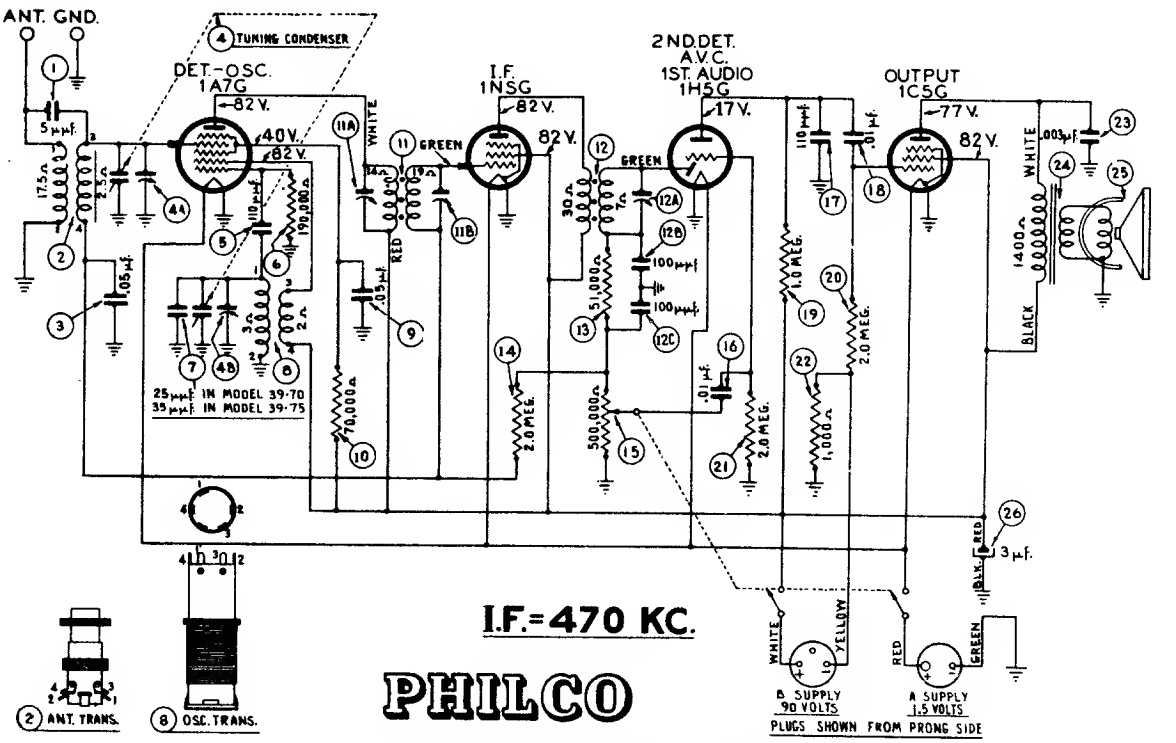
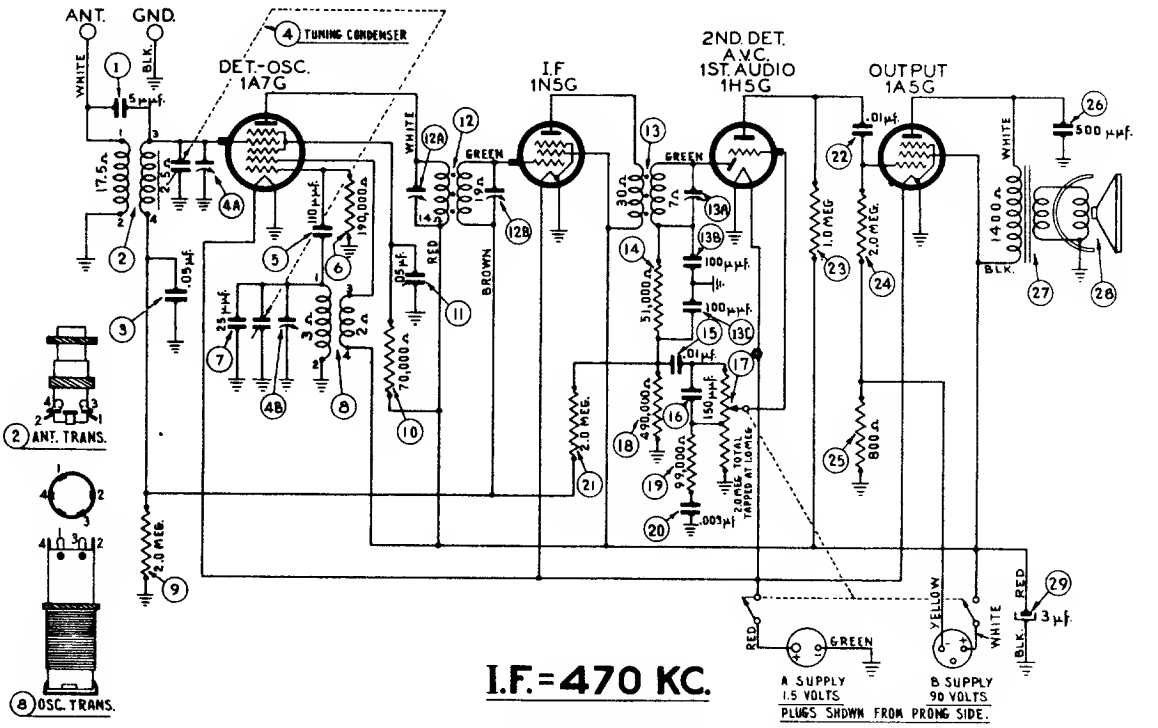
Philco Radio & Television Corp.

