Hallicrafters, Inc.

Model: S-40B	Chassis:	Year: Pre 1952
Power:	Circuit:	IF:
Tubes:		
Bands:		

Resources
Riders Volume 22 - HALLICRAFTERS 22-1
Riders Volume 22 - HALLICRAFTERS 22-2
Riders Volume 22 - HALLICRAFTERS 22-3
Riders Volume 22 - HALLICRAFTERS 22-4
Riders Volume 22 - HALLICRAFTERS 22-5
Riders Volume 22 - HALLICRAFTERS 22-6
Riders Volume 22 - HALLICRAFTERS 22-7

MODEL S-40B

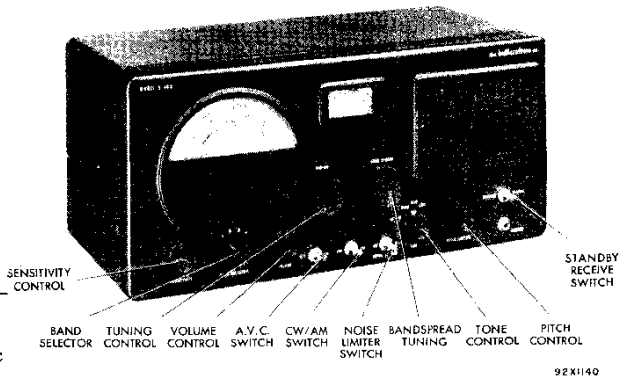
GENERAL

Tubes	Seven plus rectifier
Speaker	5-inch PM
Speaker V.C. Impedance	3.2 ohms
Headset Output	Low Impedance
Antenna	Provision for external antenna
Tuning	Manual

Tuning Range

Band Selector Position	Frequency Range
1.	540 kc - 1680 kc
2.	1680 kc - 5.4 mc
3.	5.3 mc - 15.5 mc
4.	15.5 mc - 44 mc

Intermediate Frequency	455 kc.
Power Supply	Standard Model 105-125 V. 60 cycles AC Universal Model 105-250 V. 25/135 cycles AC
Power Consumption	75 Watts



RESTRINGING DIAL CORD

To restring the general coverage tuning dial cord, cut an 18-inch length of 30 lb. test dial cord and tie one end to the tension spring of the main tuning capacitor drive pulley at position "1" on the diagram. Follow the numbers "1" through "4", and at position "4" stretch the tension spring and tie the cord securely.

To restring the band spread tuning dial cord cut a 36-inch length of dial cord and follow the procedure as above, starting at position "A" on the diagram. Note that the tuning drive shafts are wrapped with two and a fraction turns of dial cord for proper traction.

REPLACING LAMPS

Refer to Fig. 7 for the location of the two dial lamps used in the receiver. To gain access to defective lamps, reach in through cabinet cover and unclip the dial lamp sockets. The sockets may then be brought out into the open to change the defective lamp. Replace lamps with 6-8 V. Mazda #44 (Blue bead) lamps or equivalent.

ALIGNMENT PROCEDURE

For I-F amplifier alignment it will be necessary to remove the receiver chassis from the cabinet. The chassis is held in the cabinet by three screws along both the bottom edge of the front panel and the rear of the cabinet, and two screws on either side of the front panel.

NOTE - R-F alignment should be accomplished through the holes provided in the cabinet bottom as the oscillator calibration will be effected slightly by changes in the capacity between the cabinet bottom and the r-f coils and wiring.

Before starting the alignment procedure, check the position of the general coverage dial index marker on the low frequency end of the range and the bandspread dial on zero position. The general coverage condenser should index at max. capacity, and the bandspread condenser at min. capacity.

The standard RMA dummy antenna mentioned in the alignment chart consists of a 200 mmf. condenser in series with a 20 uh r-f choke which is shunted by a 400 mmf condenser in series with a 400 ohm carbon resistor.

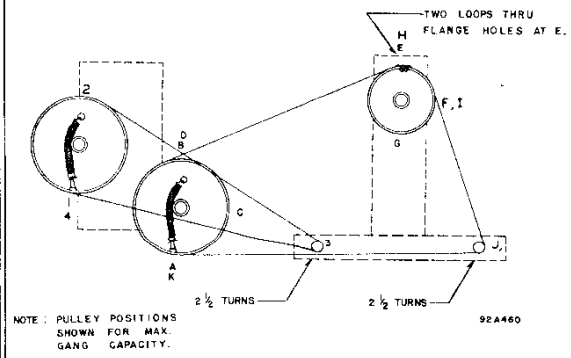


Fig 1. Dial cable stringing procedure

Set the following controls before alignment.

