

ZENITH RADIO CORP.

MODEL 5M191
 MODELS 6M192, 6M193, 6M194
 MODEL 8M195
 Alignment, Notes

IMPORTANT ANTENNA INFORMATION (All Models)

Some cars are factory equipped with an antenna. If this is the case, the lead should be checked to make certain that it is not grounded, and after being shielded by a large diameter loom, ground this loom to the instrument panel, and attach the Delco-Remy male connector to the end of the antenna wire. This should be done carefully, so as to insure a good solder joint, and prevent any grounding at this point to the braided shielding. Insert the antenna lead-in connector into the female Delco-Remy receptacle directly below the tuning cable shoulder on the receiver case.

Where a car is not equipped with an antenna, such as convertible models, or those with all steel turret top, any one of the following Zenith antennas may be used:

- Undercar antenna—part No. S-4800 and S-4801.
- Over the Top Antenna (Sedan) S-4802.
- Over the Top Antenna (Coupe) S-4803.
- Zenith Fleet Wing Antenna S-4821.
- Zenith Bumper Pole Antenna S-4822.

Complete instructions covering the installation of each of the above antennas is furnished with the various kits.

IMPORTANT: BALANCING SET TO ANTENNA. There is such an extremely wide variation in antenna capacities that it is difficult to match this condition without some means of variable antenna alignment. To accomplish this, an antenna compensating adjustment is provided through the small hole directly above the antenna cable connector on the receiver case. In addition to this, a tapped antenna transformer is also incorporated (see Figure No. 2). The proper method of alignment is as follows: After completely connecting receiver, tune in a signal between 1400 and 1450 K.C. and adjust the antenna compensator shown in Figure 3, for either the roof antenna, or single or double undercar antenna. The receiver is shipped from the factory with the antenna tap shown in Figure 2 set to the No. 2 position, and, therefore, need not be changed for either of the two types of antennas mentioned.

For Zenith Fleet Wing, and Over the Top Antennas, unsolder the antenna lead from the No. 2 lug, and resolder it to the No. 3 lug. After this is done, tune in a station between 1450 and 1400 K.C., and adjust the antenna compensator shown in Figure 3 to resonance.

For high capacity antennas such as the 1936 Dodge solid steel roof, or the Lincoln Zephyr luggage compartment, driver's antenna, etc., remove the antenna lead from the No. 2 lug, as it comes from the factory, and resolder it to the No. 1 connector. After this is done, the same procedure of tuning in a signal from 1450 to 1400 K.C., and balancing to resonance with the antenna compensator, as described above, should be followed.

This system of tapped transformer, and variable compensating adjustment gives an extremely flexible means of resonating the receiver to any type of antenna, and it should be noted that the tap need only be changed in two cases. Of course, it is necessary to remove the bottom cover in order to shift the antenna tap where necessary.

IGNITION INTERFERENCE

Remove the center high tension lead of the distributor and insert the suppressor into the distributor at that point. The wire is then placed in the open end of the suppressor. The generator condenser is fastened under the cut-out housing and the wire connected to the generator connection on the cut-out. The coil condenser is attached to the battery connection of the coil and the other end to the coil case. Make absolutely certain that this condenser is not accidentally connected to the distributor side of the coil since this will increase motor noise terrifically and make operation of the receiver highly unsatisfactory when the motor is running. Where two distributors or two coils are employed a corresponding number of condensers and suppressors must be applied. In some instances it might be of benefit to attach a by-pass condenser from one side of the armature to a grounded part of the instrument panel. If the dome light is feeding interference to the antenna the lead should be cut where it comes from the post and a switch inserted on the instrument panel at that point, to turn it off and on. In some cases, a by-pass condenser connected to the dome-light lead and grounded at the post is as effective as a separate switch. Try this first.

If additional attention is necessary to reduce motor interference, the motor block must be securely bonded, both at the rear and front supports with $\frac{1}{2}$ inch copper braid. Also bond or ground all metal control cables or pipes feeding from the motor side into the car. These bonds should be made to the control wire or pipe and soldered to the fire wall immediately adjacent on the motor side. As a further precaution the rotor should be lengthened to reduce the gap between it and the distributor head contacts by either peening the end or applying a small quantity of solder at this point.

