum which it is possible to obtain. It is not advisable to adjust for absolute maximum as loading is then critical. By adjusting just below maximum, effects on loading from external handling will be minimized while still maintaining ample power output.

COMPONENTS INSIDE DASH LINES
MOUNTED ON CHASSIS



BOTTOM VIEW OF
CHASSIS ASSEMBLY



**3D6 INTERNAL
CONNECTIONS**

**"MAC II"
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27.255 MC.**