

PHILCO TRANSITONE SERVICE BROADCAST

NOVEMBER, 1935

FORD PHILCO RADIO — MODEL FT9

I. F. Transformers and Padders

Model FT9

The I. F. transformers are assembled complete with padding condensers.

Both the primary and the secondary padders are placed side by side in the top of the transformer shield can. The adjusting screws are accessible thru the holes in the top of the shield. (See Fig. 2).

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

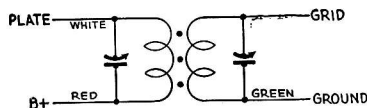


FIGURE 1

If replacements are ever necessary, replace the entire coil assembly, 32-1928 for the first I. F. stage and 32-1929 for the second I. F. stage. Neither the coil nor the padders will be furnished separately. Order only by the above numbers.

Model FT9 Adjustments

All padding adjustments are carefully made at the factory and ordinarily no readjustments are necessary. However, when readjustments to the Model FT9 are required, the procedure given below must be followed in detail.

Equipment

Fully charged heavy duty storage battery or 6-volt power pack, 048A Philco Set Tester, 3164 Padding wrench, 27-7159 Padding screw driver.

General

OUTPUT METER — The output meter must be connected by means of an adapter to the plate of the type 41 output tube and to the Receiver chassis.

SIGNAL GENERATOR — With the Receiver and signal generator set up for operation at the prescribed frequency, turn the Receiver volume control on full and set the signal generator attenuator so that a half scale reading is obtained on the output meter. The signal in the speaker should be audible but not loud.

The shielding on the signal generator output lead must be connected to the Receiver housing.

The tone control should be turned to the brilliant position.

I. F. — Adjust the signal generator to exactly 260 K. C. Connect the generator lead to the grid cap of the 78 I. F. tube in series with a .1 mfd. condenser.

Adjust the secondary screw padder (25) on the second I. F. transformer for maximum reading on the output meter. Then adjust the primary screw padder (23) for maximum reading. (See Fig. 2 for location of padders).

Remove the generator lead from the 78 tube.

Connect the generator lead to the grid cap of the 6A7 tube in series with a .1 mfd. condenser. Adjust the secondary screw padder (20) on the first I. F. transformer for maximum reading on the output meter. Then adjust the primary screw padder (20) for maximum reading. (See Figure 2 for location of padders).

HIGH FREQUENCY AND R. F. — After padding the first I. F. stage remove the generator lead from the 6A7 tube. Adjust the signal generator to 1600 K. C. and then connect the generator lead to the grid cap of the 78 R. F. tube in series with a .1 mfd. condenser.

Turn the tuning condenser plates out of mesh as far as they will go. With the tuning condenser in this position, adjust the high frequency padder (16) and the R. F. padder (13) until the maximum reading is obtained on the output meter. This is the true setting for 1600 K. C., 160 on the dial scale.

LOW FREQUENCY — Turn the tuning condenser plates in mesh to approximately 580 K. C., 58 on the dial scale and adjust the signal generator to 580 K. C. Roll the tuning condenser and adjust the low frequency padder screw (15) for maximum reading on the output meter.

HIGH FREQUENCY RE-ADJUSTMENT — Turn the tuning condenser plates out of mesh as far as they will go and adjust the signal generator to 1600 K. C. Then adjust the high frequency padder (16) again for maximum reading on the output meter.

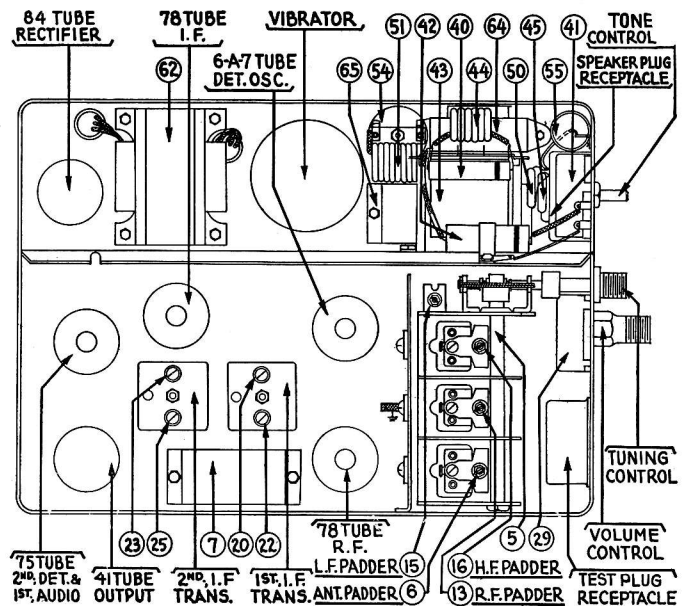


FIGURE 2 — FT9 Top View

ANTENNA — Connect the generator lead to the antenna lead using a 125 mmfd. condenser in series between the two leads. Turn the tuning condenser to 1400 K. C. and set the generator for 1400 K. C. Adjust the padders (15) and (6) for maximum reading on the output meter.