ALIGNMENT

5-M-81

"A" Connect the service oscillator output leads to the control grid of the 6A8 tube, and to the chassis. If the oscillator output is a single shielded lead the shield should connect to the chassis.

Connect an output meter across the primary of the speaker transformer.

Set the service oscillator at 455 K.C. and adjust the trimmers on the I.F. transformers to the point giving the greatest reading on the output meter. These, as well as the following adjustments should be made using as small an output from the signal generator as possible so that the A.V.C. action will be least effective.

"B" Change the service oscillator lead from the grid of the 6A8 to the antenna connection. A male Delco Remy connector may be used in making a connection to the antenna lead.

Set the service oscillator at 1600 K.C. and rotate the gang condenser until the plates are entirely out of mesh. Adjust the oscillator section trimmer until the 1600 K.C. signal is tuned in.

"C" Set the service oscillator to 600 K.C. and rock the gang condenser slowly to and fro past the point where this signal is received, meanwhile adjusting the paddler condenser for a setting which gives the greatest output reading.

"D" Repeat operation "B". See antenna instruction page 373 for correct alignment of antenna stage.

6-M-192 — 6-M-193 — 6-M-194 — 8-M-195

"A" Connect the service oscillator to the control grid of the 6A8 tube and the chassis.

Connect the output meter across the primary of the speaker transformer.

Set the service oscillator to 252.5 K.C. and adjust the trimmers on the I.F. transformers for the greatest output reading. These adjustments should be repeated several times using as weak an input signal as possible so as to obtain greater accuracy.

"B" Change the service oscillator lead from the grid of the 6A8 to the antenna connection. A male Delco Remy connector may be used in making a connection to the antenna lead.

Set the service oscillator at 1600 K.C. and rotate the gang condenser until the plates are entirely out of mesh. Adjust the oscillator section trimmer until the 1600 K.C. signal is tuned in.

Change the service oscillator to 1400 K.C. Rotate the gang condenser until this signal is tuned in, and then adjust the R.F. trimmer on the gang condenser to the point giving the greatest output reading.

"C" Set the service oscillator to 600 K.C. and rock the gang condenser slowly to and fro past the point where this signal is received, meanwhile adjusting the paddler condenser for a setting which gives the greatest output reading.

"D" Repeat operation "B".

The sensitivity control should be in the extreme clockwise position when making all adjustments.

NOTE — Due to the high gain type of I.F. transformers used in these receivers it is essential that a non-metallic screw driver be used in making all adjustments. See antenna instructions for correct alignment of antenna stage.

SERVICE NOTE

The OZ4 rectifier tube used in the 5 and 6 tube models may be replaced with a 6X5 rectifier, providing the 6X5 tube is enclosed in a grounded tube shield.

The Gear shield with a "grow" clip which connects to the shield contact pin of the tube is the most convenient type to use.

MODEL 5M191
 MODEL 5 6M192, 6M193, 6M194
 MODEL 8M195
 Parts Lists

ZENITH RADIO CORP.

Part No.	Description	QTY	ST.	PRICE
5290	Antenna Cable - Ammeter End	.50		
54102	3/8-32 x 1/2" Hex Nuts Continuum	.25		
57478	Set Mounting Plate	.01		
58-25	Delco-Remy Fuse Bushing	.25		
63-336	15 M. ohm Distributor Suppressor	.01		
69-84	No. 10/32 x 1/4" R.H.M.S.	.30		
93-127	No. 10 Mounting Strap	.35		
93-143	Lockwasher	.01		
93-222	7/16" Internal Shakerproof	.01		
93-233	Lockwasher	.01		
138-5	2 1/4" Dia.	.02		
159	15 Amp Fuse	.02		
184-4	7/16" x 3/4" Jamming Bolt & Nut	.01		
193-2	Insulation Tape	.01		
196-1	Mounting Plate Gasket	.03		

