

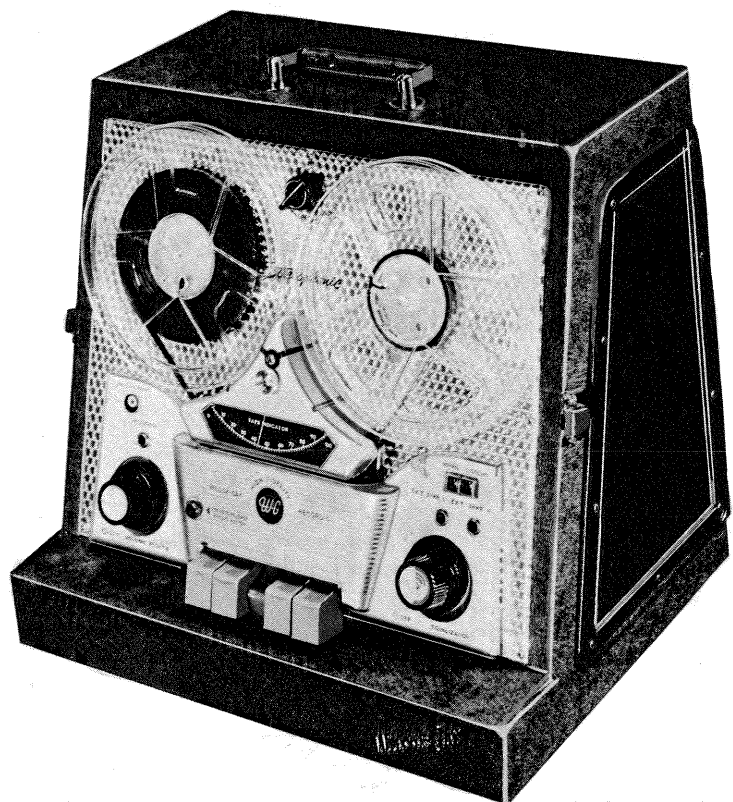
FOLDER 11  
SET 435

PHOTOFACT\* Folder



WILCOX-GAY  
MODEL 800

WILCOX-GAY  
MODEL 800



### GENERAL INFORMATION

Wilcox-Gay Sterecordio Model 800 tape recorders record and play back two tracks of material on standard-width recording tape, thus doubling playing time with no loss of frequency or quality. The Model 800 tape recorder will also record and play back stereo material. The unit has two speeds, 3 3/4 and 7 1/2 ips.

Recordings can be made from a radio, television receiver, or phonograph, in addition to those made directly from a microphone.

Using both tracks of tape, recording times are as follows:

Reel Size	3 3/4" Speed	7 1/2" Speed
5" (600 ft.)	1 Hour	1/2 Hour
7" (1200 ft.)	2 Hours	1 Hour

Connect this recorder to an outlet supplying 110-120 volts, 60 cycles AC only. Before connecting to line supply, be certain it agrees with these specifications.

MANUFACTURED BY:  
WILCOX-GAY CORPORATION  
CHARLOTTE, MICHIGAN

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SET 435

FOLDER 11

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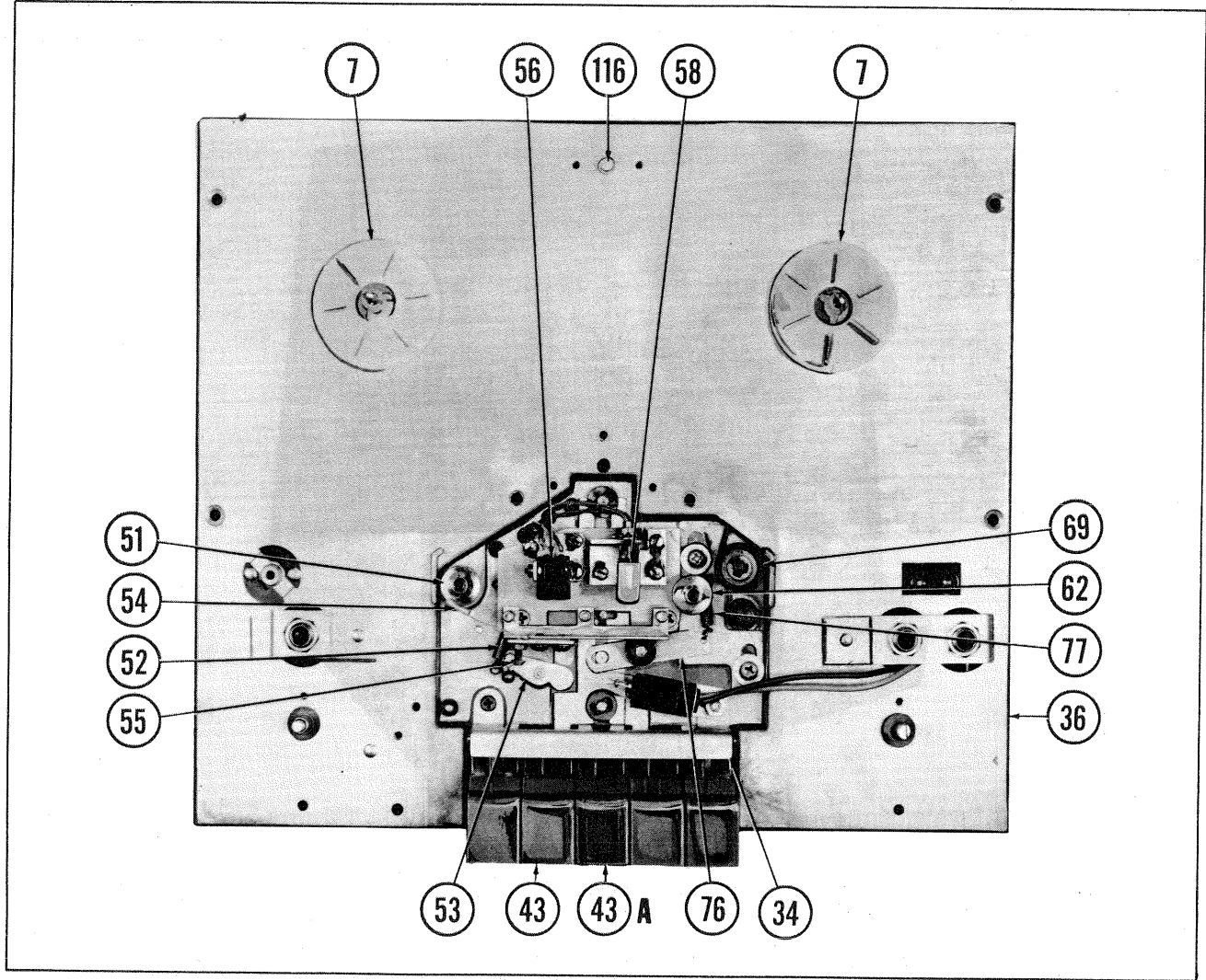


FIG. 1 TOP VIEW OF MECHANISM WITH ESCUTCHEON REMOVED

SPECIFICATIONS

- Size:  
14 3/16" x 15 1/2" x 12"
- Weight:  
Approximately 35 lbs.
- Power Requirements:  
110-120 volts AC, 60 cycles, 110 watts.
- Speeds:  
3 3/4 and 7 1/2 ips
- Reels:  
3", 5", and 7"
- Speakers:  
Self-contained; two 5 x 7 oval extended range, permanent magnet.
- Playback:  
Two self-contained stereophonic; stacked heads plus necessary amplifiers.
- Recording:  
Monaural
- Amplifiers:  
Two full preamplifiers and two full amplifiers.
- Over-all Amplifier Response:  
40 to 15,000 cps + 2 db at 7 1/2 ips
- External Speaker Jacks:  
Two, with automatic disconnection of internal speakers.
- Recording Level Indicator:  
2-neon type: 1 normal, 1 overload.

ELECT. PARTS LIST AND DESCRIPTIONS (Continued)

TRANSFORMER (AUDIO OUTPUT)			
REPLACEMENT DATA		REPLACEMENT DATA	
ITEM No.	IMPEDANCE	Wicox-Gay PART No.	NOTES
T2	4300Ω 6-80	AU-2901	Triad PART No.
T3	4300Ω 6-80	AU-2901	Triad PART No.
SPEAKER			
REPLACEMENT DATA		REPLACEMENT DATA	
ITEM No.	TYPE	Wicox-Gay PART No.	NOTES
SP1	5" x 7" PM	C-30.363-2	
SP2	5" x 7" PM	C-30.363-2	

RESISTORS

All wattages 1/2 watt, or less, unless otherwise listed.

