GROUPED UNDER EACH MODEL AND ARRANGED ACCORDING TO RUN NO. — CURRENT MODELS INCLUDED.

THE FOLLOWING PAGES CONTAIN COMPLETE LISTINGS OF ALL MAJOR CHANGES — INVOLVING CHANGES IN CIRCUIT, PART NUMBERS OR ANYTHING OF INTEREST TO THE SERVICEMAN — IN PHILCO MODELS CURRENT AT THE TIME OF PRINTING. THESE ARE ALL THE CHANGES WHICH HAVE BEEN MADE SINCE THE DATE OF PUBLICATION OF THE LAST PRINTING OF THE PHILCO SERVICE BULLETIN ON EACH MODEL; THE NUMBER OF THE BULLETIN IS GIVEN IN EACH CASE FOR REFERENCE.

OWNERSHIP OF THIS FOLDER IN ADDITION TO SERVICE BULLETINS, GIVES THE SERVICEMAN A COMPLETE RECORD ON EACH MODEL; THUS HE WILL NOT BE INCINNENED AT FINDING, WHEN SERVICING A CURRENT SET, THAT IT DIFFERS FROM THAT SHOWN IN THE ORIGINAL SERVICE BULLETIN.

THE RUN NUMBER ON MODELS PRIOR TO MARCH, 1937, IS STAMPED ON THE TOP OF THE CHASSIS WITH A RUBBER STAMP. THE CODE NUMBER IS GIVEN ON THE CHASSIS OR CABINET NAME LABEL.

BEGINNING ON MARCH 1, 1937, THE MODEL, CODE AND RUN NUMBERS ARE STAMPED IN ONE LOCATION ON THE REAR OF THE CHASSIS.

MODEL 38-2

CON’T.

REPLACEMENT PARTS

Schem.

No. Description

PART No. List Price

11 1st. I. F. Transformer.......................... 30-2140 $5.00

2 Condenser .06 mfd. bakelite.......................... 30-4090 20

3 Resistor 4.0 meg., watt.......................... 30-9812 .20

4 Resistor 4.0 meg., watt.......................... 30-9812 .20

5 Resistor 1.0 meg., watt.......................... 30-1021 .20

8 Resistor 1.0 meg., watt.......................... 30-1021 .20

25 Condenser 110 mfd. micrometric.......................... 30-1031 1.00

32 Resistor 490 ohms, watt.......................... 30-1285 .20

34 Condenser 25 mfd., tubular.......................... 30-1092 .75

35 Resistor 330,000 ohms, .3 watt.......................... 30-1275 1.00

60 Volume Control.......................................................... 30-2112 1.00

70 Resistor 51,000 ohms, watt.......................... 30-1100 1.00

84 Condenser 1.0 mfd., tubular.......................... 30-1092 1.00

100 Resistor 4.0 meg., watt.......................... 30-9812 .20

103 Audio shorting switch............................................. 30-3080 .20

130 Condenser .05 mfd. tubular.......................... 30-4070 .20

201 Resistor .03 mfd., watt.......................... 30-4070 .20

210 Resistor 1.0 meg., watt.......................... 30-1021 .20

214 Condenser .05 mfd., watt.......................... 30-4070 .20

218 Condenser 25 mfd., tubular.......................... 30-1092 1.00

221 Condenser 25 mfd., tubular.......................... 30-1092 1.00

222 Condenser 25 mfd., tubular.......................... 30-1092 1.00

228 Transformer, 2000 volt, watt.......................... 30-2200 1.00

314 Condenser 1.0 mfd., tubular.......................... 30-1092 1.00

320 Resistor 51,000 ohms, watt.......................... 30-1100 1.00


Run 3

A 250 mfd. condenser, Part No. 30-1031, was connected from the screen of the 6Z40 to ground to prevent parasitic oscillations.

Run 4

Beginning with Run 4 receivers, the G70 R.F. tube is replaced with a G87 U tube to eliminate parasitic oscillations. In addition to the tube change, the green wire connecting the screen contact of the 6Z40 tube and Condenser 6 was increased in length. This wire should circle around the G87 U tube socket towards the back of the R.F. unit and then back to Condenser 6. Place the wire as close to the base as is possible. The 250 mfd. condenser, Part No. 30-1031, added in Run 3 Receivers is removed on this Run.

MODELS 38-4 AND 38-5

For 25 cycle operation, using power transformer 32-7295, a condenser 30-2469, 1 mfd. is connected across the speaker field coil (65).

