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OUTSTANDING RECEPTION THE WORLD OVER

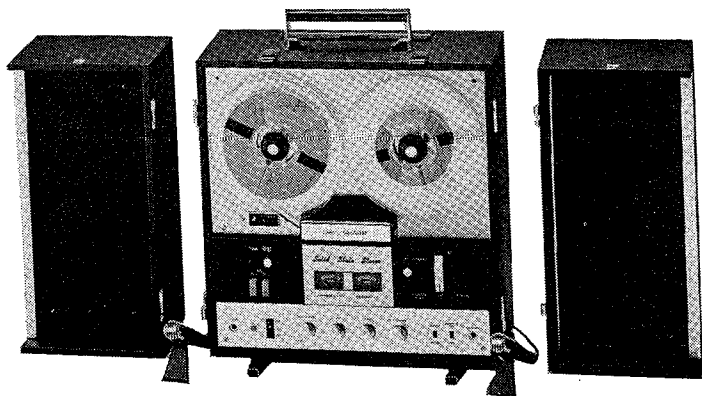
# SERVICE MANUAL

## Stereo Tape Recorder

### MODEL

### RD-708

RD-708



## INDEX TO CONTENTS

	Page
SPECIFICATIONS .....	2
DESIGNATION OF PARTS .....	2
FUNCTION OF CONTROLS .....	3
FUNCTION OF LEVER SWITCHES .....	6
DISASSEMBLY PROCEDURE .....	7
MECHANISM ADJUSTMENT .....	11
ELECTRICAL MEASUREMENT .....	14
MAINTENANCE .....	16
TROUBLESHOOTING .....	17
MECHANISM EXPLODED TOP VIEW .....	25
MECHANISM EXPLODED BOTTOM VIEW .....	27
SCHEMATIC DIAGRAM .....	29
WIRING CONNECTION DIAGRAM (TOP VIEW) .....	31
PRINTED CIRCUIT BOARD (BOTTOM VIEW) .....	33

**SHARP ELECTRONICS CORPORATION** / Carlstadt, New Jersey 07072  
Los Angeles, Calif. 90021

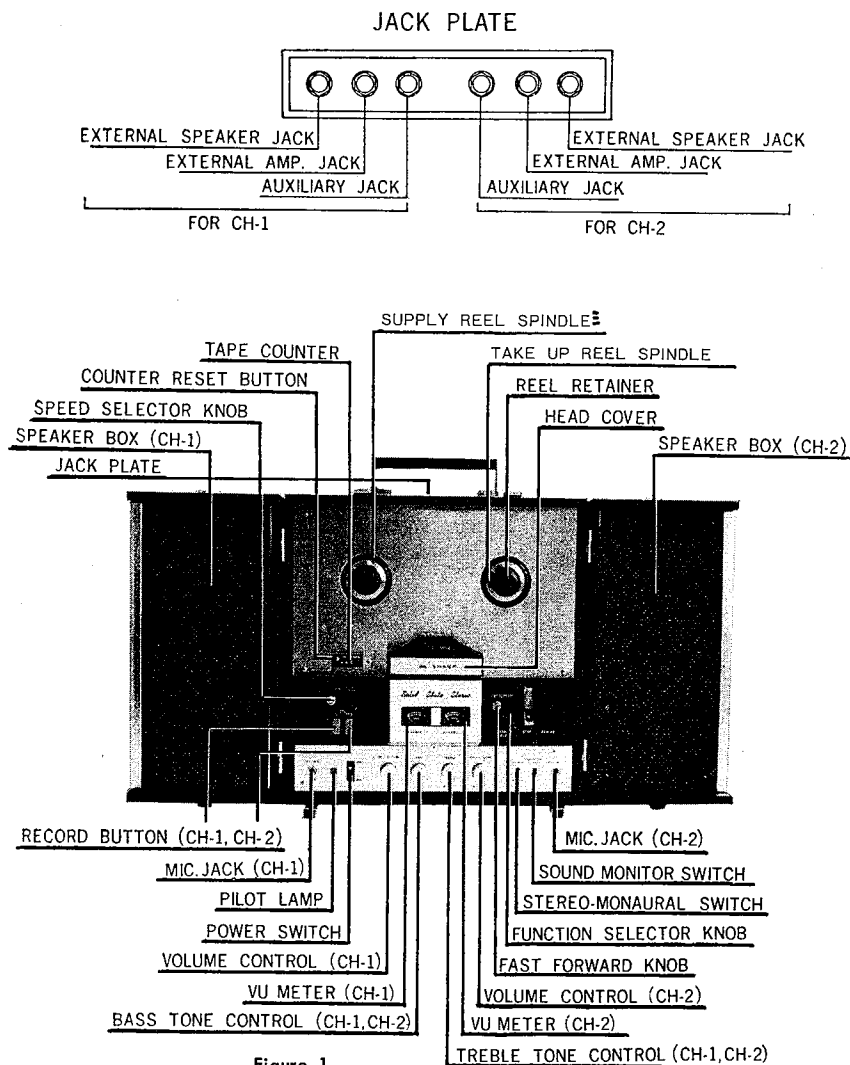
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\$ 1.00

# SPECIFICATIONS

<p>Type : Solid State Amplifiers, Wooden Leatherette Cabinet, Detachable Speaker boxes, 7" Reel Capacity, Vertical/Horizontal Operation, 4-Track Stereo Tape Recorder</p> <p>Power Source : AC 120 V, 60%,</p> <p>Power Consumption: 40W</p> <p>Tape Speed : 7 1/2 ips, 3 3/4 ips and 1 7/8 ips</p> <p>Recording Track : 4-Track, 2-Channel</p> <p>Recording System : AC Bias (85K %)</p> <p>Erasing System : AC Erase (85K %)</p> <p>Recording Time : 4-Track Stereo, 60 minutes at 7 1/2 ips with 1200 ft. Tape. 4-Track Monaural, 120 minutes at 7 1/2 ips with 1200 ft. Tape</p> <p>Rewind Time : Within 2 minutes (1200 ft. Tape)</p> <p>Fast Forward Time: Within 2 minutes (1200 ft. Tape)</p>	<p>Power Output : Maximum 2.8 W×2 Undistorted 1.9 W×2</p> <p>Tape Heads : Stereo 1/4 Track Record/Playback×1 Stereo 1/4 Track Erase ×1</p> <p>Speakers : 6 1/4" P.M. 8 ohm (Woofer)×2 2 3/8" P.M. 8 ohm (Tweeter)×2</p> <p>Transistors : 2SB-73×2, 2SB-75×6, 2SB-370×4, 2SB-156×2</p> <p>Input Circuit : Microphone Input, 200 ohm IMP. Auxiliary Input, 470 K ohm IMP.</p> <p>Output Circuit : External Amplifier, 2 K ohm IMP. External Speaker, 8 ohm IMP.</p> <p>Monitoring : Input Sound Monitoring System</p> <p>Recording Level Indicator : 2VU Meters</p> <p>Microphone : Bar Type Dynamic Microphones, 200 ohm IMP.</p> <p>Dimensions : 15 1/3" (W)×15 3/4" (H)×10 1/2" (D)</p> <p>Weight : 34 lbs.</p>
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## DESIGNATION OF PARTS



# FUNCTION OF CONTROLS

## FUNCTION SELECTOR

The function selector is to select operation modes.

The five operating modes are as follows:

### (1) FORWARD PLAY (Refer to Figure 2, 3 and 4)

Set the FUNCTION SELECTOR KNOB (87) in the FORWARD PLAY position.

1. The FUNCTION SELECTOR CAM PLATE (93) rotates so that the CAM CONNECTING ROD (187) actuates the BRAKE LEVERS (40), (3) and the BRAKE PADS (39), (2) are disengaged from the TAKE-UP REEL SPINDLE (35) and SUPPLY REEL SPINDLE (7).
2. Movement of the CAM CONNECTING ROD (187) is transmitted to the TENSION ROLLER LEVER (38) so that the TENSION ROLLER (34) is pressed against the TAKE-UP BELT (33), the rotation of the MOTOR PULLEY (32) is transmitted to the TAKE-UP REEL SPINDLE (35) which takes up the tape.
3. The IDLER LEVER (59) moves in the direction of the arrow cooperating the CAM PLATE (193) so that the IDLER WHEEL (56) is engaged with the MOTOR PULLEY (32) and the FLYWHEEL (121), driving the FLYWHEEL ASSEMBLY (121) and CAPSTAN SLEEVE (85).
4. The FUNCTION SELECTOR CAM PLATE (93) moves the PINCH ROLLER LEVER (47) so that the PINCH ROLLER (52) is pressed firmly against the CAPSTAN SLEEVE (85) driving the tape.
5. The TAPE PAD HOLDERS (103) and (104) press the tape firmly against the HEADS (81) and (82) by the movement of the PINCH ROLLER LEVER (47).

### (2) RECORDING (Refer to Figure 2 and 4)

In order to operate this recorder for RECORDING the RECORD BUTTONS (155) must be depressed and held in depressed position while the FUNCTION SELECTOR KNOB (87) is set to FORWARD PLAY position. This action causes the RECORD BUTTON (155) to be locked in depressed position thus activating the RECORDING circuit so that erase current is applied to the ERASE HEAD (81), record bias is applied to the RECORD/PLAYBACK HEAD (82), and the output of the record circuit is applied to a LEVEL METER for monitoring purpose.

