

PHILCO TRANSITONE SERVICE BROADCAST

MARCH, 1934

CHRYSLER • DODGE • PLYMOUTH • CAR RADIO

The Model "CGD" is a custom built radio which is made exclusively for the Chrysler Corporation and its various car divisions and which is sold only through their dealer organizations.

The Receiver and controls are specially designed for installation in the 1934 Chrysler Six Models CA and CB, the Dodge Models DR and DS and the Plymouth Models PE and PF. Many of these cars will be equipped at the car factory with the Philco custom built radio. In many others, the installation will be made by you in your service stations.

Don't file this "Service Broadcast" in your Office. The men in your service station must know how to install and service these radios if you expect to get your share of this profitable installation and service work.

Carefully unpack the cartons and check the contents with the material packing lists. Examine the parts and compare them with illustrations given in these instructions so that you may become familiar with them and thus make the installation easily and quickly.

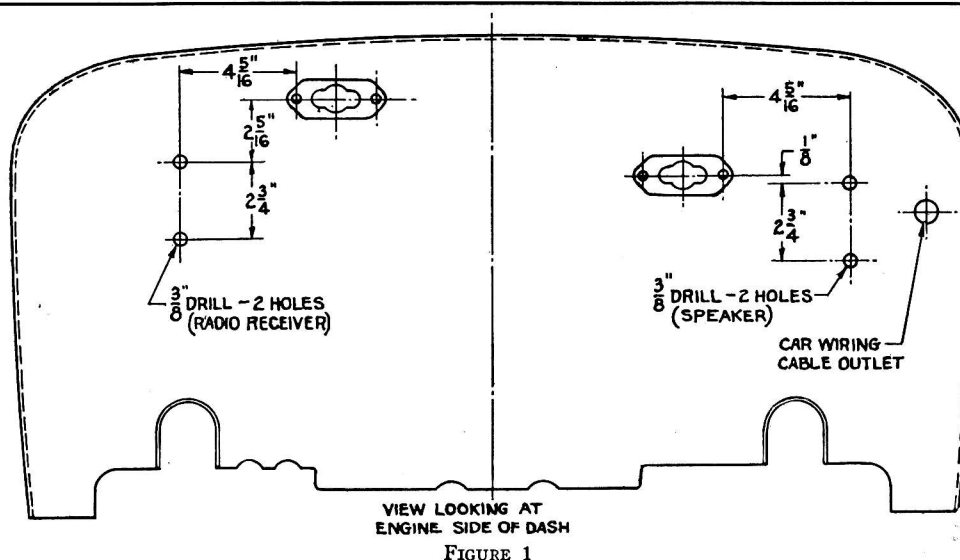


FIGURE 1

Receiver and Speaker Installation

Refer to Figure 1, which gives detailed dimensions for the location and drilling of the holes in the dash. Remove the paint from the dash for $\frac{3}{4}$ " from around the holes to insure good ground contact after drilling. All dimensions are shown from the engine side of the dash. After drilling the holes, bolt the two (2) mounting brackets to the inside of the dash, using both the flat and the lockwashers under the nuts. The left-hand bracket (over the steering column) is for the speaker unit; the right-hand bracket is for the Receiver.

Remove the car wiring cable outlet grommet cap on the left-hand side of the dash, so that the battery cable can be installed. Push the metal fuse housing end of the cable through the grommet from the engine side, leaving just enough slack so that the cable can be connected and fastened in place as shown in Figure 4. Route the cable through the clip that holds the car wiring harness and along under the floor boards to the battery. Replace the grommet and cap, but do not connect the cable terminal to the battery terminal at this time.

The Receiver mounting plate must be fastened to the Receiver housing, using the four (4) self-tapping screws. Four (4) holes are provided for these screws in the side of the housing. To fasten the speaker mounting plate to the speaker, first remove the four (4) hex-head machine screws from the back of the speaker. Use these same four (4) screws to fasten the mounting plate to the back of the speaker. Figures 2 and 3 show the correct positions of the brackets

and mounting plates. Hang the Receiver on its bracket and fasten it securely with the hex-head retaining screw at the bottom of the plate.

