



Philco Radio & Television Corp.

	Model: 10	Chassis:	Year: Pre October 1934
	Power:	Circuit:	IF:
	Tubes:		
	Bands:		

Resources

[RCC PHILCO 17](#)

[Riders 4 \(IV\) PHILCO 4-54](#)

[Riders 4 \(IV\) PHILCO 4-55](#)

[Riders 4 \(IV\) PHILCO 4-56](#)

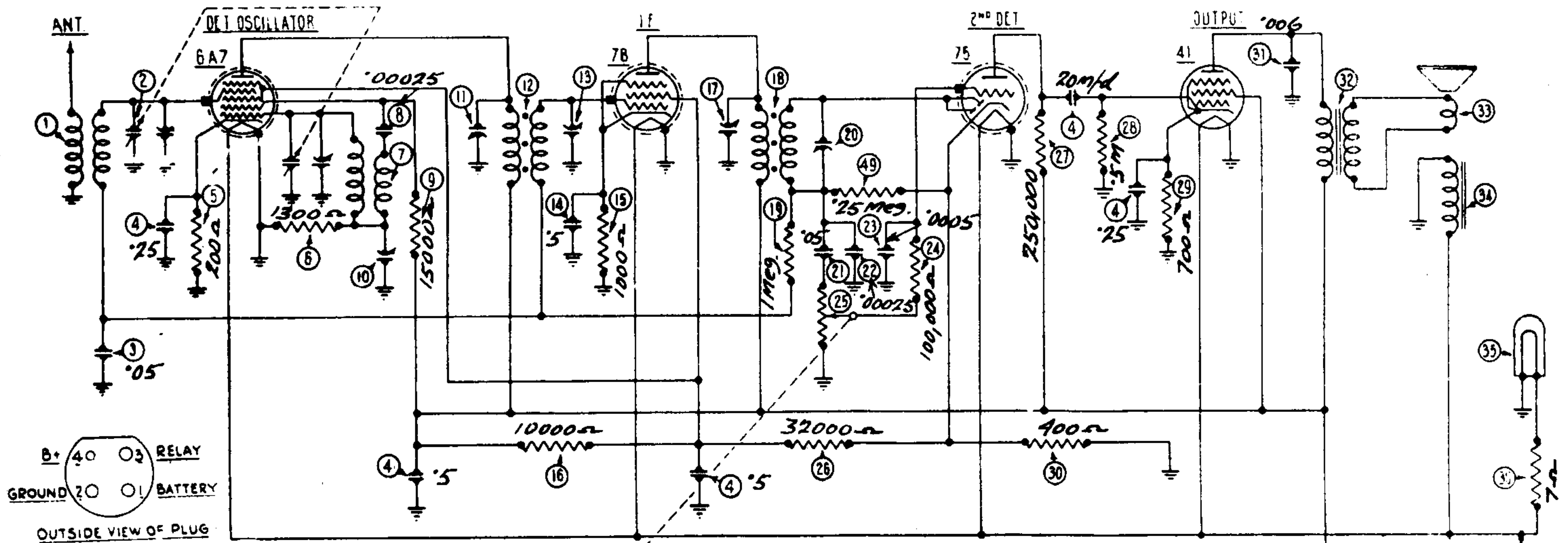
[Riders 4 \(IV\) PHILCO 4-57](#)

[Riders 5 \(V\) PHILCO 5-5](#)

[Riders 5 \(V\) PHILCO 5-6](#)

