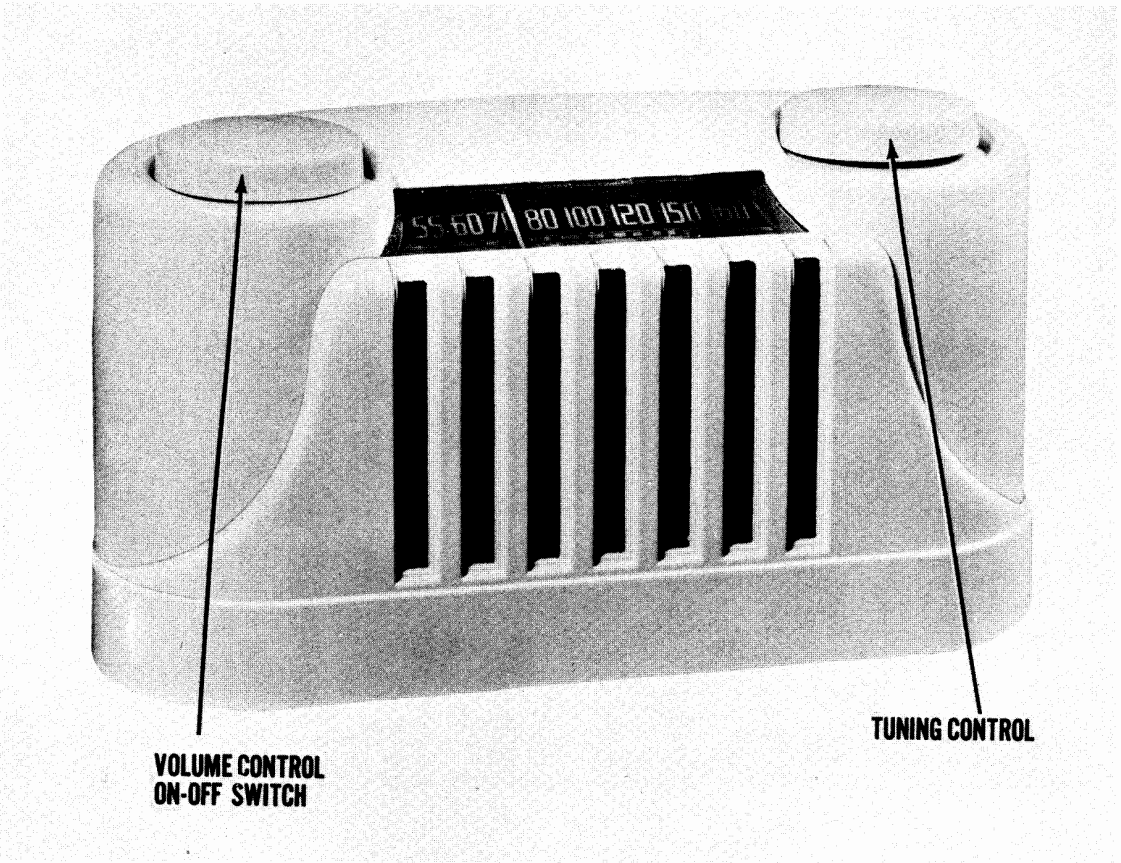
PHOTOFACT* Folder

*TRADE MARK

STEWART-WARNER
MODELS A51T1, A51T2, A51T3, A51T4

STEWART-WARNER
MODELS A51T1, A51T2, A51T3, A51T4

STEWART-WARNER
MODELS A51T1, A51T2, A51T3, A51T4



STEWART-WARNER MODEL A51T3

TRADE NAME	Stewart-Warner, Models A51T1 (Code 9020-A), A51T2 (Code 9020-B), A51T3 (Code 9020-C), A51T4 (Code 9020-D)
MANUFACTURER	Stewart-Warner Corp., 1826 Diversey Pkwy., Chicago, Ill.
TYPE SET	AC-DC Operated Superheterodyne Receiver-Self Contained Loop Antenna
TUBES (FIVE)	Types, 12BE6 1st Det.-Osc., 12BA6 IF Amp., 12AT6 2nd Det.-AVC-AF, 50B5 Power Output, 35W4 Rectifier.
POWER SUPPLY	110-120 Volts AC-DC
TUNING RANGE—BROADCAST	540-1600KC **SHORT WAVE** .240 Amp. @ 117 Volts AC

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

To set pointer, turn tuning cap fully closed and set pointer 1/8" to left of 55 mark on dial. Use isolation transformer if available. If not, connect a capacitor in series with low side of signal generator and B-. Volume control at maximum position. Output of signal generator should be no higher than necessary to obtain output reading. Use an insulated alignment screwdriver for adjusting.