If this procedure has been carefully followed and an accurately calibrated oscillator or signal generator has been used, the Receiver will be adjusted properly.

NOTE: When the antenna stage adjustment is made with the Receiver installed in the car, the Receiver antenna lead must be connected to the car antenna in the usual manner. The signal generator output lead should be connected to a wire placed near the car antenna but not connected to it.

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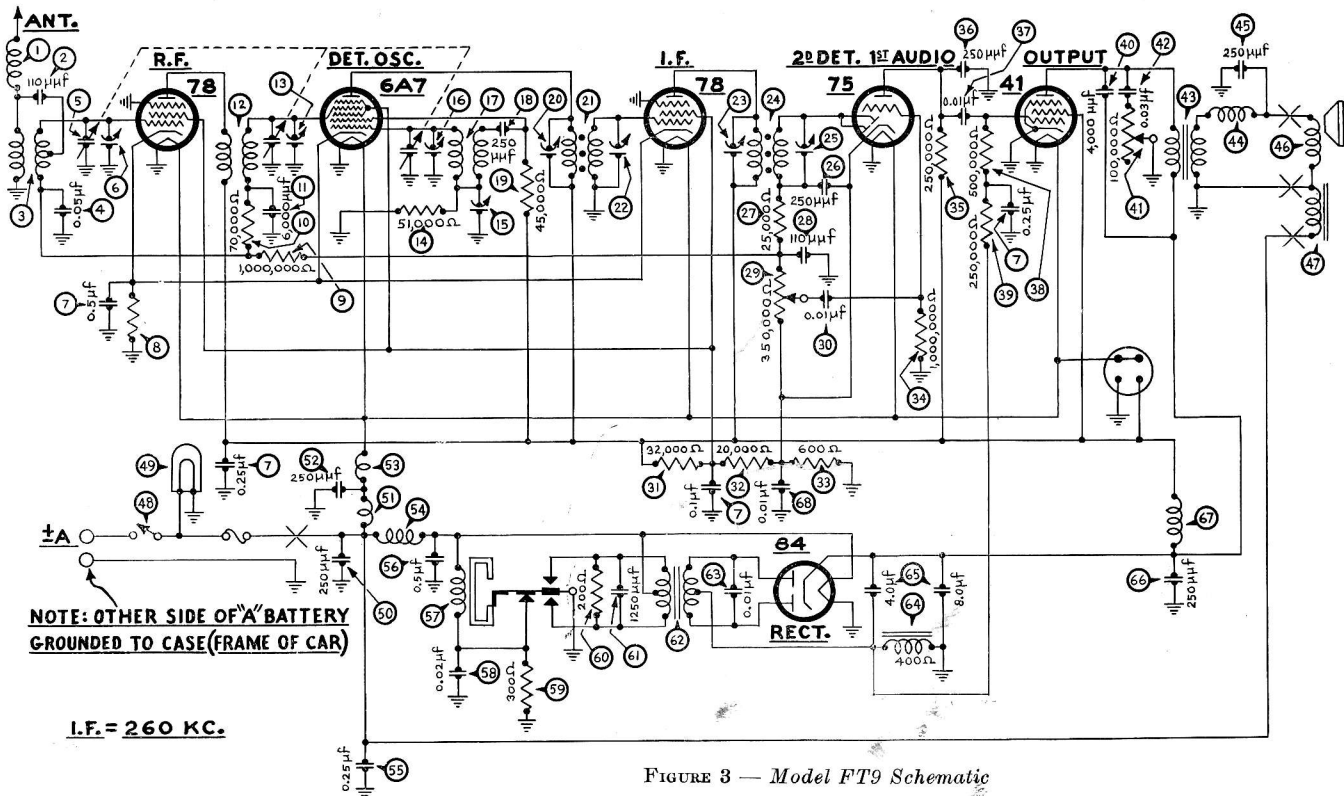