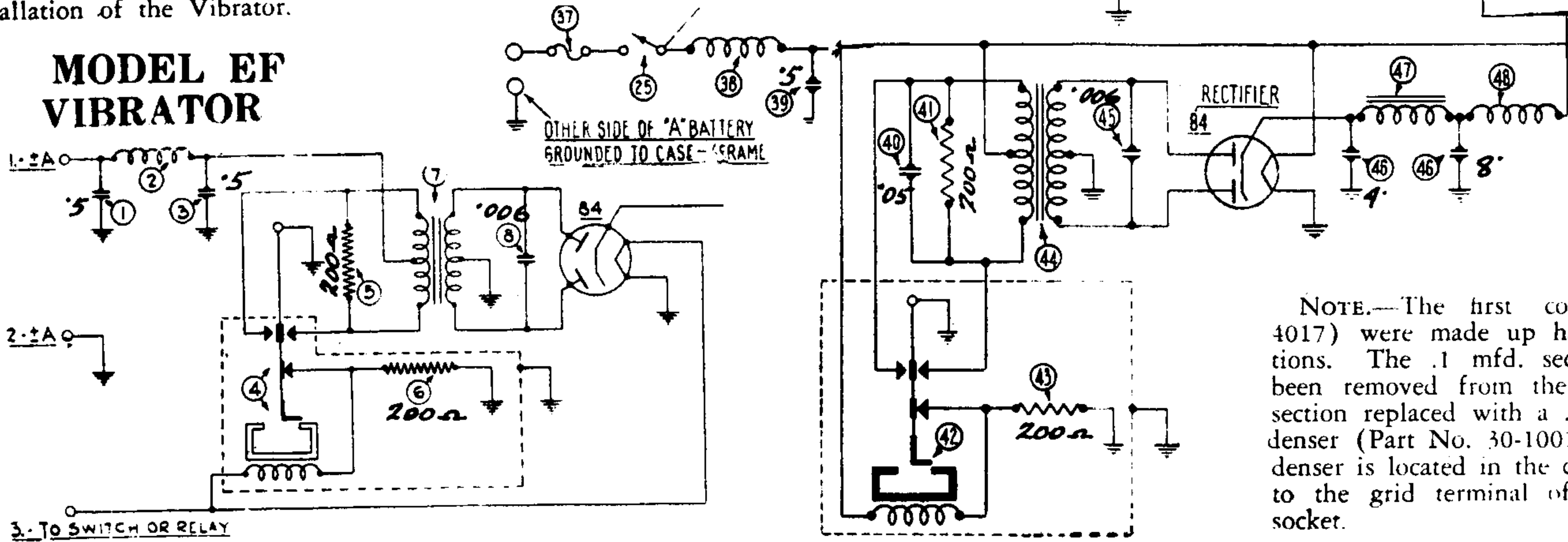
[Riders 7 \(VII\) CHANGES 7-12](#)

