

ELECTRICAL PARTS LIST					
Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
R50	TRA-1302	Solenoid Shunt, 1200 ohm, 1/2 Watt (3.3K ohm, 2 Watt #)	M2	TRA-1157	Neon Indicator, NE-45
T1	TRA-1202	Power Transformer (220 Volt Units Use Part No. TRA-1203 in This Application.)	M3	TRA-1157	Neon Indicator, NE-45
T2	TRA-1205	Output Transformer	M4	TRA-1523	Motor Switch (Used Only on Models Employing a Radio.)
SP1	TRA-1751	Speaker	M5		Fuse, 1 Amp., 1-6/10 Amp. or 2 Amp. (When Replacing Use Fuse of Duplicate Type and Value.)
L1	TRA-1863	Loop Antenna	M6	TRA-1159	Pilot Lamp, Type 47
L2		RF Choke	M7		2 Gang Variable Capacitor
L3		Oscillator Coil			
L4		Input IF			
L5		Output IF			
L6	TRA-1561	Bias Oscillator Coil (Models Employing a Radio Use Part No. TRA-1563 in This Application.)			
M1		Crystal, 1N60			

* Alternate part used in models employing tape speed of 7-1/2" per second.
 ♦ Alternate part used in models employing radio.
 # Alternate part used in models that operate from 220 volts.

MECHANICAL PARTS LIST

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
1	TR-7106	Top Stamped Cover	28	TR-7145	Pressure Pad Arm
1A	TR-7002	Head Cleaning Cover	29	TR-7610	Pressure Arm Spring
1B	TR-7001	Top Plastic Plate	30	TR-7523	Retaining Ring, Type "E" -3/16" Shaft
2	TR-7107	Rewind Spindle Cup	31	TR-7145	Pressure Pad Arm
2A	TR-7815	Spindle Cup Tire	32	TR-7610	Pressure Arm Spring
3	TR-7522	Retaining Ring, Crescent Type 3/16" Shaft	33	TR-7601	Pressure Roller Spring
4	TR-7504	Fiber Washer	34	TR-7605	High Speed Idler Spring
5	TR-7208	Rewind Spindle Hub	35	TR-7942	High Speed Slide Arm Guide
6	TR-7810	Select-O-Meter Belt	36	TR-7812	High Speed Idler Wheel
7	TR-7520	Retaining Ring, Type "E" 1/8" Shaft	37	TR-7134	High Speed Forward Idler Arm
8	TR-7936	Left Brake	38	TR-7602	Pressure Roller Arm Spring
9	TR-7513	Washer, Brake Arm Pivot	39	TR-7118	Pressure Roller Arm
10	TR-7606	Brake Arm Spring (2 Used)	40	TR-7813	Pressure Roller
11	TR-7513	Washer, Brake Arm Pivot	41	TR-7122	High Speed Slide Arm
12	TR-7935	Right Brake	41A	TR-7124	High Speed Knob Arm
13	TR-7520	Retaining Ring, Type "E" 1/8" Shaft	41B	TR-7125	High Speed Safety Arm
14	TR-7006	High Speed Knob	42	TR-7828	Select-O-Meter
15	TR-7107	Take-up Spindle Cup	43	TR-7605	Idler Spring
15A	TR-7815	Spindle Cup Tire	44	TR-7942	Idler Slide Assembly
16	TR-7609	High Speed Clutch Spring	45	TR-7811	Idler, Flywheel
17	TR-7522	Retaining Ring, Crescent Type 3/16" Shaft	46	TR-7104	Mechanism Plate - Upper
18	TR-7504	Fiber Washer	47A	TR-7131	Standard Key Arm (3 Used)
19	TR-7108	High Speed Forward Cup	47B	TR-7132	Speaker Key Arm
20	TR-7504	Fiber Washer		TR-7003	Plastic Keys for 47A and 47B
21A	TR-7109	Take-up Clutch Pulley	48	TR-7917	Flywheel
21B	TR-7110	Take-up Clutch Plate	49	TR-7116	Toggle Arm
21C	TR-7817	Take-up Clutch Felt	50	TR-7604	Rewind Arm Spring
21D	TR-7608	Clutch Brake Spring (3 Used)	51	TR-7115	Take-up Clutch Lever
22	TR-7809	Take-up Belt	52	TR-7105	Mechanism Plate - Lower
23	TR-7128	Rear Slide Cam	53	TR-7121	Rewind Arm
24	TR-7120	Brake Arm	54	TR-7113	Solenoid Arm
25	TR-7150	Head Spring Retainer	55	TR-7201	Motor Pulley
26	TR-7249	Head Spring Retainer Insulating Stud	56A	TR-7801	Motor, 105-120 V 50-60 Cycles
27	TR-7805	Recording Head (3-3/4" and 7-1/2" Per Sec.)	56B	TR-7802	Motor, 220 V 50-60 Cycles
27A	TR-7136	Head Aligning Plate	57	TR-7157	Motor Fan
27B	TR-7429	Head Alignment Screw, Bristol Head- #4-48-Flat Bottom-1/4" Long	58A	TR-7803	Solenoid (105-120 V)
			58B	TR-7804	Solenoid (220 V)
			59	TR-7127	Slide Cam Connect Arm
			60	TR-7612	Stop Key Interlock Arm Spring

PHOTOFACT* Folder



Figure 1A, Model T-77163

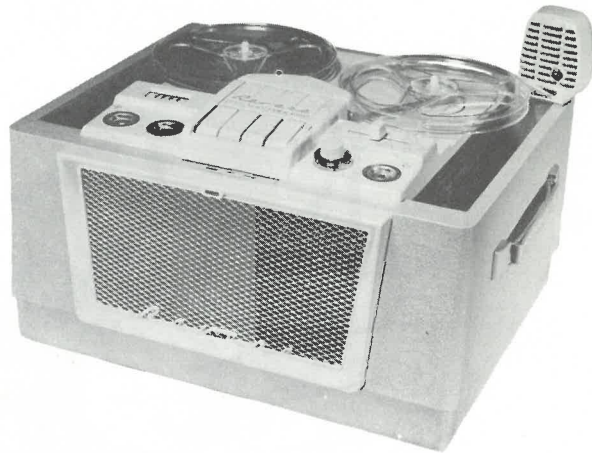


Figure 1B, Model T-70163

GENERAL INFORMATION

Revere 70,000 Series Tape Recorders feature fingertip operation for "Stop", "Play", "Speaker" and "Record". These units are designed to record and playback two tracks of material on standard width recording tape, which doubles the playing time of a 5" or 7" reel of tape with no loss of frequency response or quality. Recordings can be made from microphone, phonograph, external radio or television, in addition to those made directly from the self contained radio incorporated in some models. Recordings can be played through the Revere speaker, or an external speaker, through use of the Radio Attachment Cord.