FIGURE 3 — Model FT9 Schematic

MODEL FT-9 — PARTS LIST

No.	Description	Part No.	No.	Description	Part No.
1	Antenna Choke	38-7219	31	Tone Control	
2	Condenser (110 mmfd.)	30-1031	32	(100,000 ohms)	33-5101
3	Antenna Transformer	32-1939	33	Condenser (.03 mfd.)	30-4380
4	Condenser (.05 mfd.)	30-4020	34	Output Transformer	32-7495
5	Tuning Condenser	31-1674	35	Choke	32-1644
6	First Padder (on tun. cond.)		36	Condenser (250 mmfd.)	30-1032
7	Condenser		37	Cone and Voice Coil	36-3526
	.1-.25-.25-.5 mfd.)	30-4374	38	Field Coil Assembly	32-9236
8	Resistor (400 ohms)	33-1211	39	On and Off Switch	42-5422
9	Resistor (1,000,000 ohms)	33-1096	40	Pilot Lamp	34-2039
10	Resistor (70,000 ohms)	33-1115	41	Condenser (250 mmfd.)	30-1032
11	Condenser (6000 mmfd.)	30-4125	42	"A" Choke	32-1644
12	R. F. Transformer	32-1926	43	Condenser (250 mmfd.)	30-1032
13	Second Padder (on tun. cond.)		44	Choke	32-1930
14	Resistor (51,000 ohms)	6098	45	Vibrator Choke	32-1968
15	Low Frequency Padder	31-6066	46	Condenser (.25 mfd.)	30-4146
16	Third Padder (on tun. cond.)		47	Condenser (.5 mfd.)	30-4047
17	Oscillator Transformer	32-1927	48	Vibrator	38-5036
18	Condenser (250 mmfd.)	30-1032	49	Condenser (.02 mfd.)	30-4039
19	Resistor (45,000 ohms)	5256	50	Resistor (300 ohms)	33-3130
20	Padder (Pri 1st I.F. transf.)		51	Resistor (200 ohms)	33-1210
21	First I. F. Transformer	32-1928	52	Condenser (1250 mmfd.)	5886
22	Padder (Sec. 1st I. F. transf.)		53	Power Transformer	32-7488
23	Padder (Pri. 2nd I.F. transf.)		54	Condenser (.01 mfd.)	30-4381
24	Second I. F. transformer	32-1929	55	Filter Choke	32-7491
25	Padder (Sec. 2nd I.F. transf.)		56	Filter Condenser	30-2134
26	Condenser (250 mmfd.)	30-1032	57	Condenser (250 mmfd.)	30-1032
27	Resistor (25,000 ohms)	33-1013	58	R. F. Choke	32-1932
28	Condenser (110 mmfd.)	30-1031	59	Condenser (.01 mfd.)	30-4124
29	Volume Control		60	Four-hole Socket	27-6044
	(350,000 ohms)	33-5139	61	Five-hole socket	27-6035
30	Condenser (.01 mfd.)	30-4124	62	Six-hole Socket	27-6036
31	Resistor (32,000 ohms)	3525	63	Seven-hole Socket	27-6037
32	Resistor (20,000 ohms)	6650	64	Tuning and Volume Shaft	28-8435
33	Resistor (600 ohms)	33-1212	65	Pilot Lamp Assembly	38-7217
34	Resistor (1,000,000 ohms)	33-1096	66	Glass	27-7757
35	Resistor (250,000 ohms)	33-1097	67	Face Assembly	28-3444
36	Condenser (250 mmfd.)	30-1032	68	Pointer	28-2605
37	Condenser (.01 mfd.)	30-4145	69	Knob	27-4249
38	Resistor (500,000 ohms)	6097	70	"U" Clamp (control mtg.)	29-2699
39	Resistor (250,000 ohms)	33-1097	71	Wing Nut (control mtg.)	W1321
40	Condenser (4000 mmfd.)	30-4185	72	Tea Bolt (set mtg.)	28-6161
			73	Nut (set mtg.)	W518A

