

# PHILCO



# SERVICE

## Shop Practices and Service Techniques

### RADIO

DECEMBER, 1951

## SUPPLEMENTS TO SERVICE MANUALS

During the last year there have been prepared and distributed to you, the Service Members, manuals covering the repair and adjustment of all the present Philco Radio models. We are taking this opportunity to bring these service manuals up-to-date with the latest "run" change information, part number corrections, and addition of part numbers covering new cabinet colors. We trust that this information will be added to your present manuals or kept intact with your service notes. If the latter course is taken, a good idea would be to add an appropriate note in each manual affected to refer you to the proper supplement. Additional information of this type will be sent as other changes are made.

### SUPPLEMENT TO PR-1899, SERVICE MANUAL FOR MODEL 51-632

#### *Addition to parts list*

The part number of the plastic tip of the off-on switch lever is 54-8165.

### SUPPLEMENT TO PR-1911 SERVICE MANUAL FOR MODEL 51-1330

#### *Corrections to parts list*

C-10 Condenser, tone compensation .0068mf .....	45-3505-57*
W-1 Line Cord .....	L-2183*
Pointer .....	56-5630-31
Tuning shaft .....	56-8370

#### *Correction to schematic*

The value of C-10 should be .0068mf.  
The drawing of the 2nd IF transformer circuit under Run #2 on page 4 should be changed as follows: Lug designation 3 and 4 should be transposed.

#### *Production change information*

The wiring of C-9 was reversed. C-9A, .007mf DC blocking condenser, was wired so that C-9B, 220 mmf grid by-pass, will connect from the 7C6 plate to B— and act as a plate by-pass condenser. This change occurred without a run number.

#### *Run #3*

To reduce AVC distortion:— The secondary of Z-1 is disconnected from the AVC line and is now connected to B—. A 180 ohm resistor, Part No. 66-1188340, is now wired from pin 7 to B— and is used for cathode bias of the 7B7, IF amplifier. A .05mf condenser, Part No. 61-0122\*, is wired in parallel with the above resistor as cathode by-pass.

### SUPPLEMENT TO PR-1898, SERVICE MANUAL FOR MODEL 51-1730

#### *Corrections to parts list*

C-15 Condenser, tone compensation, .0068mf. ....	45-3505-57
T-3 Transformer, filament .....	32-8461
Dial scale .....	54-5100-1
Pointer .....	56-5630-3FCP
Pilot-lamp bracket-and-clip assembly ..	delete
Spring, hairpin (2) .....	57-1468FA3
Speed nut, changer mounting (3) .....	W-2554

#### *Correction to schematic*

The value of C-15, tone compensating condenser, should be .0068mf.

#### *Production change information*

C-18, the line by-pass condenser, was changed in value to .047mf., Part No. 45-3505-62, soon after the start of production.

#### *Run #3*

To reduce AVC distortion:— The grid return lead (lug 1 of Z2) is removed from AVC and connected to B-. A 330 ohm resistor, Part No. 66-1338340, is added in the cathode circuit of the 7B7 IF amplifier. The cathode bias resistor is by-passed by a .05mf condenser, Part No. 61-0122\*.

**SUPPLEMENT TO PR-1902, SERVICE MANUAL  
FOR MODELS 51-1731 AND 51-1732**

*Corrections to parts list*

- C-10 Condenser, neutralization,  
3.3mmf ..... 30-1224-49
- C-21 Condenser, DC blocking, phono coupling  
Model 51-1731 .001mf ..... 45-3505-52\*  
Model 51-1732 .0033mf ..... 45-3505-55\*
- J-3 Socket, phono input ..... 27-6252

*Corrections to schematic*

- C-21 The value of this condenser is .001mf for Model 51-1731 and .0033mf for Model 51-1732.  
The condenser between R-22 and R-23, the screen by-pass of the 2nd IF amplifier is C-33 with a value of .01mf.  
The resistor from the Volume Control tap to the tone control is R-29 with a value of 27,000 ohms for Model 51-1731 and 18,000 ohms for Model 51-1732.

**SUPPLEMENT TO PR-1903, SERVICE MANUAL  
FOR MODELS 51-1733 AND 51-1734**

*Corrections to parts list*

- J-5 Socket, phono input ..... 27-6252
- L-A1 Loop aerial, Model 51-1734  
Aerial assembly not carried.  
Plug only. .... 27-4785-11
- L-S1 Speaker, Model 51-1734 ..... 36-1611-7  
Bin light cable assembly ..... 41-3944-3  
Speaker Bolts (4) ..... W700-2

*Corrections to schematic*

- The voltage at the junction of R-47, R-46, and C-59C should read 145V.
- The two switch sections in the IF circuit that appear under Z4 should be designated as follows: Top section is WS-4 (F) and bottom section is WS-4 (R)
- The switch contact of WS-1(F) connected to the 7F8 mixer grid should be lug 9 instead of lug 1.
- Also, the switch arm of this section should have an arrow head touching lug 7.
- The 7F8 mixer grid is pin 1.
- The condenser in parallel with R-19 in the AM oscillator is C-21.