RATING		RATING		RATING	
ITEM No.	OHMS	WATT	WATT	ITEM No.	OHMS
R4	470K	1		R24	10meg
R5	10meg			R25	470K
R6	220K			R26	470K
R7	10meg			R27	470K
R8	220K			R28	150Ω
R9	470K			R29	220K
R10	100K			R30	330Ω
R11	100K			R31	100K
R12	100K			R32	150Ω
R13	470K			R33	10meg
R14	470K			R34	10meg
R15	150Ω			R35	10meg
R16	10meg			R36	100K
R17	220K			R37	100K
R18	10meg			R38	100K
R19	10meg			R39	330
R20	220K			R40	330
R21	470K			R41	470Ω
R22	470K			R42	10K
R23	100K				

① Some versions may use 47K in this application (Part #D-7, 101-56).

② Some versions may use 60 5W in this application (Part #C-6, 215-15).

MISCELLANEOUS

ITEM No.	PART NAME	Wicox-Gay PART No.	NOTES
M1	Head	B-36.232	Stereo In-Line, Record-Playback (Michigan Magnetics)
M2	Dual Erase Head	B-36.231	Includes Lead Assembly
	Head	B-35.1177-1	Stereo (World Magnetics)
	Head	B-36.235	Stereo (Dynamu)
	Stereo Head	B-35.1185-1	Includes mounting bracket assembly (for Michigan Magnetics)
	Stereo Head	B-35.1186-1	Includes mounting bracket assembly (for World Magnetics)
	Erase Head	B-35.1172-1	Includes mounting bracket assembly (for Dynamu Heads)
	Lamp	B-35.1171-1	Includes mounting bracket assembly (for Dynamu Heads)
M3	Lamp	45-2003	#44
M4	Lamp	45-2036-1	#NE51
M5	Lamp	45-2036-1	#NE51
M6	Switch	B-11.233-1	Play-Record, DPDT, Slide Type
M7	Micro Switch	B-11.271	On-Off
M8	Switch	B-11.270	Function (Rotary, Wafer, Spring Return Type)
M9	Motor Assembly	C-35.1053-1	(Fasco Motor)
	Microphone	C-36.174	Crystal, Includes 12 Foot Cable

CABINETS & CABINET PARTS

(When Ordering Cabinets & Cabinet Parts, Specify Model, Chassis & Color)

NAME	PART NO.	DESCRIPTION
Knob	B-13.386	Dual Dummy, On-Off and Equalization
Knob	B-13.387-1	Dual Control, Left Volume
Knob	B-13.387-2	Dual Control, Right Volume
Knob	B-32.302-2	Timer
Knob	C-13.253-7	Speed Shift, Black
Lock Button	B-32.308-4	Chrome
Push Button	B-36.180-1	4 used, Assembly, Gray
Push Button	B-36.180-3	Assembly, Red
Push Button	B-13.306-1	Gray
Push Button	B-13.306-2	Black
Push Button	B-13.306-3	Red
Cabinet Assembly	B-2476-1	

TRANSFORMER (POWER)

RATING		RATING		RATING	
ITEM No.	SEC. 1	SEC. 2	SEC. 3	ITEM No.	SEC. 1
T1	117V	540VCT	5V		117V
	③ .70A	③ .110A	Not used		③ .70A
	SEC. 3	SEC. 4	SEC. 5		SEC. 3
	6.3V				6.3V
	③ 2.5A				③ 2.5A

WIRING DATA

General-use Unshielded Hook-up Wire	Use BELDEN No. 8530 (Solid) Available in Ten Colors
Power Cord	Use BELDEN No. 8524 (Stranded) Available in Ten Colors
Low-Loss Shielded Lead (Interconnecting)	Use BELDEN No. 1768-B (6 Ft. Length)
Phone Pick-up Arm Cable	Use BELDEN No. 8428-K (1/2 Ft. Length)
	Use BELDEN No. 8430 (Two Conductor - Twisted)

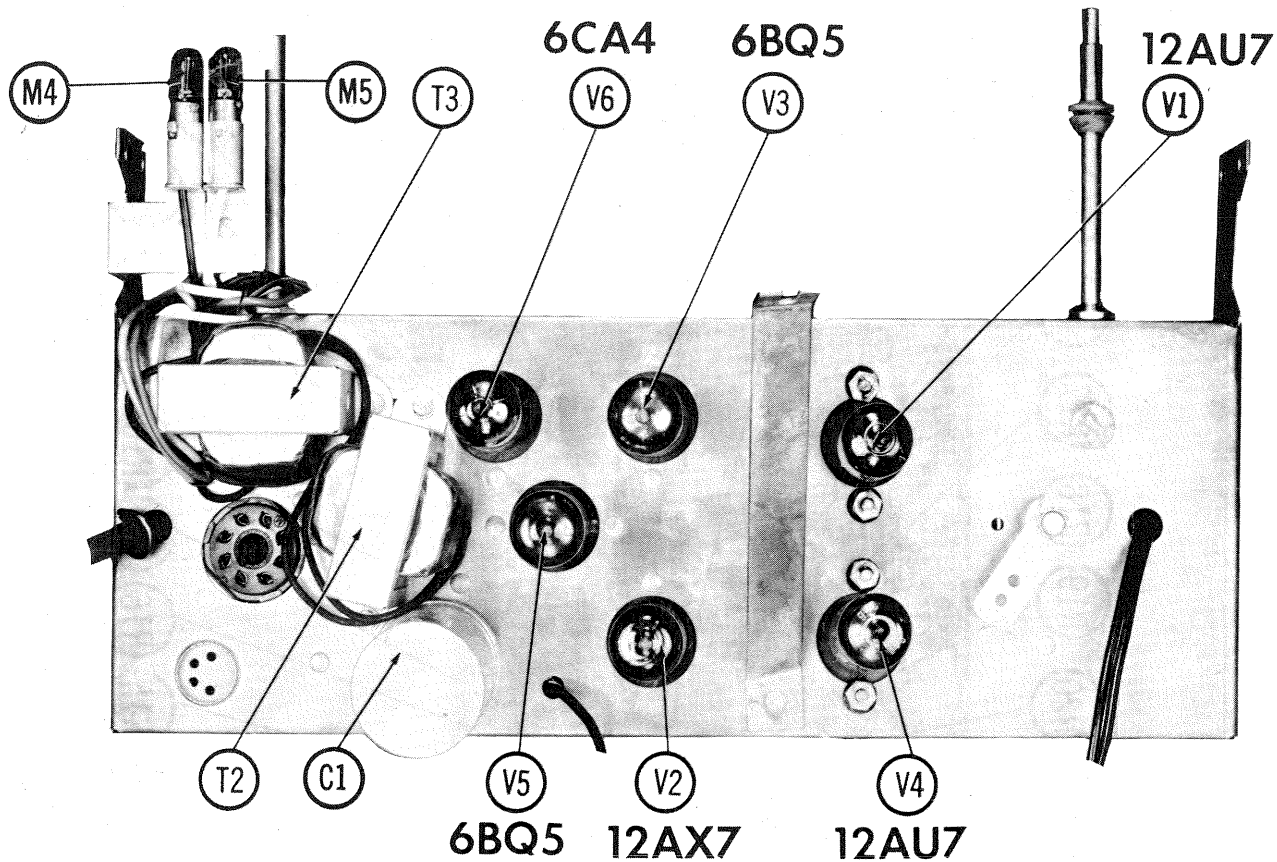
WILCOX-GAY  
MODEL 800

FOLDER 11

ELECT. PARTS LIST AND DESCRIPTIONS  
TUBES (GENERAL ELECTRIC, SYLVANIA)

ITEM No.	USE	TYPE
V1	Preamp/AF Amplifier	12AU7/ECC82
V2	AF Amplifier	12AX7/ECC83
V3	Output	6BQ5/EL84
V4	Preamp/AF Amplifier	12AU7/ECC82
V5	Output-Bias Osc.	6BQ5/EL84
V6	Rectifier	6CA4/EZ81

AMP CHASSIS—TOP VIEW



ELECTROLYTIC CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA					
		WILCOX-GAY PART No.	AEROVOX PART No.	CORNELL DUBILIER PART No.	MALORY PART No.	PYRAMID PART No.	SPRAGUE PART No.
C1A	40	421-10	AFH3-44	B0450	FP376.9	TMT-40	TVL-3787
C1B	40	B-5.463	PR4-200	BR4045	TC75	WQ795	TVAS-3745*
C2A	40	B-5.463	SRE12V50	BBRQ0174	TT15X50	ML50-15	TVA-1206
C2B	40	B-5.464	SRE12V50	BBR50-25	TT15X50	ML50-15	TVA-1206
C3	50	12.5					
C4	50	12.5					

\* Not normally in distributors stock. Available thru distributor on order to manufacturer.