SENSITIVITY	Set at maximum
VOLUME	Set at maximum
AVC switch	Set at OFF
BAND SPREAD	Set at zero
CW/AM	Set at AM (See Step 2)
NOISE LIMITER	Set at OFF
STANDBY RECEIVE	Set at RECEIVE
TONE SWITCH	Set at HIGH

For the settings of the remaining controls, see alignment chart.

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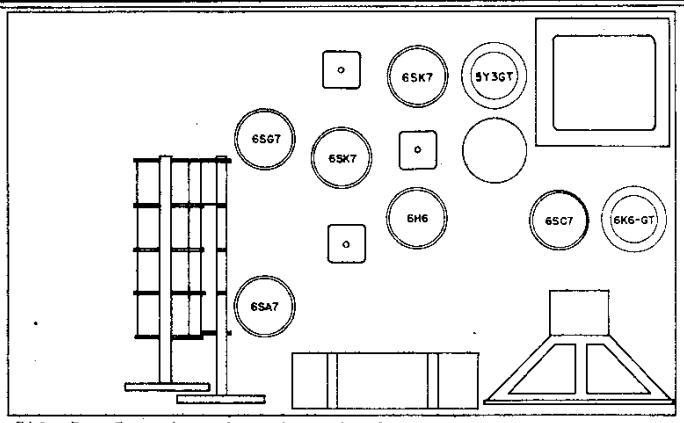