Part No.	Description	QTY	ST.	PRICE
12-502	Spr. Mtg. Bracket	6	5	.03
19-85	Chassis Box Top Cover Gd.	8	5	.01
44-14	Specimen Plug Jack Knob	8	5	.20
49-170	9" Dynamic Speaker	3.50		
49-171	Cone & Voice Coil for 49-170	1.50		
49-172	8" P. M. Dynamic Speaker	5.00		
49-173	Cone & Voice Coil for 49-172	2.00		

Part No.	Description	QTY	ST.	PRICE
52101	Chassis Control Cable & Plug Assem.	8	5	1.70
69-128	10/32 x 1/4" R.H.M.S. Stagnary	8	5	.01
69-130	10/32 x 3/8" R.H.M.S. Stagnary	6	5	.01
73-17	Stagnary for Mtg. Top Cover	6		
78-115	Viscous Washer Type Socket	8	5	.10
78-133	No. 6H6 Water Type Socket	8	5	.15
78-148	No. 6G7 Water Type Socket	8	5	.10
78-149	No. 6 X.S.No. C2A Water Type Socket	8	5	.10
78-150	No. 8K7 Water Type Socket	8	5	.10
78-151	No. 6A8 Water Type Socket	8	5	.15
78-152	No. 6C3 Water Type Socket	8	5	.15
78-153	No. 6N7 Water Type Socket	8	5	.10
95-388	Audio Transformer Assembly	8	5	4.00
95-389	Power Transformer	8	5	2.75
95-390	Power Transformer	8	5	2.75
95-391	Power Transformer	8	5	3.25
95-392	Power Transformer	8	5	.75
95-393	Output Transformer	8	5	1.25
95-394	Power Choke	8	5	1.00
95-395	Power Choke	8	5	1.60
95-396	Power Choke	8	5	1.80
112-130	No. 8 1/4" H.H. Slotted Sulf Toping Screw Acorn Head	8	5	.01
128-131	Tube Shield Complete With Rings	8	5	.10
143-31	Insulated Coupling	8	5	.10
190-9	Vibrator	8	5	5.00

Part No.	Description	QTY	ST.	PRICE
76-209	Tuning Control Flexible Shaft 9"	1.25		
76-210	Tuning Control Flexible Shaft 9"	.50		
76-216	Tuning Control Flexible Shaft 36"	1.75		
76-223	Tuning Control Flexible Shaft 24"	1.25		
76-224	Tuning Control Flexible Shaft 30"	1.50		
76-225	Tuning Control Flexible Shaft 36"	1.75		

Additional Optional Control Cables
 Models 6M192-6M193 Only
 Models 8M194-8M195 Only
 Models 8M192-8M193 Only

Special Cables to Adapt 1895 External Speakers to 1897 Auto Radios
 Flaxwell Cable Used for BB-177 BB-178 Also
 Header Cable
 I.E. Additional of either of the above transformers (GM77-532-103-GM77X)

Set Mounting Parts
 5 mid. Ignition Coil
 Condenser 200 volts
 5 mid. Generator Condenser

IMPORTANT! When ordering speaker parts check drive the part and code number in 48-138A or 48-138B.

Important Note: These Prices Supersede All Previous Quotations and Are Subject to Regular Discounts and Change Without Notice.

PARTS LIST

Part No.	Description	QTY	ST.	PRICE
20-149	Antenna Coil	8	6	1.25
20-150	R.F. Coil	8	6	1.25
20-151	1st I.F. Transformer	8	6	1.25
20-152	2nd I.F. Transformer	8	6	1.25
20-153	3rd I.F. Transformer	8	6	1.25
20-154	4th I.F. Transformer	8	6	1.25
20-155	5th I.F. Transformer	8	6	1.25
20-156	6th I.F. Transformer	8	6	1.25
20-157	7th I.F. Transformer	8	6	1.25
20-158	8th I.F. Transformer	8	6	1.25
20-159	9th I.F. Transformer	8	6	1.25
20-160	10th I.F. Transformer	8	6	1.25
20-161	11th I.F. Transformer	8	6	1.25
20-162	12th I.F. Transformer	8	6	1.25
20-163	13th I.F. Transformer	8	6	1.25
20-164	14th I.F. Transformer	8	6	1.25
20-165	15th I.F. Transformer	8	6	1.25
20-166	16th I.F. Transformer	8	6	1.25
20-167	17th I.F. Transformer	8	6	1.25
20-168	18th I.F. Transformer	8	6	1.25
20-169	19th I.F. Transformer	8	6	1.25
20-170	20th I.F. Transformer	8	6	1.25