Before installing the speaker, remove the car wiring fuse on ammeter. To get the speaker in place turn it sideways with the back against the left front kick pad. Then slide it in between the kick pad and the steering column. Push the clutch pedal down to get sufficient clearance and then turn the speaker around over the steering column with its back against the dash. Hang the speaker in place on its bracket and fasten it securely with the hex-head retaining screw at the bottom of the plate. The battery cable must be placed over top of speaker.

Connect the interconnecting cable to both the Receiver and the Speaker, the six (6) hole plug connecting to the Receiver and the four (4) hole plug to the Speaker. The shield terminals at the cable ends must be grounded under their respective ground terminal screws on the Receiver and Speaker housings, shown in Figures 2 and 3. Ground the pigtail in the center of the cable to the dash, using the hole that holds the dash lining retainer and the 8-32 screw.

The antenna lead branches out of the interconnecting cable near the Receiver. Place this lead over the top of the Receiver, splice, and tape it to the antenna lead-in as close as possible to where the lead-in leaves the front right windshield pillar. Cut off excess car

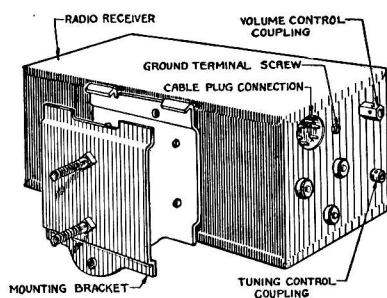


FIGURE 2

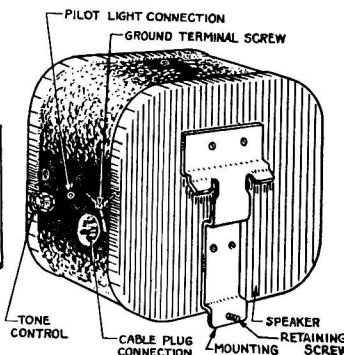


FIGURE 3

lead-in. The shielding must be grounded to the cowl panel by drilling a $\frac{1}{8}$ " hole where the hood overlaps and as close to the A pillar as possible, using the 8-32 bolt and nut supplied for this purpose. (See Figures 4 and 5.) Remove paint from around hole.

Place the fuse and fuse insulator in the metal fuse housing of the battery cable and connect it to the small fuse connector which branches out of the interconnecting cable close to the Speaker. The two (2) shield terminals at the fuse housing must be connected under the same terminal screw that is used to ground the speaker cable shield at the speaker. Figure 4 shows the general layout of the cables and connections.

Instrument Panel Control

Remove the ash receiver from the panel with an upward pull. Remove the ash receiver bezel from the panel by compressing the retaining tabs at the bottom of the bezel assembly. This can be done best by using a screw-driver and working from in back of the instrument panel. While pushing up on an end tab, pull the bezel forward and it will come out.

Loosen the two (2) screws which secure the instrument board brace to the instrument board flange. The cradle assembly can then be slid forward. Next, loosen the bolts on the brace in back of the instrument panel and remove the toggle spring. Slide the entire assembly forward and remove. Figure 6 gives the details of the ash receiver assembly, while Figure 7 gives an enlarged view of the Section A in Figure 6. Be sure to tighten all bolts and screws that were loosened for this operation. (See Note 1.)

Loosen the car lighting switch to permit more working space. While this operation is not absolutely necessary, it makes the following operation easier.

Push the flexible shafts of the control through the opening in the panel and install the control unit in this opening.

The "U" retaining clamp must be placed over the studs on the back of the control and the hex-

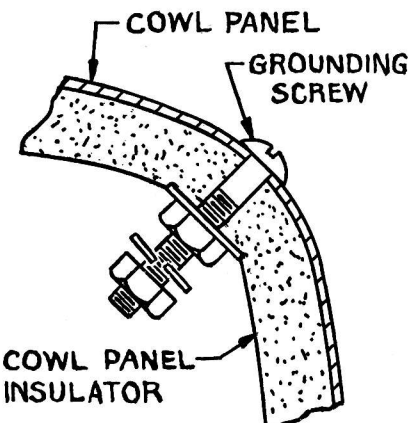


FIGURE 5

nuts tightened to draw the control bezel flush with the instrument panel. (See Figure 8.) Replace and tighten the car lighting switch.