	Model: 39-75	**Chassis:**	**Year:** Pre August 1939
	Power:	**Circuit:**	**IF:**
	Tubes:		
	Bands:		

Resources
Beitmans 1939 105
Beitmans 1939 106
Riders 10 (X) PHILCO 10-25
Riders 10 (X) PHILCO 10-26
Riders 11 (XI) PHILCO 11-27



SCHEMATIC DIAGRAM MODEL 39-70 & 39-75



SCHEMATIC DIAGRAM MODEL 39-80

PROCEDURE FOR MODELS 39-70 AND 39-75

Operations in Order	Signal Generator			Receiver		
	Output Connections to Receiver	Dummy Antenna Note A	Dial Setting	Dial Setting	Control Setting	Adjust Compensators
1	1A7G Grid	.1 mfd.	470 K. C.	580 K. C.	Vol. Max.	12A, 11B, 11A
2	Ant. (White)	225 mfd.	1550 K. C.	1550 K. C.	Vol. Max.	4B, 4A

PROCEDURE FOR MODEL 39-80

Operations in Order	Signal Generator			Receiver		
	Output Connections to Receiver	Dummy Antenna Note A	Dial Setting	Dial Setting	Control Setting	Adjust Compensators
1	1A7G Grid	.1 mfd.	470 K. C.	580 K. C.	Vol. Max.	13A, 12B, 12A
2	Ant. (White)	225 mfd.	1550 K. C.	1550 K. C.	Vol. Max.	4B, 4A

A—The "Dummy Antenna" consists of a condenser or resistor connected in series with the signal generator output lead (high side). Use the capacity or resistance as specified in each step of the above procedure.

B—DIAL CALIBRATION: In order to adjust the receiver correctly, the dial must be aligned to track properly with the tuning condenser.

Model 39-70 and 39-80—To adjust the dial proceed as follows: Turn the tuning condenser to maximum capacity (plates fully meshed). With the tuning condenser in this position, set the pointer horizontally across the dial.