On the serial nameplate, located on the rear of the cabinet, there appears the model number, along with the speed, current and voltage at which that particular unit is designed to operate.

Model No.	Line Voltage	Tape Speed	Model No.	Line Voltage	Tape Speed
T-70153 (TS-750)	120, 50v	3-3/4	T-77153 (TRS-850)	120, 50v	3-3/4
T-70157 (TS-15)	120, 50v	7-1/2	T-77157 (TRS-25)	120, 50v	7-1/2
T-70163 (T-700)	120, 60v	3-3/4	T-77163 (TR-800)	120, 60v	3-3/4
T-70167 (T-10)	120, 60v	7-1/2	T-77167 (TR-20)	120, 60v	7-1/2
T-70253 (TS-752)	220, 50v	3-3/4	T-77253 (TRS-852)	220, 50v	3-3/4
T-70257 (TS-17)	220, 50v	7-1/2	T-77257 (TRS-27)	220, 50v	7-1/2
T-70263 (TS-762)	220, 60v	3-3/4	T-77263 (TRS-862)	220, 60v	3-3/4
T-70267 (TS-16)	220, 60v	7-1/2	T-77267 (TRS-26)	220, 60v	7-1/2

Above models contain built-in radio.

Using both channels of the tape, the recording time for the various speeds is as follows:

SIZE	SPEED 3-3/4"	SPEED 7-1/2"
5" reel	1 hour	1/2 hour
7" reel	2 hours	1 hour

CAUTION: Do Not Use on Direct Current. Check Serial Nameplate at Rear of Machine for Proper Current and Voltage.

Manufactured by:

Revere Camera Company
 320 East Twenty-First Street
 Chicago 16, Illinois

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REVERSE MODELS T-70153, T-70157, T-70163, T-70167, T-70253, T-70257, T-70263, T-70267, T-77153, T-77157, T-77163, T-77167, T-77253, T-77257, T-77263, T-77267

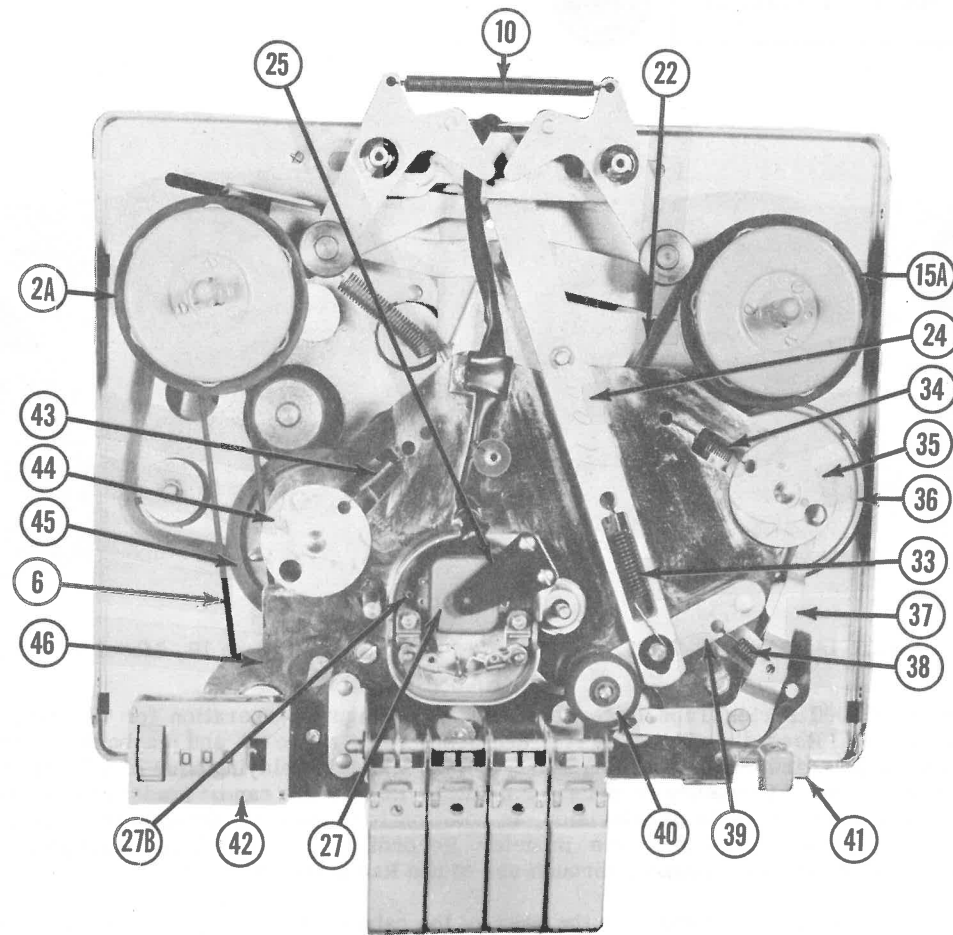


Figure 2

OPERATING INSTRUCTIONS

Preparing the Revere for Recording -

1. Insert the line cord into a convenient wall receptacle of the proper rating.

2. Place a reel of tape on the left spindle and an empty reel on the right spindle, making sure the reels are fully seated.

3. Unwind about 14" of tape from the reel. Hold a section of the tape straight with both hands and insert the tape in the tape slot making sure the dull coated side of the tape faces the rear of the recorder.

NOTE: This recorder uses Type "A" wound tape, i.e. the dull magnetic coated side faces inward on the reel. If the tape to be used is Type "B" (coated side facing outward) place the reel on the left spindle, so that the tape will lead-off in a clockwise direction. Bring the tape behind the top plastic plate (not through the head slot) and thread it on the empty reel in the normal manner. Place the fast forward lever (14) in the fast forward position and allow the full reel of tape to wind on the empty reel. The dull magnetic side of the tape will now be facing inward.