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
200MMFD	High side to stator of large section of tuning cap. Low side to B-.	455KC	Tuning cap. fully open.	Across voice coil	A1,A2, A3,A4.	Adjust for maximum output.
200MMFD	High side to ext. ant. lead. Low side to chassis.	1500KC	1500KC	"	A5	Adjust for maximum output.
200MMFD	"	"	Tune for maximum output.	"	A6	" " " "

HOWARD W. SAMS & CO., INC. • 2924 East Washington Street • Indianapolis 6, Indiana

PARTS LIST AND DESCRIPTIONS

STEWART-WARNER MODELS
A51T1, A51T2, A51T3, A51T4

TUBES (SYLVANIA or Equivalent)

ITEM No.	USE	REPLACEMENT DATA: STEWART-WARNER PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	1st Det.-Osc.	12BE6	12BE6	7CH	
2	IF Amp.	12BA6	12BA6	7CC	
3	Det.-AVC-AF	12AT6	12AT6	7BT	
4	Power Output	50B5	50B5	7BZ	
5	Rectifier	35W4	35W4	5BQ	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: STEWART-WARNER PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SOLAR PART No.	SPRAGUE PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
6	20	150	504431	PRS150-20	BR2015	TC45	M-20-150	UT-201	Filter
7	20	150	504431	PRS150-20	BR2015	TC45	M-20-150	UT-201	"
8	.05	400	504444	484-05	DT4S5	TP426	S-4-05	TC-15	Line Filter
9	.01	400	504449	484-01	DT4S1	TP421	S-4-01	TC-11	Output Plate Bypass
10	.01	150	504450		ZN1S1	MT125	TTF-1.5-01		Audio Coupling
11	.004	150	504445		ZN1S1	MT125	TTF-1.5-01		" "
12	.05	400	504444	484-05	DT4S5	TP426	S-4-05	TC-15	AVC Filter
13	.1	400	504446	484-.1	DT4P1	TP428	S-4-1	TC-1	Line Isolation
14	.004	400	502156	484-004	DT6D4	TP407	S-6-004	TC-24	Ext. Ant. Coupling
15	260	500	502271	1468-00025	5W5T25	MC240	MO.5-325	1FM-325	Audio Plate Bypass
16	260	500	502271	1468-00025	5W5T25	MC240	MO.5-325	1FM-325	IF Bypass Vol. Cont.
17	50	500	504434						Osc. Grid Capacitor Cer.
18	10	500	502295						Fixed Trimmer Cer.

CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: STEWART-WARNER PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
19A	1 Meg.	1	504391	MK402	D13-137	AM-63-Z	Volume Control
B	Shaft		Not Req.	Not Req.	E	KSS-3	Attach to 19A per instructions
C	Switch		" "	M26	41	SW-A	" " " " "