Model 39-75—With the tuning condenser in the maximum capacity position (plates fully meshed), loosen the coupling screws connecting the push-button unit to the condenser. The pointer is then set on the extreme left edge of the index line (low frequency end of the scale) with the tuning condenser fully closed. The gang is then opened until the pointer is at the right edge of the index line. The push-button shaft is then turned counter-clockwise to its "stop." With the tuning condenser and push-button shaft in these positions tighten the coupling set screws.

C—The locations of the compensators in Models 39-70, 39-75 and 39-80 are shown in Figs. (1), (2) and (3) respectively.

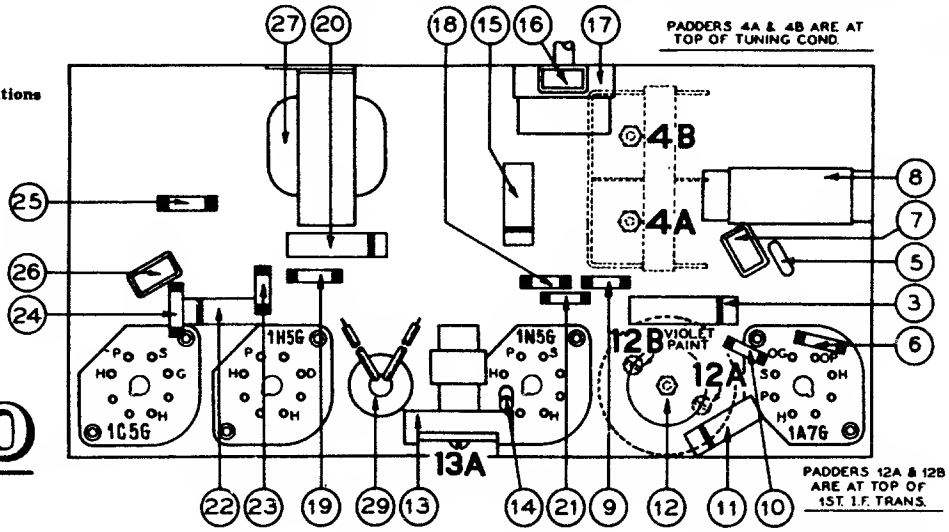


Fig. 3. Compensater and Part Locations Model 39-80, Code 121 Underside of Chassis

PHILCO

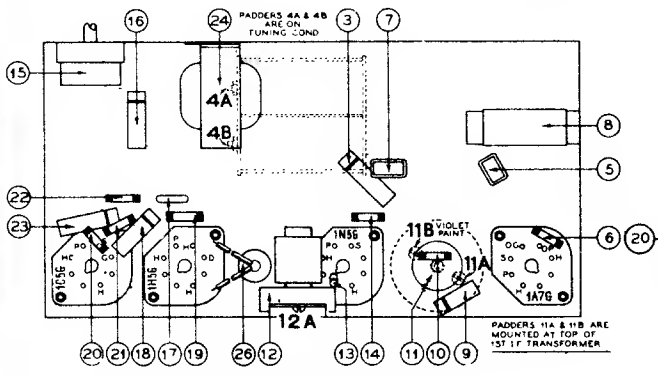


Fig. 1. Compensator and Part Locations Model 39-70, Code 121

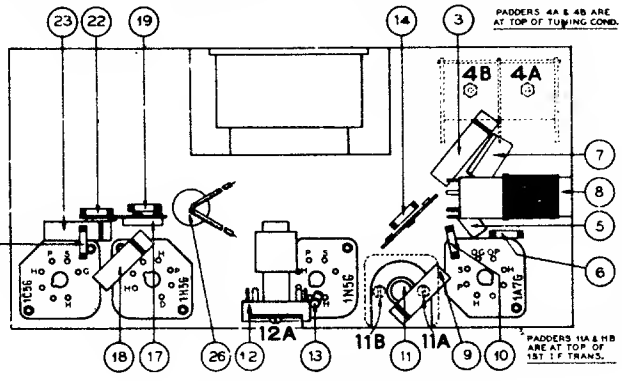


Fig. 2. Compensator and Part Locations Model 39-75, Code 121-122 Underside of Chassis

PHILCO RADIO & TELEV. CORP.