Model- 5 1934 IF 460 K.C

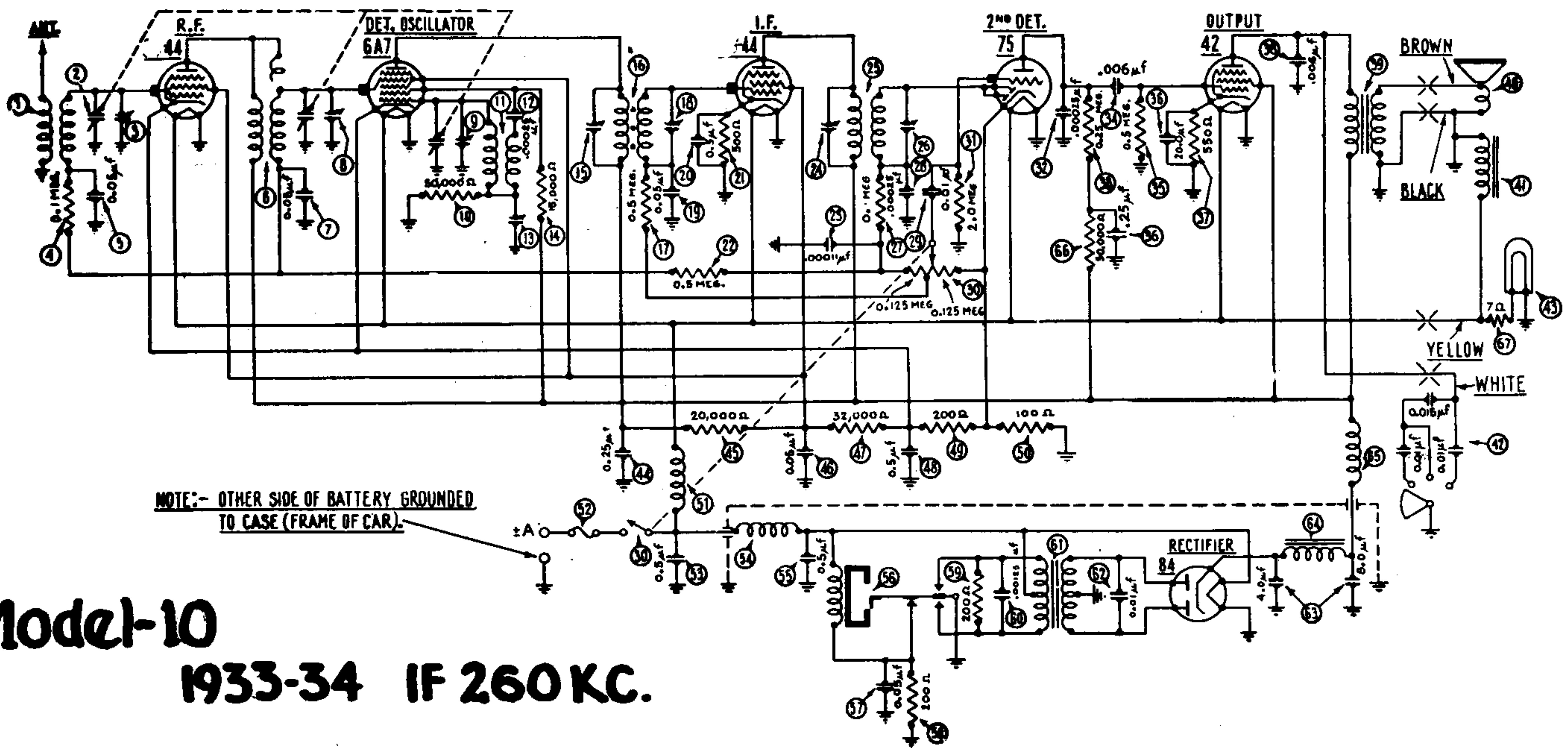


The Model EF takes the place of the EB dynamotor. The cable connection between the Vibrator and the Model 6F completes the installation of the Vibrator. (37)

MODEL EF VIBRATOR



NOTE.—The first condensers (504017) were made up having five sections. The .1 mfd. section has now been removed from the can and this section replaced with a .006 mfd. condenser (Part No. 30-1001). This condenser is located in the chassis adjacent to the grid terminal of the 41 tube socket.



Model-10
1933-34 IF 260 KC.

DATA SHEET

PRINTED IN CANADA

COURTESY

PHILCO-17

PRODUCTS LTD.

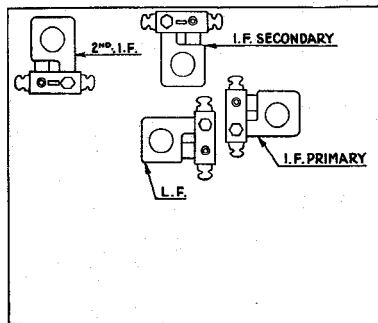
MODEL 7, 10
Adjustments
PHILCO RADIO & TELEVISION CORP.


FIG. 3. MODEL 7—I. F. 175 K. C.

Disconnect the signal generator lead and reconnect the clip to the control grid.

High Frequency Compensator. Connect the output of the signal generator to the antenna lead and the housing of the Receiver. With the Receiver turned on and the signal generator set for 1400 K. C., tune the Receiver to 1400 K. C. and adjust the third padder on the tuning condenser for maximum signal. This is the one on the extreme left of the housing. The purpose of this adjustment is to line up the condenser so that 1400 K. C. is tuned in at 140 on the scale when the scale is set properly.

It may be necessary to adjust the first two compensators on the tuning condensers at 1400 K. C. in order to get a strong enough signal through.

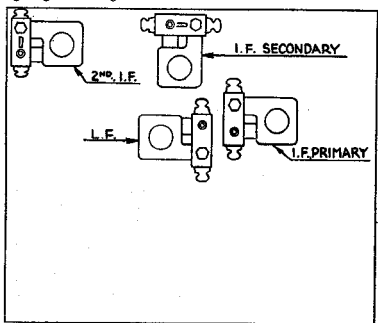


FIG. 4. MODELS 8 AND 12 (Code 121) I. F. 175 K. C.

R. F. Compensators. After the detector-oscillator has been padded at 1400 K. C., adjust the first and second R. F. Condensers on tuning condenser at 1400 K. C.

Low Frequency Condenser. Set the signal generator to 700 K. C. Now tune the Receiver sharply. Adjust the L. F. condenser shown near the center of Figs. 3 and 4. During this operation the tuning condenser must be shifted and the compensators must be adjusted to bring in the maximum signal.

After this has been done, check the adjustment of the high-frequency condenser at 1400 K. C. again.

MODEL 10

I. F. A new style I. F. transformer complete with adjusting condensers is used in the Model 10.

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

The primary I. F. condenser is adjusted by means of the screw 'slot' accessible through the hole in the top of the shield can. The secondary is adjusted by means of the small hex nut, also accessible through the hole in the top of the shield.

Remove the speaker lid from the Receiver and disconnect the antenna lead from the Receiver. Remove the grid cap from the 6A7 tube. (For location see Fig. 5.)