4. Feed the end of the tape into one of the radial slots in the empty reel. Use a pencil or some similar object to hold the tape in place and rotate the

reel counterclockwise until the tape is secured to the reel.

5. Turn the "Off-On" Volume Control on. This supplies power to the entire recorder in models not having a self contained radio. In models equipped with a radio it is also necessary to place the motor switch in the "On" position.

To Record From Microphone -

NOTE: Erasing of recorded material takes place automatically when new material is recorded; therefore, no special step is necessary to erase recordings before new recordings are made.

1. Insert the microphone plug into the "Microphone Input" jack.

2. Set the Index Counter to zero. This enables you to rewind to the exact start of a recording.

3. While talking into the microphone, adjust the "Volume Control" until "Normal" indicator flashes and no flashing occurs at the "Distorted" indicator.

NOTE: Correct recording volume is very important, Too weak a signal, which does not cause the "Normal" indicator to flash, will result in weak playback and high background noise. Too strong a signal, causing the "Distorted"

ELECTRICAL PARTS LIST

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
V1		Converter, 6BE6	C38	TRA-1413	Solenoid Shunt, .22 mfd.
V2		IF Amp., 6BA6	R1A	TRA-1701	Tone Control, 2 Meg., 1/2 Watt
V3	TRA-1155	Pre-Amplifier, 12AX7	R1B		Volume Control and Switch, 2 Meg. 1/2 Watt
V4	TRA-1154	AF Amplifier, 6SJ7	R2	TRA-1703	Hum Control, 100 ohm, 1/2 Watt
V5	TRA-1153	Bias Oscillator, 6K6-GT	R3	TRA-1303	Oscillator Grid, 22K ohm, 1/2 Watt
V6	TRA-1151	Power Output, 6V6-GT	R4	TRA-1312	AVC Network, 1 Meg., 1/2 Watt
V7	TRA-1152	Rectifier, 6X5-GT	R5		AVC Network, 2.2 Meg., 1/2 Watt
C1A	TRA-1455	Filter, Electrolytic, 30 mfd. @ 450 V	R6		IF Amp. Cathode, 220 ohm, 1/2 Watt
C1B		Filter, Electrolytic, 30 mfd. @ 450 V	R7		Screen Dropping, 15K ohm, 2 Watt
C1C		Filter, Electrolytic, 35 mfd. @ 400 V	R8		Diode Filter, 47K ohm, 1/2 Watt
C1D		Output Cathode Bypass, 100 mfd. @ 25 V	R9	TRA-1324	Diode Load, 470K ohm, 1/2 Watt
C2A	TRA-1451	Decoupling, Electrolytic, 30 mfd. @ 350 V	R10	TRA-1353	Decoupling, 6500 ohm, 5 Watt
C2B		Decoupling, Electrolytic, 15 mfd. @ 300 V	R11	TRA-1315	Tone Compensation, 5.6 Meg., 1/2 Watt
C2C		AF Amplifier Cathode Bypass, Electrolytic, 20 mfd. @ 25 V	R12	TRA-1307	Input Shunt, 220K ohm, 1/2 Watt
C3	TRA-1453	Pre-Amplifier Cathode Bypass, Electrolytic, 25 mfd. @ 25 V	R13	TRA-1303	Tone Compensation, 22K ohm, 1/2 Watt
C4	TRA-1456	Decoupling, Electrolytic, 10 mfd. @ 300 V	R14	TRA-1312	Tone Compensation, 1 Meg., 1/2 Watt
C5		Osc. Grid Cap. 50 mmf.	R15	TRA-1313	Pre-Amp. Grid, 10 Meg 1/2 Watt
C6		AVC Network, .05 mfd.	R16	TRA-1341	Filament Dropping, 4.7 ohm, 1/2 Watt W. W.
C7		Fixed Trimmer, 18 mmf.	R17	TRA-1309	Pre-Amp. Plate, 470K ohm, 1 Watt
C8		Conv. Screen Bypass, .01 mfd.	R18	TRA-1311	Tone Comp., 820K ohm, 1/2 Watt (560K ohm *)
C9		AVC Network, .01 mfd.	R19	TRA-1312	Pre-Amp. Grid, 1 Meg., 1/2 Watt
C10A		Diode RF Filter, 100 mmf.	R20	TRA-1302	Pre-Amp. Cath., 1200 ohm, 1/2 Watt
C10B		Diode RF Filter, 100 mmf.	R21	TRA-1307	Pre-Amp. Plate, 220K ohm, 1/2 Watt
C11		Pre-Amp., Grid Filter, .003 mfd. (680 mmf. *)	R22	TRA-1305	Tone Comp., 100K ohm, 1/2 Watt
C12		Hum Bypass, .5 mmf.	R23	TRA-1321	Impedance Matching, 10 ohm, 1 Watt
C13	TRA-1429	Audio Coupling, 150 mmf.	R24	TRA-1310	Tone Comp., 560K ohm, 1/2 Watt
C14		Audio Coupling, .01 mfd.	R25	TRA-1305	Tone Comp., 100K ohm, 1/2 Watt
C15		Audio Coupling, .01 mfd.	R26	TRA-1301	AF Amp. Cath., 1K ohm, 1/2 Watt
C16	TRA-1422	Tone Compensation, 220 mmf.	R27	TRA-1304	Decoupling, 47K ohm, 1/2 Watt
C17		Audio Coupling, .01 mfd.	R28	TRA-1308	AF Amp. Screen, 390K ohm, 1/2 Watt
C18		Tone Compensation, .001 mfd.	R29	TRA-1323	AF Amp. Plate, 100K ohm, 1 Watt
C19		Tone Compensation, .001 mfd.	R30	TRA-1324	Feedback, 470K ohm, 1/2 Watt
C20		Tone Compensation, .003 mfd.	R31	TRA-1307	Feedback, 220K ohm, 1/2 Watt
C21	TRA-1412	AF Amp. Screen Bypass, .1 mfd.	R32	TRA-1324	Output Grid, 470K ohm, 1/2 Watt
C22	TRA-1422	AF Amp. Plate Bypass, 220 mmf. (100 mmf. *)	R33	TRA-1331	Output Cath., 330 ohm, 2 Watt
C23		Audio Coupling, .002 mfd.	R34	TRA-1304	Voltage Divider, 47K ohm, 1/2 Watt
C24	TRA-1441	Feedback .0047 mfd. (.0068 mfd. *)	R35	TRA-1304	Voltage Divider, 47K ohm, 1/2 Watt
C25	TRA-1412	Audio Coupling, .1 mfd.	R36	TRA-1304	Voltage Divider, 47K ohm, 1/2 Watt
C26		Tone Compensation, .001 mfd. (500 mmf. *)	R37	TRA-1304	Voltage Divider, 47K ohm, 1/2 Watt
C27		Tone Compensation, .002 mfd.	R38	TRA-1304	Voltage Divider, 47K ohm, 1/2 Watt
C28		Tone Compensation, .001 mfd. (500 mmf. *)	R39	TRA-1332	Decoupling, 10K ohm, 2 Watt
C29	TRA-1411	Indicator Coupling, .047 mfd.	R40	TRA-1305	Indicator Network, 100K ohm, 1/2 Watt
C30	TRA-1411	Indicator Coupling, .047 mfd.	R41	TRA-1310	Indicator Network, 560K ohm, 1/2 Watt
C31		Fixed Trimmer, .002 mfd. (.0047 mfd. *)	R42	TRA-1305	Indicator Network, 100K ohm, 1/2 Watt
C32		Bias Osc. Grid Cap., .01 mfd. (.002 mfd. *)	R43	TRA-1304	Indicator Network, 47K ohm, 1/2 Watt
C33		Fixed Trimmer, .002 mfd. (.022 mfd. *)	R44	TRA-1306	Indicator Network, 150K ohm, 1/2 Watt
C34	TRA-1412	Record Playback Coil Isolation, .1 mfd.	R45	TRA-1314	Bias Osc. Grid, 10K ohm, 1/2 Watt (33K ohm *)
C35		Bias Osc. Coupling, .002 mfd. (.001 mfd. *)	R46	TRA-1352	Filter, 1300 ohm, 8 Watt, C. T.
C36	TRA-1441	Line Filter, .0047 mfd.	R47	TRA-1341	Pilot Lamp Dropping, 4.7 ohm, 1/2 Watt, W. W.
C37	TRA-1412	Line Filter, .1 mfd.	R48	TRA-1342	Filament Shunt, 47 ohm, 1/2 Watt W. W.
			R49	TRA-1342	Filament Shunt, 47 ohm, 1/2 Watt