FIXED CAPACITORS

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

ITEM No.	RATING	REPLACEMENT DATA						NOTES
		WILCOX-GAY PART No.	AEROVOX PART No.	CORNELL DUBILIER PART No.	MALORY PART No.	PYRAMID PART No.	SPRAGUE PART No.	
C5	100	C-4.109-45	NPO-SI 100	D8-101	L10T1	MS-31	MS-31	10%
C6	30	C-4.109-27	NPO-SI 220	DD-300	L10Q3	5GA-Q3	5GA-Q3	10%
C7	220	C-4.109-27		DD-221	L10T22			10%
C8	2.2	C-4.109-27						10%
C9	.047	D-3.100-64						10%
C10	27	C-4.109-27						10%
C11	.047	D-3.100-64						10%
C12	50	C-4.109-45	1469-00005	DD-270	L10Q27	MS-45	MS-45	10%
C13	2000	C-4.109-45		D6-500	22R5Q5			10%
C14	.01	D-3.100-66						10%
C15	.047	D-3.100-64						10%
C16	5000	C-4.109-27						10%
C17	2.2	C-4.109-27						10%
C18	.047	D-3.100-64						10%
C19	.047	D-3.100-64						10%
C20	50	C-4.109-45	1469-00005	D6-500	22R5Q5	MS-45	MS-45	10%
C21	2000	C-4.109-45						10%
C22	.01	D-3.100-64						10%
C23	100	C-4.109-45	NPO-SI 100	D6-101	L10T1	5TCC-TI	5TCC-TI	10%
C24	5000	C-4.109-45	NPO-SI 100	D6-101	L10T1	5TCC-TI	5TCC-TI	10%
C25	100	C-4.109-45	NPO-SI 100	D6-101	L10T1	5TCC-TI	5TCC-TI	10%
C26	100	C-4.109-45	NPO-SI 100	D6-101	L10T1	5TCC-TI	5TCC-TI	10%
C27	100	C-4.109-45	NPO-SI 100	D6-101	L10T1	5TCC-TI	5TCC-TI	10%
C28	100	C-4.109-45	NPO-SI 100	D6-101	L10T1	5TCC-TI	5TCC-TI	10%
C29	100	C-4.109-45	NPO-SI 100	D6-101	L10T1	5TCC-TI	5TCC-TI	10%
C30	100	C-4.109-45	NPO-SI 100	D6-101	L10T1	5TCC-TI	5TCC-TI	10%
C31	100	C-4.109-45	NPO-SI 100	D6-101	L10T1	5TCC-TI	5TCC-TI	10%
C32	100	C-4.109-45	NPO-SI 100	D6-101	L10T1	5TCC-TI	5TCC-TI	10%
C33	100	C-4.109-45	NPO-SI 100	D6-101	L10T1	5TCC-TI	5TCC-TI	10%
C34	100	C-4.109-45	NPO-SI 100	D6-101	L10T1	5TCC-TI	5TCC-TI	10%
C35	100	C-4.109-45	NPO-SI 100	D6-101	L10T1	5TCC-TI	5TCC-TI	10%
C36	100	C-4.109-45	NPO-SI 100	D6-101	L10T1	5TCC-TI	5TCC-TI	10%
C37	100	C-4.109-45	NPO-SI 100	D6-101	L10T1	5TCC-TI	5TCC-TI	10%
C38A	4000	B-4.131-2	BPD-2X004	DD-402	EYCDD4	5HK-2D4	5HK-2D4	10%

① Some versions may use 10000mmf in this application.  
② Some versions may use polarized tubular in this application (Part #B-5.487).  
③ Some versions may use 470mmf in this application (Part #C-4.104-66).

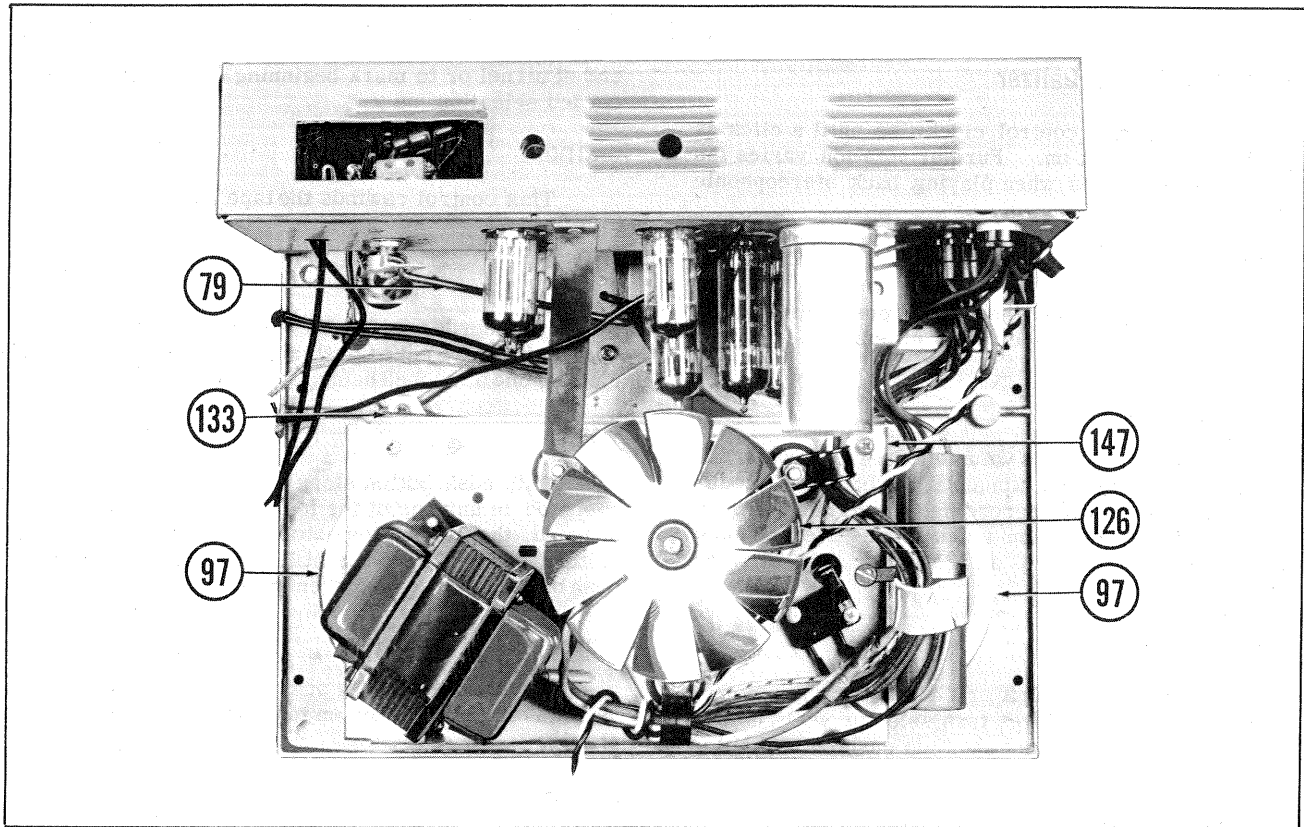


FIG.2 BOTTOM VIEW OF MECHANISM

AC Erase:

80 kc high frequency, for best signal-to-noise ratio.