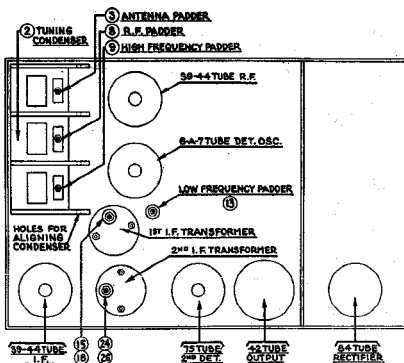


FIG. 5. MODEL 10—I. F. 260 K. C.

Set up the signal generator and adjust it to exactly 260 K. C. Connect signal generator lead to the grid cap of the 6A7 tube. (See Fig. 5.) 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.

The condensers 24 and 26 are adjusted first (Fig. 5). Turn the adjusting screw 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 with a fibre wrench for the maximum reading on the output meter.

Then adjust the screw for maximum reading on the meter. This adjustment is critical. Note the maximum reading obtained 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 adjusting the first I. F. stage, remove signal generator lead from the 6A7 tube and reconnect the grid lead to the 6A7 tube. Connect the antenna lead to the Receiver. Set signal generator to 1500 K. C. and then connect signal generator lead to the antenna lead.

H. F. There are four holes in line, one in each of the sections of the tuning condenser housing. (See Fig. 5.) 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 condenser until the maximum reading is obtained in the output meter. This is the true setting for 1500 K. C., 150 on the dial scale.

R. F. and Ant. Next turn the condenser plates in mesh to 140 on the scale, 1400 K. C., and set the signal generator for 1400 K. C. Adjust R. F. condenser and the antenna condenser for maximum reading on the output meter.

L. F. 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 condenser 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.

MODEL 10

Transitone Schematic, Chassis Parts List

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 ③ and the antenna padder ④ are next adjusted for the maximum reading on the output meter.

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.

① Autoneg Transformer.....	32-1220	① Field Coil Assembly.....	36-3130
② Tuning Condenser.....	30-1063	② Tone Control.....	30-4056
③ 1st Padder (in tuning cond.).....		③ Pilot Lamp.....	6608
④ Resistor (100,000 ohms).....	6006	④ Condenser (.25 mfd.).....	04380
⑤ Condenser (.05 mfd.).....	30-4020	⑤ Resistor (20,000 ohms).....	6649
⑥ R. F. Transformer.....	32-1221	⑥ Condenser (.05 mfd.).....	30-4020
⑦ Condenser (.05 mfd.).....	30-4020	⑦ Resistor (52,000 ohms).....	6649
⑧ 2nd Padder (in tuning cond.).....		⑧ Condenser (.05 mfd.).....	30-4020
⑨ 3rd Padder (in tuning cond.).....		⑨ Resistor (200 ohms).....	7017
⑩ Resistor (50,000 ohms).....	6008	⑩ Resistor (100 ohms).....	7538
⑪ Oscillator Transformer.....	32-1222	⑪ A Choke.....	7109
⑫ Condenser (.00025 mfd.).....	3082	⑫ 15 Amp. Fuse.....	7227
⑬ Padder.....	040005	⑬ Condenser (.5 mfd.).....	30-4061
⑭ Resistor (15,000 ohms).....	6208	⑭ Vibrator Choke.....	32-1235
⑮ Padder (prim. 1st I. F.).....	61007	⑮ Condenser (.5 mfd.).....	30-4061
⑯ I. F. Transformer (1st).....	38-5274	⑯ Vibrator.....	38-5036
⑰ Resistor (500,000 ohms).....	6097	⑰ Condenser (.05 mfd.).....	30-4040
⑱ Padder (secondary 1st I. F.).....	61008	⑰ Resistor (300 ohms).....	7217
⑲ Condenser (.05 mfd.).....	30-4020	⑲ Resistor (200 ohms).....	7218
⑳ Condenser (.5 mfd.).....	30-4058	⑳ Condenser (.00125 mfd.).....	5880
㉑ Resistor (500 ohms).....	6977	㉑ Power Transformer.....	32-7098
㉒ Resistor (500,000 ohms).....	6097	㉒ Condenser (.01 mfd.).....	30-4051
㉓ Condenser (.00011 mfd.).....	4519	㉓ Filter Condenser.....	30-2015
㉔ Padder (prim. 2nd I. F.).....	61-0008	㉔ B Chokes.....	32-7038
㉕ I. F. Transformer (2nd).....	38-5275	㉕ R. F. Chokes.....	32-1078
㉖ Padder (secondary 2nd I. F.).....	61-0008	㉖ Resistor (50,000 ohms).....	4237
㉗ Resistor (100,000 ohms).....	6097	㉗ Resistor (5 ohms).....	6535
㉘ Condenser (.00025 mfd.).....	3082	㉘ Spring Plug Resistors.....	4546
㉙ Condenser (.01 mfd.).....	30-4051	㉙ Distributor Resistor.....	4531
㉚ Vol. Control Assembly.....	38-5280	㉚ Screw Type Resistor.....	4557
㉛ Resistor (2,000,000 ohms).....	33-1025	㉛ Interference Condenser.....	30-4061
㉜ Condenser (.00025 mfd.).....	5828	㉜ Dial.....	27-5022
㉝ Resistor (250,000 ohms).....	3768	㉝ Stud.....	29-0306
㉞ Condenser (.005 mfd.).....	4094	㉞ Nuts (mounting).....	W354
㉟ Resistor (500,000 ohms).....	6097	㉟ Knobs.....	00330
㊱ Condenser mfd.; .85mfd/mfd.....	6097	㊱ Battery Cable.....	39-3114
㊲ Resistor (500 ohms).....	6977	㊲ Antenna Lead.....	39-3161
㊳ Condenser (.005 mfd.).....	30-4024	㊳ Control Unit Assembly.....	42-5056
㊴ Output Transformer.....	32-7106	㊴ Acorn Nut.....	W921
㊵ Core and Coil.....	36-3020	㊵ Key.....	6081