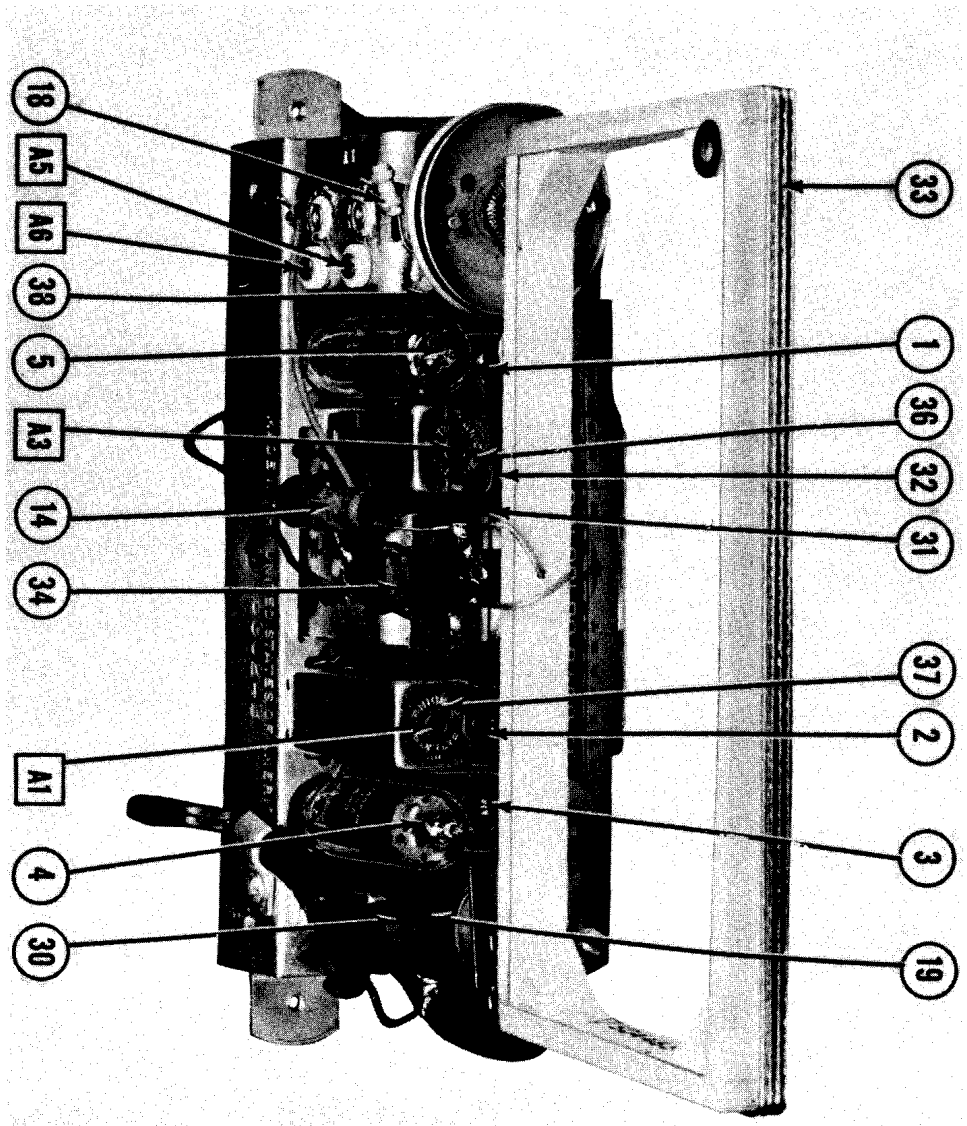
RESISTORS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: STEWART-WARNER PART No.	IRC PART No.	IDENTIFICATION CODES
20	22KΩ	1/3	504440	BTS-22K	Red-Red-Or. Oscillator Grid
21	220KΩ	1/3	504435	BTS-220K	Red-Red-Yl. Line Isolation
22	82Ω	1/2	504436	BW-½-82	Gray-Red-Blk. IF Cathode
23	2.2 Meg.	1/3	504441	BTS-2.2 Meg.	Red-Red-Grn. AVC Network
24	3.3 Meg.	1/3	504439	BTS-3.3 Meg.	Or.-Or.-Grn. AF Grid
25	470KΩ	1/3	504438	BTS-470K	Yl.-Vi.-Yl. AF Plate Load
26	470KΩ	1/3	504438	BTS-470K	Yl.-Vi.-Yl. Output Grid
27	150Ω	1/2	504437	BW-½-150	Br.-Grn.-Br, Output Cathode
28	1500Ω	1	504442	BTA-1500	Br.-Grn.-Red Filter
29	33Ω	1/2	502574	BW-½-33	Or.-Or.-Blk. Rectifier Ballast

TRANSFORMER (OUTPUT)

ITEM No.	RATING: IMPEDANCE PRI.	RATING: IMPEDANCE SEC.	RATING: DC RES. PRI.	RATING: DC RES. SEC.	REPLACEMENT DATA: STEWART-WARNER PART No.	STANCOR PART No.	THORDAR'N PART No.		INSTALLATION NOTES
30	2500Ω	3.5Ω	144Ω tapped @ 7Ω	.55Ω	504454				

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

SPEAKER

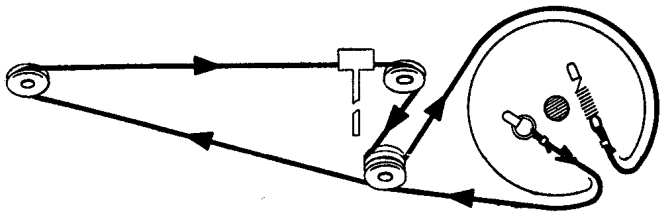
ITEM No.	RATINGS		REPLACEMENT DATA: STEWART-WARNER PART No.	JENSEN PART No.		INSTALLATION NOTES
	FIELD	VC IMP.				
31	PM	3.5Ω	504455			
	CONE DIA.	VC DIA.				
32	3-3/8"	1/2"	NOT READILY REPLACEABLE-USE COMPLETE SPEAKER UNIT.			