2--EL84 (6BQ5A)  
1--EZ81 (6CA4)

Wow and Flutter:

.3% at 7 1/2 ips  
.5% at 3 3/4 ips

Tubes:

2--12AX7 (ECC83) (7025)  
1--12AU7A (ECC82)

Signal to Noise:

35 db minimum

STEREOPHONIC RECORDING

Stereophonic recordings can be made when the proper stereophonic recording unit is connected to the jacks on the panel in rear of case.

PREPARING FOR OPERATION

1. Open lid and remove microphone, empty reel, and reel of tape from storage compartment in lid.
2. Depress the Stop button.
3. Remove power cord from storage compartment at rear of unit.
4. Insert AC cord into a convenient wall receptacle of proper rating.
5. Set Speed Change knob to 3 3/4 or 7 1/2 ips, as desired.

CAUTION: Do not turn Speed Change knob unless Stop button is depressed.

When Forward or Rewind button is depressed, Record and Play buttons are locked so they cannot be depressed, with the possibility of tape spilling. Buttons should always be depressed firmly until they latch. Stop button must be depressed before changing functions or speeds of the Sterecordio.

IMPORTANT: Always depress the Stop button when the Sterecordio is not in use.



## FUNCTION OF CONTROLS

### On-Off and Tone Equalizer

Rotating this control clockwise until a click is heard turns the unit on. Further rotation varies the tone of the speakers when playing back stereophonic tapes.

### Record Lock

This control locks the Record push button in the up position to prevent accidental erasure.

### Volume and Monitor

Large rim controls volume from left soundtrack during stereophonic and monaural playback, and modulation during monaural recording. Small rim controls Volume from right sound track during stereophonic playback only and serves as a Monitor control when recording monaurally.

### Speed Selector

Turn selector to left or right until arrow points to desired speed. Never turn selector while unit is operating. Always be sure the Stop push button is depressed.

### Timer Reset

This control turns the timer pointer to zero at

end of a reel or to mark beginning of a particular recorded selection.

### Rewind

This control rewinds the tape rapidly from right to left.

### Record

To record, depress the Record Lock button while depressing the Record push button. This puts tape in motion, and any sound being fed to the tape is recorded.

### Stop

This push button stops the unit when it is being operated in any one of the four positions. When depressed, the Stop button automatically disengages the motor, even if power is still on. Be sure the Stop push button is depressed when Sterecordio is not in use.

### Play

By depressing Play push button, the Sterecordio will play back any sound on tape, monaural or stereophonic.

### Forward

This control winds tape from left to right without recording or playing back.

## OPERATING INSTRUCTIONS

### Threading Tape

1. Place a reel of tape on supply (left) pan and an empty reel on take-up (right) pan. Make sure reel slots engage protrusions on pans.
2. Unwind about 14" of tape from supply reel. Hold a section of tape taut and insert in tape slot, making sure dull-coated side of tape faces away from operator.
3. Insert free end of tape into one of three slots in hub of take-up reel while holding end in place and give reel two or three turns until tape is secured to reel.

### To Record Monaurally From Microphone

1. Turn On-Off switch clockwise and allow sufficient time for unit to warm up. Left neon light will glow when unit is on.
2. Depress Record Lock button with left hand. This releases the safety lock, which prevents accidental erasure.
3. While holding Record Lock button down, depress Record button until it latches.
4. Adjust Loudness control until right-hand neon indicator glows as brightly as left one. If Loudness control is too high, left-hand indicator will not light and will cause distortion.

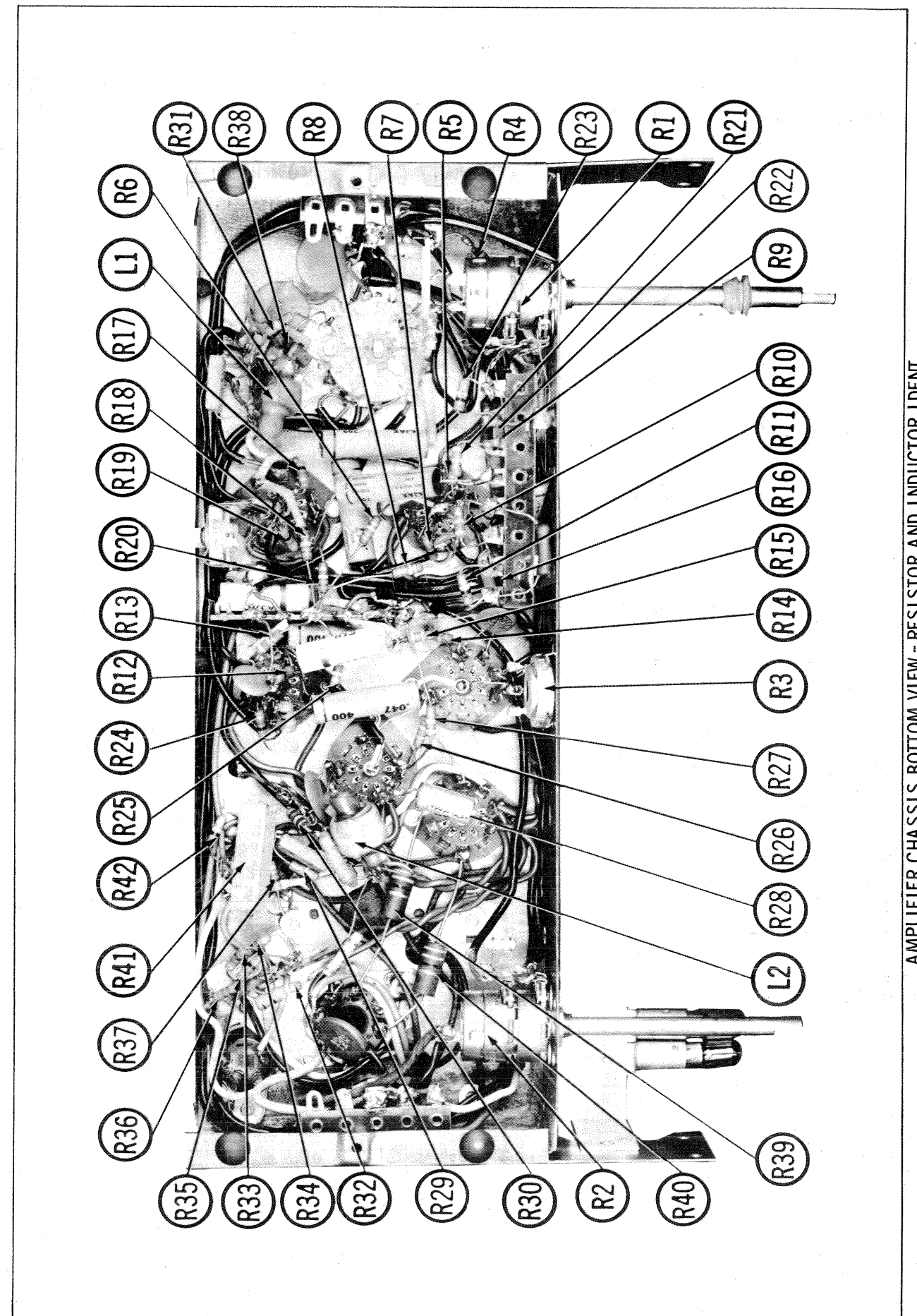
For proper recording level, both neon indicators should glow.

5. Tone control is automatically disconnected when recording. When recording from radio, set radio tone control for maximum treble.
6. At any time during a recording, the auxiliary switch on Tone control may be operated to monitor the recording. This allows the speakers on the Sterecordio to operate while a recording is being made. The microphone must be kept far enough from recorder to prevent acoustic feedback squeal.