The flexible shafts must be placed around to the Receiver. The ends of the two (2) shafts are different so that they can only be installed in the proper couplings. The long shaft and housing is on the left of the control unit, while the short one is on the right.

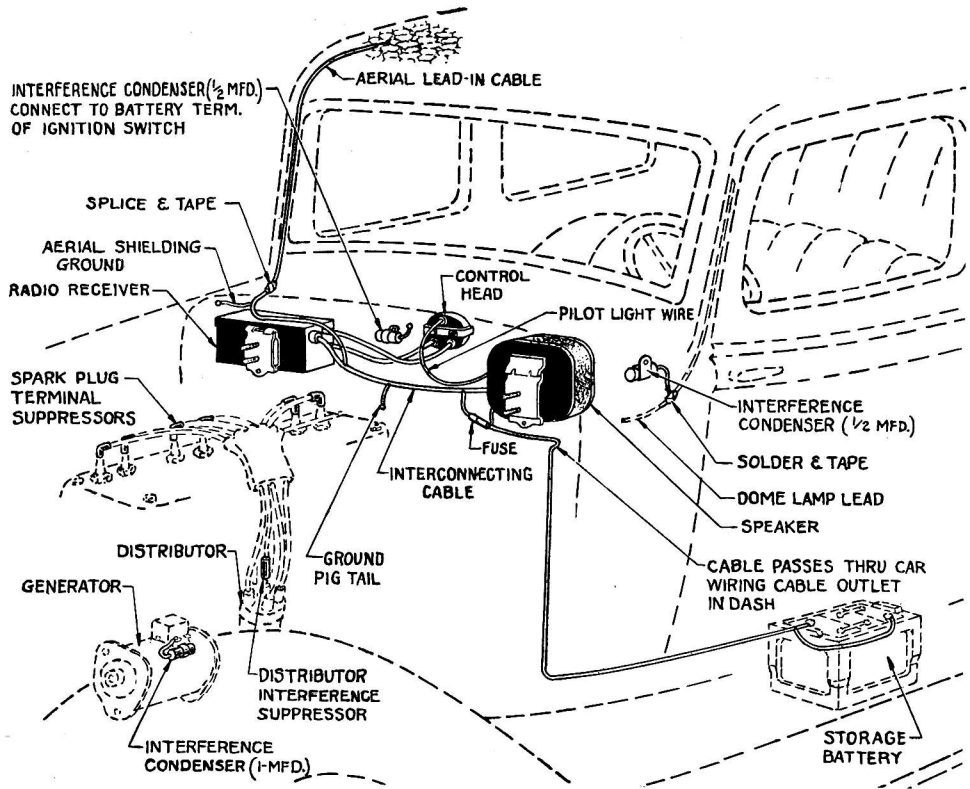


FIGURE 4

The set screws on the coupling bushings must be loosened sufficiently to allow the shaft housings and couplings to be properly seated. After the shafts have been coupled, tighten the set screws again.

Battery Connections

Connect the battery lead to the negative terminal of the storage battery. Be sure this connection is tight. The shield terminal must be connected to positive or ground terminal of the storage battery.

The black lead from the control unit must be connected to the pilot light terminal on the Speaker. (See Figure 3.)

Adjustment

Turn on the Receiver and tune in a station whose frequency in kilocycles is known. (The numbers on the dial represent channel numbers which, with the addition of a cipher, become the frequency numbers.) Pull the knob from the right-hand control shaft and loosen the set screw found there. (See Figure 8.) Turn the shaft until the indicator points to the correct number on the dial. Then tighten the set screw and replace the knob.