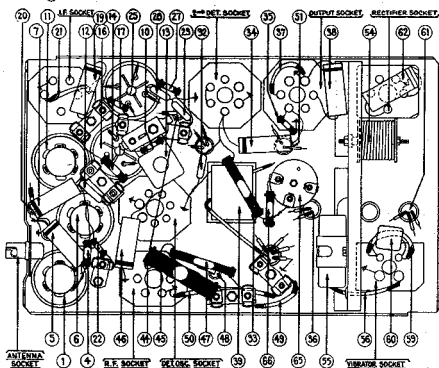
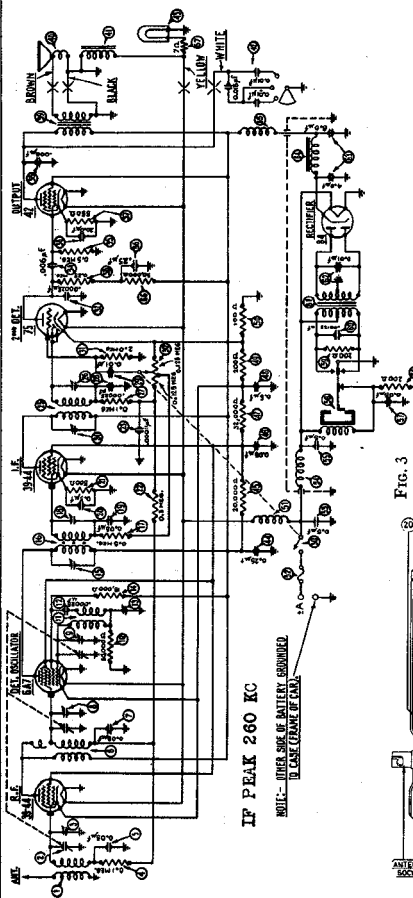


FIG. 4

MODEL 10
Transitron
Service Notes
Chassis Layout

PHILCO RADIO & TELEVISION CORP.

MODEL 10
Service notes
Chassis layout

MODEL 10 RECEIVER

THE MODEL 10 represents the latest developments in single-unit automobile radio. Compact and easy to install, its performance is amazing.

A superheterodyne, using six of the latest tubes designed for automobile radio, it has a tremendous power output and is equipped with a full-size electro dynamic speaker, the same type as used in high-priced home radio Receivers.

Four-point tone control is provided to satisfy the individual preference. Greater sensitivity, a three-section tuning condenser giving improved selectivity and fidelity, inherently quiet circuits and all the other improvements, make this model the outstanding automobile radio.

Added to this, the ease of installation characteristic of this model (only one unit to install, one lead to the antenna and one lead to the ammeter) makes it the most desirable one to sell, install or own.

I. F. TRANSFORMER AND PADDERS

A new style I. F. transformer complete with padders is used in the Model 10.

The padders are placed in the top of the shield can 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 Figs. 1 and 2.)