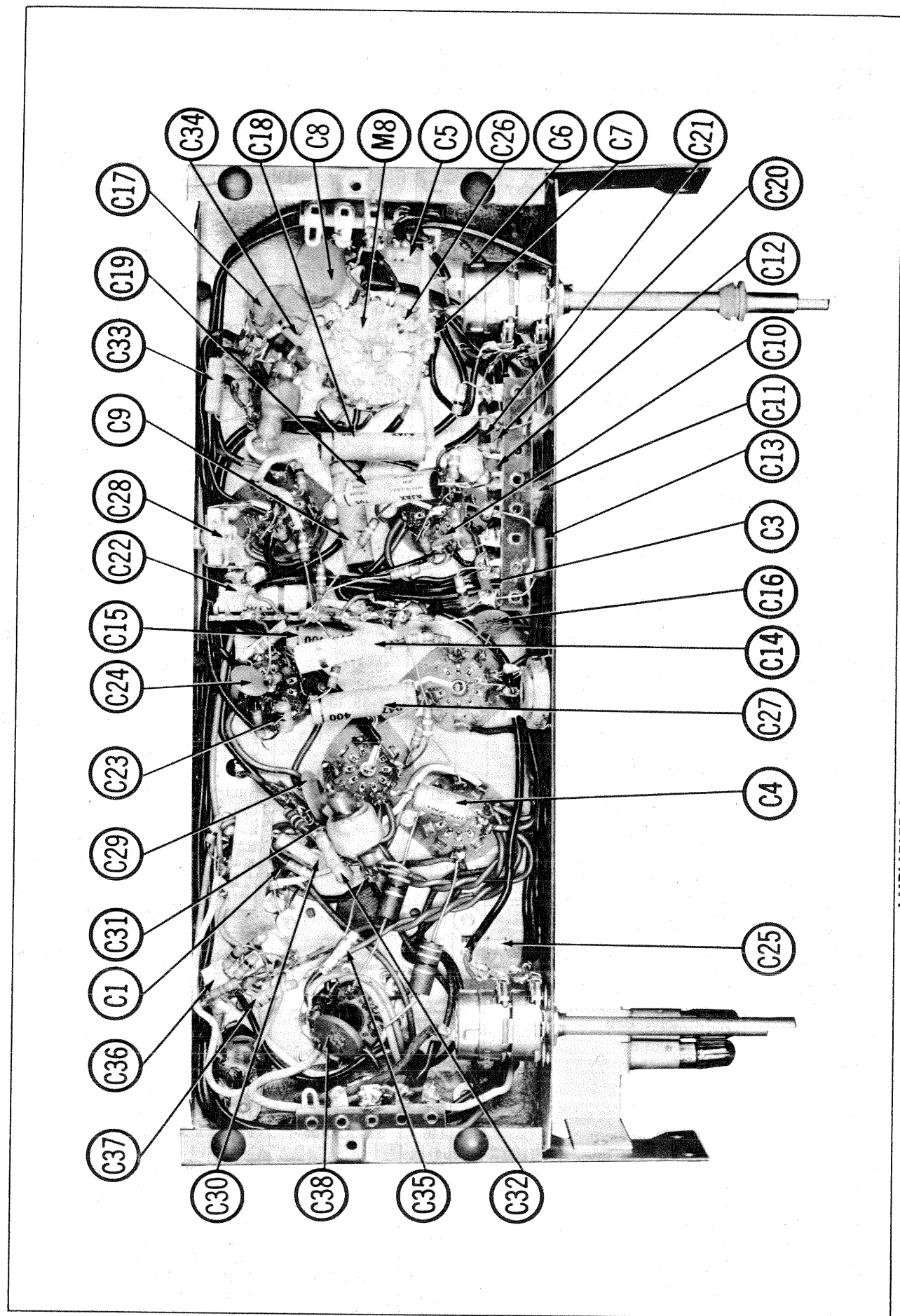
### To Record Monaurally From Radio, Television Receiver, or Phonograph

1. Insert phonograph phono plug into Radio, PA, Phono input.
2. For radio or TV recording, connect patch cord (part No. C 20.233) to voice-coil terminals of radio or TV receiver speaker with alligator clips. Plug into Radio, PA, Phono jack.
3. Proceed with recording as described under "To Record Monaurally from Microphone."

NOTE: Remove patch cord from Radio, PA, Phono jack after recording is completed.



WILCOX-GAY  
MODEL 800  
AMPLIFIER CHASSIS BOTTOM VIEW - RESISTOR AND INDUCTOR IDENT.



AMPLIFIER CHASSIS BOTTOM VIEW - CAPACITOR IDENT.

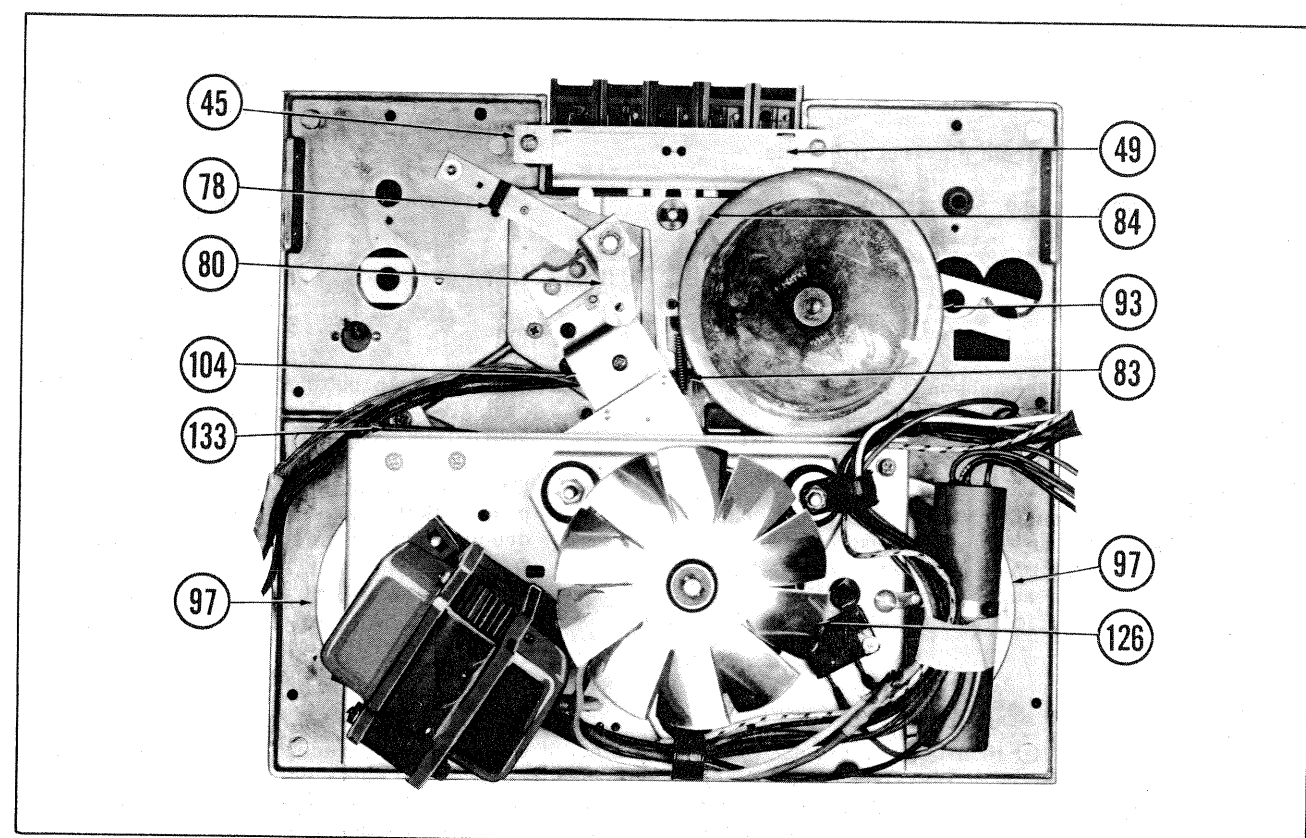


FIG. 3 BOTTOM VIEW OF MECHANISM WITH AMPLIFIER REMOVED

#### To Use Second Track

1. Depress Stop button after all of tape has been wound onto take-up reel.
2. Remove reel containing tape and place on left (supply) pan.
3. Place empty reel on right (take-up) pan.
4. Thread tape and proceed with recording as described under "To Record Monaurally from Microphone."

#### To Erase Tape

When Record button is depressed, erase head is automatically positioned, erasing any previous recording while a new one is being made. Material no

longer needed may be erased, without recording, by depressing Record button and turning Loudness control to minimum volume. One track is erased at a time. To erase second track, reverse reels and repeat the foregoing operation.

#### To Play Recordings

1. Thread tape as described under "Threading Tape."
2. Set Speed Change knob to speed at which recording was made.
3. Depress Play button until it latches.
4. Adjust Loudness and Tone controls for desired listening level.