Motor Interference Suppression

Cut the elbow terminals from the spark plug cables and screw on the molded bakelite elbow suppressor terminals. Cut off the end of the distributor center lead cable

and screw the straight molded resistor into the lead. Then plug this into the distributor cap. Install a one microfarad by-pass condenser on the generator. Mount it on the generator frame under the screw that holds the generator relay in place. Connect the condenser lead under the screw that connects the generator battery lead to the relay

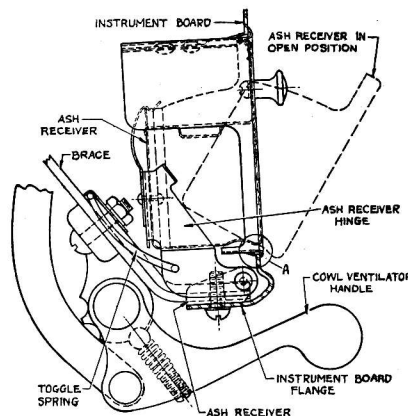


FIGURE 6

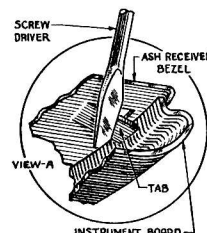


FIGURE 7

NOTE 1.—A hole large enough for the dash control has been provided in the center of the instrument panel in all standard Plymouth Model, Code PF. This hole is covered with a special Plymouth plate which can be removed easily by forcing it out from the rear with the fingers or with a screw-driver.

(see Figure 4). Install a 1/2 microfarad by-pass condenser, splicing and soldering it to the dome light lead as close as possible to the point where it enters the windshield pillar. The condenser must be fastened to the cowl panel in front of the hood line by drilling a 3/8" hole where the hood overlaps and as close to the pillar as possible, using the 8-32 bolt and nut supplied for this purpose. (See Figures 4 and 5.) Remove paint from around hole. Replace the car lighting fuse—test the lights and horn.

There may be some interference caused by an excessive gap between the distributor rotor and the high tension contacts. This can be overcome by lengthening the contact end of the rotor.

The following procedure should be carefully followed: Remove the distributor cap and chalk the inside faces of the stationary contacts. Remove the rotor and place the contact end on a small anvil or steel block. Peen or hammer the end carefully with a small machinists' hammer. Replace the rotor and the cap, then turn the engine over by hand. After a couple of revolutions, examine the distributor cap to see if the rotor has scraped or touched any of the stationary contacts in the cap. If so, dress lightly with a fine file. Repeat the above operation until the rotor just clears the contacts.

In some stubborn cases, it may be necessary to solder a bond to the control wires and tubes where they enter the dash, grounding them securely under one of the dash grommet cap screws. No. 14 stranded and tinned copper wire can be used for this purpose, a length of which is provided (see Figure 9). Be sure that all the high tension wires are properly seated in their sockets in the distributor cap.

REMOVE PAINT FROM UNDER SCREW HEAD

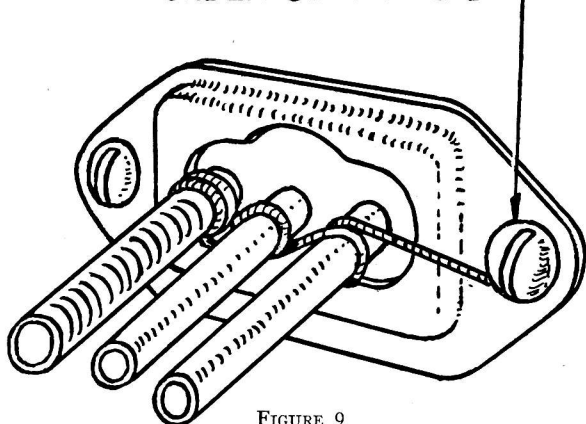


FIGURE 9

An additional 1/2 microfarad condenser may at times be used to advantage. This condenser should be mounted on the bottom edge of the instrument board and connected to one of the terminals on the ignition switch directly behind the instrument panel.

I. F. Transformer and Padders

The new style I. F. transformer complete with padders is used in the Model G.

The padders are placed in the top of the shield can one above the other.

The primary padder is adjusted by means of the screw slot, accessible through the hole in the top of the shield can. The secondary padder is adjusted by means of the small hex nut, also accessible through the hole in the top of the shield. (See Figures 10 and 11.)

