

PHILCO AUTO RADIO Model 938K

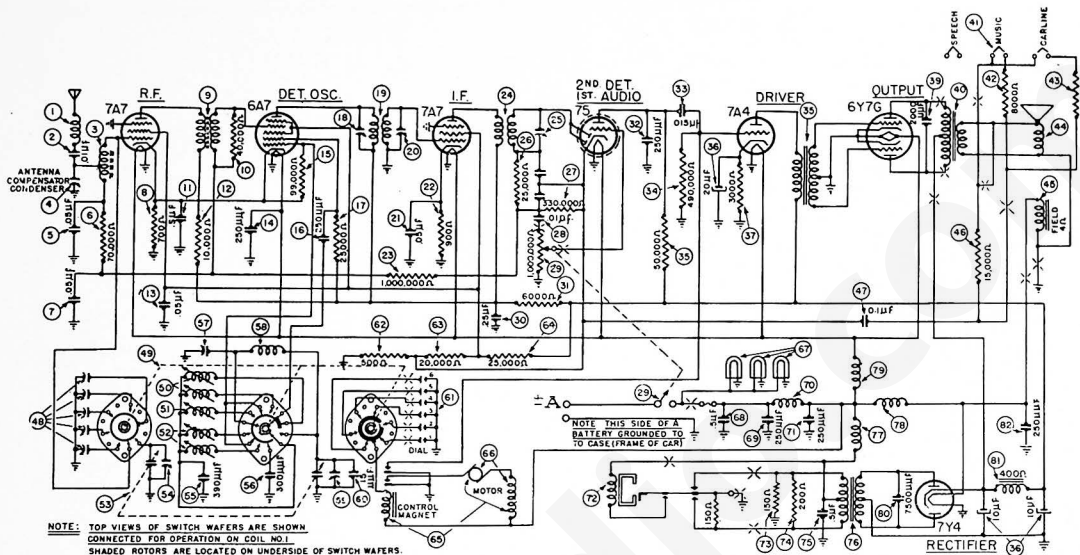


FIGURE 1

MODEL 938K PARTS LIST

| No. | Description | Part No. | No. | Description | Part No. |
|-----|---|---------------------|-----|-------------------------------------|------------|
| 1 | Antenna Choke | 77-0161 | 29 | Resistor (15,000 ohms) | 33-315337 |
| 2 | Condenser (.01 mfd.) | 30-1479 | 30 | Condenser (.1 mfd.) | 30-4122 |
| 3 | Antenna Transformer | 65-0083 | 31 | Antenna Padder Assembly | 77-0172 |
| 4 | Antenna Compensator | 31-6248 | 32 | Wafer Switch | 77-0207 |
| 5 | Condenser (.05 mfd.) | 30-4444 | 33 | Oscillator Transformer (High Freq.) | 65-0088 |
| 6 | Resistor (70,000 ohms) | 33-370257 | 34 | Oscillator Transformer (Med. Freq.) | 65-0089 |
| 7 | Condenser (.05 mfd.) | 30-4444 | 35 | Oscillator Transformer (Low Freq.) | 65-0090 |
| 8 | Resistor (700 ohms) | 33-170438 | 36 | Tuning Condenser | 63-0016 |
| 9 | R. F. Transformer | 65-0009 | 37 | First Padder (on Tun. Cond.) | 61-0031 |
| 10 | Resistor (40,000 ohms) | 33-340257 | 38 | Silver Cap Condenser (300 mmfd.) | 61-0003 |
| 11 | Condenser (.5 mfd.) | 30-4565 | 39 | Low Frequency Padder | 31-6230 |
| 12 | Resistor (10,000 ohms) | 33-310337 | 40 | Oscillator Transformer | 65-0052 |
| 13 | Condenser (.05 mfd.) | 30-4569 | 41 | Second Padder (on Tun. Cond.) | 61-0038 |
| 14 | Condenser (250 mmfd.) | 61-0053 | 42 | Station Selector Assembly | Part of 43 |
| 15 | Resistor (99,000 ohms) | 33-399337 | 43 | Resistor (500 ohms) | 33-150438 |
| 16 | Condenser (250 mmfd.) | 61-0034 | 44 | Resistor (20,000 ohms) | 33-320337 |
| 17 | Resistor (25,000 ohms) | 33-325337 | 45 | Resistor (25,000 ohms) | 33-325447 |
| 18 | Padder (Pri. 1st I. F. Trans.) | 65-0044 | 46 | Motor and Relay Assembly | 77-0026 |
| 19 | First I. F. Transformer | 65-0044 | 47 | Motor | 83-0001 |
| 20 | Condenser (.05 mfd.) | 30-4444 | 48 | Pilot Lamp | 34-2040 |
| 21 | Resistor (900 ohms) | 33-190438 | 49 | Condenser (.5 mfd.) | 30-4474 |
| 22 | Resistor (1,000,000 ohms) | 35-10257 | 50 | Condenser (250 mmfd.) | 61-0033 |
| 23 | Second I. F. Transformer | 65-0045 | 51 | "A" Choke | 65-0057 |
| 24 | Padder (Sec. 1st I. F. Trans.) | 65-0045 | 52 | Condenser (250 mmfd.) | 61-0033 |