#### DISASSEMBLY INSTRUCTIONS

##### To Remove Unit from Case

1. Remove rear screen by removing eight Phillips screws.
2. Disconnect speaker leads.
3. Remove two screws from stereophonic recording plate on rear of case.
4. Remove three control knobs
5. Remove two Phillips screws (14) from escutcheon and remove escutcheon.

6. Remove Tape Timer knob by removing Phillips screw (4).
7. Remove timer escutcheon (16) by removing Phillips screw (3).
8. Pull out timer shaft (17).
9. Remove Speed Change knob.
10. Remove seven wood screws from dress plate and remove dress plate.
11. Remove four Phillips head screws from base plate and remove unit, tilting it clear of case.

To Remove Amplifier from Tape Transport Mechanism

- 1. Remove motor and power transformer plug from amplifier chassis.
- 2. Remove leads from play-record heads.
- 3. Remove machine screws from each end of

amplifier chassis.

- 4. Carefully lift amplifier away from tape transport mechanism and disconnect play-record switch actuating link.
- 5. To reassembly, reverse foregoing procedure.

MECHANICAL ADJUSTMENTS

Pressure Pad

- 1. Remove front escutcheon (22).
- 2. Depress Play button. Do not turn Stereorecordio on.
- 3. Guide post pressure pad is adjusted by locked adjustment screw (55). The pad must be adjusted for minimum pressure against tape. After adjustments are made, depress Stop button and replace front escutcheon.

Brake Shoe

- 1. With all push buttons in up position, brake pads (151) should clear brake drums (97) by approximately 1/8".
- 2. Depress Stop button while observing brake pads. Both brake pads must contact brake drums at same time and with equal pressure.
- 3. If necessary, adjust by bending brake spring (81).

CLEANING

Most defects, other than wear or breakage, can be traced to dirty surfaces. Play-record head (58), capstan, and pinch roller (69) may accumulate tape coating oxide, worn off tape as it passes these parts. This accumulation should be removed periodically

since it will cause faint recording and poor playback. Wipe the foregoing surfaces carefully with a clean cloth. If dirt is caked or hard and cannot be removed with a dry cloth, dampen cloth slightly with alcohol.

ELECTRICAL ADJUSTMENTS

Record Hum

Place unit in Record position, with volume at maximum. Short out bias at L1. Connect a VTVM to External Speaker jack. Set VTVM to AC volts, 3-volt scale, with a 3.3-ohm load resistor across meter. Adjust record hum control R3 for minimum deflection on meter.

Head Alignment

Use standard 6- or 12-kc alignment tape. Remove front and rear escutcheons. Clean pole pieces of play-record head with a good commercial head cleaning agent. Then proceed as follows:

- 1. Thread alignment tape on recorder and turn volume to maximum. Connect VTVM to External Speaker jack. Set meter for AC volts, 3-volt range.
- 2. Place unit in Play position at 7 1/2" speed. Decrease volume until output is 1 volt on meter. Rotate play-record head adjustment screw (60) until maximum point of deflection is found.

Indicator Lights (Normal and Overload)

Normal and overload indicator lights are preset and there are no firing adjustments. If either light must be changed, both lights should be replaced with a matched set of neon indicators to insure proper recording level indication.

Erase Head

- 1. With tape properly threaded, turn recorder on and depress Record button. Allow tape to run for a few seconds, then turn recorder off but leave Record button depressed.
- 2. With timer escutcheon (16) and front escutcheon (22) removed, check to see if dual erase head (56) is parallel with tape.
- 3. If adjustment is necessary, adjust screws (60) until left pole piece is even with top edge of tape and right pole piece is even with bottom of tape.

Bias

Suggested Alignment Tools:

General Cement: 5004, 5008, 5009  
Walsco: 2520

- 1. Set line voltage at 117 volts.
- 2. Place unit in Record position and turn both volume controls to maximum.
- 3. Connect AC probe of VTVM to pin 2 (grid) of 6BQ5/EL84 (V5) and common to chassis. Place meter selector on AC volts, 10-volt range.
- 4. Adjust trimmer C28 for 2.25 volts on VTVM.

MECHANICAL PARTS LIST-CON'T.

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
50	57-3439-2	#6-32 x 3/16 Bristol Head Set Screw	101	57-6C-805-1	#8-32 x 5/16 R. H. M. S. Phil. Screw
51	B-32.300	Tape Guide (Left)	102	73-2231-5	#8 Int. Lockwasher
52	B-31.361	Spring	103	57-6C-805-1	#8-32 x 5/16 R. H. M. S. Phil. Screw
53	B-35.1061-1	Record Actuating Lever Assy.	104	D-33.445-1	Gear Train for Tape Index
54	B-35.1158-1	Pressure Pad & Spring Assy.	105	57-3439-2	#6-32 x 3/16 Bristol Head Set Screw
55	57-16C-606-1	#6-32 x 3/8 R. H. M. S.	106	73-2231-4	#6 Int. Lockwasher
56	B-36.231	Dual Erase Head	107	57-1C-603-2	#6-32 x 3/16 Phil. Screw
57	B-31.454	Head Mounting Compression Spring	108	73-2231-4	#6 Int. Lockwasher
58	B-36.232	Michigan Magnetics Stereo Head	109	57-1C-614-1	#6-32 x 7/8 Phil. Screw
	B-36.221	Dynamu Stereo Head	110	B-35.1112-1	Sub-Idle Plate Ass'y.
	B-36.235	World Magnetics Stereo Head	111	B-32.275-1	#8-32 Hex Head Shoulder Screw
59	B-19.1460	Michigan Magnetics Stereo Head Mtg. Bracket	112	B-28.163	Linen Washer
	B-19.1450	Dynamu Stereo Head Mtg. Bracket	113	B-33.405	Sub-Idler Wheel
	B-19.1462	World Magnetics Stereo Head Mtg. Bracket	114	73-2254-6	Felt Washer
60	57-16C-405-1	#4-40 x 5/16 R. H. M. S.	115	C-35.816-1	"E" Ring 3/16 Shaft
61	57-3439-2	#6-32 Bristol Head Set Screw	116	B-28.159	Speed Control Shaft Ass'y.
62	B-32.401	Tape Guide Post (Right)	117	B-33.411	Shock Mounts
63	B-33.412	Push-on Stud Nut, 3/16 Stud	118		Flat Washer 3/4 x 3/16 x .050
64	73-2241-148F	Flat Washer	119	48-2221	#10-32 Hex Elastic Stop Nut (3)
65	C-19.839-2	Playback Slide Plate	120	C-19.837-1	Motor Adaptor Plate
66	B-19.868-1	Record Slide Plate	121	C-35.1053-1	Motor Ass'y. (Fasco)
67		"E" Ring 3/16 Shaft	122	B-33.418	"E" Retaining Ring
68	B-28.163	Linen Washer 3/8 x 7/32 (2)	123	73-2241-143	Flat Washer 5/8 O.D. x .260 I.D. x .032
69	B-33.404	Pinch Roller	124	73-2254-3	Felt Washer 3/4 O.D. x 1/4 I.D. x 1/16
70	B-31.351	Reel Drive Spring (Belt)	125	33.414	Push-on Fastener
71	B-19.1452	Pinch Roller Plate	126	C-19.887-1	Fan
72	57-6C-805-1	#8-32 x 5/16 R. H. M. S. Phil. Screw (6)	127	B-35.1064-1	Idler Slide Plate Ass'y.
73	B-32.291-1	Shouldered Washer	128	B-33.409	Hair Pin Clip
74	B-32.391-1	Post	129	73-2241-150	Flat Washer 7/16 x .219 I.D. x .002 Blued Stl.
75	B-19.1448-1	Tape Guide Post Mtg. Bracket	130	B-28.163	Linen Washer (2)
76	B-19.1453-1	Playback Actuating Lever	131	B-33.408	Rubber Bonded Idler 2 1/2" Dia.
77	B-31.453	Pinch Roller Tension Spring	132	B-28.163	Linen Washer
78	B-35.774-1	Record Interlock Ass'y.	133	B-31.324	Idler Tension Spring (2)
79	B-31.428	Switch Arm Link	134	57-1C-603-2	#6-32 x 3/16 B. H. M. S. Brz. Phil. Screw
80	B-35.1033-1	Switch Lever Ass'y.	135	B-19.961	Detent Spring
81		Brake Spring Ass'y.	136	57-3589-1	#8-32 x 1/4 Bristol Head Set Screw
82	C-35.835-2	Brake Slide Plate Ass'y.	137	B-31.327	Idler Lift Compression Spring
83	B-31.339	Idler Lever Tension Spring	138	57-6C-806-1	#8-32 x 3/8 Phil. R. H. M. S. Screw
84	B-35.1046-1	Shift Plate Ass'y.	139	73-2231-5	#8 Int. Lockwasher
85	B-35.1051-2	Idler Lever Ass'y.	140	73-2241-143	Flat Washer
86	B-31.338	Brake Return Spring	141	B-19.1431-1	Idler Throwout Lever
87	B-32.275-1	Shouldered Screw #8-32H. H. (2)	142	B-19.878-1	Speed Shift Lever
88	B-28.181	Idler Drive Belt	143	B-33.407-1	"C" Washer
89	B-32.402	Sheave Pulley	144	B-19.976-1	Drive Mtg. Plate Bracket
90	B-28.163	Linen Washer	145	73-2231-5	#8 Int. Lockwasher
91	B-33.469	"E" Ring	146	57-6C-805-1	#8-32 x 5/16 R. H. M. S. Phil. Screw
92	B-28.163	Linen Washer	147	D-35.1054-2	Drive Mtg. Plate Ass'y.
93	C-13.257-1	Flywheel	148	73-2231-5	#8 Int. Lockwasher
94	B-32.316	Brake Drum Shaft	149	57-6C-805-1	#8-32 x 5/16 R. H. M. S. Phil. Screw
95	57-3589-1	#8-32 x 1/4 Bristol Head Set Screw	150		Bushing
96	B-28.163	Linen Washer	151		Brake Pad (Felt)
97	C-35.1050-1	Brake Drum & Bushing Ass'y.	152	B-32.288	Motor Pulley
98	57-3589-1	#8-32 x 1/4 Bristol Head Set Screw	153		Counter Drive Belt
99	B-19.862	Angle Bracket for Mtg. Drive Ass'y.			
100	73-2231-5	#8 Int. Lockwasher			