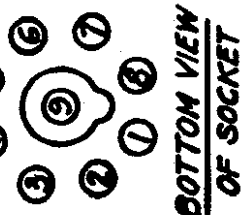
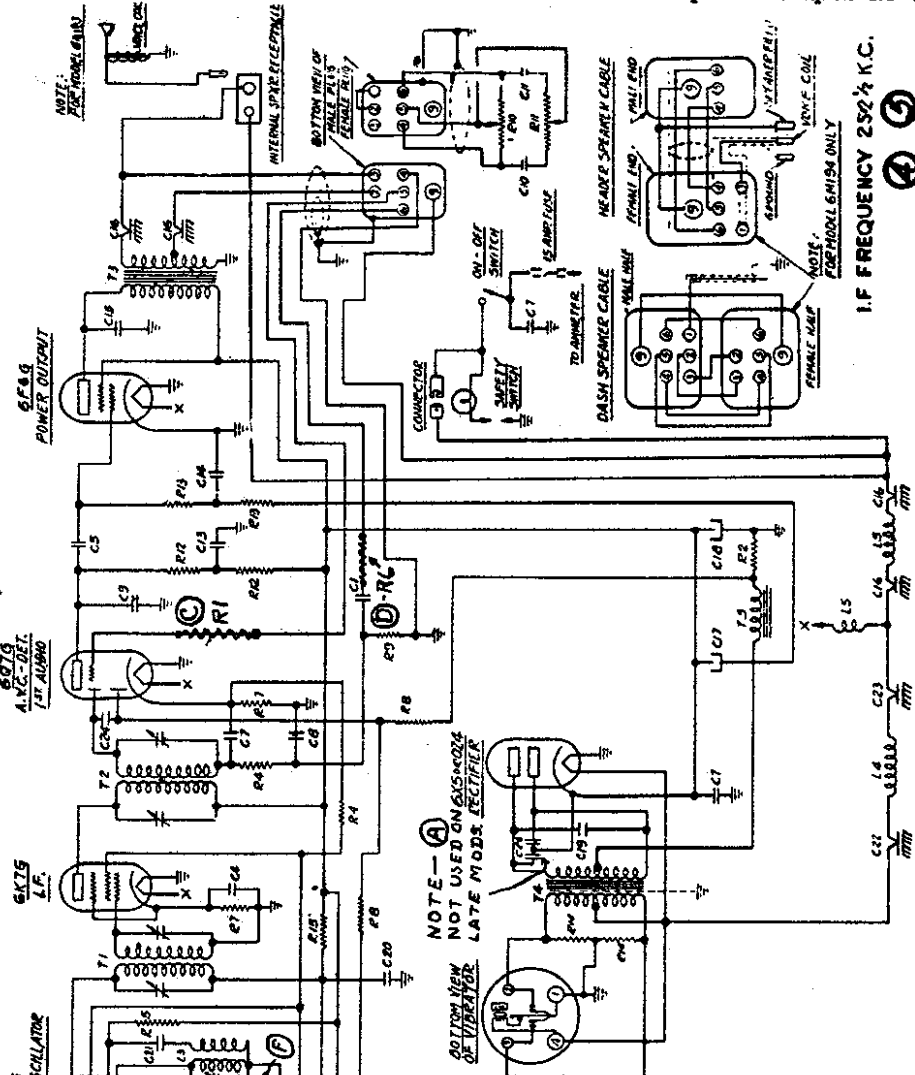
MODELS 6M193, 6M194
Chassis 5637

ZENITH RADIO CORP.