REVERSE MODELS T-70153, T-70157, T-70163, T-70167, T-70253, T-70257, T-70263, T-70267, T-77153, T-77157, T-77163, T-77167, T-77253, T-77257, T-77263, T-77267

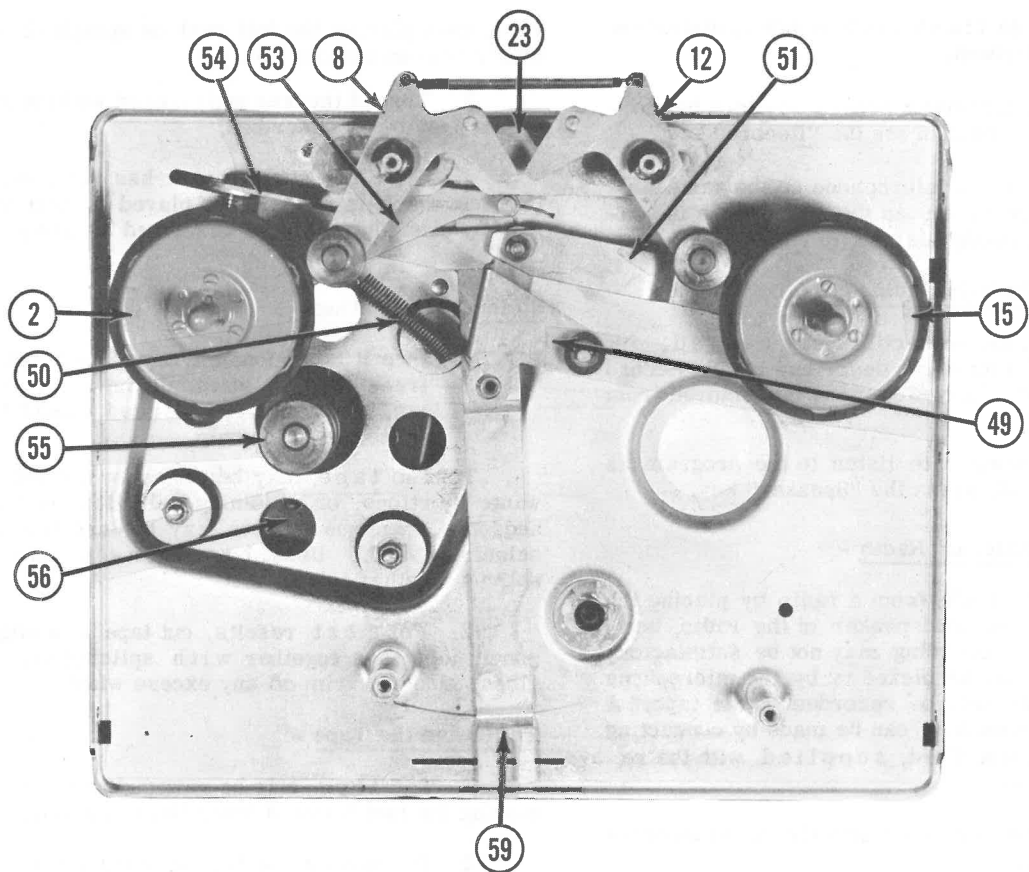


Figure 3

is in any function, and any previously depressed keys will automatically disengage.

To Use an External Speaker -

Any size speaker, of the permanent magnet type having a 3.2 ohm voice coil, may be used by connecting the Radio Attachment Cord clips across the voice coil terminals of the speaker, then inserting the extension plug into the Extension Speaker Jack located on the rear panel.

The speaker in the recorder is automatically disconnected by inserting the extension plug.