R F COILS

ITEM No.	USE	DC RES. PRI.	DC RES. SEC.	REPLACEMENT DATA: STEWART-WARNER PART No.	MEISSNER PART No.
33	Loop Ant.		0Ω	504453	
34	Ant. Coupling	.3Ω	1.5Ω	504451	
35	Osc. Coil	1Ω	8Ω	504458	
36	Input IF	19Ω	19Ω	504392	16-6668
37	Output IF	19Ω	19Ω	504392	16-6669

MISCELLANEOUS

ITEM No.	PART NAME	STEWART-WARNER PART No.	NOTES
38	2 Gang Var.Cap.	504390	37-503 MMF, 29-196 MMF
	Dial Scale	504545	Models 51T2 & 51T3
	" "	505099	Models 51T4
	Pointer	504544	
	Dial Window	504472	

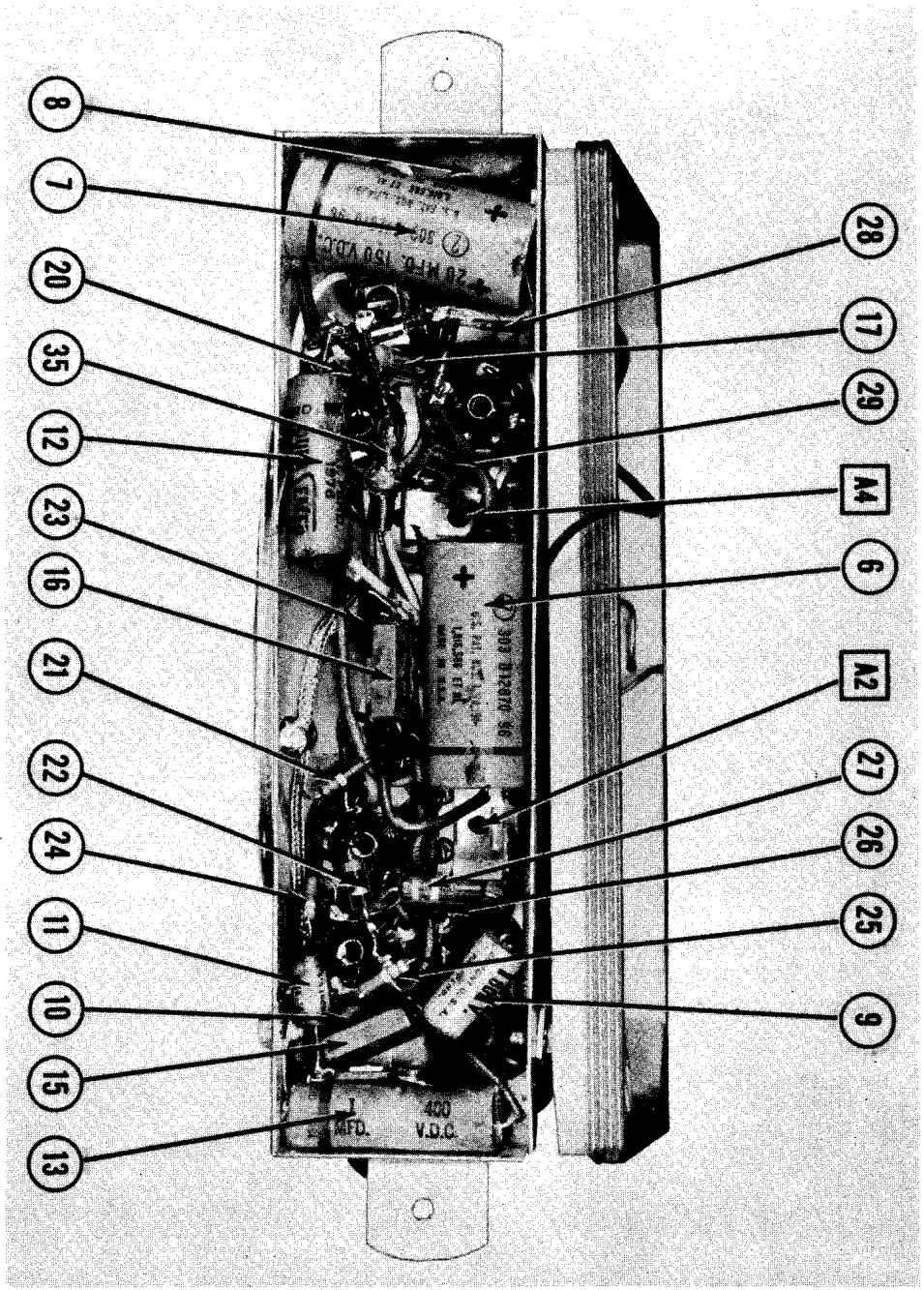


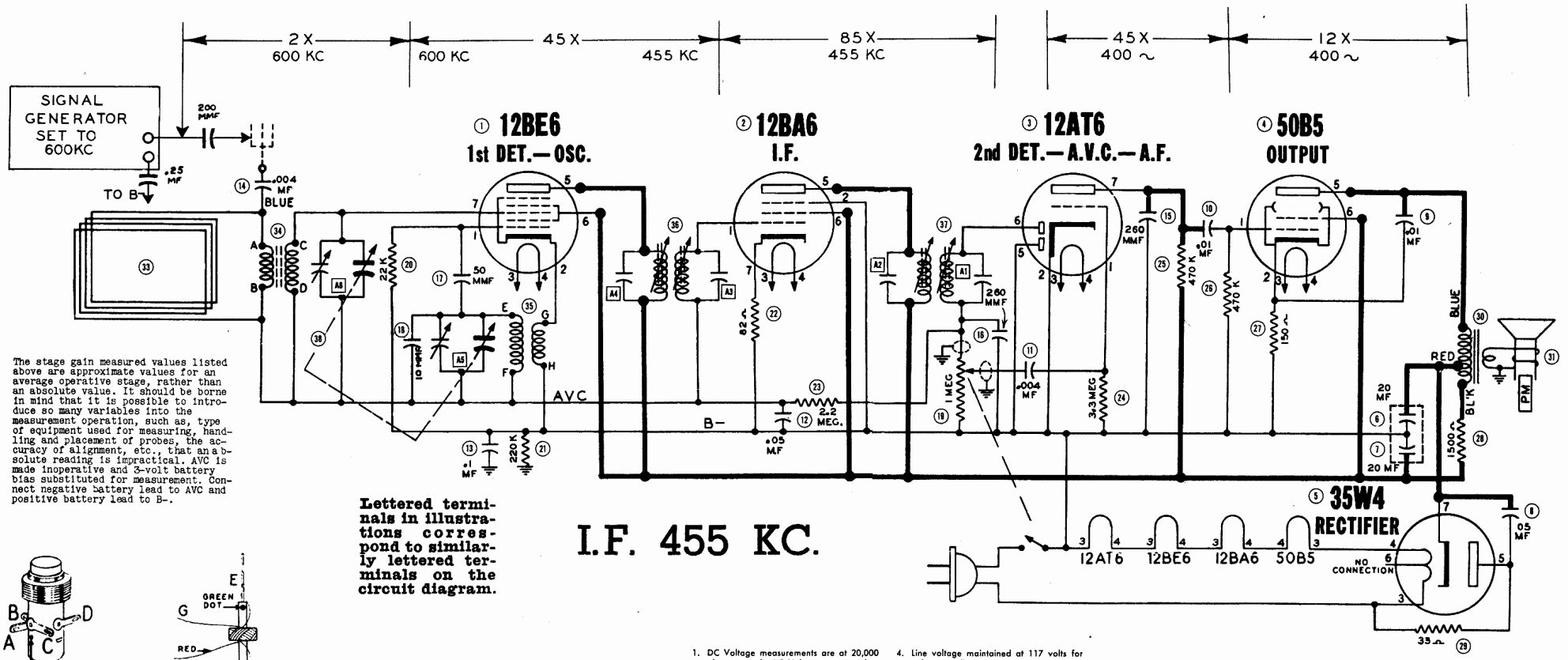
DIAL AND POINTER DRIVE CORD ARRANGEMENT

To string dial cord, turn the drive drum to maximum clockwise position and use the following parts:

114955 Clip on end of cord
117057 Cord (2 feet required)
119087 Ring for dial cord
505161 Tension Spring

CHASSIS—BOTTOM VIEW

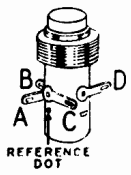




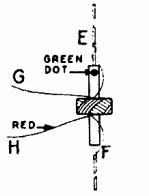
The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative and 3-volt battery bias substituted for measurement. Connect negative battery lead to AVC and positive battery lead to B-.