Fig. 7. Top view, location of tubes and dial lamps

92B681-A

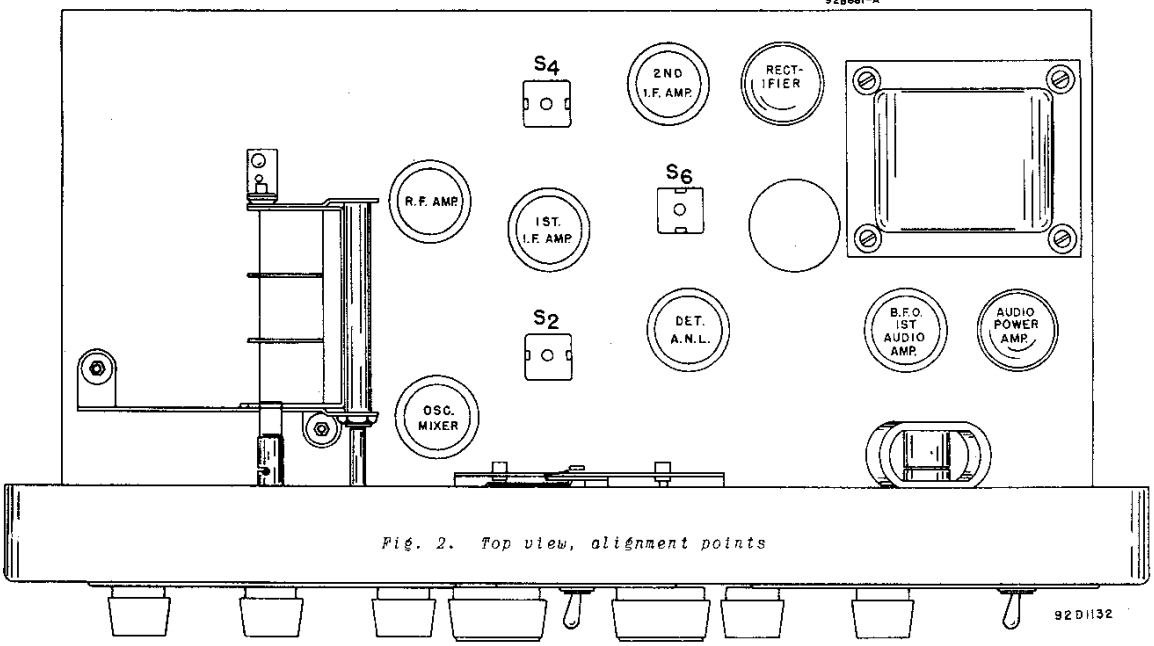

Fig. 2. Top view, alignment points

92D1132

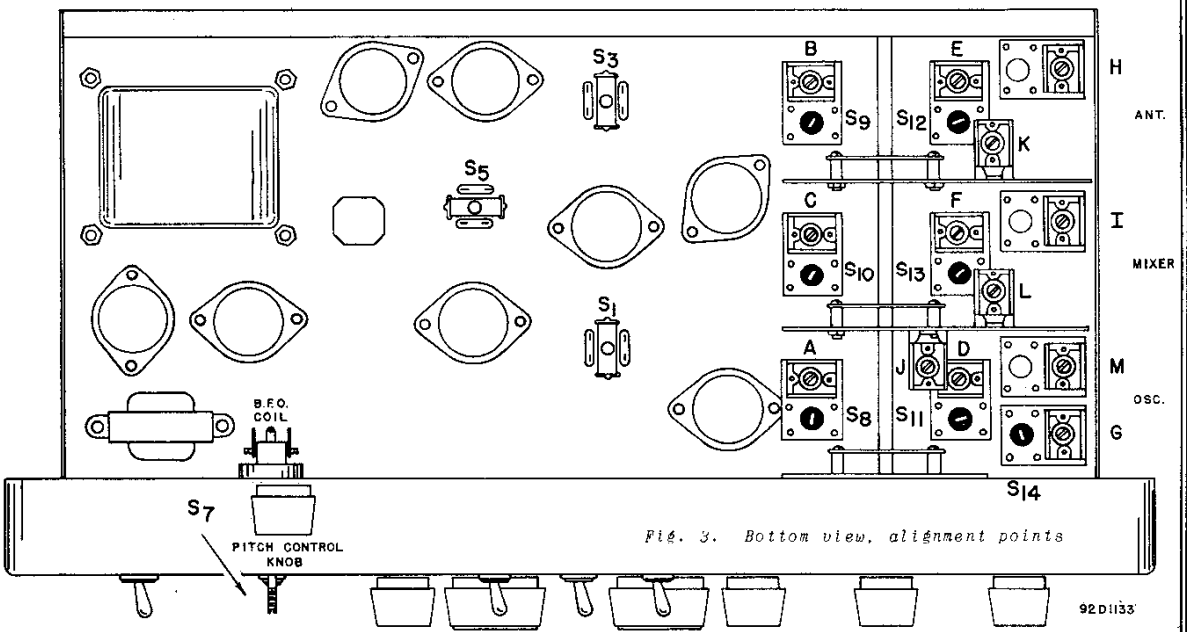

Fig. 3. Bottom view, alignment points

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ALIGNMENT CHART

Step	Dummy Antenna	Signal Generator Coupling	Signal Generator Frequency	Band Switch Setting	Receiver Dial Setting	Adjust	Remarks
1	None	Stator plates in center section of tuning gang.	455 kc	"1"	1000 kc	S1,S2,S3 S4,S5,S6	Maximum audio output at speaker voice coil. Use just enough signal generator output to obtain a 50 MW signal level.
2	None	See step 1	455 kc (No modulation)	"1"	1000 kc	S7	With the CW/AM switch set at CW, remove the pitch control knob and adjust S1 for zero beat. Replace the knob with the dot in the center position.
3	Std RMA dummy	"A1" on antenna strip. Jumper connected between "A2" and "G".	36 mc	"4"	36 mc	*A, B, C	Maximum output as in step 1
			18 mc		18 mc	*S8,S9,S10	
4	Std RMA dummy	See step 3	14 mc	"3"	14 mc	*D, E, F	Maximum output as in step 1
			10 mc		10 mc	*S11,S12,S13	
5	Std RMA dummy	See step 3	5 mc	"2"	5 mc	*G, H, I	Maximum output as in step 1
			1.8 mc		1.8 mc	*S14	
6	Std RMA dummy	See step 3	1500 kc	"1"	1500 kc	*J, K, L	Maximum output as in step 1
			600 kc		600 kc	*M	

*Note - Calibration adjustments.