The coil windings terminate in leads instead of terminals or lugs. The color scheme of the leads is given in Figure 1.

If replacements are ever necessary, replace the entire coil assembly 32-1236 for the first I. F. stage and 32-1237 for the second I. F. stage. Neither the coil nor the padders will be furnished separately. Order only by the above numbers.

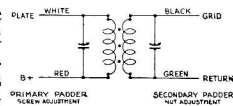


FIGURE 10

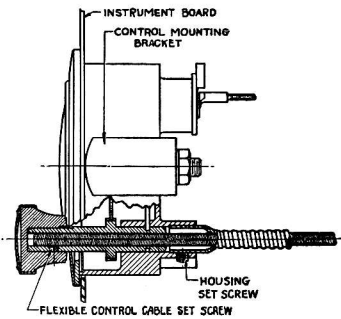


FIGURE 8

Model G Adjustments

All adjustments have been carefully checked at the factory. If, however, it is found necessary to readjust the padding condensers, this procedure must be followed carefully. Do not attempt to make any adjustments until the procedure is clearly understood or without the use of a good oscillator or signal generator and output meter. The Philco Set Tester 048 is highly recommended for this procedure and for all service work.

The Receiver must be connected to a six-volt storage battery and turned on for operation. It is assumed that tubes have been checked and that the Receiver is in good condition except for the padding adjustments.

Remove the lid from the Receiver. Remove the grid cap from the 6A7 tube (for location see Figure 11).

Set up the signal generator and adjust it to exactly 260 K. C. Connect the generator lead to the grid cap of the 6A7 tube. (See Figure 11.) The output meter must be connected by means of an adapter to the small prong of the speaker plug and to the chassis.

The Receiver volume control must be turned on to approximately full volume and the attenuator in the generator set for a half-scale reading of the output meter.

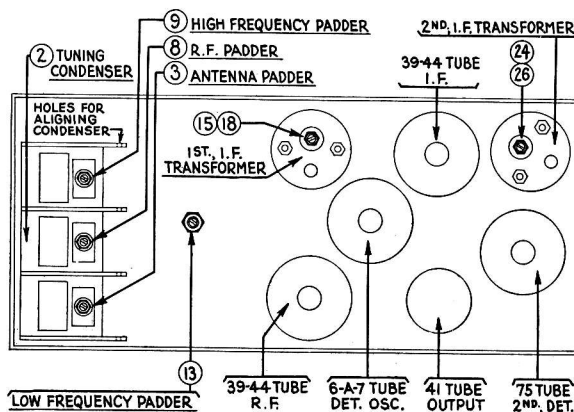


FIGURE 11

The padders 24 and 26 are adjusted first (Figures 11 and 12). Turn the adjusting screw 24 all the way in. A metal screw-driver can be used for this. Then, with generator attenuator set so there is approximately half-scale reading, adjust the nut 26 with a fibre wrench for the maximum reading on the output meter.

Then adjust the screw 24 for maximum reading on the meter. This adjustment is critical. Note the maximum reading obtainable and then turn the screw in again and readjust, just bringing the adjustment up to the maximum reading. Do not pass it and then back off.

Repeat the above procedure with the condensers 15 and 18.

After padding the first I. F. stage, remove the generator lead from the 6A7 tube and reconnect the grid lead to the 6A7 tube. Set the generator to 1500 K. C. and then connect the generator lead to the antenna lead.