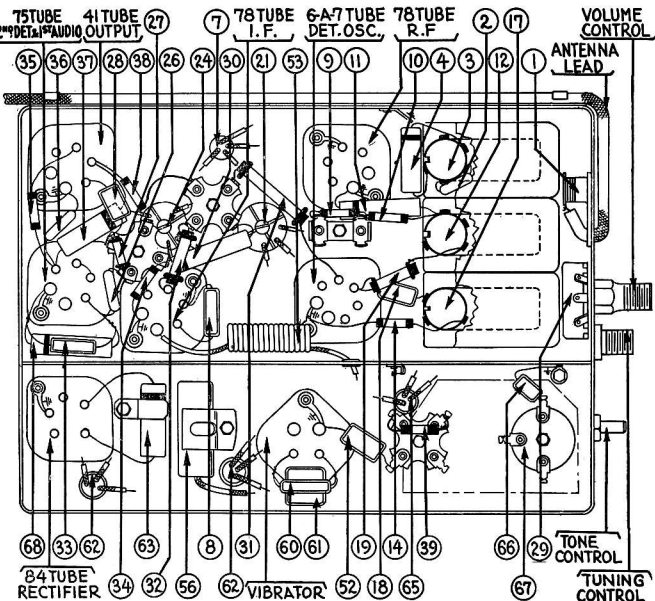


FIGURE 4 — Model FT9 Base View

No.	Description	Part No.	No.	Description	Part No.
	Fuse	7227		Dome Light Condenser	30-4388
	Fuse Insulator	27-7729		Oil Gauge Condenser	30-4307
	Distributor Condenser	30-4176		Speaker Cable	41-3167
	Generator Condenser	30-4181		Tow Strap	36-3432
	Gas gauge Condenser	30-4387		Antenna Lead	L-1921
				Receiver Housing	38-1567

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TRANSITONE

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PHILCO TRANSITONE SERVICE BROADCAST

NOVEMBER 1, 1932

Introducing a New Service

This is the first issue of the Philco Transitone SERVICE BROADCAST. It will be sent to you each month to help you install and service Philco Transitone Receivers as efficiently as possible. The common problems, such as you run up against every day, will be discussed freely. This is your official service bulletin. It replaces all former types of Transitone bulletins.

SERVICE BROADCAST can be made to be even better than a broadcast. It can be a heart-to-heart fifteen-minute talk with you every month about Philco Transitone, if you take the time to read it. We will go into every detail regarding installations and will endeavor to pass along to all of our dealers and installation stations, authentic information about automobile radio installation, service and sales. In addition, we will also print schematic diagrams of any new Philco Transitone model and will keep you informed of all changes in design or circuit.

Your suggestions and inquiries are welcome and are needed if SERVICE BROADCAST is to become all the help that it is intended to be.

The New Model 6

Philco Transitone's latest five-tube all-electric superheterodyne, the Model 6, is the finest automobile radio Receiver. Extreme sensitivity, remarkable selectivity, even finer tone than ever before, all-electric—and many other added features make this Receiver the outstanding automobile radio today.

The automatic volume control is more effective, due to the manner in which the new 85 type tube is used. This tube combines the action of a diode type detector with that of a triode amplifier. This arrangement gives perfect detector action and, in addition, a stage of audio amplification ahead of the 41 tube.

These improvements, coupled with the proven superiority of Philco's balanced unit construction guarantee maximum lasting consumer satisfaction with the minimum service trouble to you.

Philco Transitone's improved dynamotor, the Model EB, is furnished as standard equipment with the new Model 6 Receiver.

Be Sure You Know How To Do This

The intermediate frequency of the Model 6 is 260 K.C. This is a departure from the frequency used in the Model 7 and 8 Receivers. All dealers and installation stations must be equipped with a suitable oscillator

capable of producing accurately a 175 K.C. signal for the Models 7 and 8 and 260 K.C. for the Model 6.

Philco's oscillator, Model 095, priced at \$28.50 net to the dealers and service stations, is the ideal oscillator for such work and can be ordered direct from your distributor.

I. F. Stages

Remove the grid clip from the detector oscillator tube and connect the output of the oscillator to the control grid. The detector oscillator is the second tube from the right.

With the Receiver and oscillator turned "on," set the oscillator for 260 K.C. and adjust the oscillator attenuator so that the signal is barely audible with the Receiver volume control turned on full. If the oscillator is equipped with an output meter, connect the meter and adjust the attenuator so that a half scale reading is obtained.

Using a Philco 3164 fibre wrench, adjust the second I. F. condenser. This is numbered (23) on figs. 1 and 2.

The correct adjustment is obtained when the strongest signal is heard in the speaker or the maximum reading is secured on the meter.

Next adjust the secondary and primary I. F. condensers. These are (20) and (13), respectively, on figs. 1 and 2.

Disconnect the oscillator and reconnect the clip to the control grid.