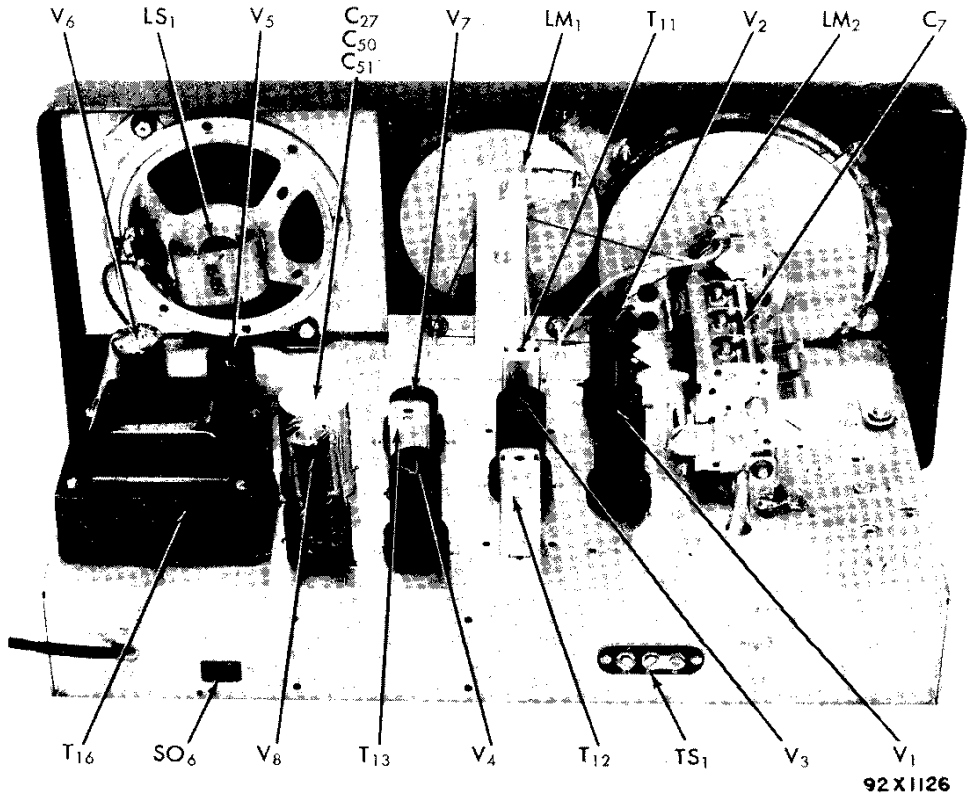

Fig. 4. Top view, component location

MODEL S-40B

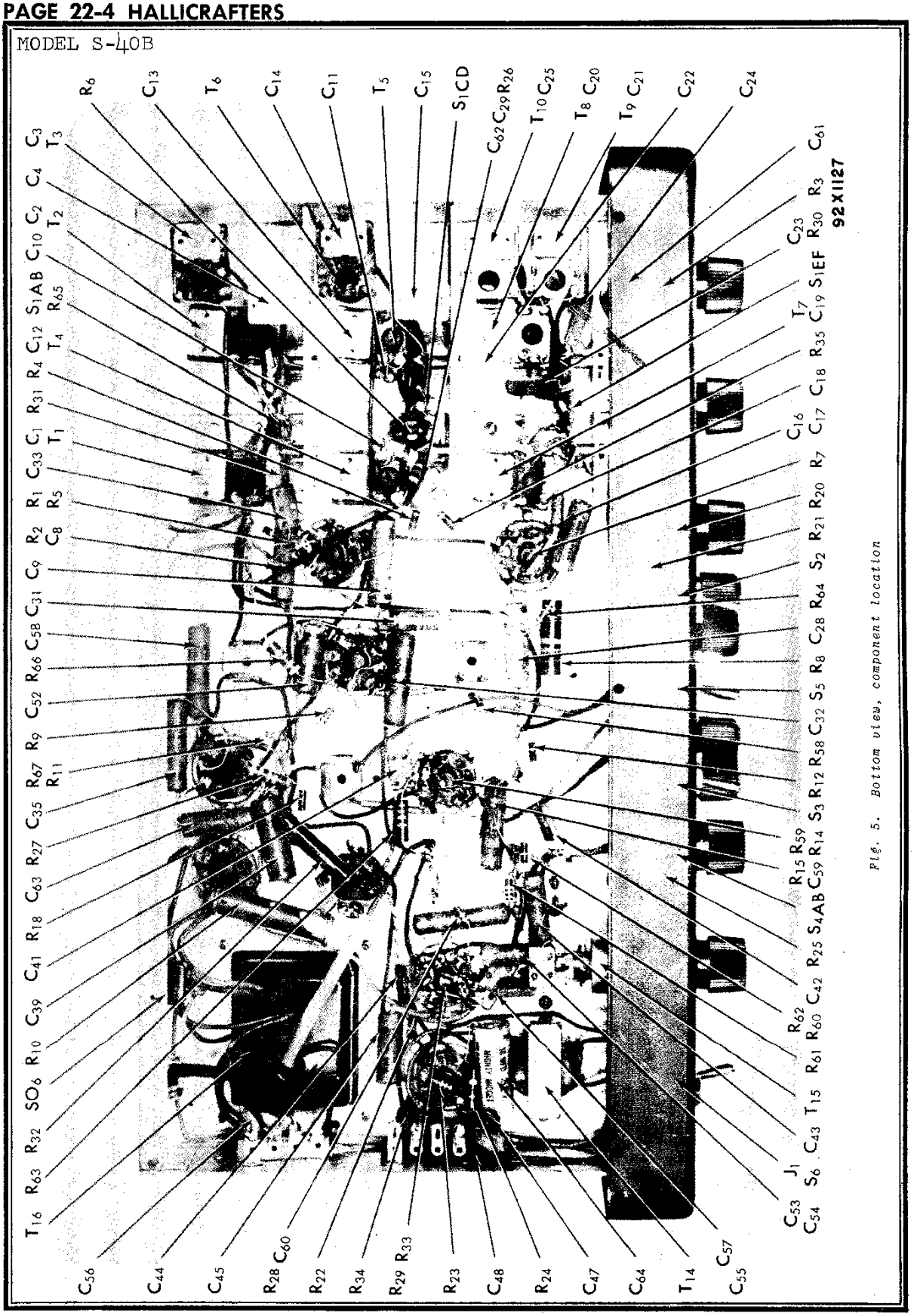

Fig. 5. Bottom view, component location

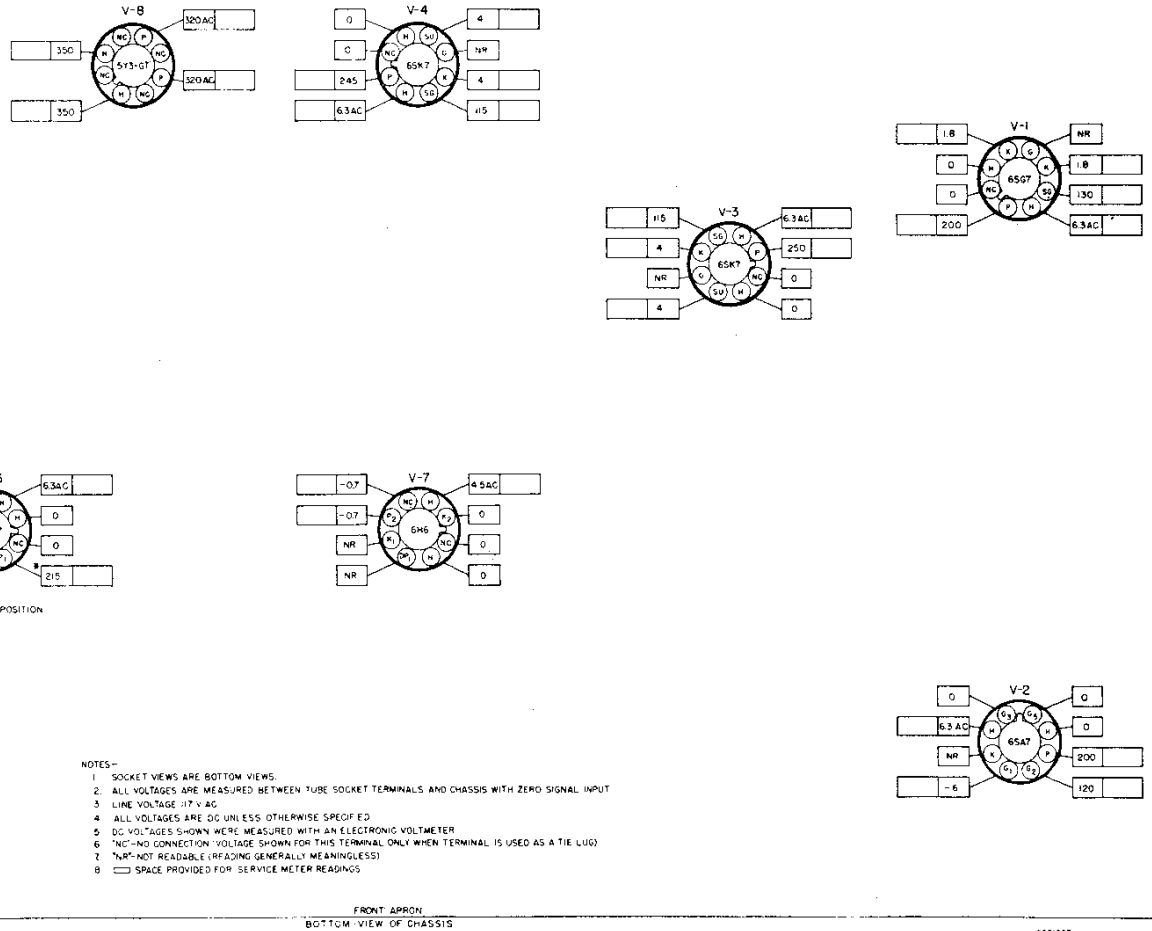

Fig. 6. Tube socket voltage chart

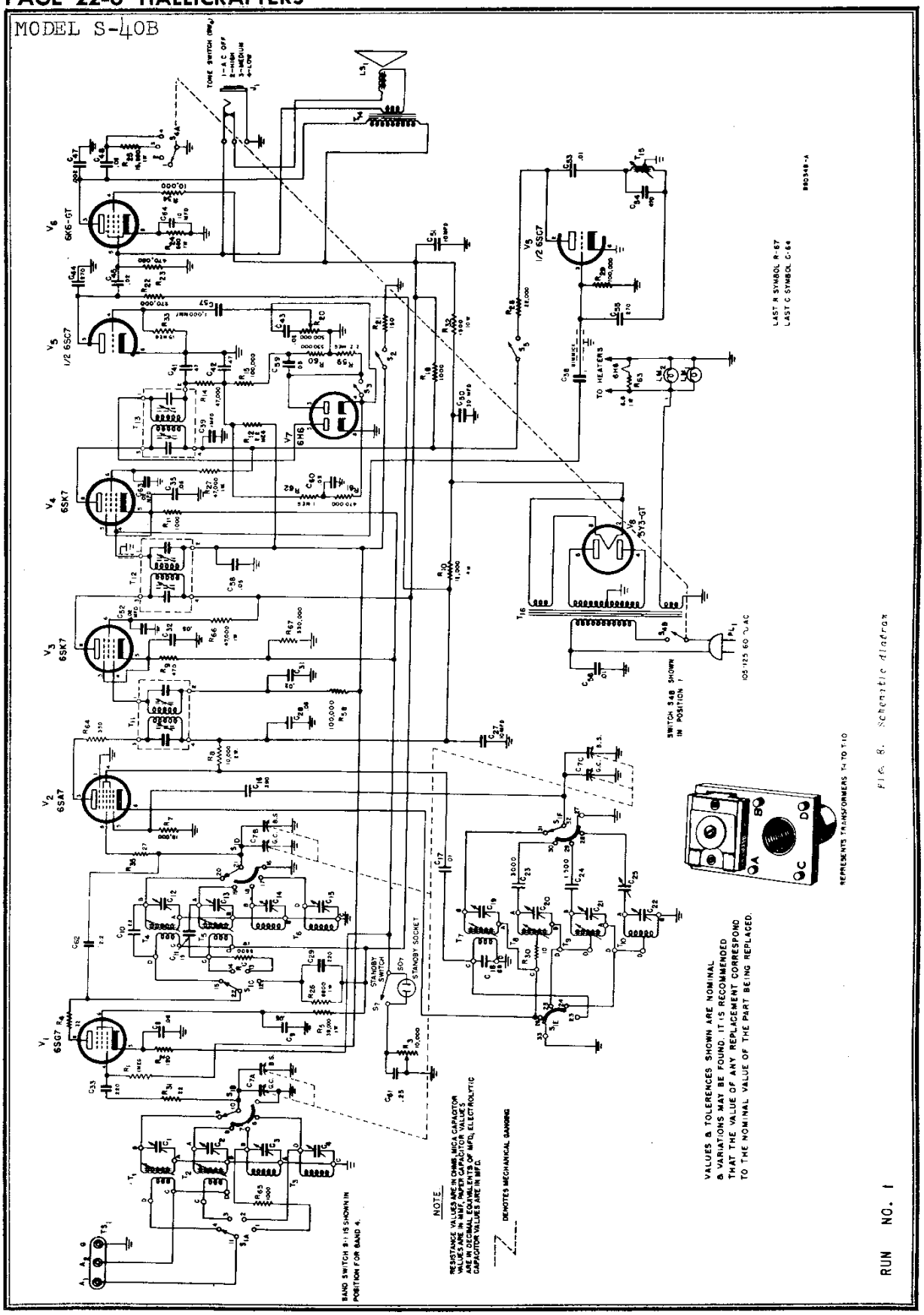

FIG. 8. Schematic diagram

SERVICE PARTS LIST

Ref. No.	Description	Hallicrafters Part Number
	CONDENSERS	
C-1,2,12, 13,19	Trimmer, adjustable, part of transformers T-1,2,4,5 and 7	44A149
C-3	Trimmer, adjustable, part of transformer T-3	44A389
C-4,15,22	Trimmer, adjustable	44A191
C-7	Tuning capacitor, 3 sections ganged	48C240-B
C-8,32,35, 58,59,60	.05 mfd. 200 V., tubular	46AU503J
C-9,28	.05 mfd. 600 V., tubular	46AY503J
C-10	22 mmf. 500 V., ceramic	47X21UK220M
C-11	15 mmf. 500 V., ceramic	47X21UK150M