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

If replacements are ever necessary, replace the entire coil assembly 38-5274 for the first I. F. stage and 38-5275 for the second I. F. stage. Neither the coil nor the padders will be furnished separately. Order only by the above numbers.

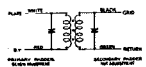


Fig. 1

MODEL 10 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 speaker lid from the Receiver and disconnect the antenna lead from the Receiver. Remove the grid cap from the 6A7 tube (for location see Fig. 2).

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 Fig. 2.) 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.

The padders ② and ③ are adjusted first (Figs. 2 and

3.) Turn the adjusting screw ② 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 ③ with a fibre wrench for the maximum reading on the output meter.

Then adjust the screw ③ 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.

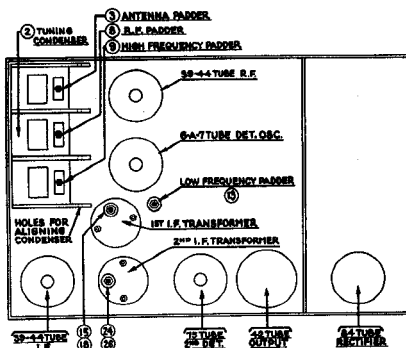


Fig. 2

Repeat the above procedure with the condensers ④ and ⑤.

After padding the first I. F. stage, remove the generator lead from the 6A7 tube and reconnect the grid lead to the 6A7 tube. Connect the antenna lead to the Receiver. 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 Fig. 2.) 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

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MODEL 10 (Code 122)
Alignment Data
Socket Layout
MODEL 10 (Code 122) RECEIVER

THE MODEL 10 (Code 122) represents the latest developments in single-unit automobile radio. Compact and easy to install, its performance is amazing.

A superheterodyne, using six of the latest tubes designed for automobile radio, it has a tremendous power output and is equipped with a full-size electro-dynamic speaker, the same type used in high-priced home radio Receivers.

Bass compensation gives full rounded tone at any volume. Four point one control is provided to satisfy the individual preference. Greater sensitivity, a three-section tuning condenser giving improved selectivity and fidelity, inherently quiet circuits and all the other improvements, make this model the outstanding automobile radio.

The new interference filters and improvement in shielding, cut installation time to just a fraction of what it would be without these improvements. The ease of installation characteristic of this model (only one unit to install, one lead to the antenna and one lead to the ammeter) makes it the most desirable one to sell, install or own.

I. F. TRANSFORMER AND PADDERS

A new style I. F. transformer complete with padders is used in the Model 10. (Code 122.)

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 Figs. 1 and 2.)

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

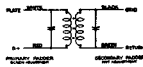


FIG. 1

A new type first I. F. transformer is used, but retains the same part no. 32-1236.

This transformer can be distinguished from the old type, since the bottom fibre spacer is painted green.

MODEL 10 (Code 122) 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 speaker lid from the Receiver and disconnect the antenna lead from the Receiver. Remove the grid cap from the 6A7 tube (for location see Fig. 2).

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 Fig. 2.) 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.

The padders ② and ③ must be adjusted first. These padders should be adjusted to peak. (Figs. 2 and 3.) First adjust the screw, then the nut.

The padders ④ and ⑤ must be adjusted next. (Figs. 2 and 3.) Turn the adjusting screw ⑥ all the way in. A metal screwdriver can be used for this. Then, with generator attenuator set so there is approximately half-scale reading, adjust the nut ⑦ with a wire wrench for the maximum reading on the output meter.

Then adjust the screw ⑧ 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.

After padding the first I. F. stage, remove the generator lead from the 6A7 tube and reconnect the grid cap to the 6A7 tube. Connect the antenna lead to the Receiver. 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 Fig. 2.) 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 ⑩ and the antenna padder ⑪ 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 ⑫ 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.