MODEL 38-4

THE FOLLOWING PARTS WERE CHANGED IN THE BASE COMPENSATION CIRCUIT IN ORDER TO REDUCE STATION RUMBLE.

Schematic No.

PART No. New PART No.

16 Condenser (.01 mfd.).......................... Part No. 30-4065 30-4070 20

25 Resistor (4500 ohms) watt.......................... 30-1100 30-1250 1.00

Run 1

IN ORDER TO FURTHER REDUCE FREQUENCY DRIFT AT THE HIGH FREQUENCY END OF THE BROADCAST TUNING RANGE, A 1st I.F. TRANSFORMER WAS REPLACED WITH PART No. 30-4090, AND TWO CONDENSERS, PART NO. 30-1021, CONNECTED IN PARALLEL WITH THE NEW CONDENSER.

Range 1 Oscillator Transformer was also changed from PART No. 30-1285 TO 30-2140 IN RECEIVERS OF RUN 3.

RUN 1 KXVL 12-34

RUN 2 KXUL 5X-6

TO IMPROVE THE PERFORMANCE OF THE OSCILLATOR CIRCUIT ON THE SHORT WAVE BANDS, RESISTOR (29) 70,000 ohms, Part No. 30-370159, was changed to 31,000 ohms, Part No. 30-370161.

The part number for the tune control (40) should be listed as follows:

(40) Tune Control and phone switch (80) 42-1361

Tune Control and phone switch (40A) 42-1362
MODEL 38-7  Code 121, 124  Bulletin 280

Run 2
To provide uniform performance of the oscillator circuit, a 20 ohm resistor, Part No. 33-00339 was connected in series with the cathode of the 6AS6 Det. Ge. tube. The following parts in Code 124 Chassis were changed to reduce bass response.

Schematic No.  Old Part  New Part
(24) Condenser (.01 mfd.)  30-4479  30-4478 (.00 mfd.)
(12) Resistor (10,000 ohms, 3 watt)  33-316069 33-316069 (10,000 ohms)
(17) Condenser (.05 mfd.)  30-4494 30-4499 (.05 mfd.)

Run 3
In order to further reduce frequency drift at the high frequency end of the broadcast tuning range, capacitor (7A) and mounted adjacent to resistor (12). The resistor is mounted to the chassis with a mounting clamp, Part No. 27-8977. The resistor must be mounted in this manner, otherwise the thermal condenser will not function properly.

Run 4
The new Thermal Condenser, Part No. 31-6255 which was added to the Receiver in Run 3, is replaced with two fixed Condensers, Part No. 30-1097 in Run 4 Receivers.

Run 5
The 20 ohm Resistor, Part No. 33-00359 Resistor connected in series with the 6AS6 Det-Ge. tube cathode in Run 3 Receiver was removed.

The Part Numbers for the Volume Control (26), Tone Control (39) and Range Switch (44) as listed in the Bulletin are correct for Models 38-8 and 38-9. The correct parts, however, are listed in the following: 20 Volume Control (26) Code 121 Bulletin 283

Run 6
To provide uniform performance of the oscillator circuit, a 20 ohm resistor, Part No. 33-00359 was connected in series with the cathode of the 6AS6 Det. Geo. tube.

MODEL 38-8  Code 121  Bulletin 280

Run 2
The following parts were changed to increase the sensitivity of the anode Amplifier:

Schematic No.  Old Part  New Part
(12) Resistor (10,000 ohms, 3 watt)  33-316059 33-316059 (10,000 ohms)
(17) Condenser (.05 mfd.)  30-4494 30-4499 (.05 mfd.)

Run 3
To provide uniform performance of the oscillator circuit, a 20 ohm resistor, Part No. 33-00359 was connected in series with the cathode of the 6AS6 Det. Geo. tube. When using Power Transformer, Part No. 30-1097 for 25 cycle operation, Condenser (32), Part No. 30-4115, .02 mfd. should be changed to Part No. 30-4175, .06 mfd.

Connection
The location of Condensers 7 and 9 shown in Figure 2 should be reversed.

MODEL 38-10  Code 121  Bulletin 283

Run 2
To provide uniform performance of the oscillator circuit, a 20 ohm resistor, Part No. 33-00359 was connected in series with the cathode of the 6AS6 Det. Geo. tube. When using Power Transformer, Part No. 30-1097 for 25 cycle operation, Condenser (32), Part No. 30-4115, .02 mfd. should be changed to Part No. 30-4175, .06 mfd.