C-14,21	Trimmer, adjustable, part of transformers T-6 and 9	44A147
C-16	390 mmf. 500 V., mica	47X20B391K
C-17,53	.01 mfd. 600 V., tubular	46AY103J
C-18	68 mmf. 500 V., ceramic	47X25UK680K
C-20	Trimmer, adjustable, part of transformer T-8	44A148
C-25	Padder, adjustable, part of transformer T-10	44A188
C-23	3000 mmf. 500 V., mica	47X30C302K
C-24	1500 mmf. 500 V., mica	47X30C152J
C-27,50,51	30-10-10 mfd. 450 V., electrolytic	45A062
C-29,33	220 mmf. 500 V., mica	47X20B221K
C-31,43	.02 mfd. 200 V., tubular	46AU203J
C-38	2 mmf., twisted wire gimmick	
C-39	.1 mfd. 600 V., tubular	46AY104J
C-41,42	47 mmf. 500 V., mica	47X20B470M
C-44,55	270 mmf. 500 V., mica	47X20B271K
C-45,48,52, 63	.02 mfd. 600 V., tubular	46AY203J
C-47	.002 mfd. 1000 V., tubular	46A104
C-54	470 mmf. 500 V., mica	47X20B471J
C-56	.01 mfd. 600 V., molded paper	46AC103J
C-57	1000 mmf. 500 V., mica	47X25B102M
C-61	.25 mfd. 200 V., tubular	46AT254J
C-62	2.2 mmf. 500 V., bakelite	47A160-4
C-64	10 mfd. 25 V., electrolytic	45A121
	RESISTORS	
R-1,62	1 megohm 1/2 watt, carbon	23X20X105M
R-2	120 ohms 1/2 watt, carbon	23X20X121K
R-3	10,000 ohms, SENSITIVITY control	25B590
R-4,31	22 ohms 1/2 watt, carbon	23X20X220M
R-5	39,000 ohms 1 watt, carbon	23X30X393K
R-6,26	6800 ohms 1 watt, carbon	23X30X682K
R-7	18,000 ohms 1/2 watt, carbon	23X20X183K
R-8	10,000 ohms 2 watts, carbon	23X40X103K
R-9	470 ohms 1/2 watt, carbon	23X20X471K
R-10	12,000 ohms 4 watts, carbon	23X65CE123K
R-11,18,65	1000 ohms 1/2 watt, carbon	23X20X102K
R-12,59	2.2 megohms 1/2 watt, carbon	23X20X225M