To Use as Public Address System -

1. Insert the microphone plug into the "Microphone Input" jack.

2. Depress "Stop" and "Speaker" keys and adjust Volume and Tone control to suit.

ADJUSTMENTS

All service work, except cleaning the head assembly, requires removal of the unit from the carrying case.

Record Head Adjustment -

The primary purpose in head alignment is to provide the maximum frequency response.

NOTE: Before attempting to align the head, make

certain that the difficulty is not due to an accumulation of tape coating residue on the pole surfaces.

1. If a constant frequency tape is not available, play back a tape previously recorded and align the head as follows:

The record head (27) is securely mounted on the head aligning plate (27A). The right side of the aligning plate is provided with a rocker action, while the left side is associated with a bristol head adjustment screw (27B). Rotating this screw changes the gap alignment with respect to the tape. Proper alignment is achieved when the maximum signal, at a given setting of the Volume Control, is reproduced from the alignment tape, as the alignment screw (27B) is turned in or out.

TROUBLES

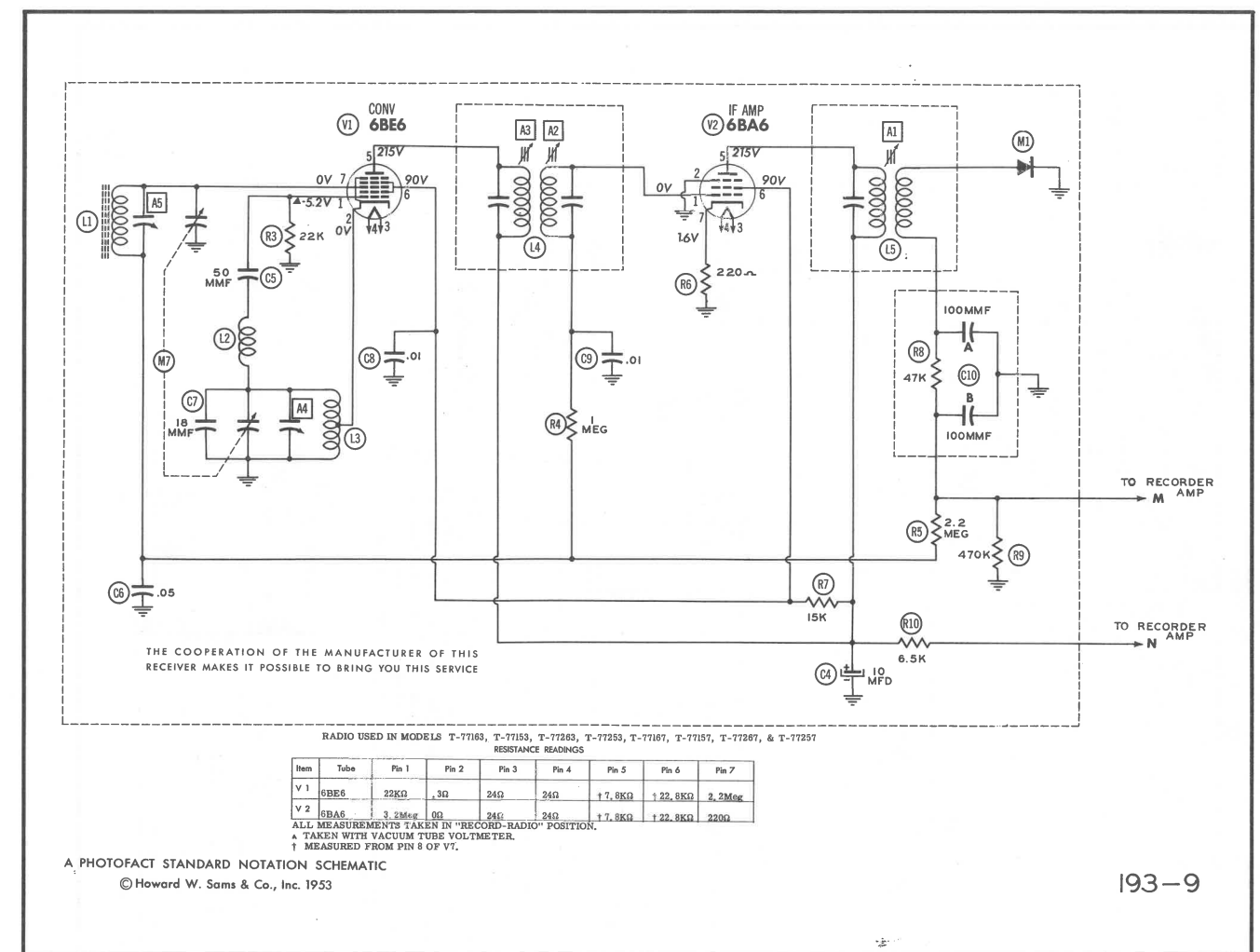
Fails to Erase -

1. Pressure pad spring (29) loose or broken resulting in the pressure pad not holding tape firmly against erase laminations of the record head. Replace spring (29).

2. Pressure pad worn or missing. Replace pressure pad.

Fails to Record -

1. Pressure pad spring (32) loose or broken resulting in the pressure pad not holding tape firmly against record head laminations. Replace spring (32).



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ALIGNMENT INSTRUCTIONS--READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

To set pointer, turn tuning gang fully closed, the last index mark on the dial drum should be opposite the index mark on top plate of recorder. Volume control should be at maximum position. Output of signal generator should be no higher than necessary to obtain an output reading. Use an insulated alignment screwdriver for adjusting. Fashion loop of several turns of wire and radiate signal into loop of receiver. Adjust for maximum output.

TUNING RANGE--BROADCAST 540-1620 KC

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1.	.01MFD	High side to Pin 7 (grid of 6BE6 (V1). Low side to chassis.	455KC (400Ω Mod)	Tuning gang fully open.	Across voice coil.	A1, A2 A3	Adjust for maximum output.
2.	"	"	1620KC	"	"	A4	"
3.		Loop.	1500KC	Tune to 1500KC signal.	"	A5	Fashion loop of several turns of wire and radiate signal into loop of receiver. Adjust for maximum output.