MODEL 38-12  Code 121  Bulletin 284

Condenser changes for improved operation:

Schematic No.  Original Part No.  New Part No.
(2) Condenser (.05 mfd. tubular)  30-4484 30-4452 (.05 mfd.)
(13) Condenser (.01 mfd.)  30-4436 30-4474 (.01 mfd.)

Run 2
New type mounting on Tuning Condenser,

(3) Tuning Condenser Assembly  31-2068 31-2177

Run 2
IMPORTANT: Wire Dress to Eliminate Hum,
1. Dress the green wire connecting the Diodes of the 75 tube to the 2nd I.F. transformer as far as possible from the filament pins of the 75 tube.
2. The brown wire connecting resistor 12 to the high side of the Volume Control should be dressed under the coil of I.F. transformer 12.
3. The grid lead of the 75 tube should be dressed toward the back of the resistor and between the tube and shield.

The 2nd I.F. Transformer (12) changed from Part No. 32-3047 to Part No. 32-5944.

Note: Condenser (128) and (12C) are part of the pad in these transformers.

The wiring of the new transformers 32-5944 is shown on this change notice.

**MODEL 38-33**

**Code 121**

**Bulletin 282**

**Correction:**

Schematic No. 97-59442

Incorrect No. 97-45842

Correct No. 98-59442

The pilot lamp (37) listed as 34-2150 should be 34-2005.

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**MODEL 38-35**

**Code 121**

**Bulletin 296**

Wire dress to prevent burn

Beginning with Run 3 receivers, the red wire which connects the filament of the 6470 tube to the on-off switch has been lengthened. The wire now follows the rear, side and front channels of the chassis close to the base, instead of being connected directly from the switch to the socket contact.

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**MODEL 38-38**

**Code 121**

**Bulletin 290**

The cone assembly part number for the 3652 speaker is 36-5797.

**Correction:**

The schematic diagram, Figure 3 is correct. The sub title, however, shown as 36-10, Code 121, is incorrect and should be 36-39, Code 121.

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**MODEL 38-39**

**Code 121**

**Bulletin 287**

In order to reduce maximum volume buzz, the following parts were changed:

**Schematic No.**

(22) Resistor (11.7 ohms, # w) 32-2140 32-2175 8.7 ohms

(20) Resistor (115 ohms, # w) 32-205099 32-205090 115 ohms

(32) Condenser (0.000009 cm) 52-8850 52-8850 0.000009 cm

(33) Condenser (0.000009 cm) 52-8850 52-8850 0.000009 cm

In order to increase oscillator strength the S. W. osc. coil was changed:

**Correction:**

Original No. 32-2688

New Part No. 32-2689

**Run 3**

Beginning with Run 3 resisters (21) 8000 ohms, Part No. 33-280593 was removed from the 20 volt tap and reconnected to the 120 volt tap of the battery cable. At the same time, the value was changed from 19000 ohms to 29000 ohms. Part No. 35-29000 35-29000, the battery cable Assy was also changed from Part No. 41-1516 to Part No. 41-3139.

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**MODEL 38-40**

**Code 121**

**Bulletin 288**

**Run 3**

The following changes were made to improve the action of the oscillator circuit.

**Original Part No.**

(9) Transformer (Sec. S. W.) 32-2688

**New Part No.**

32-2668

**Correction:**

Incorrect No. 32-2668

Correct No. 32-2688

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**MODEL 38-116**

**Code 125**

**Bulletin 286 A**

**Run 3**

**Bass Compensation parts relocated and changed**

Resistors (105) and (106) and Condensers (105 and 106) were removed from the audio unit and mounted in the center of the A. P. O. Switch (36). No change in the circuit.

**Correction**

Bass Compensation Condenser (105 and 106) was removed from the audio unit and relocated to the bottom of the A. P. O. Switch, Part No. 561580. 0.25 mf.

Compensator change to improve padding of antenna short wave section.

New Part Number 31-6109

**Run 4**

The parts in the oscillator section slightly rearranged -- no change in circuit.

Lead dress items to improve padding.

The white plate lead of the 6X90 Dht. Osc. tube should be dressed away from the oscillator circuit.

Orange lead of 1500 K. G. Padder (36) should be separated from 4.5 H.C. Padder (36). A.