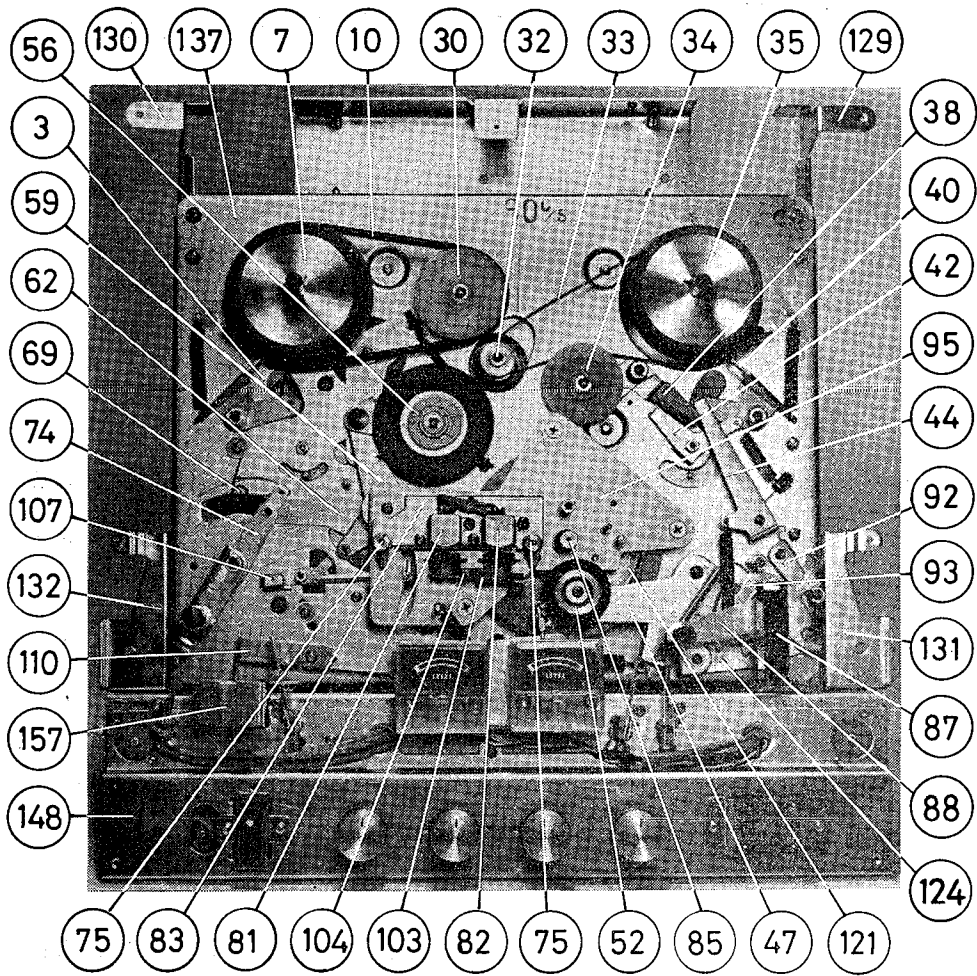


Figure 2

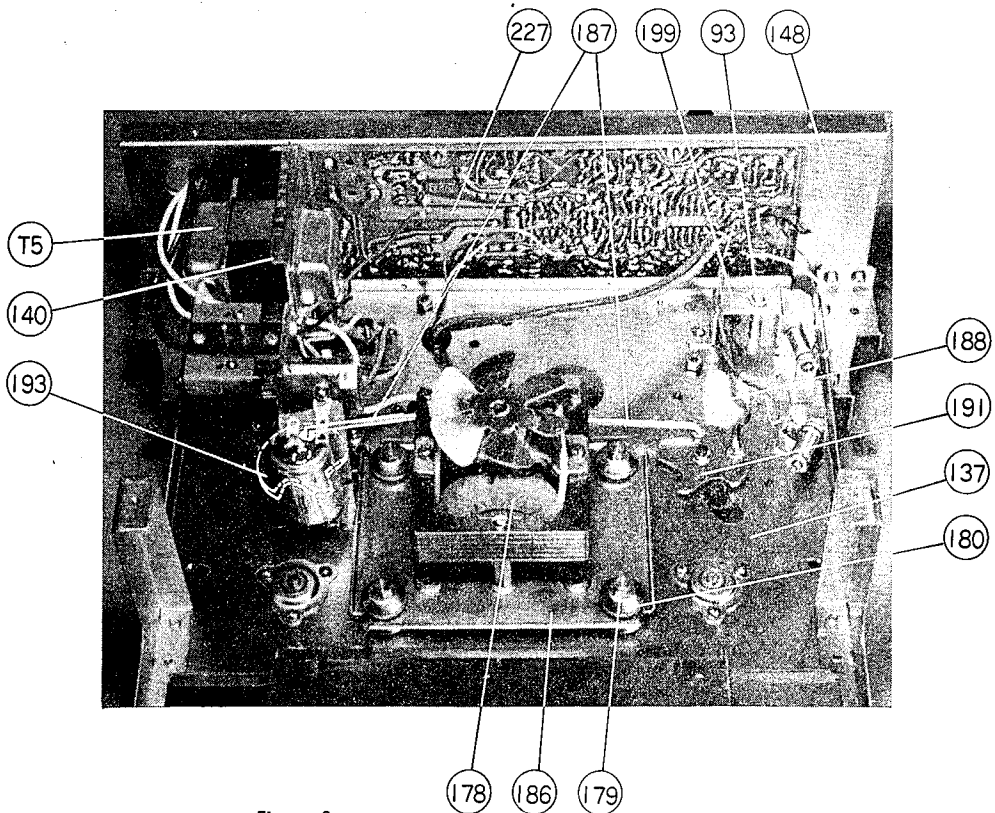


Figure 3

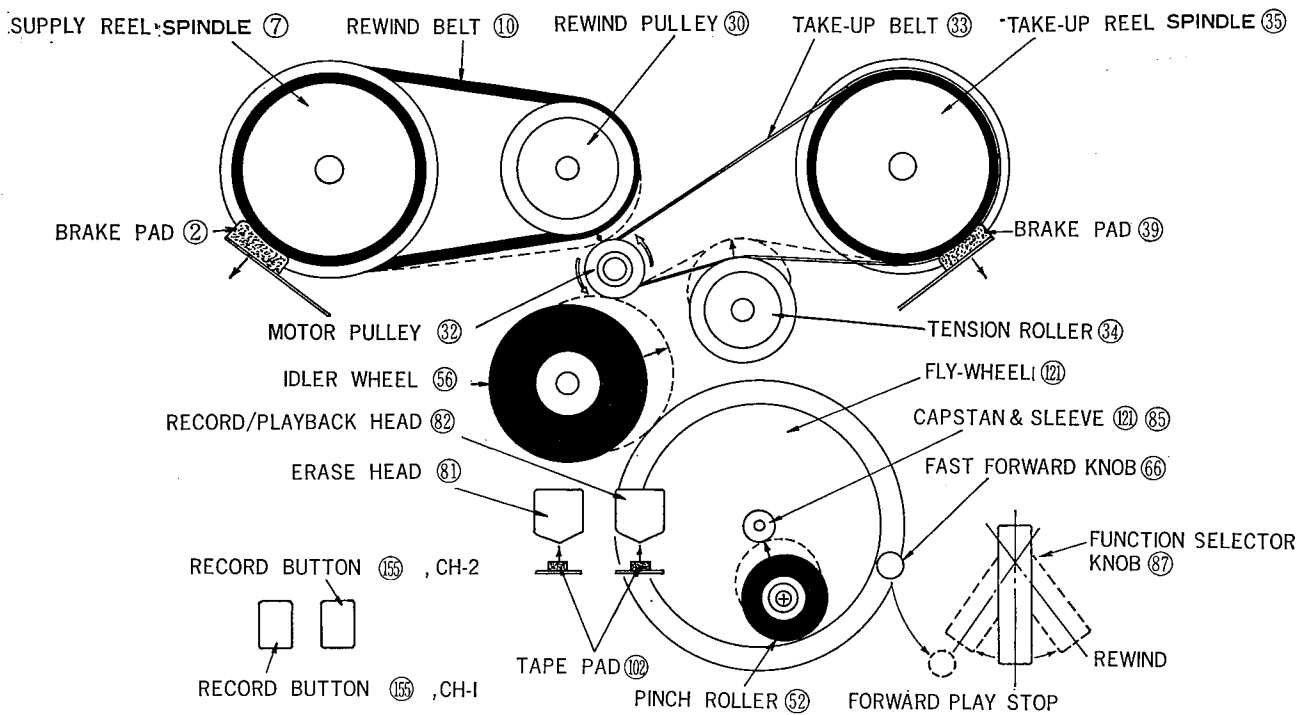


Figure 4 Tape Transport Mechanism

**(3) STOP** (Refer to Figure 2 and 4)

With the FUNCTION SELECTOR KNOB (87) set in this position, the BRAKE PADS (2) and (39) are pressed against the REEL SPINDLES (7) and (35), but all other mechanical functions are at idle.