MODELS 39-70,Code 121,
39-75,Code 121,122
Schematic,Socket,Trimmers
Chassis

Alignment Notes

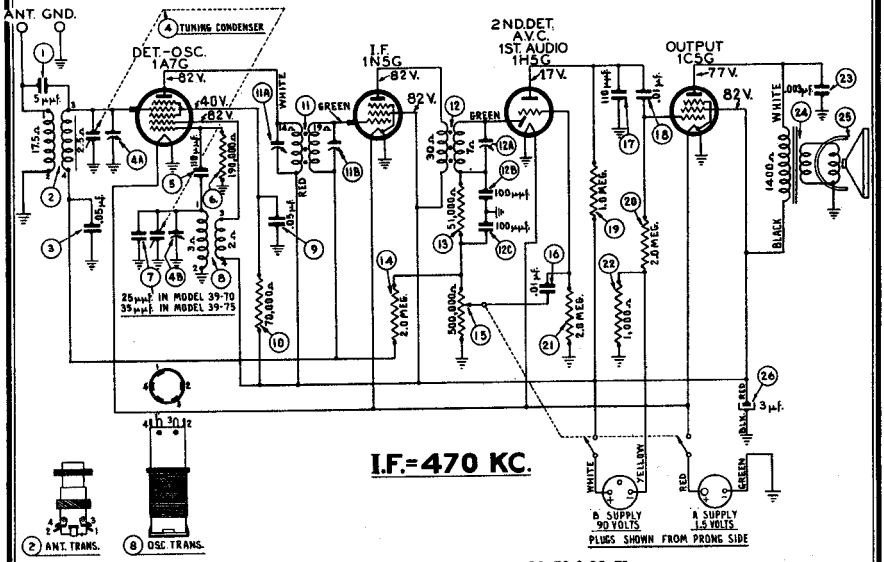
NOTE A—The "Dummy Antenna" consists of a condenser or resistor connected in series with the signal generator output lead (high side). Use the capacity or resistance as specified in each step of the above procedure.

NOTE B—DIAL CALIBRATION: In order to adjust the receiver correctly, the dial must be aligned to track properly with the tuning condenser.

Model 39-70 and 39-80—To adjust the dial proceed as follows: Turn the tuning condenser to maximum capacity (plates fully meshed). With the tuning condenser in this position, set the pointer horizontally across the dial.

Model 39-75—With the tuning condenser in the maximum capacity position (plates fully meshed), loosen the coupling screws connecting the push-button unit to the condenser. The pointer is then set on the extreme left edge of the index line (low frequency end of the scale) with the tuning condenser fully closed. The gang is then opened until the pointer is at the right edge of the index line. The push-button shaft is then turned counter-clockwise to its "stop." With the tuning condenser and push-button shaft in these positions tighten the coupling set screws.

NOTE C—The locations of the compensators in Models 39-70, 39-75 and 39-80 are shown in Figs. (1), (2) and (3) respectively.



SCHEMATIC DIAGRAM MODEL 39-70 & 39-75

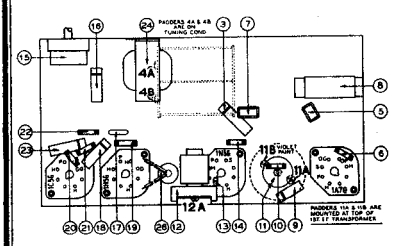


Fig. 1. Compensator and Part Locations
Model 39-70, Code 121
Underside of Chassis

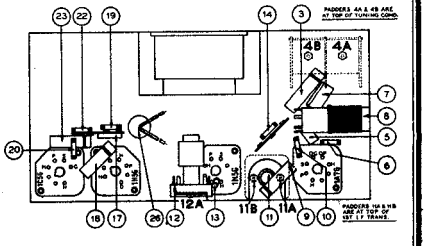


Fig. 2. Compensator and Part Locations
Model 39-75, Code 121-122
Underside of Chassis

MODELS 39-70, Code 121,
39-75, Code 121, 122
Alignment, Parts List
MODEL 39-80, Code 121
Alignment

PHILCO RADIO & TELEV. CORP.