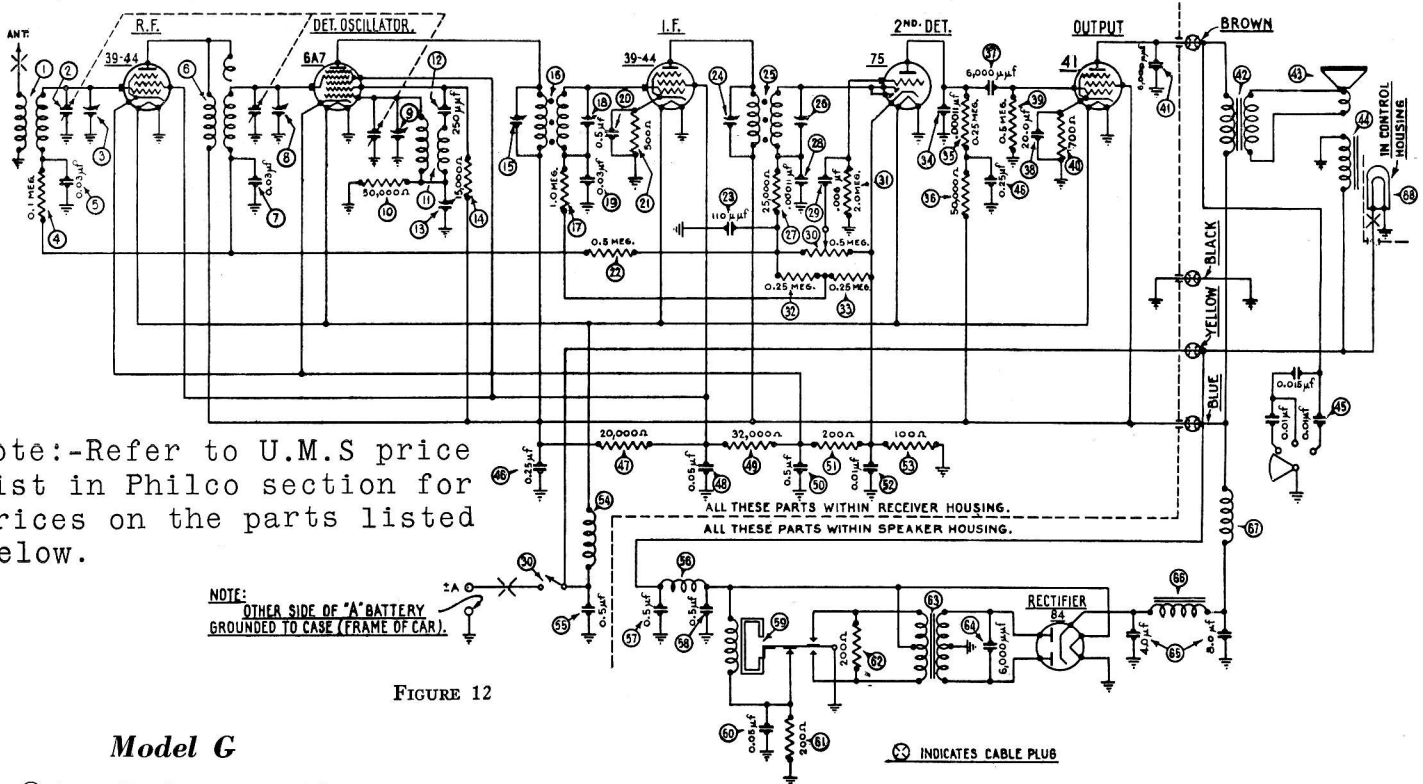
There are four holes in line, one in each of the sections of the tuning condenser housing. (See Figure 11.) Place a nail of the size that fits snugly through the holes and then turn the condenser plates out of mesh until they strike against the nail.

With the tuning condenser in this position adjust the high-frequency padder 9 until the maximum reading is obtained in the output meter. This is the true setting for 1500 K. C., 150 on the dial scale.

Next turn the condenser plates in mesh to 140 on the scale, 1400 K. C., and set the signal generator for 1400 K. C. The R. F. padder 8 and the antenna padder 3 are next adjusted for the maximum reading on the output meter.

Turn the condenser plates in mesh to 60 on the scale, 600 K. C., and readjust the signal generator to this frequency. Adjust the low-frequency padder 13 for the maximum meter reading.

Recheck the adjustments and then remove all test leads. If this procedure has been carefully followed and an accurately calibrated oscillator or signal generator used, the Receiver is adjusted properly.



Note:-Refer to U.M.S price list in Philco section for prices on the parts listed below.

NOTE: OTHER SIDE OF "A" BATTERY GROUNDED TO CASE (FRAME OF CAR).