High Frequency Compensators

Connect the output of the oscillator to the antenna lead and the housing of the Receiver. With the Receiver turned on and the oscillator set for 175 K.C., tune the Receiver to 1400 K.C., the eighth harmonic of 175 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.

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.

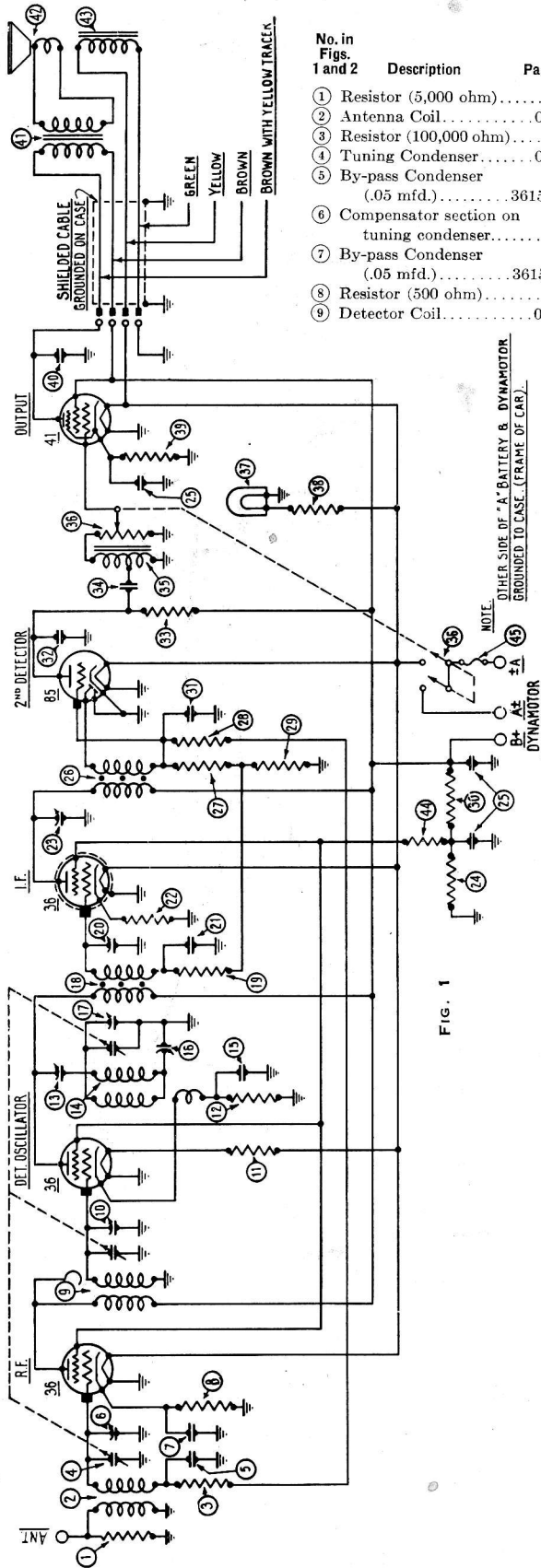
Low Frequency Compensator

Now tune the Receiver to 700 K.C. and adjust the condenser (16) on figs. 1 and 2. During this operation the tuning condenser must be shifted and the compensator 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.

In the following issues, more attention will be given to your installation and service problems. During the next few weeks, write us about problems that you are having or about stunts that have proven to be worth while to your business, so that we can discuss them in SERVICE BROADCAST.

MODEL 6 SCHEMATIC DIAGRAM



No. in Figs. 1 and 2	Description	Part No.
1	Resistor (5,000 ohm).....	6096
2	Antenna Coil.....	05903
3	Resistor (100,000 ohm).....	6099
4	Tuning Condenser.....	04308
5	By-pass Condenser (.05 mfd.).....	3615-AN
6	Compensator section on tuning condenser.....	
7	By-pass Condenser (.05 mfd.).....	3615-AT
8	Resistor (500 ohm).....	6977
9	Detector Coil.....	05902