REPLACEMENT PARTS

Models 39-70, Code 121, and 39-75, Codes 121-122

Schem. No.	Description	Part No.
1	Condenser (5 mmf. mica) (Part of No. 2)	30-1097
2	Antenna Transformer (Includes No. 1)	32-3080
3	Condenser (.05 mf. tubular)	30-4519
4	Tuning Condenser Assembly, 39-70	31-2300
	Tuning Condenser Assembly, 39-75	31-2265
5	Condenser (110 mmf. mica)	30-1031
6	Resistor (190,000 ohms, ½ watt)	33-419339
7	Condenser (25 mmf. mica), 39-70	30-1067
	Condenser (35 mmf. silver plated mica), 39-75	30-1113
8	Oscillator Transformer, 39-70	32-3019
	Oscillator Transformer, 39-75	32-3083
9	Condenser (.05 mf. tubular)	30-4444
10	Resistor (70,000 ohms, ½ watt)	33-370339
11	1st I. F. Transformer Assembly, 39-70	32-2841
	1st I. F. Transformer Assembly, 39-75	32-3078
12	2nd I. F. Transformer Assembly	32-3081
13	Resistor (51,000 ohms, ½ watt)	33-351339
14	Resistor (2.0 megohms, ½ watt)	33-520339
15	Volume Control and On-Off Switch, 39-70	33-5290
	Volume Control and On-Off Switch, 39-75	33-5291
16	Condenser (.01 mf. tubular)	30-4572
17	Condenser (110 mmf. mica)	30-1031
18	Condenser (.01 mf. tubular)	30-4572
19	Resistor (1.0 megohm, ½ watt)	33-510339
20	Resistor (2.0 megohms, ½ watt)	33-520339
21	Resistor (2.0 megohms, ½ watt)	33-520339
22	Resistor (1000 ohms, ½ watt)	33-210339
23	Condenser (.003 mf. tubular)	30-4469
24	Output Transformer	32-7995
*25	Cone and Voice Coil Assemblies—	
	39-70 "B," Spkr. Pt. No. 36-1435	36-4090
	39-70 "F," Spkr. Pt. No. 36-1447	36-4092
	39-75 "B," Spkr. Pt. No. 36-1442	36-4090
	39-75 "F," Spkr. Pt. No. 36-1447	36-4092
26	Electrolytic Condenser (3 mf.)	30-2346

MISCELLANEOUS PARTS

Model 39-70, Code 121

Description	Part No.
Bezel Window	27-5417
Cable (Battery)	41-3427
Dial	27-5416
Dial Drive Cord	31-2317
Dial Drive Spring	28-8751
Dial Pointer	28-5468
Knob	27-4332
On-Off Indicator Parts—	
Hub and Lever	38-9658
Toggle Link and Brkt. Assy.	38-9700
Spring (Toggle Link and Brkt. Assy.)	28-8925
Snap Fastener	56-1156
Pulley (Tuning Condenser)	28-6662
Pulley Screw (Tuning Condenser)	W-1400
Shaft Assy. (Tuning)	31-2290
*Speaker ("B" Cabinet)	36-1435
*Speaker ("F" Cabinet)	36-1447