FIGURE 12

Model G

- ① Antenna Transformer..... 32-1220
- ② Tuning Condenser..... 31-1182
- ③ 1st Padder (on tuning cond.).....
- ④ Resistor (99,000 ohms)..... 6099
- ⑤ Condenser (.03 mfd.)..... 30-4025
- ⑥ R. F. Transformer..... 32-1221
- ⑦ Condenser (.03 mfd.)..... 30-4025
- ⑧ 2nd Padder (on tuning cond.).....
- ⑨ 3rd Padder (on tuning cond.).....
- ⑩ Resistor (51,000 ohms)..... 6098
- ⑪ Oscillator Transformer..... 32-1222
- ⑫ Condenser (.00025 mfd.)... 3082
- ⑬ Padder..... 31-6012
- ⑭ Resistor (15,000 ohms)..... 6208
- ⑮ Padder (Prim. 1st I. F.) part of 32-1236 assembly.....
- ⑯ I. F. Transformer (1st).... 32-1236
- ⑰ Resistor (1,000,000 ohms).... 33-1096
- ⑱ Padder (Secondary 1st I. F.) part of 32-1236 assembly.....
- ⑲ Condenser (.03 mfd.)..... 30-4025
- ⑳ Condenser (.5 mfd.)..... 30-4018
- ㉑ Resistor (500 ohms)..... 6977
- ㉒ Resistor (500,000 ohms)..... 6097
- ㉓ Condenser (.00011 mfd.)... 30-1006
- ㉔ Padder (Prim. 2nd I. F.) part of 32-1237 assembly.....
- ㉕ I. F. Transformer (2nd).... 32-1237
- ㉖ Padder (Secondary 2nd I. F.) part of 32-1237 assembly.....
- ㉗ Resistor (25,000 ohms)..... 33-1013
- ㉘ Condenser (.00011 mfd.)... 30-1006
- ㉙ Condenser (.006 mfd.)..... 30-4125
- ㉚ Volume Control Assembly... 33-5056
- ㉛ Resistor (2,000,000 ohms).... 33-1025
- ㉜ Resistor (250,000 ohms).... 33-1097
- ㉝ Resistor (250,000 ohms).... 33-1097
- ㉞ Condenser (.00011 mfd.)... 30-1006
- ㉟ Resistor (250,000 ohms).... 33-1097
- ㊱ Resistor (51,000 ohms)..... 6098
- ㊲ Condenser (.006 mfd.)..... 30-4123
- ㊳ Condenser (20 mfd.)..... 30-2063
- ㊴ Resistor (500,000 ohms).... 6097
- ㊵ Resistor (700 ohms)..... 6443
- ㊶ Condenser (.006 mfd.)..... 30-4024
- ㊷ Output Transformer..... 2598
- ㊸ Cone and Voice Coil..... 36-3159
- ㊹ Field Coil Assembly..... 36-3140
- ㊺ Tone Control..... 30-4127
- ㊻ Condenser (.25, .25 mfd.)... 30-4126
- ㊼ Resistor (20,000 ohms).... 5649
- ㊽ Condenser (.05 mfd.)..... 30-4020
- ㊾ Resistor (32,000 ohms).... 3525