PARTS LIST

No. in Figs. 1 and 2	Description	Part No.	No. in Figs. 1 and 2	Description	Part No.
10	Compensator section on tuning condenser.....		38	Resistor (7 ohm).....	5110
11	Resistor (2.7 ohm).....	6511	39	Resistor (700 ohm).....	6443
12	Resistor (8,000 ohm).....	5838	40	Condenser (.002 mfd.).....	6853
13	Compensating Cond. .04000-A.....		41	Output Transformer.....	2598
14	Oscillator Coil.....	05975	42	Cone and Coil.....	02823
15	Condenser (.007 mfd.).....	4520	43	Field Coil.....	02794
16	Compensating Cond. .04000-S.....		44	Resistor (25,000 ohm).....	4516
17	Compensator section on tuning condenser.....			Interstage Shield.....	05910
18	First I. F. Transformer.....	05970		Dynamotor EB.....	05389
19	Resistor (500,000 ohm).....	6097		Dynamotor EA (for battery replacements).....	05388
20	Compensating Cond. .04000-D.....			Receiver Studs.....	6122
21	Condenser (.05 mfd.).....	3615-AK		Shielded Loom (18" high tension shield).....	L1387
22	Resistor (500 ohm).....	6977		Shielded Loom (30" high tension shield).....	L1386
23	Compensating Cond. .04000-D.....			Spark Plug Resistor.....	4531
24	Resistor (20,000 ohm).....	6650		Distributor Resistor.....	4546
25	Condenser (.25 mfd., .5 mfd., 8 mfd.).....	04354		Screw Type Resistors.....	4851
26	Second I. F. Transformer.....	05901		Interference Condensers.....	4522
27	Resistor (100,000 ohm).....	6099		Knobs.....	5166
28	Resistor (500,000 ohm).....	6097		Speaker Extension Cable.....	02984
29	Resistor (100,000 ohm).....	6099		Dynamotor Filter Choke.....	6658
30	Resistor (20,000 ohm).....	6649		Dynamotor Filter Condenser (large unit).....	0538
31	Condenser (.00025 mfd.).....	3082		Dynamotor Filter Condenser (small unit).....	05724
32	Condenser (.0002 mfd.).....	4059		Dynamotor RF Choke (small unit only).....	05746
33	Resistor (50,000 ohm).....	4237		18" Volume Control Shaft.....	6351
34	Condenser (.09 mfd.).....	4989-Y		18" Tuning Control Shaft.....	6352
35	Audio Transformer.....	7535		32" Volume Control Shaft.....	6128
36	Volume Control (500,000 ohm) and switch.....	7525		32" Tuning Control Shaft.....	6129
37	Pilot Lamp.....	4567		48" Volume Control Shaft.....	6298
				48" Tuning Control Shaft.....	6299
				120" Volume Control Shaft.....	6355
				120" Tuning Control Shaft.....	6356
				Philco Oscillator (for adjusting Models 3, 7, 8, 6).....	Model 095
				Fibre Wrench.....	3164

FIG. 1

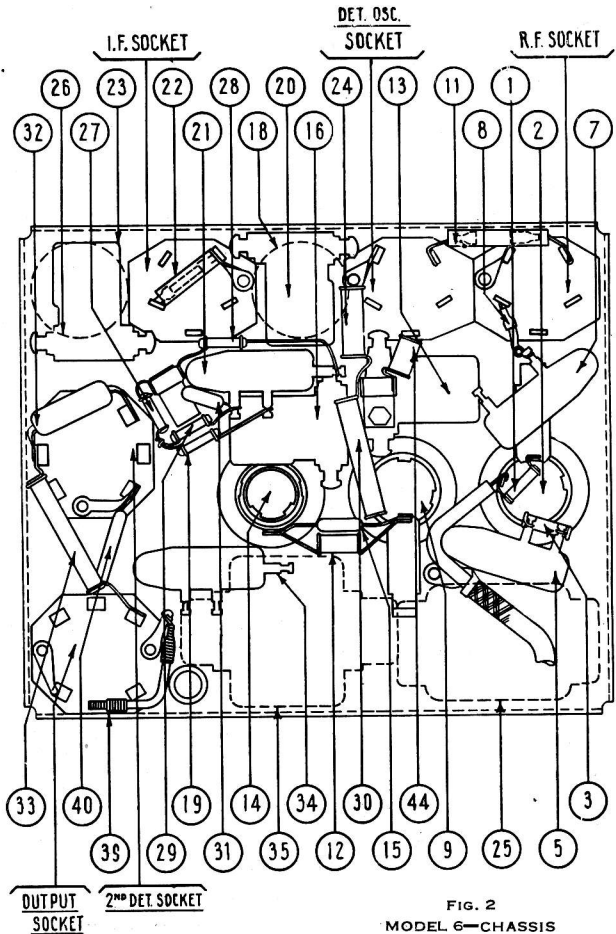


FIG. 2
MODEL 6—CHASSIS