*Production change information*

**Run #2**

To improve FM sensitivity:— R-23 was changed in value to 1000 ohms, Part No. 66-2108340.

**Run #3**

To improve AM sensitivity of the 7F8:— R-19 was changed to 1500 ohms, Part No. 66-2158340.

**Run #4**

To reduce low level audio distortion with sensitive 6AV6's at high signal level a 15mmf ceramic condenser, Part No. 62-015400021, was added from 1st audio grid, pin 1 of 6AV6 to ground.

**Run #5**

The AM oscillator coil, L5, was changed to Part No. 32-4153-11. However, the original part, No. 32-4153-6 will be used as replacement.

**Run #6**

To stabilize the FM i-f:— C-36 was changed in value to .003mf, Part No. 61-0109\*.

**MODEL 51-1736 — SUPPLEMENT TO PR-1902,  
SERVICE MANUAL FOR  
MODELS 51-1731 AND 51-1732**

Model 51-1736 is identical to Model 51-1732 with the following exceptions.

- LS-1 Speaker ..... 36-1610-9
- Cabinet ..... 10824-4
- Doors, matched set of 2 ..... 45-6685
- Door knob (2) ..... 56-8747-1
- Door pull (2) ..... 56-7138-2
- Frame, changer mounting ..... 76-6600

**SUPPLEMENT TO PR-1478, SERVICE MANUAL  
FOR MODEL M-8 RECORD CHANGER**

*Change in parts list*

The push-off cover assembly, Part No. 76-2984, is no longer carried, but the available components are as follows:

- Bumper, holddown ..... 54-4460
- Record shelf ..... 56-4626-1

**SUPPLEMENT TO PR-1731, SERVICE MANUAL  
FOR MODEL M-20 RECORD CHANGER**

*Corrections to parts list and Fig. 16*

- Idler wheel ..... 45-6559
- Pulley assembly ..... 45-6558
- Turntable ..... 35-2705

**SUPPLEMENT TO PR-1923, SERVICE MANUAL  
FOR MODEL M-22 RECORD CHANGER**

*Corrections to parts list*

- Knob, speed control (Fig. 10) ..... 54-4787
- Drive belt (used on Motor 35-1451)  
(Fig. 11) ..... 54-7959

**SUPPLEMENT TO PR-1949, SERVICE MANUAL  
FOR MODELS 52-540, 52-541 AND 52-542**

**SUPPLEMENT TO PR-1950,  
SERVICE MANUAL FOR MODEL 52-544**

*Code 122*

This code of the above three models incorporates the "tube saver" resistor. The changes are as follows: The resistor, Part No. 33-1343-3 is wired across a three lug terminal panel at the oscillator end of the chassis. Electrically this resistor is in the series filament string between the output tube, which is now a 35L6, and the 12BA6 IF amplifier, as shown in the accompanying schematic. (Figure 1)

*Additions to parts list*

52-544-E Cabinet, ebony	10745-5
Baffle and cloth	40-7730
Jewel	54-4304-1
Knobs, volume	27-4815-8
Auto-off-on and delayed off	54-4736-5
Auto set	54-4736-6
Time set	54-4736-8
Clock and cable assembly	76-7418
Dial scale	54-5055-2

*Additions to parts list*

52-540-E Cabinet, ebony	10750-6
Knobs, (2)	54-4527-3
52-541-G Cabinet, gray	10747-1
Knobs (2)	54-4674-1
52-542-M Cabinet, mahogany	10769-7
Dial scale	54-5132-3
Knobs (2)	54-4718-34
52-542-E Cabinet, ebony	10769-11
Dial Scale	54-5132-3
Knobs (2)	54-4718-35

*Corrections to parts list*

Baffle and cloth, 52-544W	Delete
Auto-off-on Knob, 52-544M	54-4736
Auto-off-on Knob, 52-544I	54-4736-1
Volume Knob, 52-544W	27-4815-7
Auto-off-on Knob, 52-544W	54-4736-5
Socket, clock	27-6273

**SUPPLEMENT TO PR-1951, SERVICE MANUAL  
FOR MODELS 52-640 AND 52-641**

*Corrections to parts list*

C-10 Condenser, ceramic, 4 section	30-1237
R-3 Resistor, bias, 820 ohms	66-1828340
Handle, 52-640 (part of handle and bracket, 76-6967)	Delete
Handle and bracket assembly, 52-641 (order handle, Part No. 56-7940)	Delete
Pointer, 52-641	56-7973-1

