REPLACING COMPONENTS

REPLACING CAPACITORS, RESISTORS, & PEAKING COILS

Defective resistors, ceramic disc and wax encased paper capacitors can be replaced by either of the following methods.

1. If the leads extending from the defective components are long enough for a replacement component to be soldered to it, cut the leads where they enter the defective component. ***See Figure 1.***

2. If there is not enough length in the leads extending from the defective component to use the method described above, cut the defective component in half. Then cut through each half of the component until it is broken away from its lead. By performing this procedure carefully, enough extra lead (inside components) will be gained to permit soldering the replacement component to it. ***See Figures 2 and 3.***

Clean off the ends of the remaining lead, leaving as much of the leads as possible. Make a small loop in each lead of the replacement component and slide the loops over the remaining leads of the old component. ***See figure 4.*** Caution should be taken not to overheat the connection since the copper foil may peel or the original component lead may fall out of the panel. This is possible due to heat transfer through the leads. The lead length of the replacement part should be kept reasonably short to provide some mechanical rigidity.

In some cases, components are mounted in such a manner that neither of the above methods can be used. To replace such a component it will be necessary to completely unsolder the defective component and replace it. The following precedure should be used whenever it is necessary to unsolder any connections to replace defective components.

1. Heat the connection of the wiring side of the board with a small soldering iron. When the solder becomes molten brush away the solder. Do not overheat the connection. ***See Figure 5.*** A 60 watt bulb placed over the component side of the board will facilitate location of the connections on the wiring side since the board is translucent. In the process of removing the solder, caution must be taken to prevent excessive heating. Therefore, do not leave the iron on the connection whilst brushing away the solder. Melt the molten solder, remove the iron and quickly brush away the solder. It may require more than one heating and brushing process to completely remove the solder.

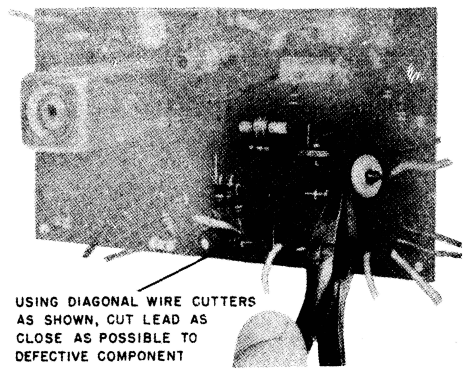

FIGURE 1. Cutting a Defective Resistor Free of the Printed Circuit Board.

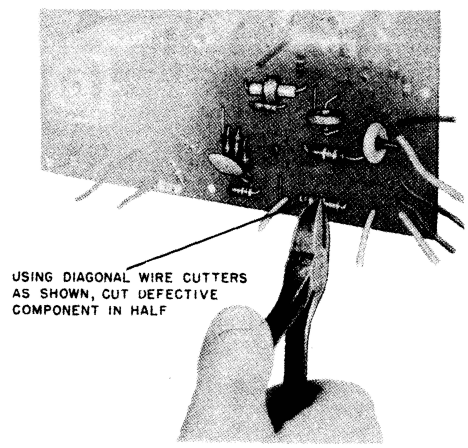

FIGURE 2. Cutting a Defective Resistor Apart so as to Have Maximum Lead Length Left.

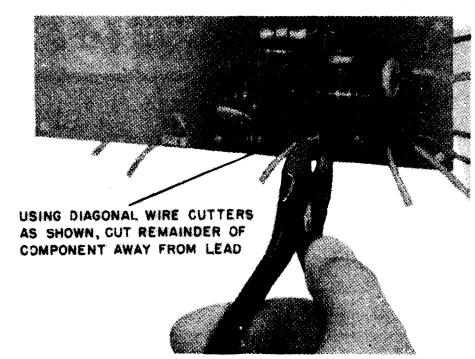

FIGURE 3. Cleaning Remaining Leads of Component That Has Been Cut Apart.