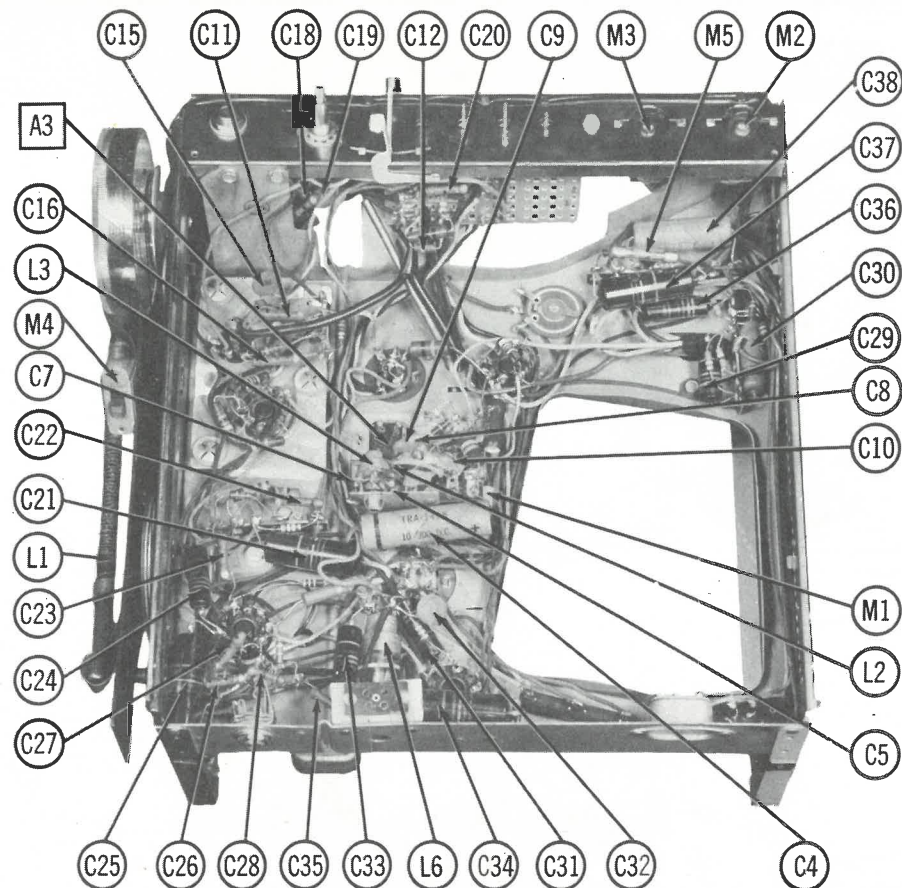


Figure 6

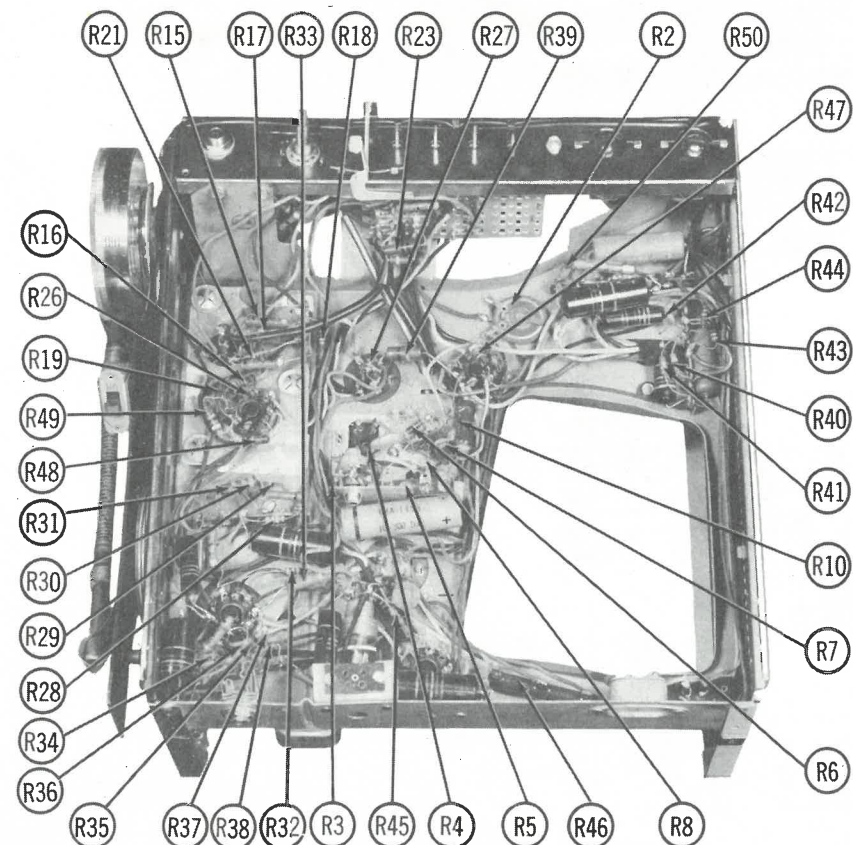


Figure 7

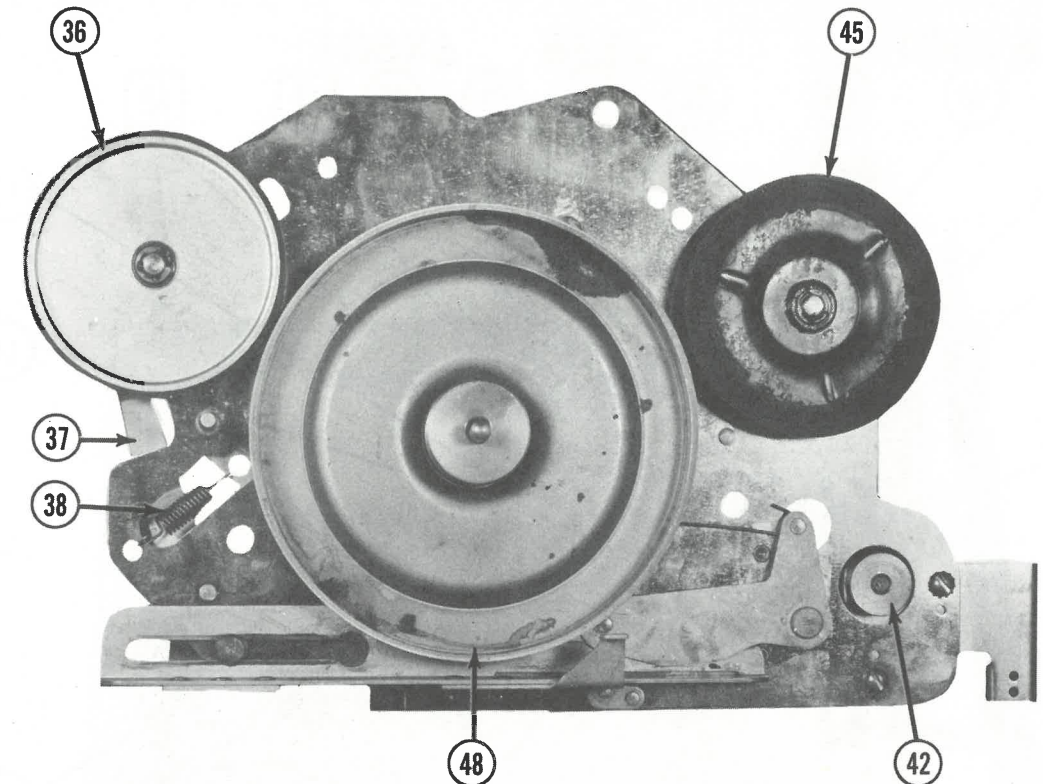


Figure 4

2. Pressure pad worn or missing. Replace pressure pad.

3. Check the recording tape to see if the dull magnetic side is facing the head. If the dull side is facing outward, a recording cannot be made.

No Drive in Record or Playback -

1. Pressure roller spring (33) loose or broken resulting in pressure roller (40) not being held in contact with the capstan. Replace spring.

2. Motor pulley (55) loose on motor shaft.

3. Idler tension spring (43) loose or broken, thereby not holding idler wheel (45) in engagement with motor pulley (55) and flywheel (48).

4. Take-up belt (22) stretched or not properly connected.

5. Check for oil or grease on take-up belt (22). Clean with alcohol.

6. Check for oil or grease on motor pulley (55), idler wheel (45) and flywheel (48). Clean with alcohol.

No Drive in Fast Forward -

1. Idler tension spring (34) loose or broken, thereby not holding idler wheel (36) in engagement with flywheel (48) and take-up hub (19).

2. Check for oil or grease on motor pulley

(55), idler wheel (45), flywheel (48) and idler wheel (36). Clean with alcohol.

3. Motor pulley (55) loose on motor shaft.

No Drive in Rewind -

1. Motor pulley (55) loose on motor shaft.

2. Check for oil or grease on supply spindle tire (2A). Clean with alcohol.

3. Storage reel drag spring (50) loose or broken. Replace.

Tape Overruns or Spills When Shifting to Neutral From Rewind or Fast Forward -

1. Brake arm springs (10) loose or broken, thereby not allowing brake rollers to contact spindle tires (2A and 15A) when mechanism is placed in neutral. Replace springs.

Speed Variation or "Wow" -

1. Check the capstan (48A), pressure roller (40), idler wheel (45), motor pulley (55) and flywheel (48) for oil or foreign material. Clean these parts with alcohol.