**(4) REWIND** (Refer to Figure 2, 3 and 4)

When the FUNCTION SELECTOR KNOB (87) is set in this position, FUNCTION SELECTOR CAM PLATE (93), CAM PLATES (191) (193) and RODS (187) (188) move in the reverse direction of the FORWARD PLAY position.

The BRAKE LEVERS (3) and (40) are disengaged from the REEL SPINDLES (7) and (35), and the REWIND PULLEY (30) is pressed against the MOTOR PULLEY (32) so that the rotation of the MOTOR PULLEY (32) is transmitted to the SUPPLY REEL SPINDLE (7) through the REWIND BELT (10) causing the SUPPLY REEL SPINDLE (7) to be driven in clockwise direction.

Note that in this operating position, the TENSION ROLLER (34) does not engage the TAKE-UP BELT (33), the TAPE PAD HOLDERS (103), (104) and the PINCH ROLLER (52) do not engage the tape, but IDLER (56) and FLYWHEEL (121) are rotating.

**(5) FAST FORWARD** (Refer to Figure 2 and 4)

To increase the speed at which the tape is wound up on the TAKE-UP REEL, a FAST FORWARD LEVER has been provided. This lever may be used only when the FUNCTION SELECTOR KNOB (87) is set in the FORWARD PLAY position.

When the FAST FORWARD KNOB (66) is pulled as far to the forward as possible with function selector knob in play position, the FAST FORWARD LEVER (88) is locked into position, the TENSION ROLLER (34) applies greater tension to the TAKE-UP BELT (33), the TAPE PAD HOLDERS (103), (104) and the PINCH ROLLER (52) are disengaged from contact with the tape. In order to discontinue FAST FORWARD operation, the FUNCTION SELECTOR KNOB (87) must be reset to STOP position.

# FUNCTION OF LEVER SWITCHES

(Refer to Figure 5 and Schematic Diagram)

- (1) The LEVER SWITCH (SW4) operates as a muting switch so that the speakers don't make any noise during the REWIND, FAST FORWARD and STOP modes.
- (2) The LEVER SWITCH (SW3) operates as a record safety switch. Power is supplied to the erase & bias oscillator circuit in the FORWARD mode only and the LEVER SWITCH prevents the tape from being erased in the REWIND, and FAST FORWARD mode.
- (3) The LEVER SWITCH (SW5) operates as a record equalizer switch. The switch turns off when the set is put in the 7 1/2 ips speed operation and turns on when the set is put in the 3 3/4 ips and 1 7/8 ips operations. The record equalizer circuit is changed according to the tape speeds in each case.
- (4) The LEVER SWITCH (SW6) operates as a playback equalizer switch. When the recorder is set in the 7 1/2 ips tape speed operation, the switch turns on, and in the 3 3/4, and 1 7/8 ips operations it turns off. The playback equalizer circuit is changed according to the tape speeds in each case.

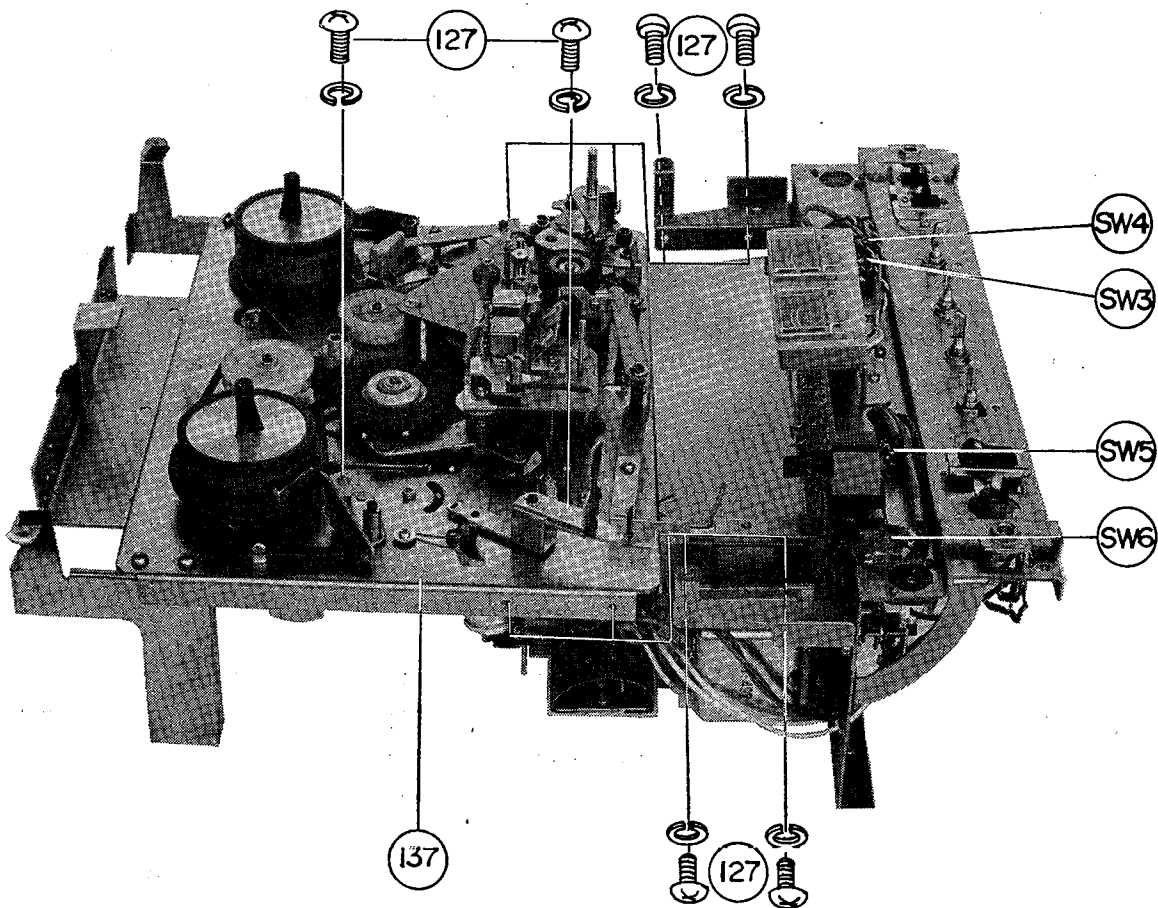


Figure 5

# DISASSEMBLY PROCEDURE

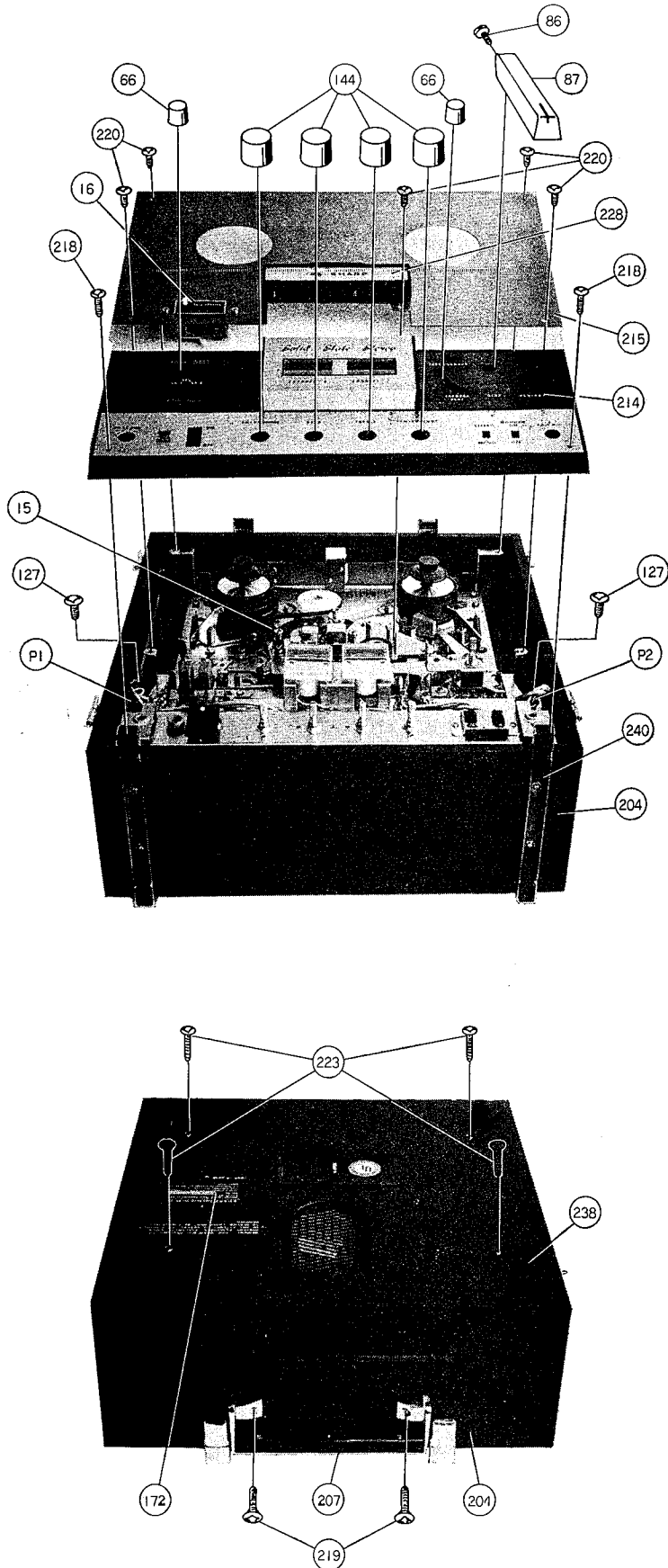


Figure 6

## **MECHANISM ASSEMBLY REMOVAL** (Refer to Figure 6)

1. Remove the VOLUME CONTROL KNOBS (144), and the TONE CONTROL KNOBS (144).
2. Remove the FAST FORWARD KNOB (66) and the SPEED SELECTOR KNOB (66).
3. Remove the FUNCTION SELECTOR KNOB (87), after loosening the SET SCREW (86).
4. Remove the HEAD COVER (228).
5. Remove the 5 SCREWS (220) retaining the REEL PANEL (215).
6. Remove the 2 SCREWS (218) retaining the CONTROL PANEL (214).
7. Remove the REEL PANEL (215) and the CONTROL PANEL (214).