Model 39-75, Code 121-122

Description	Part No.
Automatic Tuning Unit Complete	31-2282
Bezel (Dial)	40-6364
Bezel Gasket (Dial)	27-9174
Bezel (Push-Button)	28-5929
Bezel Gasket (Push-Button)	27-9218
Dial	27-5420
Dial Pointer	28-5934
Dial Drive Cord	31-2275
Dial Drive Cord Spring	28-8919
Dial Drive Drum (Tuning Condenser)	31-2281
Knob (Volume)	27-4753
Knob (Tuning)	27-4750
Knob Screw (Tuning)	28-6882
Push-Button	27-4749
Push-Button Spring	28-8918
Sleeve—Short (Tuning Shaft, Code 121-122)	28-6887
*Speaker (T Cabinet)	36-1442
Socket (1A7G)	27-6099
Socket (6 prong)	27-6086
Socket (7 prong)	27-6087

Model 39-75, Code 122

Description	Part No.
Extension Shaft (Volume)	38-9640
Extension Shaft (Tuning)	28-6928
Extension Sleeve—Long (Tuning Shaft)	28-6935
Socket (Speaker)	27-6115
*Speaker (Code 122)	36-1447
Spring (Retaining Vol. Knob)	28-8915

Specifications

TYPE OF CIRCUIT: Models 39-70, 39-75 and 39-80 are four tube battery operated superheterodyne receivers covering standard broadcast and state police stations. The receivers employ the new Philco Farm Radio Tubes, which require exceptionally low current for operation, Automatic Volume Control, and a Philco Speaker designed especially for battery radio. In general these models are similar but differ in their tuning mechanisms, speakers and cabinets.

Model 39-70 is manually tuned and is assembled in cabinet types "F" (floor model) and "B" (table model).

Model 39-75, codes 121 and 122 is equipped with automatic push-button and manual tuning. The automatic tuning mechanism contains six push-buttons for selecting any of six stations in the standard broadcast band. The procedure for adjusting and operating the push-buttons will be found in the instructions supplied with each set.

Code 122 of this model is assembled in cabinet type "F" (floor model); Code 121 in cabinet type "T" (table model).

Model 39-80 is manually tuned and is assembled in cabinet type "B" (table model) and cabinet type "XF" (floor model).

In addition to the new Philco speaker in Model 39-80 a sound chamber is also built into the cabinet. This sound chamber reinforces the sound produced by the speaker and results in greater clarity of tone and intensity of sound output. Bass compensation is also included in the volume control circuit.

TUNING RANGE: 530 to 1720 K. C.

INTERMEDIATE FREQUENCY: 470 K. C.

PHILCO TUBES: One 1A7G, First Detector and Oscillator; one 1N5G, I. F. Amplifier; one 1H5G, Second Detector; First Audio and Automatic Volume Control, and one 1C5G (1A5G Model 39-80) Pentode Output.

BATTERIES REQUIRED: One (1) Philco "A" Pack, Part No. 41-8014; one (1) Philco "B" Pack, Part No. 41-8015.

INSTALLING BATTERIES: The batteries are arranged in the cabinet in such a manner that they form part of the sound chamber air column.

It is very essential, therefore, that the following instructions be carefully observed when installing the batteries. Remove the back from the cabinet after removing the wood screws which hold it in place. Place the small "A" Pack in the left side (looking at the cabinet from the rear) of the cabinet, three inches in from the rear with the slanting portion facing the front of the cabinet. Place the long "B" Pack along the rear of the cabinet with the socket for the battery cable plug at the top towards the front.

Observe the arrangement of pins on the plugs of the battery cable and the corresponding holes in the sockets of the batteries, so you will be sure to insert them correctly. Insert plug with two prongs into the small "A" Pack and the plug with three prongs into the large "B" Pack.

Replace the back on the cabinet with the wood screws, making sure all of them are screwed in tight.

BATTERY DRAIN:

Models 39-70 and 39-75..."A"—(250 M. A.) "B"—(8½ M. A.)
Model 39-80..........."A"—(200 M. A.) "B"—(6½ M. A.)

AERIAL AND GROUND: In order to obtain the highest amount of sensitivity from these receivers the Philco Farm Radio Aerial, Part No. 40-6383, should be used. This aerial is accurately designed to match the tuned antenna circuit in the receiver so that maximum performance will be obtained.