2. Check motor pulley (55) to see if it is secured to the motor shaft.

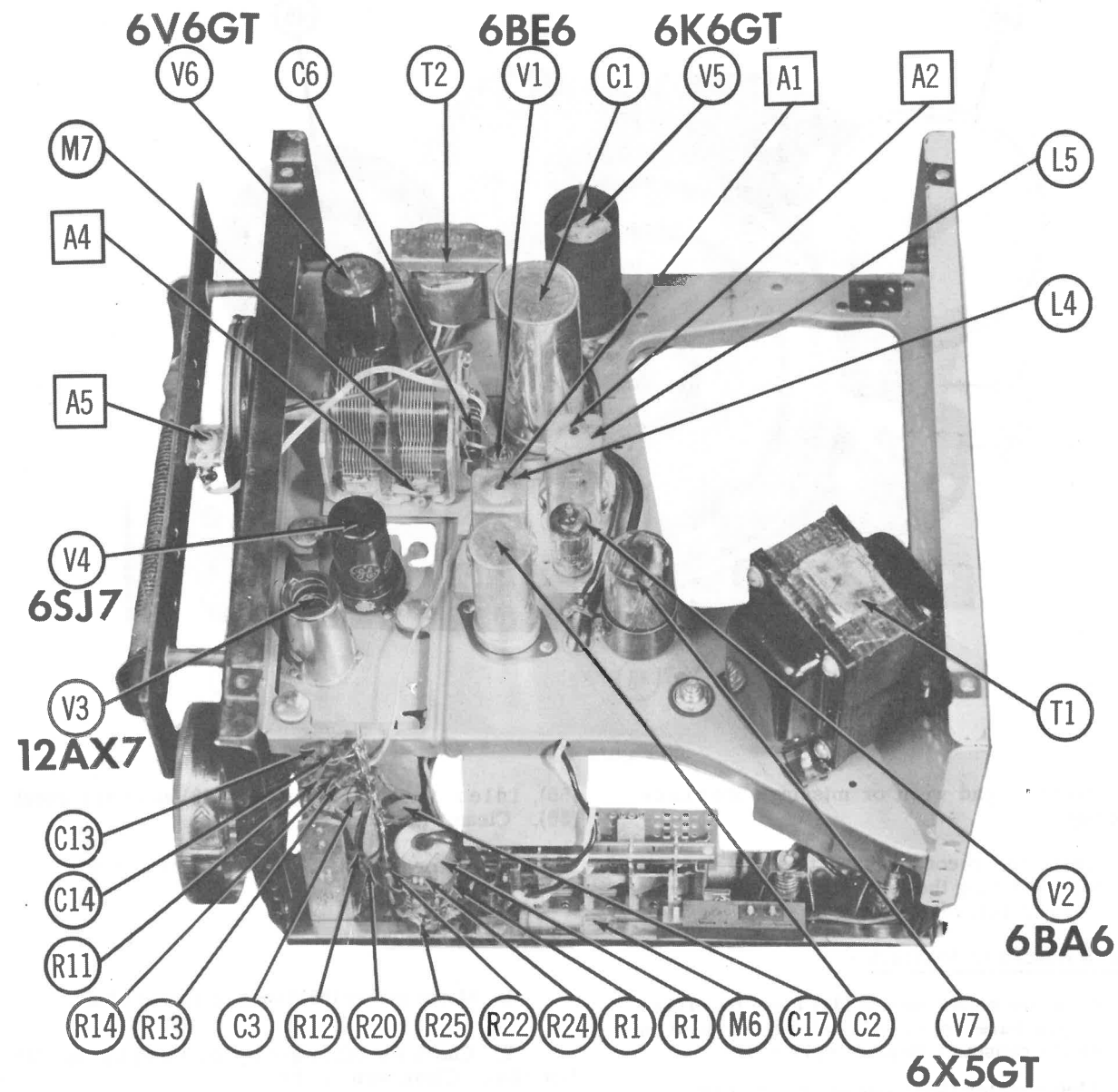


Figure 5

3. Check idler tension spring (43) to see if it is in firm contact with motor pulley (55) and flywheel (48).

CLEANING

The recording head (27), capstan (48A) and pressure roller (40) are subject to an accumulation of tape coating residue, which is worn off the tape as it passes these parts. This accumulation should be periodically removed since it may cause faint recordings and poor playback. Wipe off the above surfaces carefully with a clean cloth. If dirt is caked or hard and will not come off with a dry cloth, dampen the cloth slightly with alcohol.

CAUTION. Do not use a brush when cleaning the record head laminations as this could mar

the surfaces, resulting in poor performance.

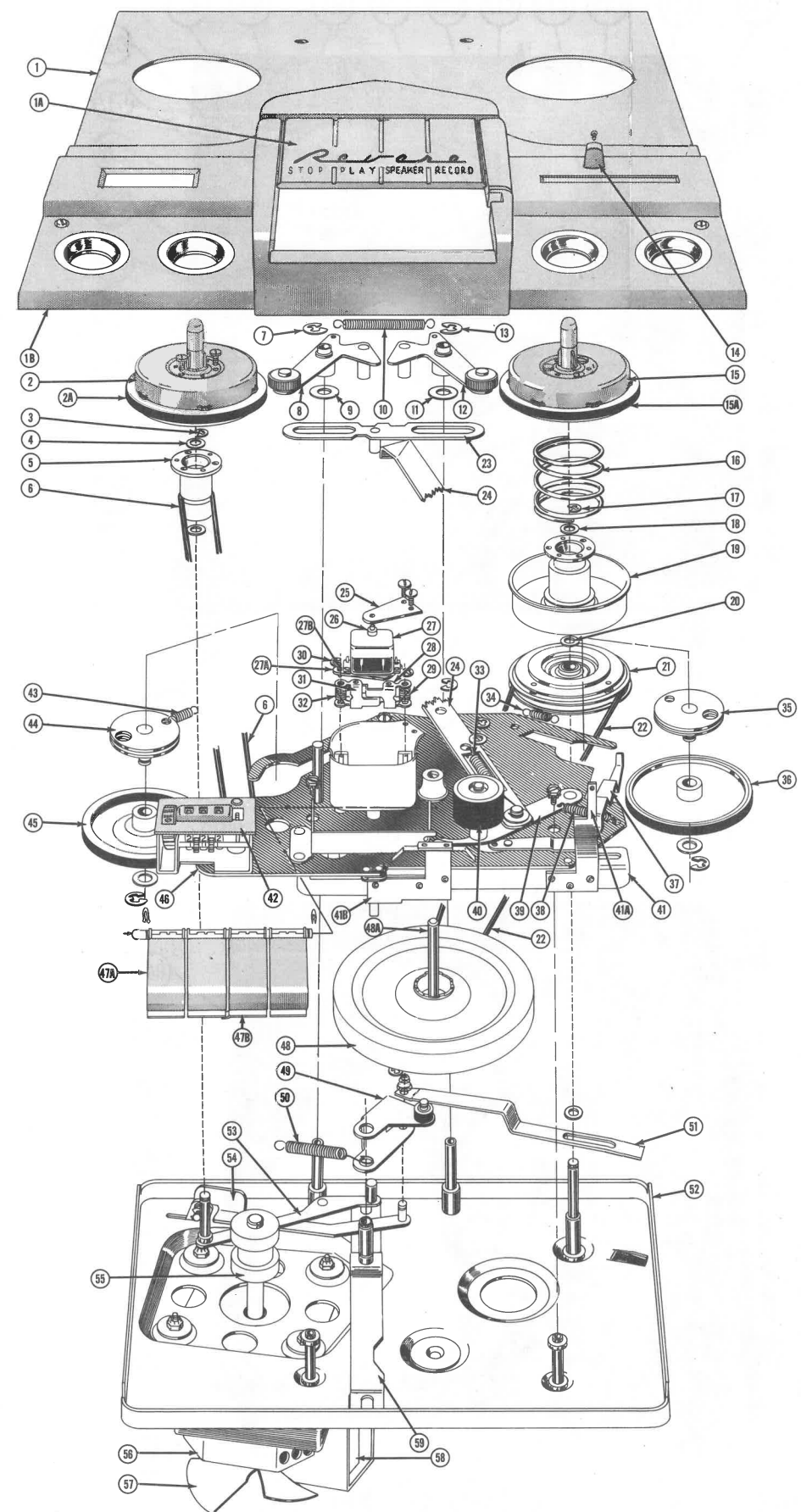
LUBRICATION

In normal use, the Revere requires no lubrication. The motor, flywheel shaft and spindles operate in oilite bearings. When unit is disassembled for repair, clean all bearings and lubricate with light oil. If cam and lever actions become sluggish and slow to respond, it may be due to gum or dirt in the pivots and under the levers. Clean off all old lubricant, accumulated dirt and gum with a clean cloth and cleaning solvent. Apply lubricant in thin film on working surfaces only. Do not over-lubricate.

Lubricants to Use -

Oilite bearings - Light machine or spindle oil.

Moving parts - Wadham's BRB#1 or Lubriplate.



A PHOTOFACT "EXPLODED" VIEW
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