Caution: Remove the COUNTER BELT (15) from the TAPE COUNTER pulley provided on back of the REEL PANEL, when removing the REEL PANEL (215) and the CONTROL PANEL (214).

8. Unplug the CONNECTOR PLUGS (P1) and (P2).
9. Remove the 2 SCREWS (127) retaining the MECHANISM CHASSIS (137) on the CABINET (204).
10. Remove the 2 SCREWS (219) retaining the HANDLE (207).
11. Remove the 4 SCREWS (223) from the bottom of the CABINET (204)

Then the mechanism assembly can be removed from the cabinet.

## **AMPLIFIER CHASSIS ASSEMBLY REMOVAL** (Refer to Figure 5, Figure 7)

When the mechanism chassis assembly is removed from the cabinet, the PRINTED CIRCUIT BOARD ASSEMBLY (227) is accessible for servicing. But if it is necessary to remove amplifier assembly, follow the next procedure.

1. Disconnect the HEAD LEADS (1) and (2), the AUTOMATIC SHUT-OFF SWITCH (SW8) LEADS (3), and the MOTOR LEADS (4). (Refer to Figure 7)
2. Remove the 2 SCREWS (127) on the MECHANISM CHASSIS (Refer to Figure 5)
3. Remove the 4 SCREWS (127) on the both sides of the MECHANISM CHASSIS (137).

Caution: When removing the amplifier assembly, take care not to damage the LEVER SWITCHES (SW3, SW4, SW5, SW6).

## **HEAD ASSEMBLY REMOVAL** (Refer to Figure 8, 17)

Remove the SCREW (49), then the HEAD ASSEMBLY can be removed.

## **FLY-WHEEL ASSEMBLY REMOVAL** (Refer to Figure 9)

1. Set the tape recorder to STOP position.
2. Remove the SPRING (113).
3. Remove the 3 SCREWS (94) and the SCREW (49).

Then the FLYWHEEL BRACKET (95) can be removed along with the HEAD ASSEMBLY and the FLYWHEEL (121).

Caution: When removing the FLYWHEEL ASSEMBLY, take care not to lose the BALL BEARING (122) and damage the AUTOMATIC SHUT-OFF SWITCH LEVER (107).

BALL BEARING (122); Refer to Mechanism Exploded Top View.

## **MOTOR ASSEMBLY REMOVAL** (Refer to Figure 3)

Remove the 4 STUDS (179), then remove the MOTOR ASSEMBLY.



## MOTOR PULLEY REMOVAL (Refer to Figure 10)

Loosen the 2 SET SCREWS (31) mounted on the MOTOR PULLEY (32) with a 3 mm hex-wrench.

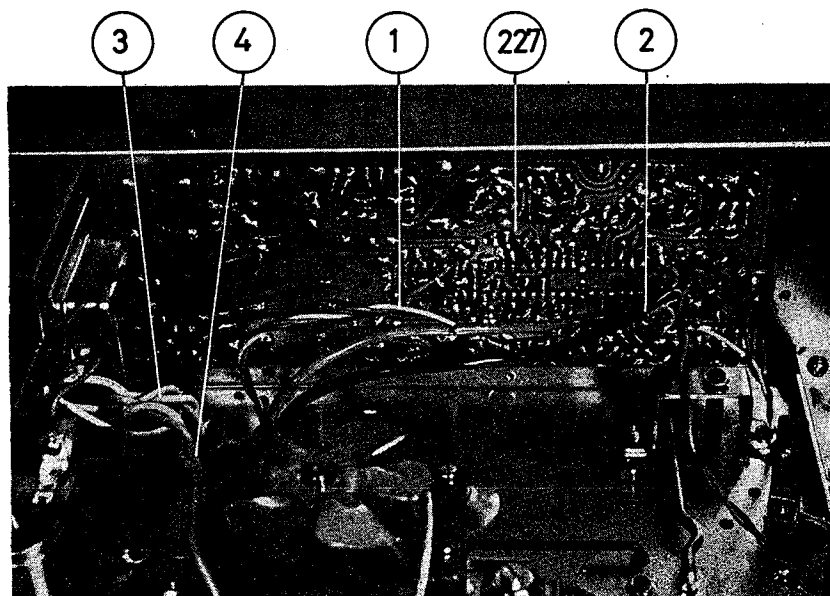
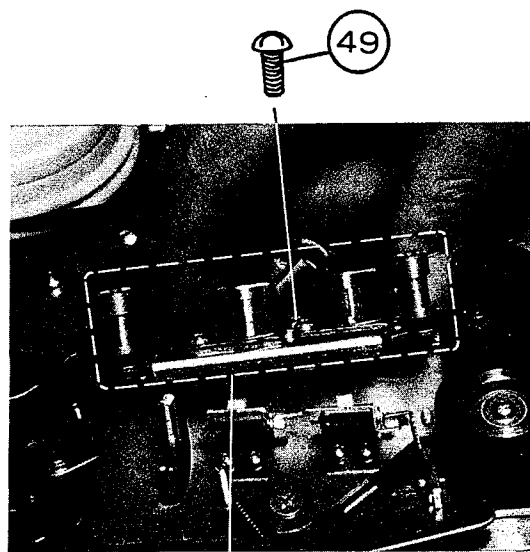


Figure 7



HEAD ASSEMBLY

Figure 8

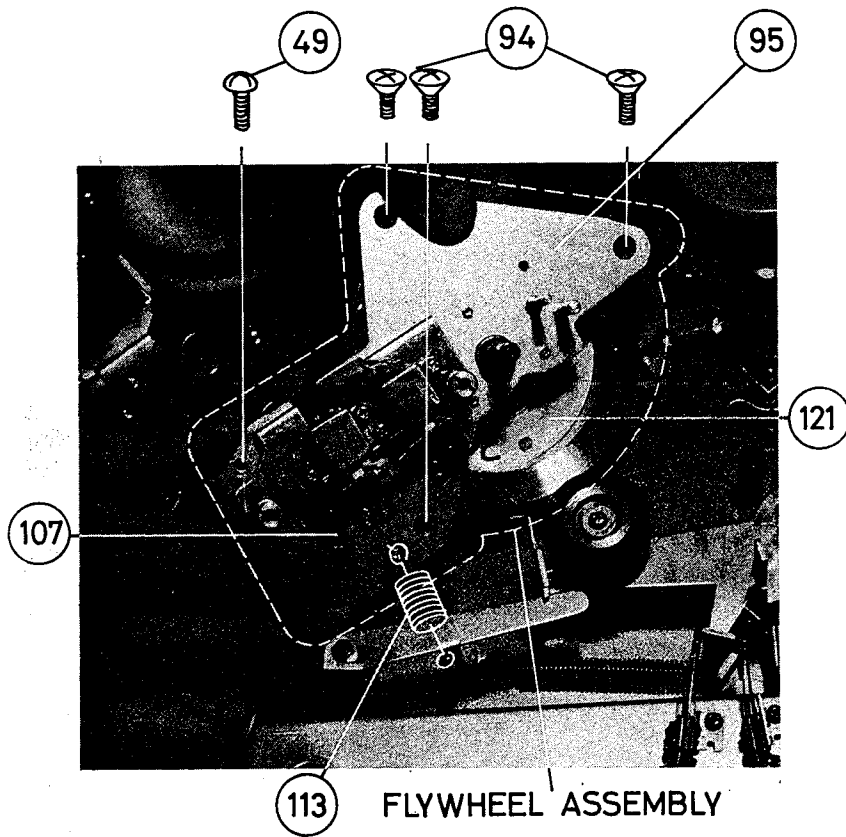


Figure 9

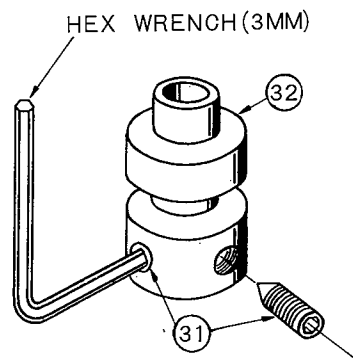


Figure 10

# MECHANISM ADJUSTMENT

## 1. PINCH ROLLER ADJUSTMENT

(Refer to Figure 11)

- A. Shaft of Pinch Roller must be parallel to Shaft of Capstan.
- B. Pressure between Capstan and Pinch Roller can be checked as follows:
  - a. Set the recorder in "PLAYBACK" mode with the speed of 7 1/2 ips.
  - b. Hook a loop of Spring Scale at Pinch Roller Shaft and pull until Pinch Roller is disengaged from Capstan.
  - c. The proper Pressure is between 900 and 1000 grams.
  - d. If Pressure is not within the above range, adjust Pinch Roller Spring (53).