Lettered terminals in illustrations correspond to similarly lettered terminals on the circuit diagram.

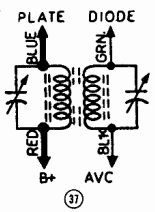
I.F. 455 KC.



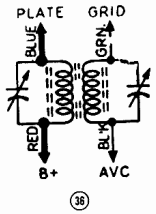
ANTENNA COUPLING
(34)



OSCILLATOR
(35)



(37)



(38)

1. DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1,000 ohms.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of ±15% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.

VOLTAGE READINGS

ITEM	TUBE	PIN 1	PIN 2	PIN 3	PIN 4	PIN 5	PIN 6	PIN 7
1	12BE6	-3.2V.DC	0V.	12V.AC	23V.AC	93V.DC	93V.DC	0V.
2	12BA6	0V.	0V.	23V.AC	34V.AC	93V.DC	93V.DC	1V.DC
3	12AT6	-.6V.DC	0V.	0V.	12V.AC	0V.	-3V.DC	36V.DC
4	50B5	0V.	59V.DC	85V.AC	34V.AC	120V.DC	93V.DC	0V.
5	35W4	125V.DC	0V.	117V.AC	85V.AC	115V.AC	92V.AC	125V.DC

RESISTANCE READINGS

ITEM	TUBE	PIN 1	PIN 2	PIN 3	PIN 4	PIN 5	PIN 6	PIN 7
1	12BE6	20KΩ	.5Ω	11Ω	22Ω	100KΩ	100KΩ	2.8MEG.
2	12BA6	2.8MEG.	0Ω	22Ω	32Ω	100KΩ	100KΩ	80Ω
3	12AT6	3.3MEG.	0Ω	0Ω	11Ω	0Ω	900KΩ	600KΩ
4	50B5	490KΩ	130Ω	77Ω	32Ω	100KΩ	100KΩ	490KΩ
5	35W4	100KΩ	INF.	105Ω	77Ω	130Ω	85Ω	100KΩ

RESISTANCE READINGS IN THE B+ CIRCUITS MAY VARY WIDELY ACCORDING TO THE CONDITION OF THE FILTER CAPACITORS

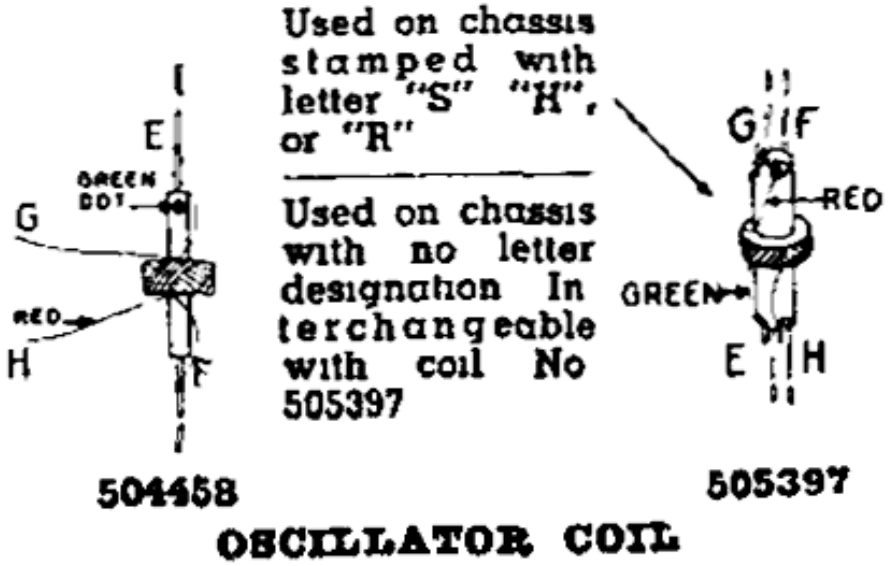
CHANGES PAGE 20-13

Stewart-Warner A51T Series

These models are the same as Model A51T1, appearing on *pages 174 through 176 of Rider's Volume XVII* The code listings for these models are

Model	*Code*
A51T1	9020 A
A51T2	9020 B
A51T3	9020 C
A51T4	9020 D

On chassis which have the letters H or R stamped on the rear surface adjacent to the model numbers the rotor of the gang tuning capacitor is grounded instead of being connected to the AVC line Oscillator coil 505397 (see accompanying diagram) is used on chassis which are stamped with the letters "S" "H", or "R"



OSCILLATOR COIL

Oscillator coil for Stewart Warner A51T series