A good ground connection to the nearest water pipe or any other good ground source is also required.

CABINET DIMENSIONS:

Model	*Height*	*Width*	*Depth*
39-70B	13⅞"	11⅞"	6¼"
39-70F	37⅛"	23"	9⅝"
39-75T	8⅝"	13"	6⅜"
39-75F	37⅛"	23"	9⅝"
39-80B	17 7/16"	17 7/16"	9 9/16"
39-80XF	39⅜"	24¼"	12½"

Alignment of Compensators

EQUIPMENT REQUIRED:

(1) Signal Generator: Philco Model 077 Signal Generator which has a fundamental frequency range from 115 to 36,000 K. C. is the correct instrument for this purpose.

(2) Output Meter, Philco Model 027 Circuit Tester, incorporates a sensitive output meter and is recommended.

(3) Philco Fiber Handle Screw Driver, Part No. 27-7059, and Fiber Wrench, Part No. 3164.

OUTPUT METER: The Philco 027 Output Meter is connected to the plate and screen terminals of the type 1C5G tube in Models 39-70 and 39-75 (1A5G Model 39-80) and adjusted for the 0 to 30 V. A. C. scale. After connecting the output meter, adjust the compensators in the order as shown in the tabulation below. Locations of the compensators are shown on page 2. If the output meter pointer goes off scale when adjusting the compensators, reduce the strength of the signal from the generator.

PROCEDURE FOR MODELS 39-70 AND 39-75

	Signal Generator			Receiver			
Operations in Order	Output Connections to Receiver	Dummy Antenna Note A	Dial Setting	Dial Setting	Control Setting	Adjust Compensators	Special Instructions
1	1A7G Grid	.1 mfd.	470 K. C.	580 K. C.	Vol. Max.	12A, 11B, 11A	
2	Ant. (White)	225 mfd.	1550 K. C.	1550 K. C.	Vol. Max.	4B, 4A	Note B Note C

PROCEDURE FOR MODEL 39-80

	Signal Generator			Receiver			
Operations in Order	Output Connections to Receiver	Dummy Antenna Note A	Dial Setting	Dial Setting	Control Setting	Adjust Compensators	Special Instructions
1	1A7G Grid	.1 mfd.	470 K. C.	580 K. C.	Vol. Max.	13A, 12B, 12A	
2	Ant. (White)	225 mfd.	1550 K. C.	1550 K. C.	Vol. Max.	4B, 4A	Note B Note C

PHILCO RADIO & TELEV. CORP.

MODELS 39-17,39-18,39-19
39-19PA,39-19PF,39-19PCS
39-19PT,39-75
Tuner Data
MODEL 39-85
Alignment,Trimmers

Alignment of Compensators

EQUIPMENT REQUIRED:

(1) Philco Model 077 Signal Generator which has a fundamental frequency range from 115 to 36,000 KC is the correct instrument for this purpose.

(2) Output Meter, Philco Model 027 Circuit Tester, incorporates a sensitive output meter and is recommended.

(3) Philco Fiber Handle Screw Driver, part No. 45-2610 and Fiber Wrench, part No. 3164.

OUTPUT METER: The Philco 027 Output Meter is connected to the plate and screen terminals of the 1A5G tube. Set the meter to use the 0-30 volt scale.

Operations in Order	Signal Generator: Output Connections to Receiver	Signal Generator: Dummy Antenna (Note A)	Signal Generator: Dial Setting	Receiver: Dial Setting	Receiver: Control Settings	Receiver: Adjust Compensators in Order	Special Instructions
1	1A7G Grid	.1 mf	470 KC	580 KC	Vol. Cont. max.	(20A) (19B) (19A)	
2	Ant. Lead (white)	400 ohms	18.0 MC	18.0 MC	Vol. Cont. max.	(6B)	See Note B
3	Ant. Lead (white)	225 mmf	1550 KC	1550 KC	Vol. Cont. max.	(9) (6A)	
4	Ant. Lead (white)	225 mmf	580 KC	580 KC	Vol. Cont. max.	(9A)	Roll gang
5	Ant. Lead (white)	225 mmf	1550 KC	1550 KC	Vol. Cont. max.	(9)	

MODEL 39-85.