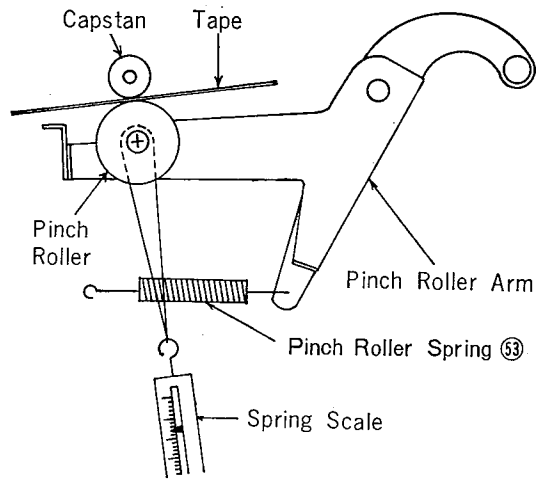


Figure 11

## 2. TAKE-UP AND SUPPLY REELS TORQUE ADJUSTMENT

- A. Proper Torques are as follows:
  - a. Forward Play mode 200~400 gram-cm.
  - b. Fast Forward mode 720~1040 gram-cm.
  - c. Rewind mode 720~880 gram-cm.
- B. If torques are not within the above ranges, make the following adjustments. (Refer to Figure 13 and Figure 14)
  - a. If the torque at forward play mode is too strong, loosen or replace Tension Roller Arm Spring (37) and if too weak, tighten or replace it.
  - b. If the torque at fast forward mode is too weak, tighten or replace Fast Forward Lever Spring (89).
  - c. If the torque of supply reel at rewind mode wipe off oil and dust from all drive points (especially Slip Felt) to eliminate slippage.

Especially check coupling of Rewind Belt. Adjust the torque with the Friction Spring (12) of Supply Reel Spindle.

If the torque is too strong, loosen or replace the Friction Spring; and if too weak, tighten or replace it.

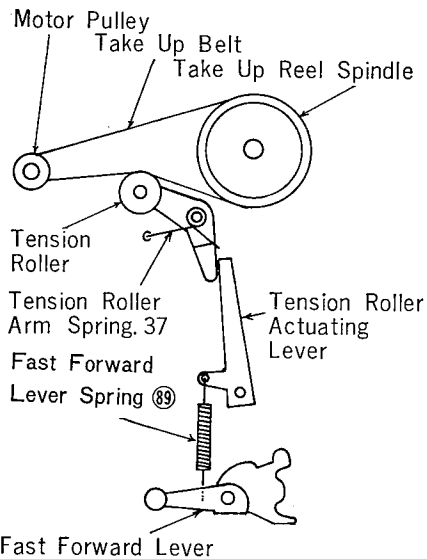


Figure 13

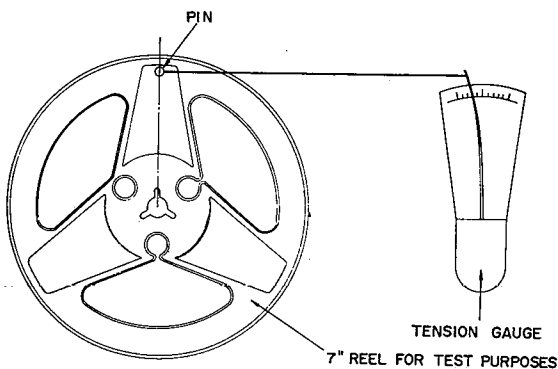


Figure 12

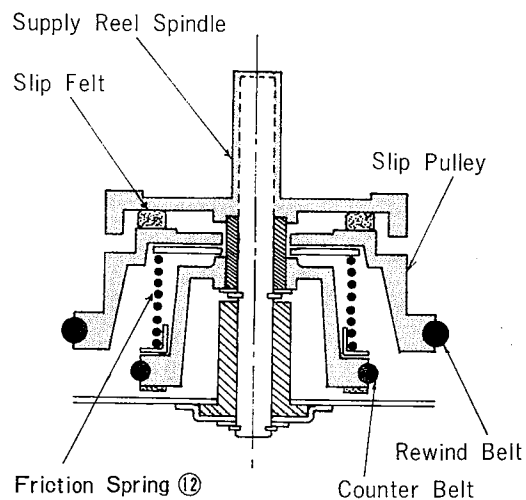


Figure 14

Note: If a Torque meter is not available, a tension gauge can be used with the method shown in Fig 12. In this case the torque is calculated by multiplying the reading on tension gauge by the distance between center of reel and the pin on the rim of the reel.

### 3. TAPE PAD PRESSURE ADJUSTMENT

(Refer to Figure 15)

- A. Set the unit in "PLAYBACK" mode.
- B. Place a tension gauge at the center of Tape Pad.
- C. Gradually draw Pad from Head unit. Pad is disengaged from Head, and then read the scale.
- D. The proper pressure is between 20 grams and 30 grams.
- E. If pressure is not within the above range, adjust Pad Spring.

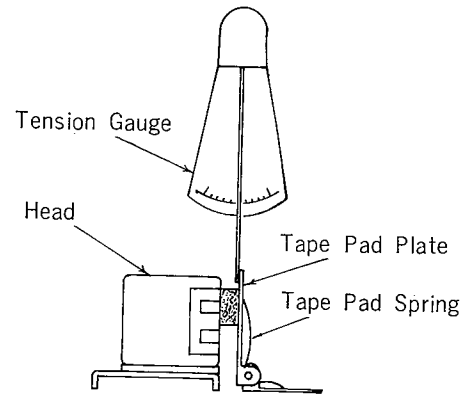


Figure 15

### 4. TAPE SPEED ADJUSTMENT

- A. Measure Tape Speed for 1 minute by using Tape-Speed Measuring Tape (3M SCOTCH Tape NO. 24) and Stop Watch.
- B. If Tape Speed is not within the range of  $\pm 3\%$ , make adjustment of Tape Speed in the following manner.
  - a. Check a take up Torque in Forward Play mode.
  - b. Check a Pinch Roller pressure.
  - c. Check an oil stain of Capstan, Pinch Roller, Idler Wheel and Fly Wheel.
  - d. Replace Motor Pulley (32) if it is necessary.

### 5. SHUT-OFF SWITCH ADJUSTMENT

(Refer to Figure 16)

Loosen the two SCREWS (201A) and (201B).

Set the recorder in FORWARD PLAY mode and position the SHUT-OFF SWITCH (SW8) rotating it around the SCREW (201A), checking to see that power is supplied to the recorder while tape is running and switched off while tape is out.

Fasten the SCREWS (201A) and (201B).

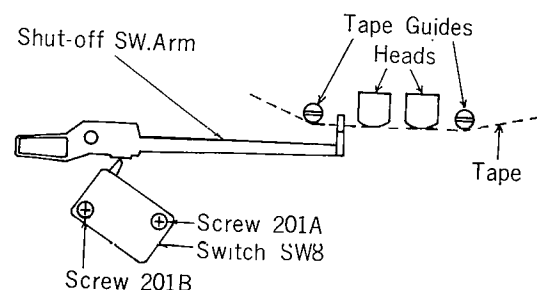


Figure 16

## RECORD/PLAYBACK HEAD (82) ADJUSTMENT (Refer to Figure 17)

1. Play an azimuth alignment tape made specially for azimuth alignment on recorder.
2. Adjust the SCREW (25) in Fig 17 of the RECORD/PLAYBACK HEAD (82) to obtain maximum output.

## HEADS (81) (82) HEIGHT ADJUSTMENT (Refer to Figure 8 and Figure 17)

1. Remove the HEAD ASSEMBLY removing the SCREW (49).
2. Loosen the CLUMP NUTS (84) on the back of the HEAD MOUNT (83) so that the TAPE GUIDES (75) can be adjusted.
3. Reassemble the HEAD ASSEMBLY fixing the SCREW (49).
4. Thread a quarter-track test tape.
5. Operate the recorder in the FORWARD PLAY mode and adjust the TAPE GUIDE (right) (75) for maximum output from the tape.
6. Next, operate the recorder in the RECORD mode with the VOLUME CONTROLS set on minimum and signal source disconnected from the recorder using other tape which is recorded by a normal functioning recorder and erase the tape.
7. If the tape is not completely erased, adjust the TAPE GUIDE (75) (left).
8. After complete alignment is attained, tighten the CLUMP NUTS (84) removing the HEAD ASSEMBLY and then fix it on the original position.

