

IMPROVED PICTURE TUBE REPLACES TYPE 21EAP4

parison is found from looking at failures of single and double section tubes (double triodes and the like). In 1959-1960 the average percent failures per 1000 hours was 2.3% for single section tubes and 1.6% for double section tubes. Realizing that among the single section tubes are such tubes as horizontal amplifiers, dampers, and high and low voltage rectifiers, a second comparison is made deleting these types. This time the average failure rate per 1000 hours was 1.6% for both single and double section tubes. From this we may

conclude that set life may not be adversely affected by the use of double section tubes.

Transformer powered sets and series heater string sets have also been compared. The comparison here was based on set survival at 1500 hours. The testing periods ending in 1955 and 1956 showed the series string sets to have a longer life than transformer powered sets. However, since that time there has been no significant difference between the two kinds of receivers.

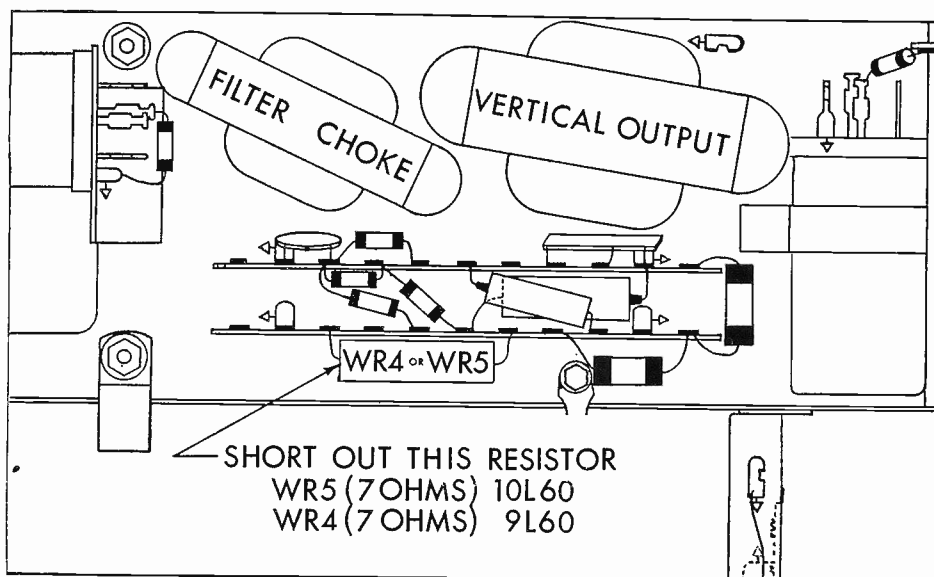


Figure 1

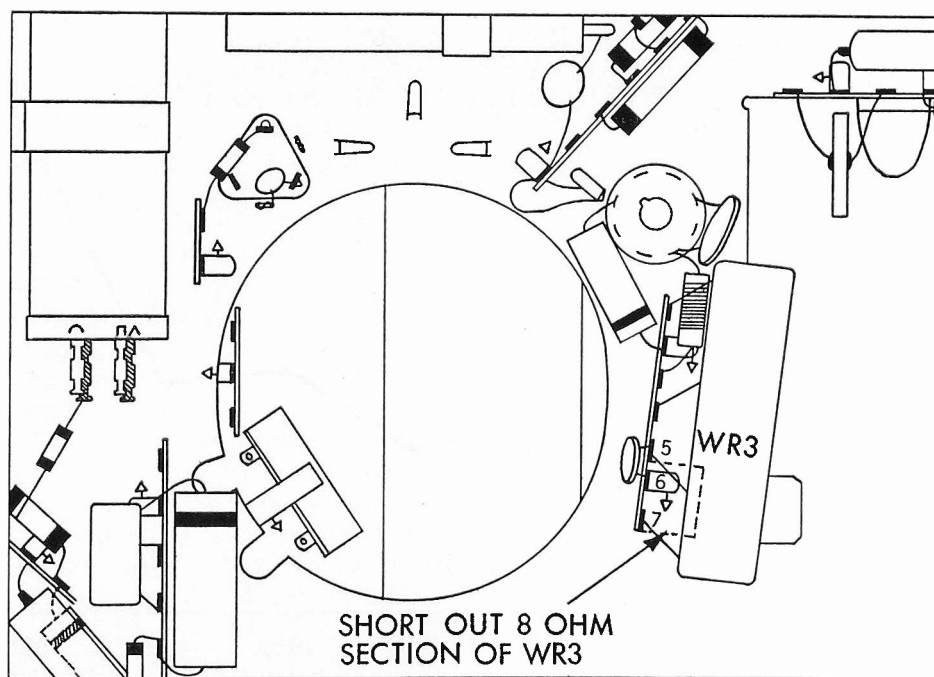


Figure 2

Type 21FDP4, a picture tube featuring longer life through improved design characteristics, is now being recommended as the replacement for type 21EAP4.

To effect the use of this improved tube, and thus reduce servicemen's call-backs and in-warranty replacements, minor circuitry modifications are required. The 21FDP4 employs a 6.3 volt, 600 ma. heater instead of the 2.35 volt, 600 ma. design used in the 21EAP4. Complete instructions for the minor circuitry modification involved, a caution note, and a TV receiver conversion warning label are packaged with each 21FDP4.

Briefly, replacement of the 21FDP4 for the 21EAP4 is as follows: For parallel wired Philco chassis 9L60, 9L60U, 10L60, and 10L60U, the filament dropping resistor shown in Figure 1 is shorted out. For series string heater Philco chassis 9L37, 9L37U, 9L38, 9L38U, 9L38A, and 9L38AU, the 8 ohm section of WR-3, illustrated in Figure 2 is shorted out.

The last step in making the 21FDP4 replacement, is to affix the warning label to the TV set near the serial number and tube layout diagram. The label notifies future servicemen, that "This TV receiver has been modified for use with a type 21FDP4 cathode ray tube."