Orange Osc. Grid and plate leads should be dressed o.1/2 each and away from Resistor 19 .

**Run 5**

Bass Compensator Part relocated to eliminate buzz at 50% rotation of the Volume Control.

Resistors (103) and (104) and Condenser (105) and (106) which were moved from audio unit and mounted in power (see Run 3 above) have been relocated in audio unit adjacent to the Volume Control. No. Buzz change in circuit.

All leads coming from the tone control must be dressed closer of the A.O. Switch and wires.

The following schematic numbers in the Change Notice for Runs 3 and 5 should be changed to correspond with the Diagram of Page 3.

**Incorporated**

Resistor (105) and (106)

Condenser (103) and (105)

Using transformers (113) and (110)

**Run 6**

The Primary Winding of Range 4 oscillator transformer, Part No. 32-26028 has been redesigned to prevent parasitic oscillations. The revised coil can be identified by a dull red, yellow and white paint on the coil tube and will be stock as 32-26024.

When this transformer is used, a new 31-6258 shunted across Range 4 Primary of Transformer 33 prior to Run 6 is removed. This change is shown in Bulletin 296.

**Run 7**

Condenser added and Range Switch changed to improve performance on Ranges 4 and 5.

Original Part No. 33-62664

New Part No. 33-62664

120 Range Switch (F. P. Section) 42-1940

The new switch, Part No. 42-1940 has an additional lug which grounds when switch is in Range 5 position. A 250 muf. condenser, Part No. 35-110399, is connected between these two points, the condenser is shunted across the primary of Range 4 Osc. Transformer 33. When this change was made, Transformer 33, Part No. 32-26024 was changed to 32-62030.

The identification color on Oscillator Transformer 33, Part No. 32-26028 is red, yellow and black. The red, yellow, and black coils must be used when the 250 muf. condenser is used.

**Run 8**

To prevent parasitic oscillations and improve the performance of the oscillator circuit at 25 mc., a 100 ohm resistor, Part No. 33-110399, is connected between 6050 oscillator anode and the plate of the 6X90.

The brown wire, which formerly connected these two socket contacts is removed, the resistor replacing the wire.

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**MODEL 38-600**

**Code 125**

**Supplement to Wiring Diagram**

**Run 1**

To stabilize the oscillator circuit, a 15,000 ohms, Part No. 33-110399, is connected across the primary of the Range 4 section of Oscillator Transformer 37.

**Run 2**

The primary winding of Range 4, Oscillator Transformer 37, Part No. 32-26028, has been redesigned to prevent parasitic oscillations. The revised coil can be identified by a dull red, yellow and white paint on the coil tube.

When the new transformer is used the 15,000 ohm Resistor, Part No. 33-110399 shunt across Range 4 Primary of Transformer 37 in Run 1 Receiver is removed. This change is shown in the Schematic Diagram.

**Run 3**

Condenser added and range switch changed to improve the performance of the oscillator circuit on Ranges 4 and 5 as follows:

Original Part No. 33-62664

New Part No. 33-62664

(102) Range Switch, (F. P. Section) 42-1955 42-1940

The new switch, Part No. 42-1940 has an additional lug, which grounds when switch is in Range 5 position.

A 250 muf. condenser, Part No. 50-1032, is connected from this lug on the switch to Capacitor (408). When connected between these two points, the condenser is shunted across the primary of an oscillator transformer in Range 5 position.

**Run 4**

To prevent parasitic and to improve performance of the oscillator circuit at 10 M., a 100 ohm resistor, Part No. 33-110399, is connected between the 690 oscillator anode and the plate of the 6X90 tube. The brown wires which formerly connected these two socket contacts is removed - the resistor replacing the wire.

**Schematic Notes:**

Condenser (125) must be placed as far as possible away from the A.O. switch of the audio bass control.
A V.C. TO AND GREEN/WHITE T.R. LEAD FROM (6) COMPENSATOR LOCATIONS.

SCHEMATIC DIAGRAM SHOWING RUN No. 2 CHANGES IN MODEL 38-2 CODE 121 CONNECTING POINTS LABELED IN RESPECT TO SCHEMATIC MODEL 38-2 IN BULLETIN No. 294.

MODEL 38-12 - Code 121
Run 3

MODEL 38-14 - Code 121, 124
Run 2

MODEL 38-22 - Code 121, 124
Run 8
MODEL 38-23 - Code 121
Run 4

MODEL 38-15 - Code 121, 124
Run 5