## TAPE PADS POSITIONING ADJUSTMENT (Refer to Figure 17)

While using a standard pre-recorded test tape and operating the recorder in PLAYBACK mode, loosen the TAPE PAD ASSEMBLY RETAINING SCREWS (100) and position the BRACKET (106) (R/P Head) to obtain maximum output. While using an other recorded tape and operating the recorder in RECORD mode and position the BRACKET (106) (Erase Head) to obtain complete erase. When proper positioning is obtained, tighten down the retaining screws (100).

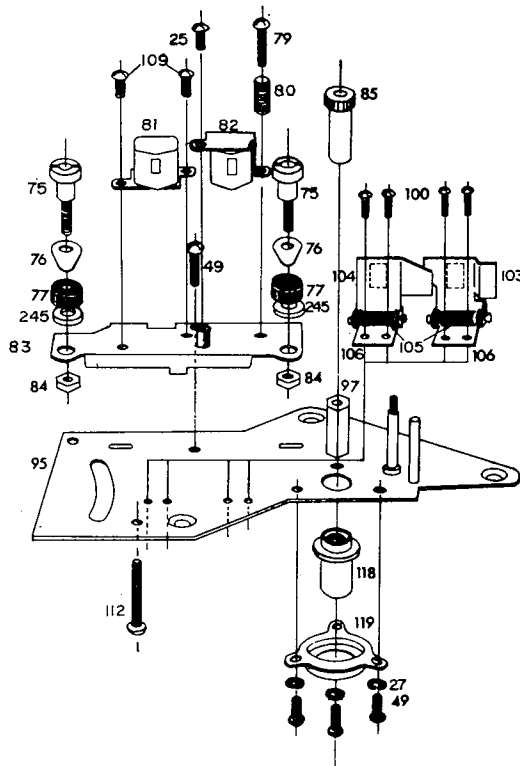


Figure 17 Head assembly of RD-708

# ELECTRICAL MEASUREMENT

## 1. PLAYBACK AMPLIFIER SENSITIVITY (Refer to Schematic Diagram and Figure 18)

1. Set the recorder in STEREO PLAYBACK mode with the VOLUME CONTROLS at maximum.
2. Set an 8 ohm dummy resistor (2W, 5%) across the EXTERNAL SPEAKER jacks (J4, J8) of the both channels.
3. Connect the Audio Signal Generator for 1000 cps, -68dB (=0.4mV, 0dB=1V) across the CH-1 and CH-2 terminals of the RECORD/PLAYBACK HEAD (82). Use 2.7K and 27 ohm resistors as illustrated in Fig. 19 if such a meter that is not sensitive enough to measure 0.4mV.
4. Connect an AC VTVM across the 8 ohm dummy resistor of the CH-1 EXT. SP jack. If the playback amplifier sensitivity is normal, the reading on the VTVM should be approximately 2.4 V.
5. Adjust the VARIABLE RESISTOR (R101) so that the output of the 8 ohm dummy resistor of CH-2 becomes equal to the output of the 8 ohm resistor of CH-1.

Instruments Required :

- Signal Generator  
(or A.F. Oscillator)
- AC VTVM
- 2.7K ohm, 1/4W, 5%, Resistor
- 27 ohm, 1/4W, 5%, Resistor
- 8 ohm, 2W, 5%, Resistor

Measuring Circuit :

Refer to Figure 18.

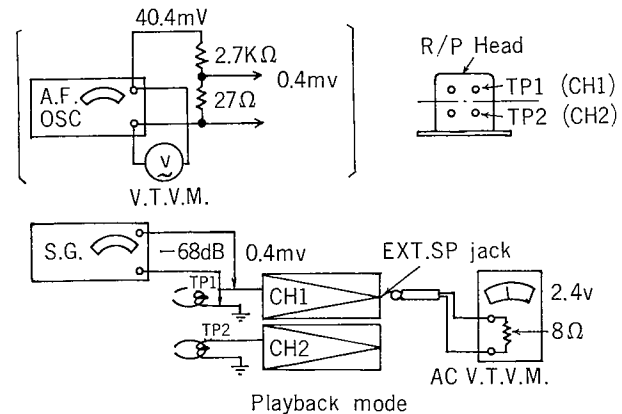


Figure 18

## 2. RECORD AMPLIFIER SENSITIVITY (Refer to Figure 19, Figure 20 and Schematic Diagram)

1. Set the recorder in STEREO RECORDING mode with the VOLUME CONTROLS at maximum.
2. Put some insulator (paper, etc.) between the contacting leaves of the RECORD SAFETY LEVER SWITCH (SW3) to stop the BIAS OSCILLATION.
3. Unsolder the ground wire connection at the RECORD/PLAYBACK HEAD (82) (on the schematic diagram, this connection is designated as TP1, TP2) and insert a 100 ohm resistor (1/2W, 5%) between the open connection on the tape head and the open end of the wire that was removed.
4. Connect the Audio Signal Generator for 1000 cps, -78dB (0.13 mV, 0dB=1V) across the MICROPHONE jacks (J1, J5).
5. Connect an AC VTVM across the 100 ohm resistor. If the record amplifier sensitivity is normal, the reading of the VTVM should be approximately 3.6 mV.
6. In this condition, adjust the VARIABLE RESISTORS (R99, R100) so that the needle of the LEVEL METERS (M1), (M2) point the proper position on the scale. (Between the white and red area)

Instruments Required :

- Signal Generator  
(or A.F. Oscillator)
- AC VTVM
- 2.7K ohm, 1/4W, 5%, Resistor
- 27 ohm, 1/4W, 5%, Resistor
- 100 ohm, 1/2W, 5%, Resistor

Measuring Circuit :

Refer to Figure 19 and Figure 20.

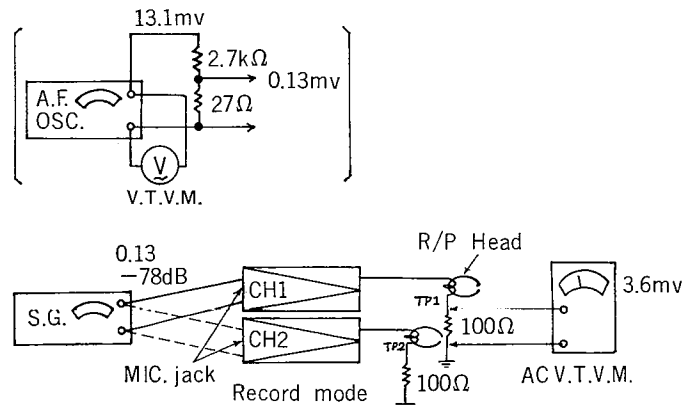


Figure 19

### 3. RECORD BIAS VOLTAGE (Refer to Figure 20 and Figure 21)

1. Set the recorder in STEREO RECORDING mode with the VOLUME CONTROLS in minimum.
2. Insert a 100 ohm resistor (1/2W, 5%) in the ground lead of the RECORD/PLAYBACK HEAD (82). (At TP1 and TP2)
3. Connect an AC VTVM across the 100 ohm resistor.
5. Adjust the TRIMMER CONDENSERS (C63: CH-1, C64: CH-2) so that the reading on the VTVM should be approximately 50 mV.

Instruments Required :

AC VTVM

100 ohm, 1/2W, 5%, Resistor

Method :

Refer to Fig. 20 and Fig. 21.

### 4. RECORD BIAS FREQUENCY

(Refer to Figure 20 and Figure 21)

1. As shown in Fig. 21 insert a 100Ω Resistor to ground Lead Wire of Record/Playback Head. Connect vertical Axis of Oscilloscope across the Resistor. Connect horizontal Axis of Oscilloscope to Output Terminal of Signal Generator.
2. When the recorder is set to "RECORD" mode, connected as above, Lissajous' Figure will appear on the Oscilloscope. Refer to this Figure to check frequency of Bias Oscillator. The standard frequency is approximately 85 Kc%.
3. If frequency is within 75~85Kc%, bias oscillation of the unit is normal.

Instrument Required :

Oscilloscope, Signal Generator

100 ohm, 1/2W, 5%, Resistor

Measuring Circuit.

Refer to Fig. 20 and Fig. 21.