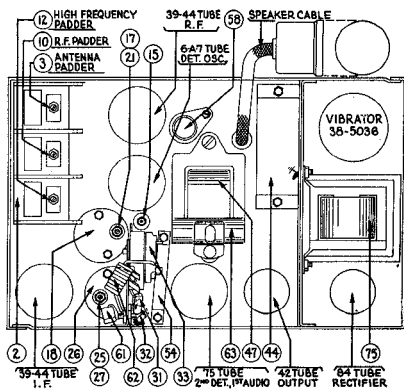


FIG. 2

JULY, 1934

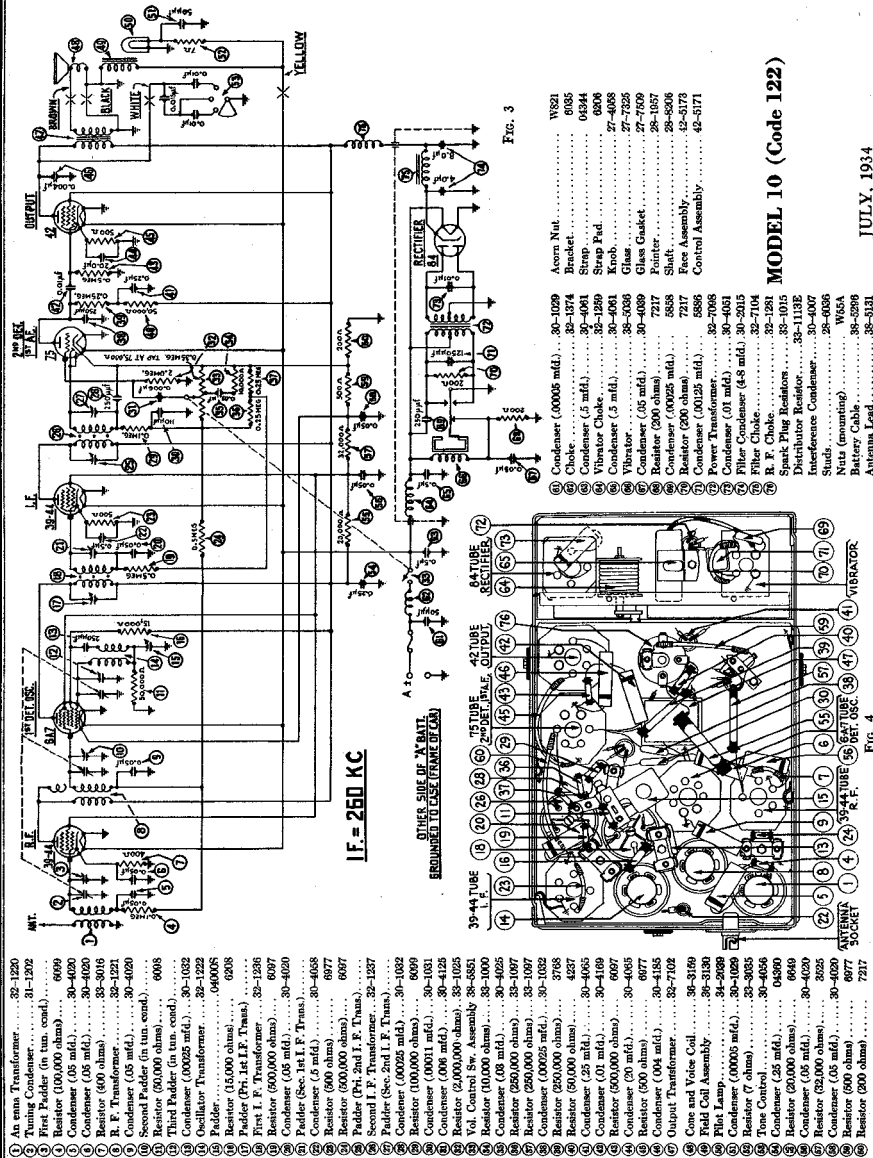


Fig. 4

Wells-Gardner 7G and OD Series

If the double end pointer remains stationary when the tuning knob is turned, the following possibilities should be investigated and procedure followed:

First, be sure that the tuning condenser rotor has not reached the end of its travel. Also, see if the screw at the center of the large pointer is tight. Next inspect each pointer to be sure that it is not caught at some place.

If slippage continues, remove the chassis from the cabinet. Turn the knob to the point where the shaft seems to bind. See if the drive shaft set screw is tight, and if the idler and idler spring are in position—See Fig. 2.

Take off the two pointers, the large one by taking out the pointer screw and the small micrometer pointer by unscrewing it off of the shaft (turn it counter-clockwise to do this). Turn the

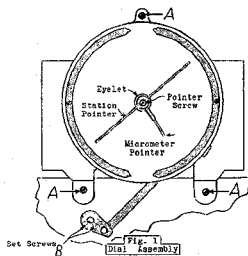


Fig. 1. Front view of the Wells-Gardner dial assembly.