| 25 | Resistor (25,000 ohms) | 33-325257 | 53 | Vibrator | 41-3398 |
| 26 | Resistor (330,000 ohms) | 33-433337 | 54 | Resistor (150 ohms) | 33-115337 |
| 27 | Condenser (.01 mfd.) | 61-0014 | 55 | Resistor (200 ohms) | 33-120347 |
| 28 | Volume Control (1,000,000 ohms and On-Off Switch) | 33-5268 and 30-4448 | 56 | Condenser (.5 mfd.) | 30-4565 |
| 29 | Condenser (.25 mfd.) | 30-4448 | 57 | Power Transformer | 65-0095 |
| 30 | Resistor (6,000 ohms) | 33-260337 | 58 | Vibrator Choke | 32-2537 |
| 31 | Condenser (250 mmfd.) | 30-1032 | 59 | Choke | 32-1374 |
| 32 | Condenser (.015 mfd.) | 30-4515 | 60 | Flament Choke | 65-0057 |
| 33 | Resistor (490,000 ohms) | 33-449337 | 61 | Condenser (7,500 mmfd.) | 30-4567 |
| 34 | Resistor (50,000 ohms) | 33-351337 | 62 | Filter Choke | 65-0092 |
| 35 | Filter Condenser (110-120 mfd.) | 61-0028 | 63 | Condenser (250 mmfd.) | 61-0033 |
| 36 | Resistor (3,000 ohms) | 33-230337 | 64 | Resistor (150 ohms) | 33-115337 |
| 37 | Input Transformer | 65-0097 | 65 | Call Letter Kit | 81-0088 |
| 38 | Condenser (2,000 mmfd.) | 30-4177 | 66 | Automatic Tuning Unit | 77-0204 |
| 39 | Output Transformer | 65-0095 | 67 | Tuning Control (Manual) | 85-0060 |
| 40 | Automatic Station Selector and Reception Control | 77-0204 | | | |
| 41 | Resistor (8,000 ohms) | 33-280337 | | | |
| 42 | Resistor (2,000 ohms) | 33-220337 | | | |
| 43 | Cone and Voice Coil Kit | 45-2053 | | | |
| 44 | Field Coil Assembly | Not Replaceable | | | |

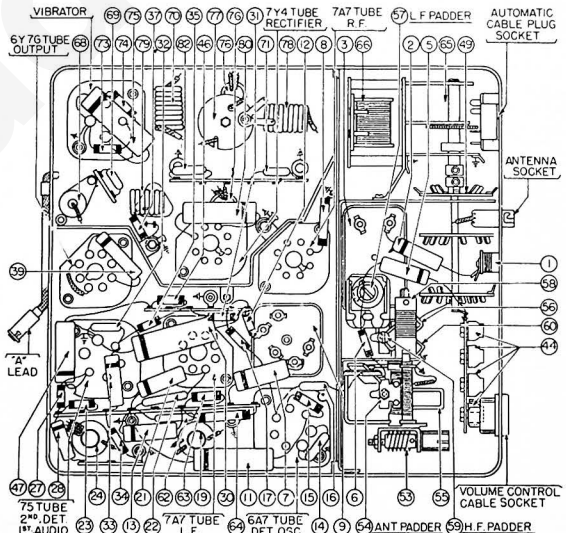


FIGURE 2

| No. | Description | Part No. | No. | Description | Part No. |
|-----|----------------------------------|----------|-----|----------------------|----------|
| 1 | Bracket (Automatic Control Mtg.) | 57-0638 | 27 | Car Line Knob | 27-7731 |
| 2 | Fuse | 33-1196 | 28 | Fuse Insulator | 27-7729 |
| 3 | Distributor Resistor | 30-1007 | 29 | "T" Bolt (Rec. Mtg.) | 28-6161 |
| 4 | Interference Condenser | 55-0304 | 30 | Nut (Rec. Mtg.) | W518 |
| 5 | Dial Tuning & Volume Knob | 27-4689 | 31 | Stud (Speaker Mtg.) | 0122 |
| 6 | Speech Knob | 27-4733 | 32 | Nut (Speaker Mtg.) | W554 |
| 7 | Music Knob | 27-4732 | 33 | Call Letter Kit | 81-0088 |