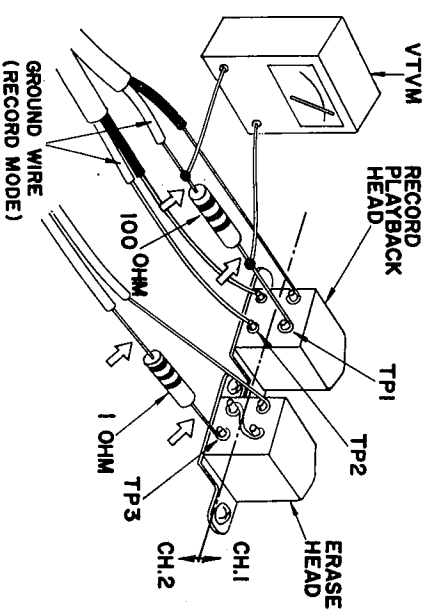


Figure 20

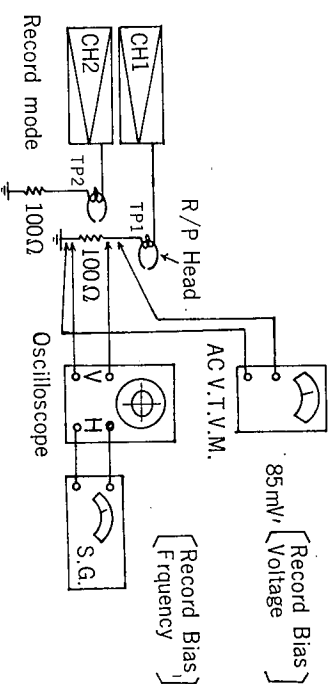


Figure 21

### 5. ERASE VOLTAGE (Refer to Figure 20 and Figure 22)

1. Set the recorder in STEREO RECORDING mode.
  2. Unsolder the ground wire connection at the ERASE HEAD (81) (CH2) (On the schematic diagram, it is shown as TP3) and insert a 1 ohm resistor (1 W, 5%).
  3. Connect an AC VTVM across the 1 ohm resistor.
- If the set is normal, the reading on the VTVM should be approximately 35 mV.

Instrument Required :

AC VTVM

1Ω, 1W, 5%, Resistor

Measuring Circuit :

Refer to Fig. 20 and Fig. 22

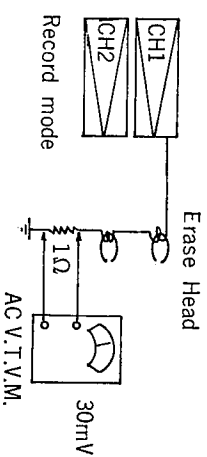


Figure 22

## MAINTENANCE

### CLEANING

The pinch roller, capstan, tape guides, record/playback head and erase head may accumulate tape oxide coating worn off the tape as it passes these parts. This accumulation will cause poor performance and should be removed with a soft lint-free cloth moistened with commercial head cleaner or alcohol.

### LUBRICATION

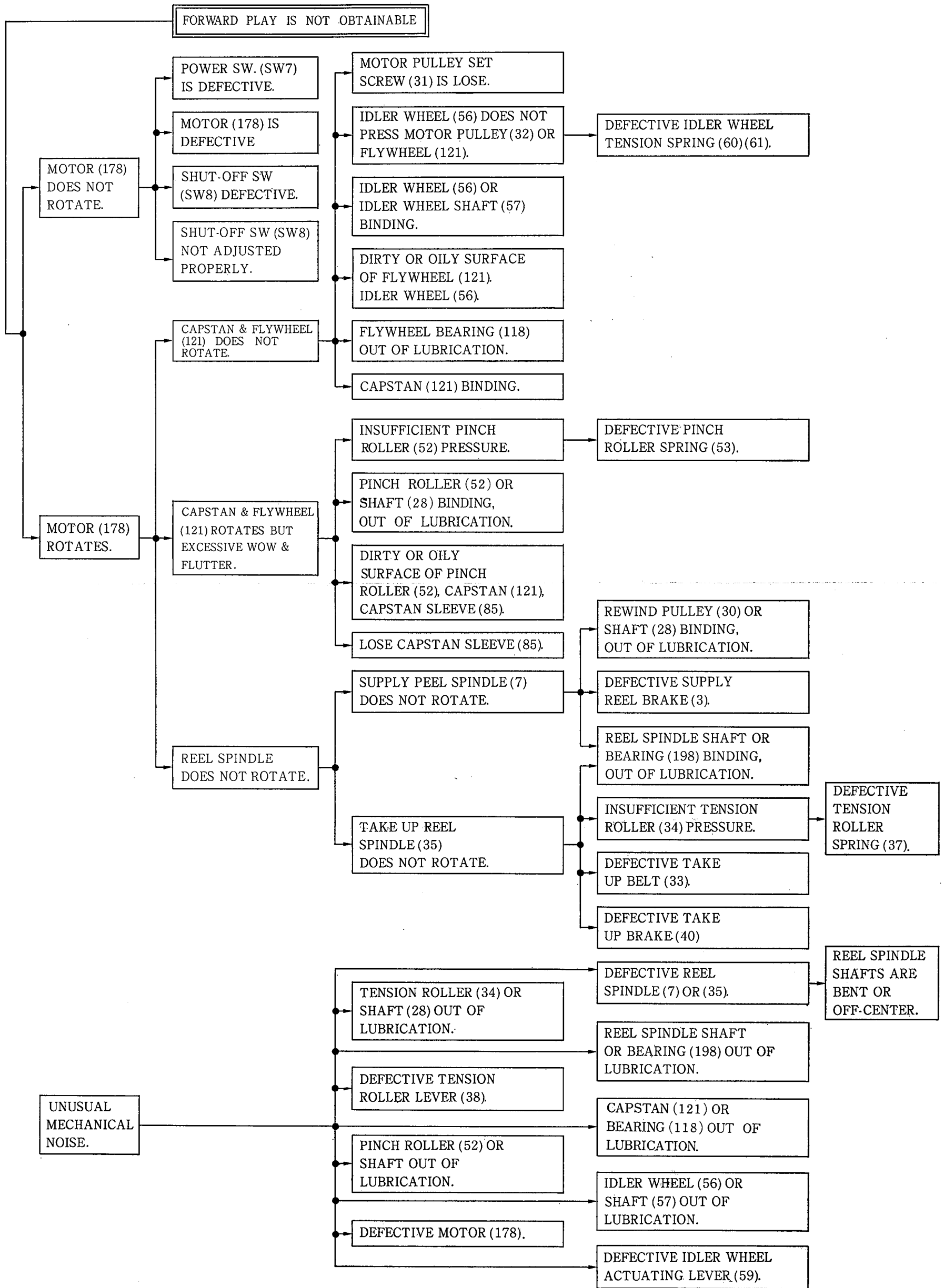
Rubbing part of mechanism should be cleaned with a clean soft cloth and light grease be applied. Retaining bearing such as pulley and motor bearings should be oiled sparingly with light non-detergent oil. Avoid excess lubrication. Any excess oil or grease on pulleys, belts or capstan should be removed with a cloth moistened with alcohol.

### DEMAGNETIZING THE HEADS

The heads may become magnetized by using an ohm-meter on them or their associated circuitry, or by a strong magnetic field near them such as a solder gun or speaker. Magnetized head will cause hiss or even partial erasure of pre-recorded tapes.

If heads should become magnetized, they can be demagnetized by a head demagnetizer. Move the demagnetizer slowly around both heads (Be careful not to scratch the surface that contacts the tape), and all parts in the tape path. Be sure to turn the magnetizer off only when it is away from the heads, as it may actually magnetize the heads. Also, keep the demagnetizer away from the recording tape.