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TROUBLE CHART-CON'T.

Symptom	Cause	Remedy
No erase, or incomplete erase.	1. Dual erase head (56) not adjusted properly.	1. See "Erase Head Adjustment" under "Electrical Adjustments."
Does not record.	1. Faulty microphone or cord.  2. Faulty input jack.  3. Faulty tube.  4. Low bias voltage.  5. Open play-record head (58).	1. Replace, if necessary, after checking recorder with another type of input.  2. Check and replace, if necessary.  3. Check tubes and replace any faulty ones.  4. See "Bias Adjustment" under "Electrical Adjustments."  5. Check continuity. After checking for continuity, demagnetize head.
Motor and amplifier do not operate.	1. Defect in power supply.  2. Damaged power cord.  3. Defective On-Off switch.	1. Check voltages per schematic.  2. Repair or replace power cord.  3. Replace On-Off switch.

MECHANICAL PARTS LIST

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
1	C-13.253-7	Speed Shift Knob (Black)	27	B-19.1425-1	Speaker Jack Support Bracket
2	73-2254-3	Felt Washer	27A	B-19.1378-1	Support Bracket
3	57-4C-624-5	#6-32 x 1 1/2 O.H.M.S. Stl. Phil. Screw	28	B-35.1151-1	Jacks (3)
4	57-4C-405-7	#4-40 x 5/16 O.H.M.S. Stl. Chrome Plt. Screw	29	54-2030-35	Drilled Rivet 1/4 x .122 x 7/32 Washer
5	B-32.302-2	Tape Timer Knob	30		
6	73-2231-3	#4 Int. Lockwasher	31	48-2219-1	Keps #6-32 x 5/16 Hex Nut & Int. Lockwasher
7	B-35.1076-1	Reel Pan (2)	32	57-1C-603-2	#6-32 x 3/16 B.H.M.S. Brz. Phil.
8	B-31.351	Reel Drive Spring (Belt)	33	73-2334-1	#6 Cantlink Washer
9	B-13.387-1	Left Volume Knob	34	B-19.858-1	Push-Button Retainer Bracket
9A	B-13.387-2	Right Volume Knob	35	54-2030-35	Drilled Rivet 1/4 x .122 x 7/32
10	B-13.386	On-Off Equalization Knob	36	D-35.1125-1	Baseplate Ass'y.
11	33.458	3/16" Dia. Steel Ball	37	B-33.529	Midget Jack (3)
12	B-31.359	Compression Spring	38	B-33.446	Spacer (2)
13	B-32.316	Brake Drum Shaft	39	B-32.379	Capstan Shaft (60 Cycle)
14	57-4C-610-5	#6-32 x 5/8 O.H.M.S. Stl. Phil. Screw (2)		B-32.380	Capstan Shaft (50 Cycle)
15	73-2254-3	Felt Washer 3/4 x 1/4 x 1/16 (Brown)	40	73-2231-4	#6 Internal Lockwasher
16	D-13.363	Timer Escutcheon	41	57-1C-608-1	#6-32 x 1/2 Phil. B.H.M.S.
17		Timer Shaft	42	B-19.876-1	Push-Button Lever
18	57-1C-618-1	#6-32 x 1 1/8 B.H.M.S. Phil. Screw (2)	43	B-35.1180-1	Push-Button Ass'y. (Gray)
19		#6 Int. Lockwasher	43A	B-35.1180-3	Push-Button (Red)
20	B-19.975-2	Rear Escutcheon (Black)	44	B-31.337	Push-Button Return Spring
21	B-32.308-4	Record Lock Button	45	B-19.859	Hinge Bracket for Push Buttons
22	E-13.293-7	Front Escutcheon	46	73-2241-154	Flat Washer 5/16 O.D. x .144 I.D. x .025
23		"E" Ring Retainer	47		#8-32 x 3/8 R.H.M.S.
24	73-2354-6	Felt Washer 7/16 x 3/16 x .040 (White) (2)	48		Lock Plate Spring
25	D-31.363	Base Plate Overlay	49		Locking Plate for Push Buttons
26	48-2213-1	#3/8-32 x 1/2 Hex Nut (3)			

LUBRICATION

All rotating parts have factory-lubricated oilite bearings. Under normal use, no further lubrication is necessary. In heavy-duty service, the following parts should be lubricated once a year with a drop of #10 motor oil:

- Top and bottom motor bearings.
- Capstan bearing.
- Pinch roller (69) bearing.

- All idler and drive wheel bearings.
- Reel spindle bearings.

Do not overlubricate. Oil must be kept off all rubber idlers, belts, and flywheel periphery and any parts that might transfer oil to them. Always wipe excess lubricant from lubricated parts.

Occasionally remove froeign matter under plastic push-button cover and place a drop of oil on sliding lever members.

TROUBLE CHART

Symptom	Cause	Remedy
Push buttons fail to latch.	1. Lock plate spring (48) disconnected or broken.	1. Connect or replace lock plate spring (48).
No drive in Play or Record.	1. Idler tension spring (133) disconnected or broken.  2. Idler slide plate assembly (127) binding on bushing (150), thus preventing idler wheel (131) from moving forward.	1. Connect or replace idler tension spring (133).  2. Check idler slide plate assembly (127) and bushing (150) for burrs. Clean with alcohol.
Tape fails to wind onto take-up reel during Play or Record.	1. Reel drive spring (70) loose, disconnected, or broken.  2. Reel pan (7) shaft binding.	1. Connect or replace reel drive spring (70).  2. Wipe foreign matter from bearing and shaft with a clean cloth. Lubricate with one drop of #10 motor oil.
No fast forward or rewind.	1. Idler lever tension spring (83) disconnected or broken, thereby not actuating idler lever assembly (85).  2. Idler drive belt (88) broken or not properly connected.	1. Connect or replace idler lever tension spring (83).  2. Replace idler drive belt (88).
Tape spills when Stop button is depressed during fast forward or rewind.	1. Brake shoe out of adjustment.  2. Brake pads worn out or missing.	1. See "Brake Shoe Adjustment" under "Mechanical Adjustments".  2. Replace brake pads.
Wow.	1. Brake return spring (86) disconnected or broken.  2. Oil or foreign matter on driving surfaces.	1. Connect or replace brake return spring (86).  2. Remove with a cloth and alcohol.
Flutter.	1. Dirty Play-record head (58), pressure pads, capstan shaft, or pinch roller (69).	1. Clean, as described under "Cleaning."