Schematic, Voltage
Parts, Changes

CHANGES ON 6M193-4	DESCRIPTION	DATE
A	1/2" Dia. Washers (92-77)	1-4-37
B	Thrs. Reversed	1-4-37
C	RESISTOR BORED (R1)	1-4-37
O	RESISTOR BORED (R6)	1-4-37
E	CONNECTION, SHOWN	1-4-37
F	Change 480ohm 200750 (New)	1-4-37

Voltage at Battery 6V. All voltages measured with 1000 ohms per volt D. C. meter
Voltage at Receiver 5.9 V. Total current consumption 6-M-193—6-M-194 5.9 amperes
Antenna disconnected Sensitivity at 1 watt output — .9 M. V.
Maximum power output 4.5 watts.



ZENITH
AUTO RADIO
MODELS 6M193-6M194 CHASSIS 5637
ZENITH RADIO CORPORATION

For Alignment,
see Index

SOCKET VOLTAGES 6-M-193, 6-M-194

Tube	Position	1	2	3	4	5	6	7	8	9
6K7	R. F.	0	0	225	95	0	—	5.9	0	0
6A8	Mixer Osc.	0	0	225	95	—32	140	5.9	0	0
6K7	I. F.	0	0	235	95	4	—	5.9	4	0
6Q7	Det. A. V. C. Audio	0	0	140	0	—5	—	5.9	—2	0
6F6	Power	0	0	215	233	—14	—	5.9	0	—
OZ4	Rectifier			Inaccessible						

DIAG. PART NO.	DESCRIPTION	PART NUMBER	DESCRIPTION
C1	200V .001 MFD	63-555	200V .001 MFD
C2	200V .001 MFD	63-555	200V .001 MFD
C3	200V .001 MFD	63-555	200V .001 MFD
C4	200V .001 MFD	63-555	200V .001 MFD
C5	200V .001 MFD	63-555	200V .001 MFD
C6	200V .001 MFD	63-555	200V .001 MFD
C7	200V .001 MFD	63-555	200V .001 MFD
C8	200V .001 MFD	63-555	200V .001 MFD
C9	200V .001 MFD	63-555	200V .001 MFD
C10	200V .001 MFD	63-555	200V .001 MFD
C11	200V .001 MFD	63-555	200V .001 MFD
C12	200V .001 MFD	63-555	200V .001 MFD
C13	200V .001 MFD	63-555	200V .001 MFD
C14	200V .001 MFD	63-555	200V .001 MFD
C15	200V .001 MFD	63-555	200V .001 MFD
C16	200V .001 MFD	63-555	200V .001 MFD
C17	200V .001 MFD	63-555	200V .001 MFD
C18	200V .001 MFD	63-555	200V .001 MFD
C19	200V .001 MFD	63-555	200V .001 MFD
C20	200V .001 MFD	63-555	200V .001 MFD
C21	200V .001 MFD	63-555	200V .001 MFD
C22	200V .001 MFD	63-555	200V .001 MFD
C23	200V .001 MFD	63-555	200V .001 MFD
C24	200V .001 MFD	63-555	200V .001 MFD
C25	200V .001 MFD	63-555	200V .001 MFD
R1	200 OHMS	63-555	200 OHMS
R2	200 OHMS	63-555	200 OHMS
R3	200 OHMS	63-555	200 OHMS
R4	200 OHMS	63-555	200 OHMS
R5	200 OHMS	63-555	200 OHMS
R6	200 OHMS	63-555	200 OHMS
R7	200 OHMS	63-555	200 OHMS
R8	200 OHMS	63-555	200 OHMS
R9	200 OHMS	63-555	200 OHMS
R10	200 OHMS	63-555	200 OHMS
R11	200 OHMS	63-555	200 OHMS
R12	200 OHMS	63-555	200 OHMS
R13	200 OHMS	63-555	200 OHMS
R14	200 OHMS	63-555	200 OHMS
R15	200 OHMS	63-555	200 OHMS
R16	200 OHMS	63-555	200 OHMS
R17	200 OHMS	63-555	200 OHMS
R18	200 OHMS	63-555	200 OHMS
R19	200 OHMS	63-555	200 OHMS
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R21	200 OHMS	63-555	200 OHMS
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R26	200 OHMS	63-555	200 OHMS
R27	200 OHMS	63-555	200 OHMS
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R95	200 OHMS	63-555	200 OHMS
R96	200 OHMS	63-555	200 OHMS
R97	200 OHMS	63-555	200 OHMS
R98	200 OHMS	63-555	200 OHMS
R99	200 OHMS	63-555	200 OHMS
R100	200 OHMS	63-555	200 OHMS

Chassis 5637
 Socket, Trimmers
 Chassis

ZENITH RADIO CORP.

