

ALIGNING PROCEDURE---AUTO RADIO MODELS

ALIGNING PROCEDURES

All padding adjustments are carefully made at the factory and ordinarily no readjustments are necessary. However, when readjustments are required, the procedure given below must be followed in detail.

EQUIPMENT

Fully charged heavy duty storage battery or 6 volt power pack, 077 or 177 Philco Signal Generator, 027 Philco Vacuum tube voltmeter and set tester or audio output meter, 45-2610 Padding screw driver.

VACUUM TUBE VOLTMETER

The Model 027 Vacuum tube voltmeter is an extremely sensitive and accurate test instrument and is recommended for use when aligning and adjusting auto radios. Connect the negative (—) terminal of the Vacuum Tube Voltmeter to the high side (ungrounded side) of the volume control. Connect the positive (+) terminal to the radio housing. Connect the "AC" cord to a 110 volt AC socket. Press the VTVM button and the 10 volt button. Turn the "Set Zero Ohms—VTVM" control clockwise until a click is heard. Allow the tubes to heat up for a few minutes. Short the 150 meg. VTVM terminals and adjust the "Set Zero 150 meg." control until the meter reads zero on the 0-10 range scale (bottom scale): The needle will deflect from left to right.

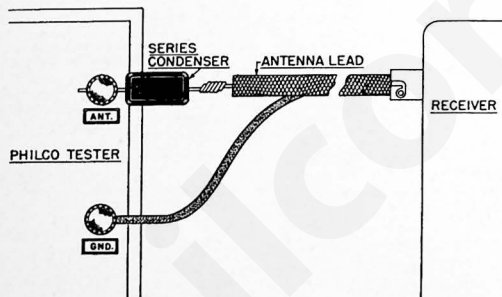


FIGURE 1

AUDIO OUTPUT METER

If an audio output meter is used, connect the leads across the voice coil of the speaker. Use the 0-30 volt scale.

With the Radio and signal generator set up for operation at the prescribed frequency, turn the Radio volume control on full and set the signal generator attenuator so that a half scale reading is obtained on the meter. The signal in the speaker should be audible but not loud.

The shielding on the generator output lead must be connected to the Radio housing.

GENERAL

When adjusting the aerial stage of a Philco Auto Radio Receiver on the test bench, the correct dummy aerial, specified for that particular Model, must be used. Figure 163 shows the construction and the connection of the dummy aerial as used with practically all Models. Exceptions to this are listed in the adjustment procedure when required. Complete information for properly adjusting each Model is listed on the following pages.

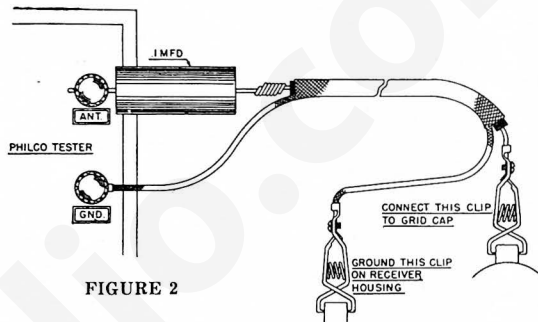


FIGURE 2

When the aerial stage adjustment is made with the Receiver installed in a car, the Receiver aerial lead must be connected to the car aerial in the usual manner. The signal generator output lead should be connected to a wire placed near the car aerial but not connected to it.

This procedure should be followed when adjusting the aerial stage in any Philco Auto Radio Receiver.

Some of the later Philco Auto Radios have an additional aerial compensator which is used to match the aerial stage of the Receiver to the car aerial. This compensator must be adjusted after the radio is installed in the car and connected to the car aerial. Follow the special Receiver Installation Instructions regarding this compensator.

DUMMY AERIAL

The dummy aerial consists of the standard Philco aerial lead, Part No. 41-3191 and a series condenser, connected as shown in Fig. 1. The value of the condenser varies with the different radio models, and is given in the special adjustment procedure. The proper condenser must be used in order to make the correct adjustments.

There are a few exceptions to this construction of the aerial. These exceptions are covered individually where referred to in the adjusting procedure.

DUMMY CAPACITY

The .1 mfd. condenser referred to in the adjustment procedure under the heading "Dummy Capacity" is a blocking condenser in the lead connecting the signal generator output to the grid of the I. F., oscillator and R. F. tubes. Use this dummy capacity as directed and as shown in Figure 2 above.