R-14	47,000 ohms 1/2 watt, carbon	23X20X473M
R-15,29,58	100,000 ohms 1/2 watt, carbon	23X20X104M
R-20	1/2 megohm , VOLUME control	25A534
R-21	150 ohms 1/2 watt, carbon	23X20X151M
R-22	270,000 ohms 1/2 watt, carbon	23X20X274K
R-23,61	470,000 ohms 1/2 watt, carbon	23X20X474M
R-24	680 ohms 1 watt, carbon	23X30X681K
R-25	15,000 ohms 1 watt, carbon	23X30X153M
R-27,66	47,000 ohms 1 watt, carbon	23X30X473K
R-28	22,000 ohms 1/2 watt, carbon	23X20X223M
R-30	10 ohms 1/4 watt, carbon	23X10X100M
R-32	1500 ohms 10 watts, WW	24BG152E
R-33	15 megohms 1/4 watt, carbon	23X10X156M
R-34	10,000 ohms 1/2 watt, carbon	23X20X103M
R-35	27 ohms 1/4 watt, carbon	23X10X270K
R-60,67	330,000 ohms 1/2 watt, carbon	23X20X334K
R-63	6.8 ohms 1 watt, carbon	23X30X068K
R-64	330 ohms 1/2 watt, carbon	23X20X331K