MODEL 6M192
 MODELS 6M193, 6M194

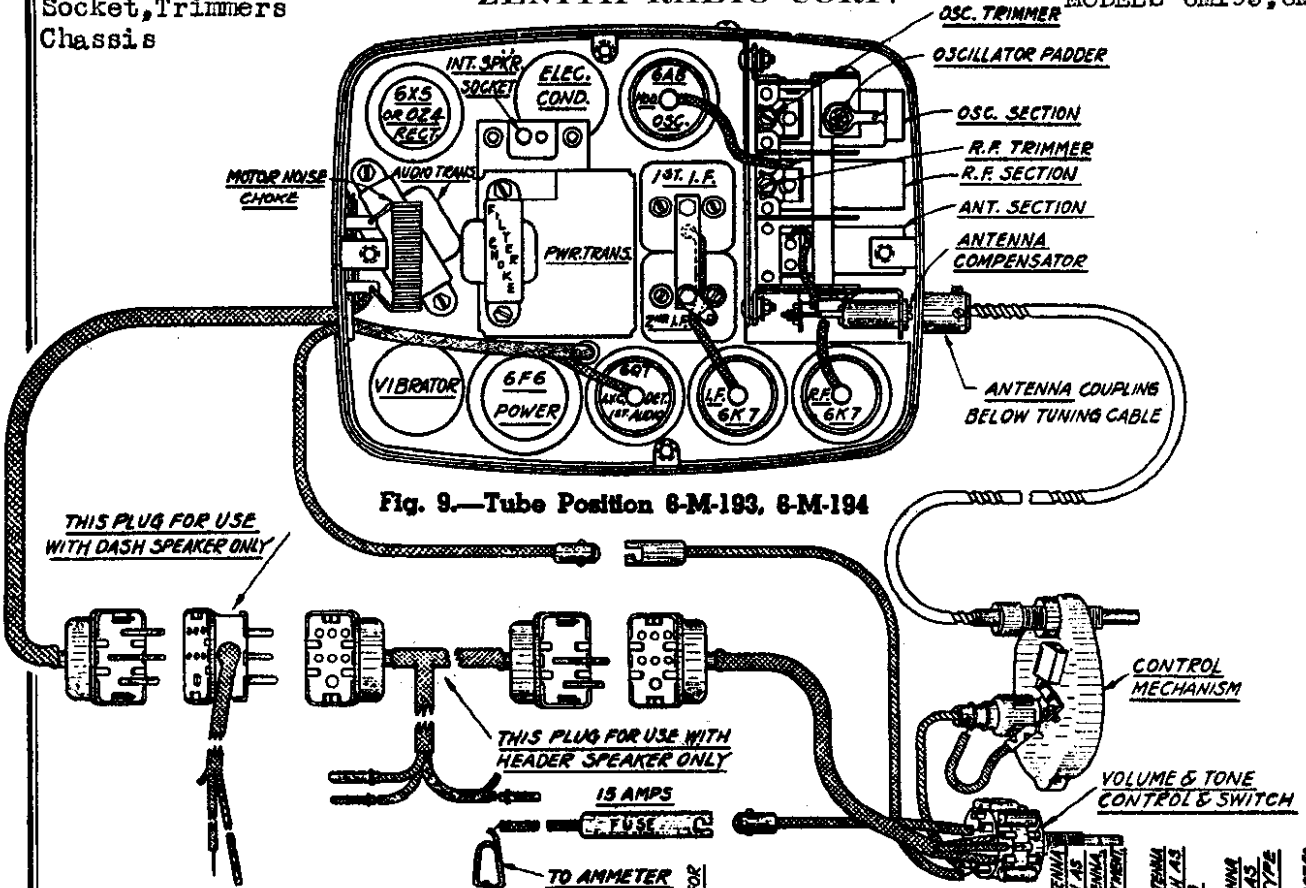


Fig. 9.—Tube Position 6-M-193, 6-M-194