*Corrections to parts list*

Baffle, speaker, 52-540	Delete
Baffle, speaker, 52-541	Delete
Back, 52-542	54-7911
Baffle, speaker, 52-542	Delete
Dial Scale, 52-542	54-5132
Dial Backplate assembly (part of 76-7048)	Delete

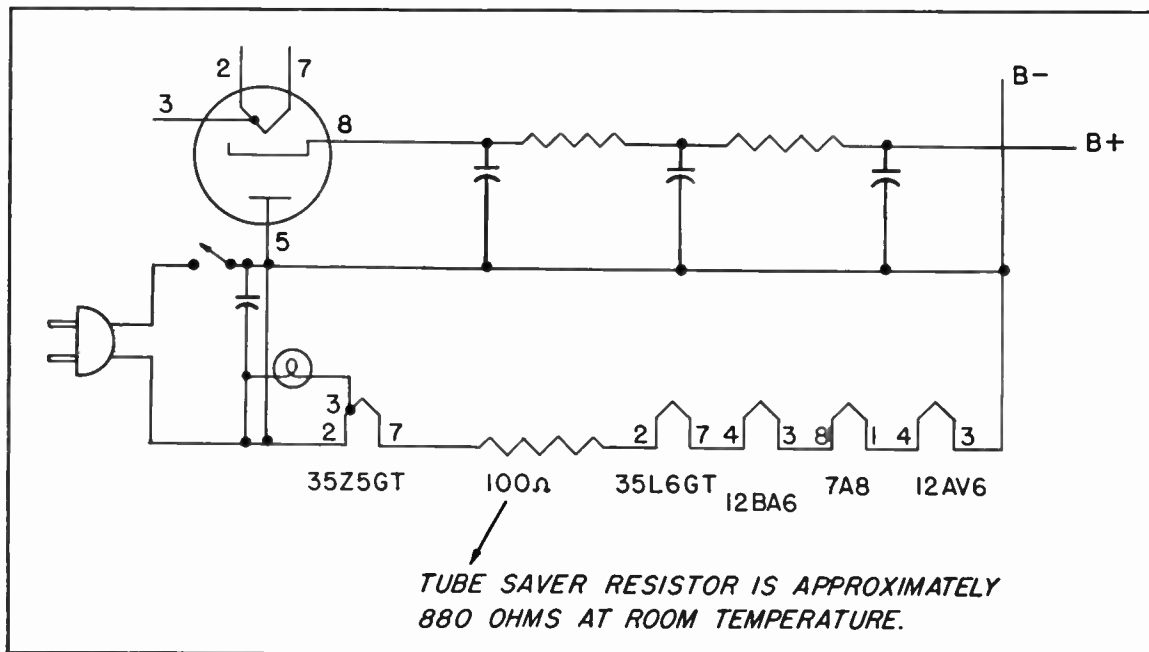


FIGURE 1

**SUPPLEMENT TO PR-1952,  
SERVICE MANUAL FOR MODEL 52-643**

*Corrections to parts list*

Handle Assembly .....	76-6970-4
Dial backplate assembly (order backplate 56-9190) .....	Delete
Pointer .....	56-8774-1
Clip (coil mtg.) .....	56-4109

**SUPPLEMENT TO PR-1953, SERVICE MANUAL  
FOR MODELS 52-940, 52-941 AND 52-942**

*Corrections to parts list*

Back, 52-940 .....	318-3288
Baffle, 52-940 .....	54-7938-2
Clip scale mtg., 52-941 .....	56-7886FE7
Cabinet, 52-941 .....	76-5378
Back, 52-941 .....	318-3289
Back, 52-942 .....	318-3290
Baffle, cardboard, 52-942 .....	Delete
Bezel, 52-942 .....	56-7436-1
Plug, aerial, 4 pin .....	27-6214-1
Tube shield, 14B6 .....	Delete

**SUPPLEMENT TO PR-1955,  
SERVICE MANUAL FOR MODEL 52-944**

*Corrections to parts list*

C-7 Condenser, screen by-pass, 220mmf .....	62-122001001
C-16 Condenser, plate de-coupling, .01mf Back, flange, and socket assembly .....	Delete
Washer, speaker mtg. ....	Delete

*Additions to parts list*

**SUPPLEMENT TO PR-1956,  
SERVICE MANUAL FOR MODEL 52-1340**

*Corrections to parts list*

LA-1 Loop antenna, code 122 .....	76-2127-13
Cabinet, code 121 .....	10840-5
Cabinet, code 122 .....	10840-5