Ref. No.	Description	Hallicrafters Part Number
	TRANSFORMERS AND COILS	
T-1	Transformer, antenna stage, band 4	51B783
T-2	Transformer, antenna stage, band 3	51B782
T-3	Transformer, antenna stage, band 1 and 2	51B1241
T-4	Transformer, mixer stage, band 4	51B787
T-5	Transformer, mixer stage, band 3	51B786
T-6	Transformer, mixer stage, band 1 and 2	51B1240
T-7	Transformer, oscillator stage, band 4	51B791
T-8	Transformer, oscillator stage, band 3	51B913
T-9	Transformer, oscillator stage, band 2	51B789
T-10	Transformer, oscillator stage, band 1	51B912
T-11,12	Transformer, 1st and 2nd IF stages	50C243
T-13	Transformer, detector stage	50C242
T-14	Transformer, audio output	55B093
T-15	Transformer, BFO	54B044
T-16	Transformer, power	52A209
*T-16	Transformer, power (Universal)	52C210
	SWITCHES	
S-1	Bandswitch, wafer, antenna stage	60B389
	Bandswitch, wafer, mixer stage	62B039
	Bandswitch, wafer, oscillator stage	62B044
	Bandswitch, shaft	60B392
S-2,3, 5,6	Switch, toggle, S.P.S.T., A.V.C., A.N.L., CW-AM, and STANDBY-RECEIVE	60A138
S-4	Switch, PWR-TONE control	60A225
	PLUGS AND SOCKETS	
J-1	Jack, headset	36A002
PL-1	Line cord	87B1573
SO-6	Socket, standby	10A015
	Socket, octal (tube)	6A035
	Socket, dial light, general coverage dial	86A070
	Socket, dial light, bandspread dial	86B049
	TUBES, RECTIFIERS AND LAMPS	
V-1	Type 6SG7, r-f amplifier	90X6SG7
V-2	Type 6SA7, mixer	90X6SA7
V-3,4	Type 6SK7, 1st and 2nd i-f amplifiers	90X6SK7
V-5	Type 6SC7, B.F.O. and audio amplifier	90X6SC7
V-6	Type 6K6GT, audio power amplifier	90X6K6GT
V-7	Type 6H6, A.N.L. and detector	90X6H6
V-8	Type 5Y3GT, rectifier	90X5Y3GT
LM-1,2	Lamp, dial light, Mazda #44	39A003
	MISCELLANEOUS	
TS-1	Terminal strip, antenna	88A032
	Lock, line cord	76A397
	Spring, retainer (Bandspread, and main tuning drive shaft)	75A062
	Dial cord	38A001
	Spring, dial cord	75A012
	Dial, bandspread	83B372
	Dial, general coverage	83C240
	Glass, general coverage dial	22B199
	Window, bandspread	22A307
LS-1	Speaker, P.M. (5-inch)	85B050
	Knob, PITCH CONTROL	12A058
	Knob, SENSITIVITY, VOLUME and TONE	15A048
	Knob, TUNING and BANDSPREAD	15A047
	Knob, BAND SELECTOR	15A266
	Foot, rubber	16A007

* Used on Universal Model S-40BU only.