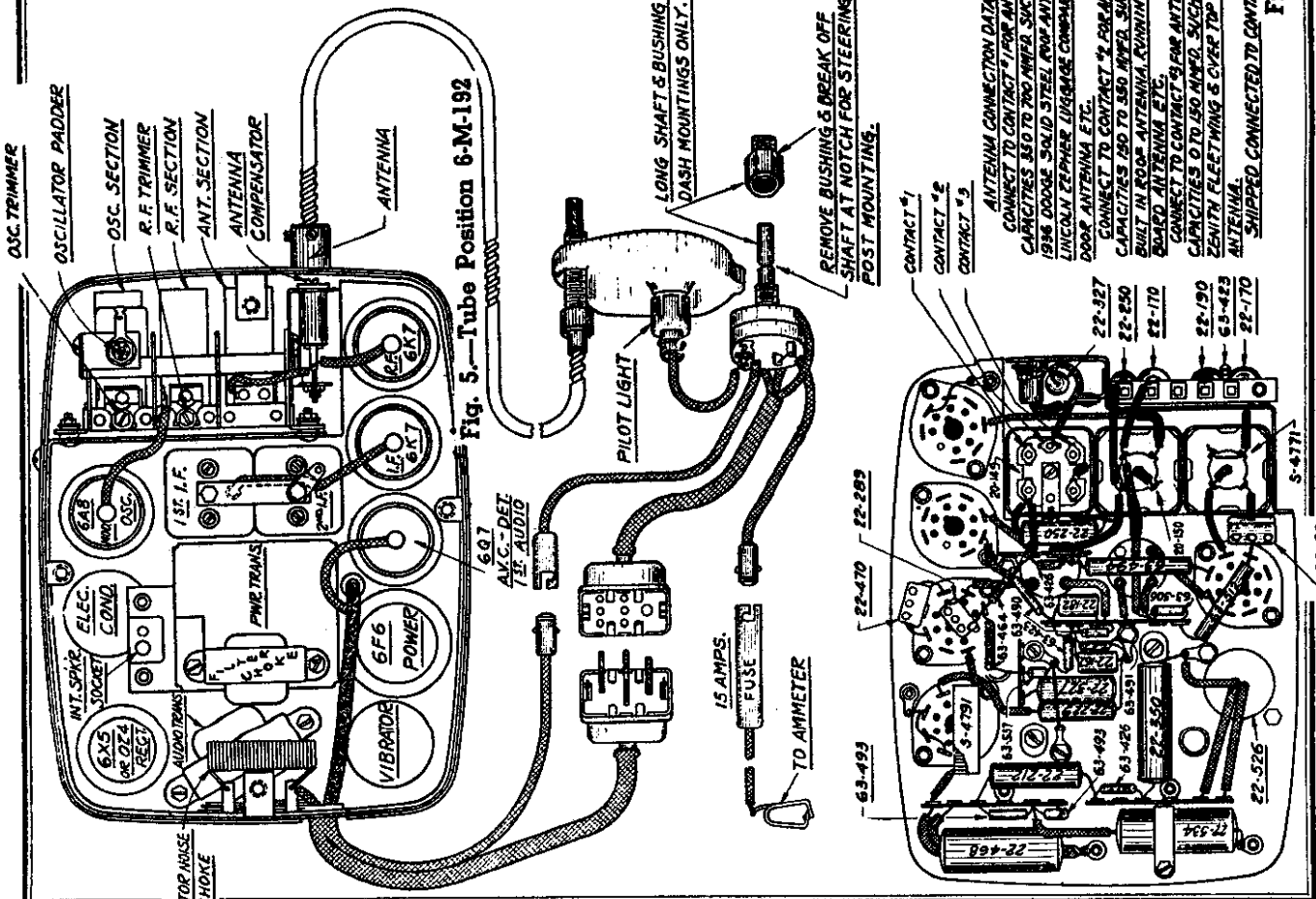


Fig. 5.—Tube Position 6-M-192

Fig. 6.—Bottom View—6-M-192, 6-M-193, 6-M-194