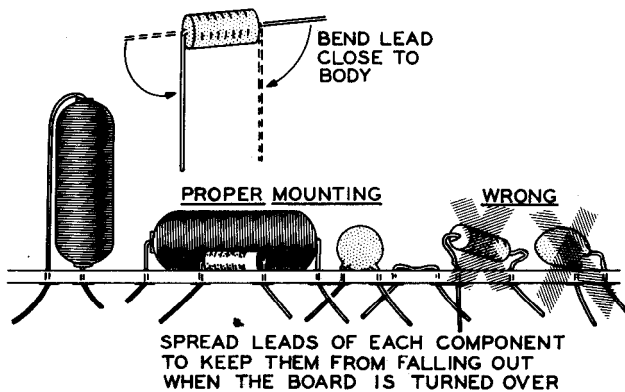


CIRCUIT BOARD WIRING AND SOLDERING

Before attempting any work on the circuit board, read the following instructions carefully and study the Figures. It is only necessary to observe the following basic precautions to insure proper operation of the unit the first time it is turned on.

Proper mounting of components on the board is essential for good performance. A good general rule to follow is that all components on the board should be mounted tightly to the board, unless instructions state otherwise. All leads should be kept as short as possible to minimize the effects of stray capacity in the wiring. Proper and improper methods of mounting are illustrated in the accompanying Figures.

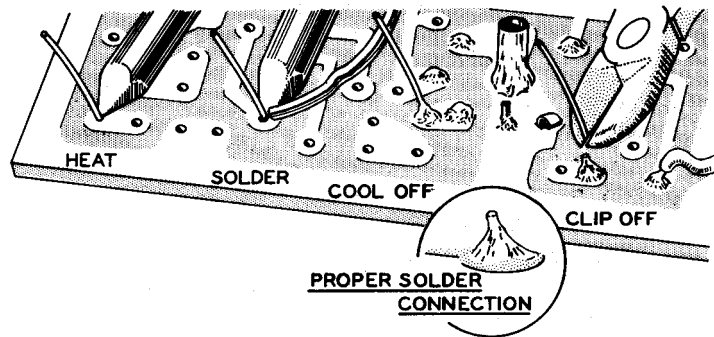


NOTE: Exercise care not to damage resistors or capacitors when bending the leads as shown.

Tubular capacitors and resistors will fit properly if the leads are bent as shown. Disc capacitors will generally fit in place with no lead preparation other than determining that the leads are straight. Components with lugs normally require no preparation unless the lugs appear to be bent, in which case they can be straightened with pliers.

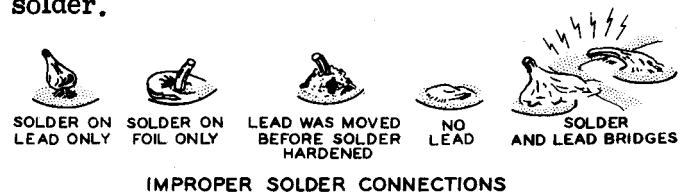
Parts should be inserted as instructed, and the leads bent outward, as illustrated, to lock them in place. When a group of parts has been installed on a circuit board, solder each lead to the foil pattern and clip off the excess wire.

The actual technique of soldering leads to a circuit board is quite simple. Position the tip of the soldering iron so that it firmly contacts both the circuit board foil and the wire or lug



to be soldered, as shown. The iron should be held so that solder is not likely to flow to adjacent foil conductors or connections. The solder should immediately be placed between the iron and the joint to be soldered. Remove the length of solder as soon as its end begins to melt and flow onto the lead and foil. Hold the tip of the iron in place only until the solder begins to flow outward over the foil; then remove the iron quickly.

Avoid overheating the connection. A soldering pencil or small iron (approximately 25 watts) is ideal for use in circuit board work. If only a high wattage iron or soldering gun is available, precautions must be taken to avoid circuit board damage due to overheating and excess solder.



The use of excessive amount of solder will increase the possibility of bridging between foil conductors or plugging holes which are to be left open for wires which may be added later on. If solder is accidentally bridged across insulating areas between conductors, it can be cleaned off by heating the connection carefully and quickly wiping or brushing the solder away with a soft cloth or clean brush. Holes which become plugged can be cleared by heating the area immediately over the hole while gently pushing the lead of a resistor through the hole from the opposite side, and withdrawing the lead before the solder rehardens. Do not force the lead through; too much pressure before the solder has time to soften may separate the foil from the board.