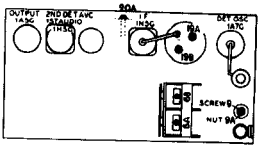


Fig. 1. Locations of Compensators

NOTE A—The "Dummy Antenna" consists of a condenser or resistor connected in series with the signal generator output lead (high side). Use the capacity or resistance as specified in each step of the above procedure.

NOTE B—DIAL CALIBRATION: In order to adjust the receiver correctly, the dial must be aligned to track properly with the tuning condenser. To adjust the dial proceed as follows: Turn the tuning condenser to maximum capacity (plates fully meshed). With tuning condenser in this position set the pointer horizontally across the dial.

Specifications

TYPE OF CIRCUIT: Four tube, battery operated superhetrodyne circuit, two tuning ranges, Automatic Volume Control, and Pentode Output.

TUNING RANGES: Range 1, 540 to 1720 KC.; Range 2, 5.6 to 18.0 MC.

INTERMEDIATE FREQUENCY: 470 KC.

PHILCO TUBES USED: 1-1A7G, 1st Detector and Oscillator; 1-1N5G, I. F. Amplifier; 1-1H5G, 2nd Detector, 1st Audio, and Automatic Volume Control; and 1-1A5G, Output.

AERIAL AND GROUND: Philco "Farm Radio Aerial," part No. 40-6383, is required for maximum performance. A good ground is very essential.

CABINETS: Types "B" and "XF."

BATTERIES REQUIRED: One Philco "A" Pack, part No. 41-8014, and one Philco "B" Pack, part No. 41-8015.

BATTERY DRAIN: 6.5 Ma. "B" and 200 Ma. "A." Total with no signal.

TUNING MECHANISM: Pulley and cable drive for Manual tuning. Electric Push-Button for Automatic Tuning.

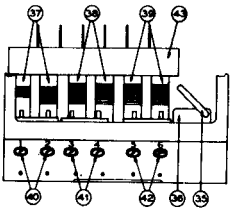


Fig. 4. Automatic Tuning Unit

Instructions for setting up and operating the electric push-button tuning will be found on Philco Page 10-16.

SETTING AND OPERATING AUTOMATIC TUNING

Models 39-17, 30-18, 39-19, 39-19PA, 39-19PF, 39-19PCS, 39-19PT, and 39-75.

For best results follow these instructions carefully.

Select six of your favorite nearby broadcast stations and remove their call letters from the station call letter tab sheets supplied. Insert these call letters in the escutcheon directly in front of the buttons at the top of the cabinet.

Hold the "Station Selector" knob to prevent it from rotating while you insert a large coin in the screw head at the center of the knob, (see figure) and loosen by turning counter-clockwise about one turn. Press down any one of the six buttons. Holding it down, tune in with the "Station Selector" the station corresponding to the call letters in front of the button. With the volume low, turn the "Station Selector" knob slowly back and forth until the signal is clearest. The station is then tuned in correctly.

Release the button and press another button all the way down. Follow the above instructions, tuning in the station accurately with the button held down. In the same way continue to set all the buttons.

After all buttons are set, and the last one is released, hold the "Station Selector" knob to prevent it from turning while you tighten the screw at the center of the knob. When the screw is tightened the unit is ready to operate.

If it is ever desired to substitute a station received well in your locality for a station already set, follow the same procedure, setting up only the desired station.

To tune your receiver automatically simply press down the button in the rear of the desired station call letters. Be sure that you press the button all the way down until a distinct stop is noted.