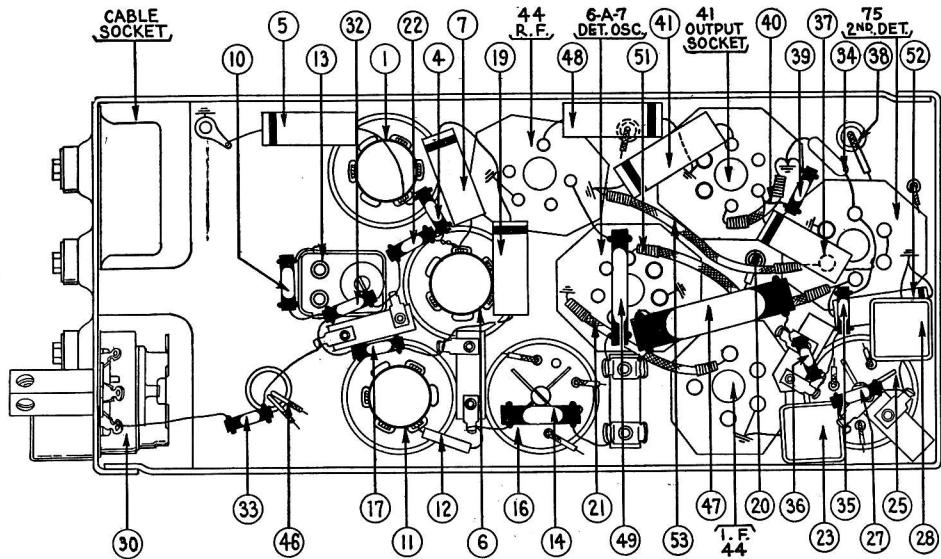


FIGURE 13

- ⑤① Condenser (.5 mfd.)..... 30-4018
- ⑤② Resistor (200 ohms)..... 7217
- ⑤③ Condenser (.01 mfd.)..... 30-4124
- ⑤④ Resistor (100 ohms)..... 33-3023
- ⑤⑤ "A" Choke..... 32-1312
- ⑤⑥ Condenser (.5 mfd.)..... 30-4015
- ⑤⑦ Vibrator Choke..... 32-1260
- ⑤⑧ Condenser (.5 mfd.)..... 30-4015
- ⑤⑨ Condenser (.5 mfd.)..... 30-4015
- ⑤⑩ Vibrator Unit..... 38-5036
- ⑤⑪ Condenser (.05 mfd.)..... 30-4039
- ⑤⑫ Resistor (200 ohms)..... 7217
- ⑤⑬ Resistor (200 ohms)..... 7217
- ⑤⑭ Power Transformer..... 32-7110
- ⑤⑮ Condenser (.006 mfd.)... 30-4024
- ⑤⑯ Filter Condenser (4 mfd., 8 mfd.)..... 30-2030
- ⑤⑰ "B" Chokes..... 32-7118
- ⑤⑱ R. F. Choke..... 32-1260
- ⑤⑲ Jilot Lamp..... 34-2031
- ⑤⑳ Spark Plug Resistor..... 33-1015
- ⑤㉑ Distributor Resistor..... 33-1113
- ⑤㉒ 1 mfd. Condenser..... 4522-S
- ⑤㉓ ½ mfd. Condenser..... 30-4007
- ⑤㉔ Glass for Control..... 27-7325
- ⑤㉕ Bezel Assembly..... 42-5115
- ⑤㉖ Dial (Plymouth)..... 42-5123
- ⑤㉗ Dial (Dodge & Chrysler 6) 42-5122
- ⑤㉘ Pointer (Dodge)..... 28-1764
- ⑤㉙ Pointer (Plymouth)..... 28-1763
- ⑤㉚ Pointer (Chrysler 6)..... 28-1825
- ⑤㉛ Control Assembly (Plymouth)..... 42-5113
- ⑤㉜ Control Assembly (Dodge) 42-5112
- ⑤㉝ Control Assembly (Chrysler 6)..... 42-5134
- ⑤㉞ Knobs (Ply.—tuning).... 27-4083
- ⑤㉟ Knobs (Ply.—volume)... 27-4084
- Knobs (Dodge—tuning)... 27-4079
- Knobs (Dodge—volume) . 27-4080
- Knobs (Chry. 6—tuning) . 27-4071
- Knobs (Chry. 6—volume) . 27-4072
- Knobs Springs..... 28-1738
- Interconnecting cable.... 41-3065
- Battery Cable..... 41-3073
- Flexible Shaft—tuning... 28-8188
- Flexible Shaft—volume... 28-8198
- Speaker Mounting Plate . 28-1790
- Speaker Mounting Bracket 28-1791
- Receiver Mounting Plate . 28-1792
- Receiver Mounting Bracket 28-1848
- Fuse..... 7227
- Fuse Insulator..... 27-7131
- "U" Control Bracket.... 29-1705
- 5-Prong Socket..... 27-6014
- 6-Prong Socket..... 7547
- 7-Prong Socket..... 27-6005

PHILCO TRANSITONE

REG. U. S. PAT. OFF.

PHILADELPHIA, PA.