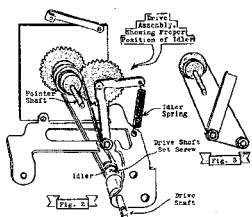
tuning knob and see if pointer shaft turns properly. Inspect the shaft to determine if it is at the center of the eyelet in the dial scale. If the shaft appears to be binding against the eyelet, loosen the three screws A, Fig. 1, which hold the dial assembly in position. Shift this assembly until the shaft is centered, tighten the screws and again see if the shaft turns properly when the tuning knob is rotated.

If the shaft continues to stick, remove the dial assembly by taking out the three screws A and the two set screws, B—See Fig. 1. Turn the tuning condenser rotor and see if the pointer shaft wobbles. If it does, straighten it by pressing the shaft to one side.

Also, in a few of the dial assemblies there is a burr at the back edge of the eyelet which can bite into the shaft. If this is the case, take a small round file and file down the burr. A penknife can be used if no file is available.

See if the pointer shaft and tuning condenser rotor turn the entire length of travel. If they do, put the dial as-

sembly back into position to again determine if the drive turns properly. If the shaft and rotor do not turn the entire length of travel, inspect the gears for dirt, damaged teeth and any obstruction to the rotor.



Figs. 2 and 3. Rear views of the Wells-Gardner dial assembly.

In some cases the belt may slip because it is too long. The best way to correct this condition is to put on a new belt. It can also be corrected in many cases by putting the idler on the inside of the belt as shown in Fig. 3. This method should be followed only as a last resort and is not, in general, as satisfactory as changing the belt. If the idler is moved to the inside of the belt, the idler spring may not be under sufficient tension to keep the belt tight. To remedy this, take the spring off, cut off a piece and again put it back in place. Care should be taken when reducing the spring length not to make the belt too tight as this would cause the drive to turn hard.

After the above procedure has been followed, the drive should operate properly after reassembling. If it does not, it will be necessary to get in touch with the factory for further instructions. See *Rider's Volume VI*, page 6-20 for further data on the 7G series.

G.E. A-64, A-67

In the schematic diagram for Models A-64 and A-67, on *G.E.*, page 6-14 of *Rider's Volume VI*, you will find a connection between the low side of L-6 and the high side of L-8 (oscillator coils). This connection should be deleted. In the parts list for these models, note that the capacity for C-5 (Stock No. RC-210) is listed as 50 mf. This is incorrect; it should be 50 mmf., as is shown on the schematic diagram mentioned above. The parts list will be found on *G.E.*, page 6-18.

The electrostatic shield of the 0.05-mf. condenser (C-23) that shunts the bleeder resistor R-7-8-9, sometimes makes contact with the high-voltage a-c. terminal of the 5Z4 rectifier tube

socket. This causes a decided a-c. hum, which has none of the characteristics of the a-c. hums usually encountered.

This condenser, C-23, is mounted near the high-voltage terminal of the rectifier socket and vibration in shipment and operation, or pressure accidentally applied when the chassis is being serviced, may cause it to be moved against the terminal. This brings the electrostatic shield (the layer of foil just under the outer layer of wax paper) in contact with the terminal.

Dressing the condenser away from the terminal so as to assure permanent clearance, will eliminate the hum.

Philco 10

Run No. 3. A ground strap was added (Part No. 9481) from tuning condenser housing to receiver housing.

Run No. 8. The first and second i-f. transformers, Parts No. 16 and 25, were replaced with new types having the same part numbers. They can be identified by the red paint marks on the spools.

See Philco page 4-56, *Rider's Volume IV*.

Philco 10-Code 122

Run No. 2. Condenser Part No. 61 (50 mmf.) was removed and Part No. 30-1032 (250 mmf.) was added.

Run No. 3. The first i-f. transformer, Part No. 18, was replaced with a new type, having the same part number. This can be identified by the green paint marks on the fibre.

Run No. 4. Resistor, Part No. 23 (500 ohms) was removed and Part No. 6443 (700 ohms) was added.

For schematic diagram see *Rider's Volume V*, Philco page 5-5.

Philco-Pierce Arrow MT-3 and Philco-Reo RT-3

Run No. 1. An antenna choke, Part No. 32-1372, No. 75, has been added. It is connected in series with the antenna lead and the antenna transformer No. 1 and condenser No. 2.

Run No. 3. Wire the white lead of the output transformer directly to the plate of the 42 tube socket instead of to the pin jack.

Run No. 4. Tone control, No. 56, removed. Part No. 30-4298 added. When using this new tone control, condenser No. 47 is also removed.

See Philco pages 6-99 and 6-102 in *Rider's Manuals* for data.