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MODEL 938K — ADJUSTMENTS

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 — Storage Battery (fully charged) or a 6 volt power pack. Signal Generator such as Philco Models 077 or 177. Vacuum tube Voltmeter and Circuit Tester, Philco Model 027. In addition a padding screw driver, Philco Part No. 45-2610.

General — The output meter must be connected by means of an adapter to the plate of the type 6Y7G output tube and to the Radio chassis.

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 output 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.

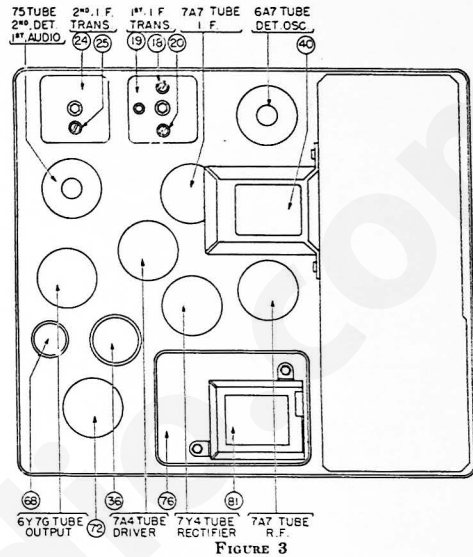


FIGURE 3

| OPERATION | SIGNAL GENERATOR | | DUMMY CAPACITY | SPECIAL INSTRUCTIONS | ADJUST PADDER |
|-----------|---|--------------------------------|----------------|--|---------------|
| | FREQUENCY | CONNECTION | | | |
| | PRESS THE RETURN TO DIAL BUTTON UNTIL STATIONS CAN BE TUNED IN BY MANUAL TUNING. ADJUST THE ANTENNA COMPENSATOR ① TWO TURNS FROM TIGHT. | | | | |
| 1 | | | | | |
| 2 | 470 K.C. | To Grid of 6A7 Tube | .1 Mfd. | Turn Tuning Condenser Plates Out of Mesh as Far as They Will Go. | ② ③ ⑬ |
| 3 | 1580 K.C. | To Antenna Receptacle on Radio | See Note 1 | Note 2 | ⑭ |
| 4 | 1400 K.C. | To Antenna Receptacle on Radio | See Note 1 | Set Tuning Condenser at 1400 K.C. | Note 4 ⑮ |
| 5 | 580 K.C. | To Antenna Receptacle on Radio | See Note 1 | Set Tuning Condenser at 580 K.C. | Note 3 ⑯ |
| 6 | 1580 K.C. | To Antenna Receptacle on Radio | See Note 1 | Note 2 | ⑰ |
| 7 | 1400 K.C. | To Antenna Receptacle on Radio | See Note 1 | Set Tuning Condenser at 1400 K.C. | Note 4 ⑱ |
| 8 | 1200 to 1400 K.C. | Note 5 | Note 5 | Note 5 | ① |

Make all adjustments for maximum reading on the output meter.

NOTE 1 — Connect the antenna lead, Part No. 41-3191, to the antenna receptacle in the radio. Connect a 50 Mmfd. Condenser in series between the signal generator and the antenna lead.

NOTE 2 — Turn the condenser rotor plates completely out of mesh as far as they will go.

NOTE 3 — Rock the tuning condenser while adjusting the low frequency padder. Tune the condenser to the signal and adjust the padder for maximum output. Rotate the tuning condenser back and forth slightly for maximum output. Then readjust the padder for maximum output. Repeat this procedure until no further improvement is noticed.

NOTE 4 — When the antenna stage adjustment is made with the Radio installed in the car, the Radio antenna lead must be connected to the car antenna in the usual manner. Connect the signal generator output lead to a wire placed near the car antenna but not connected to it.

NOTE 5 — When installing the radio in the car, follow the installation instructions carefully. Tune in a weak broadcast signal between 1200 and 1400 Kilocycles on the control scale. Remove the plug button on the end of the radio and adjust the antenna compensator ① (See Figure 2) for maximum signal.