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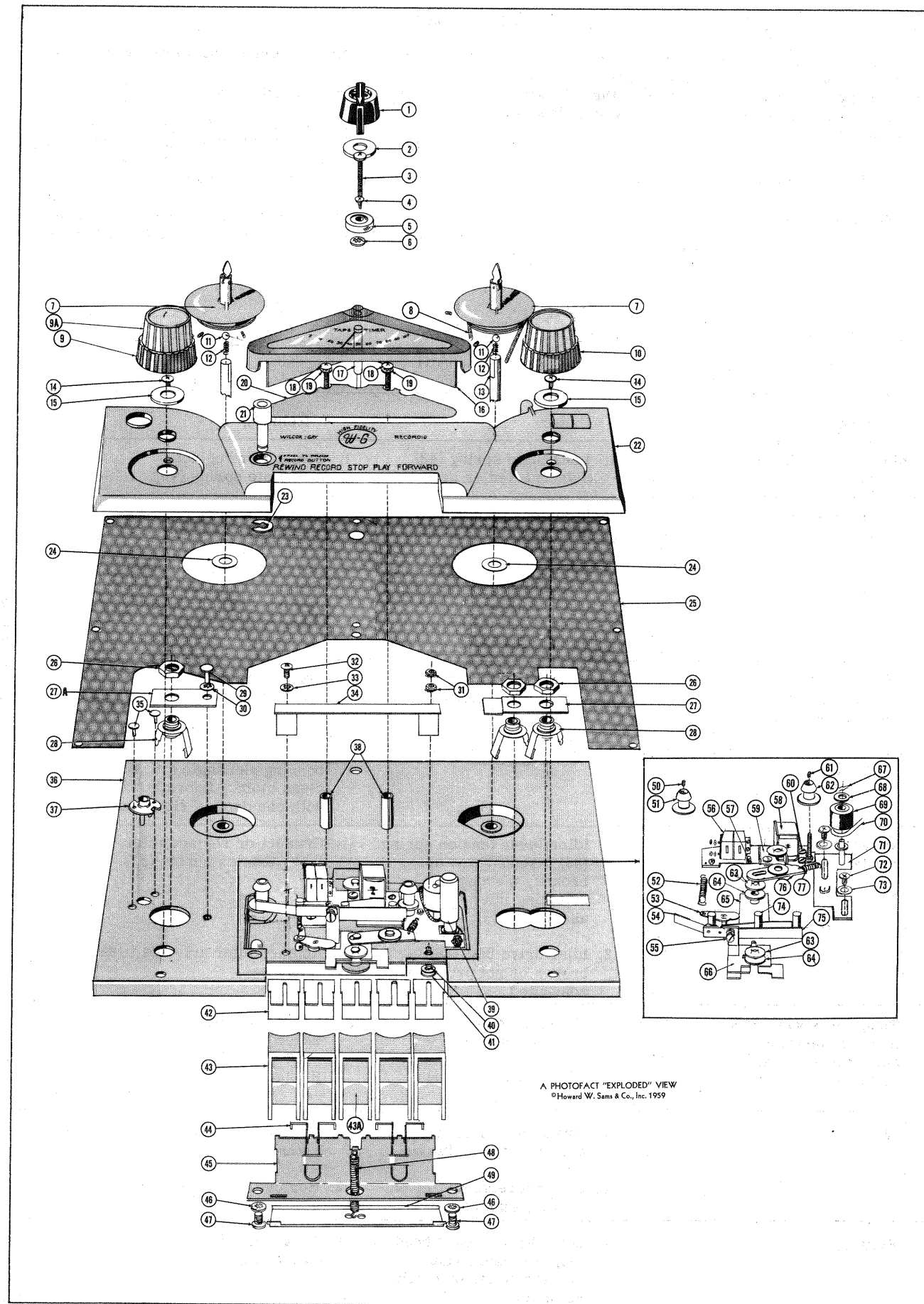


FIG. 4A EXPLODED VIEW OF PARTS ABOVE BASEPLATE

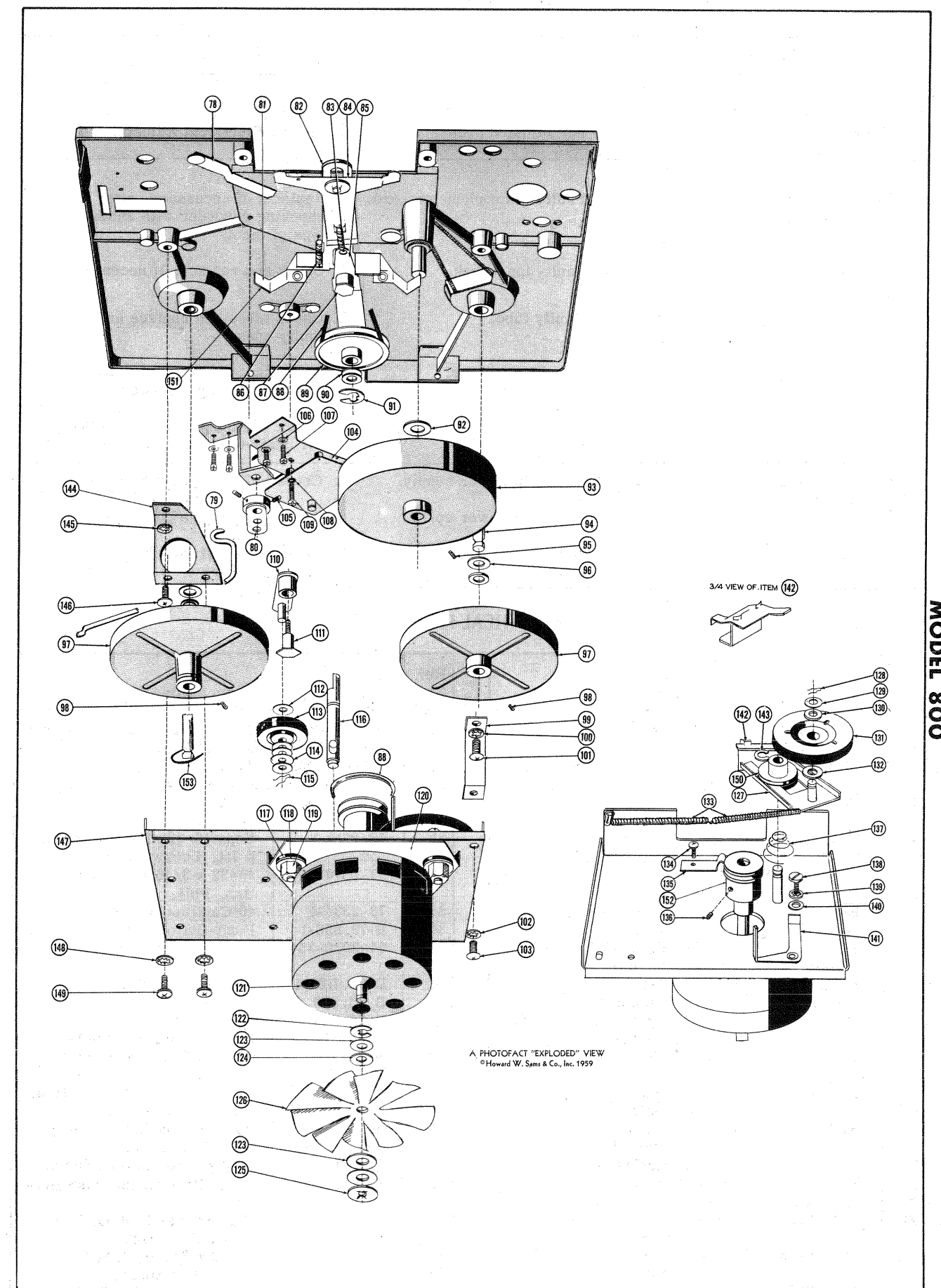


FIG. 4B EXPLODED VIEW OF PARTS BELOW BASEPLATE