MALFUNCTION OF FORWARD PLAY



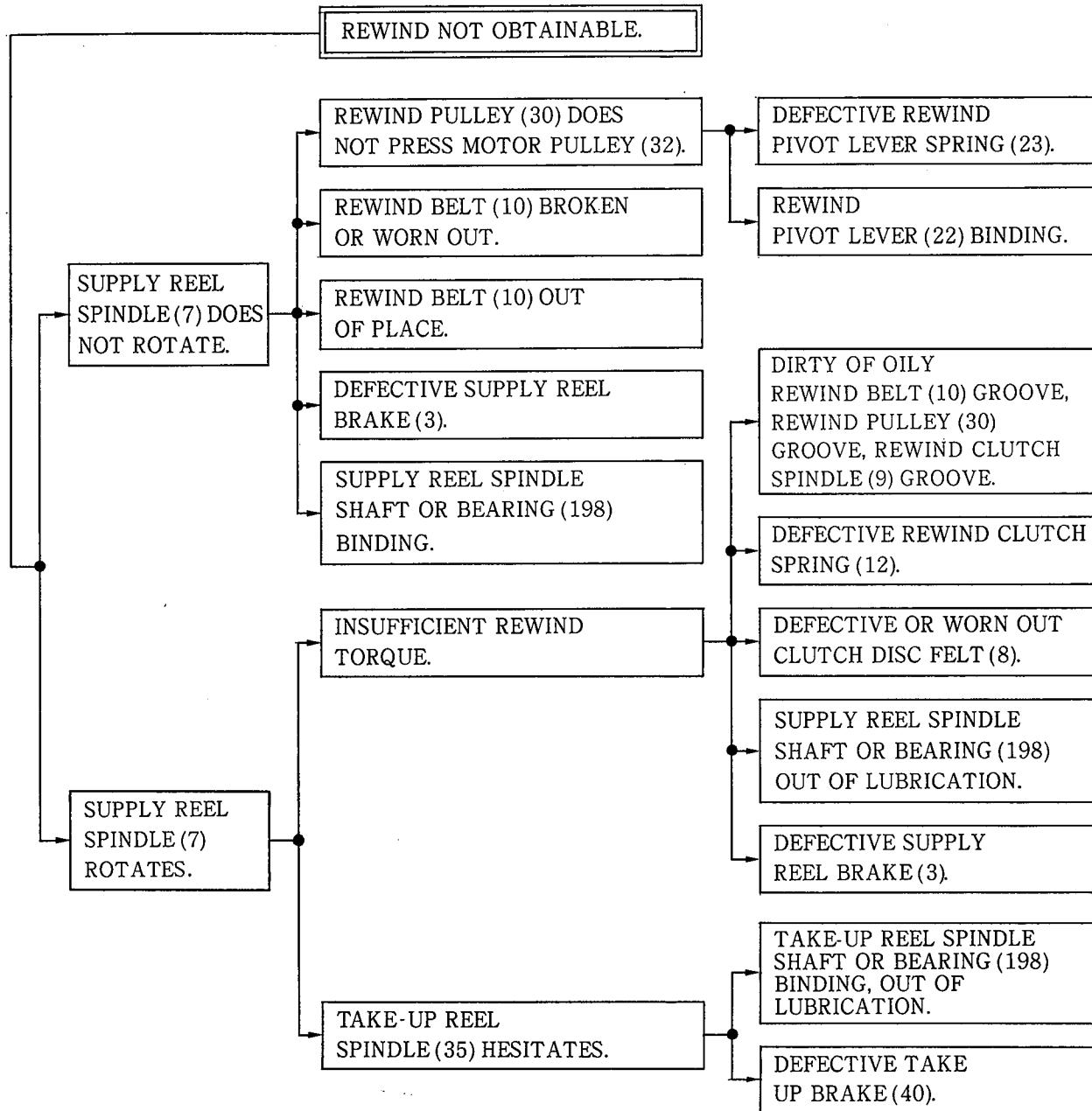
17

18

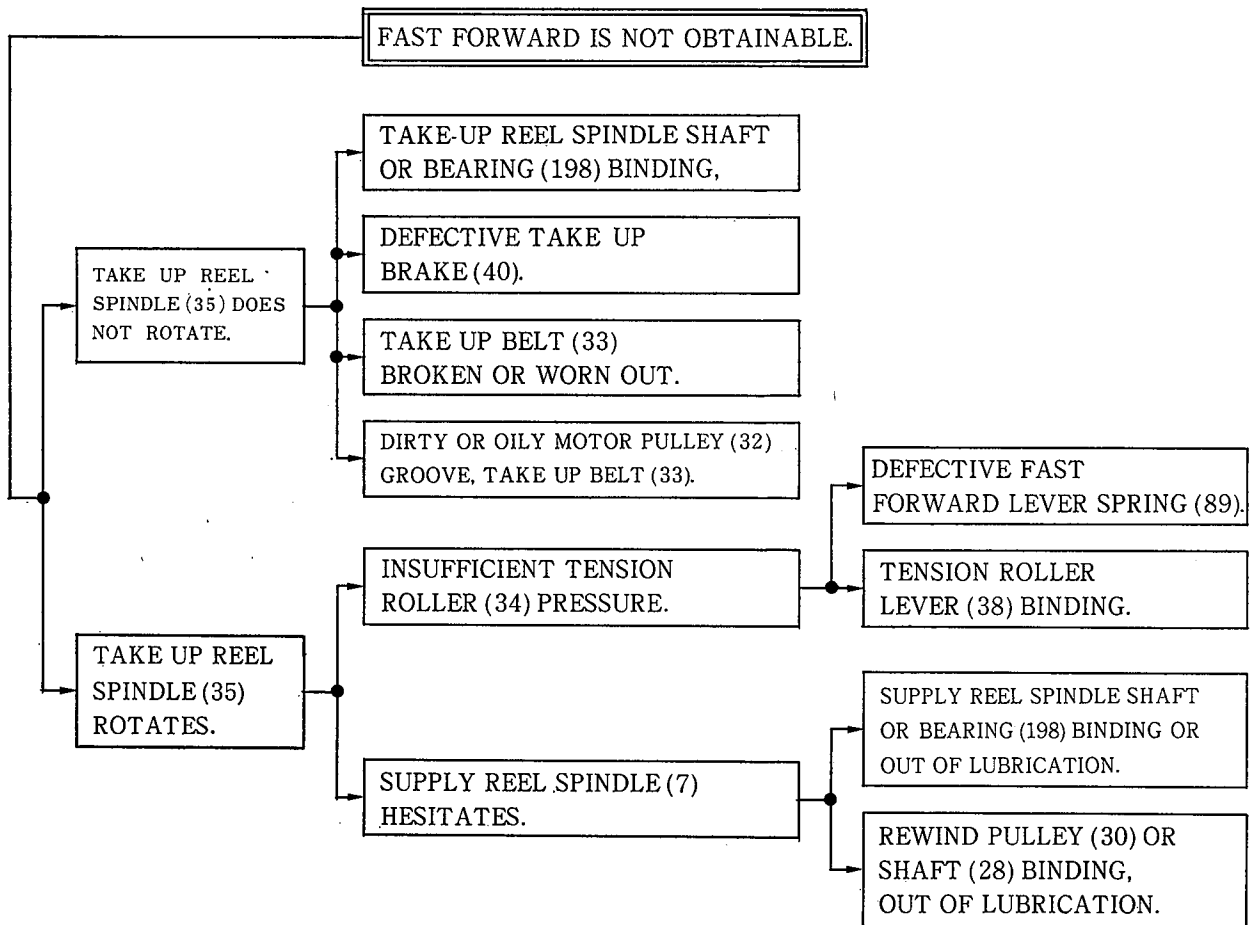


# MALFUNCTION OF REWIND

(No. 2)

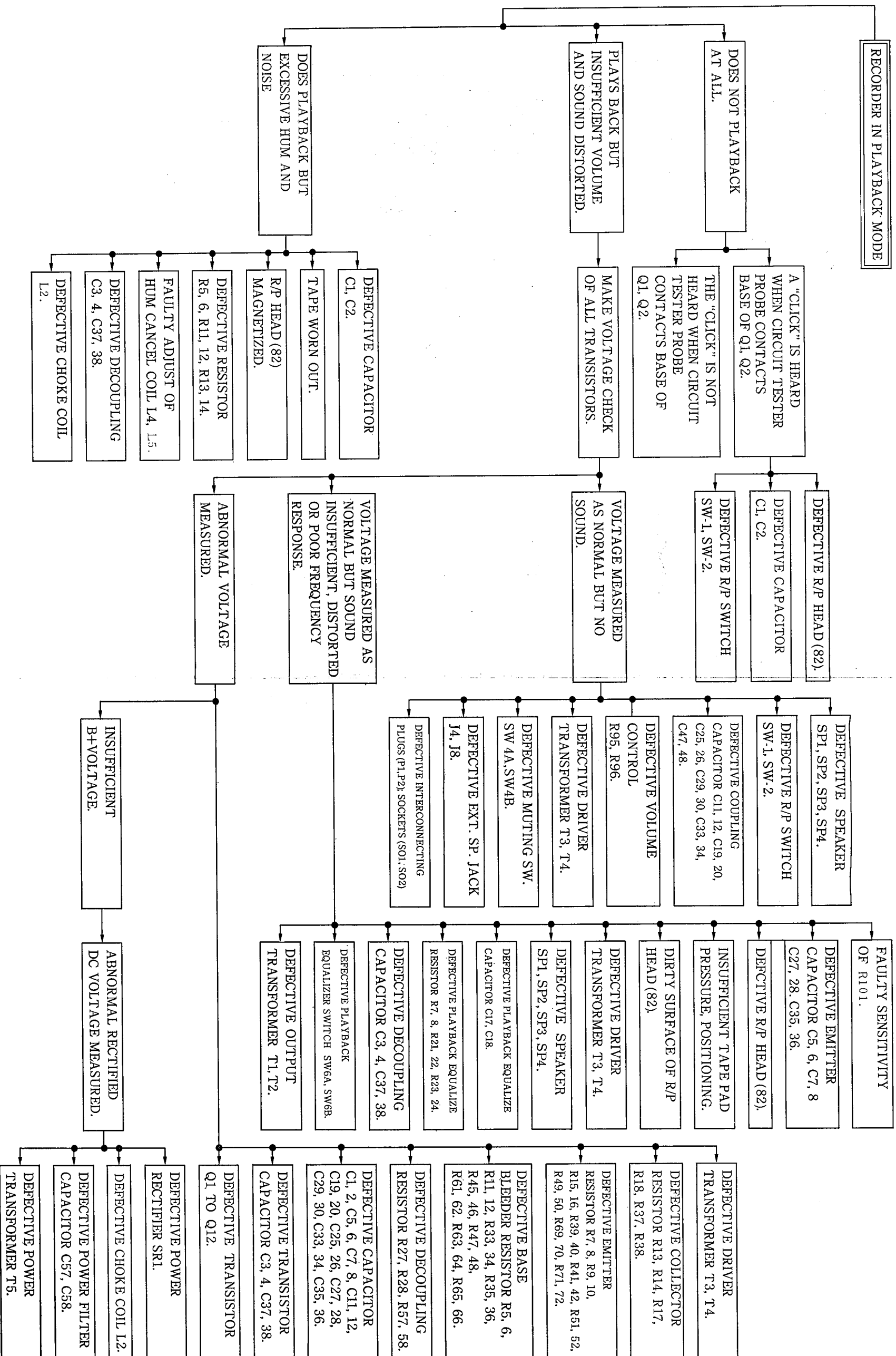


# MALFUNCTION OF FAST FORWARD



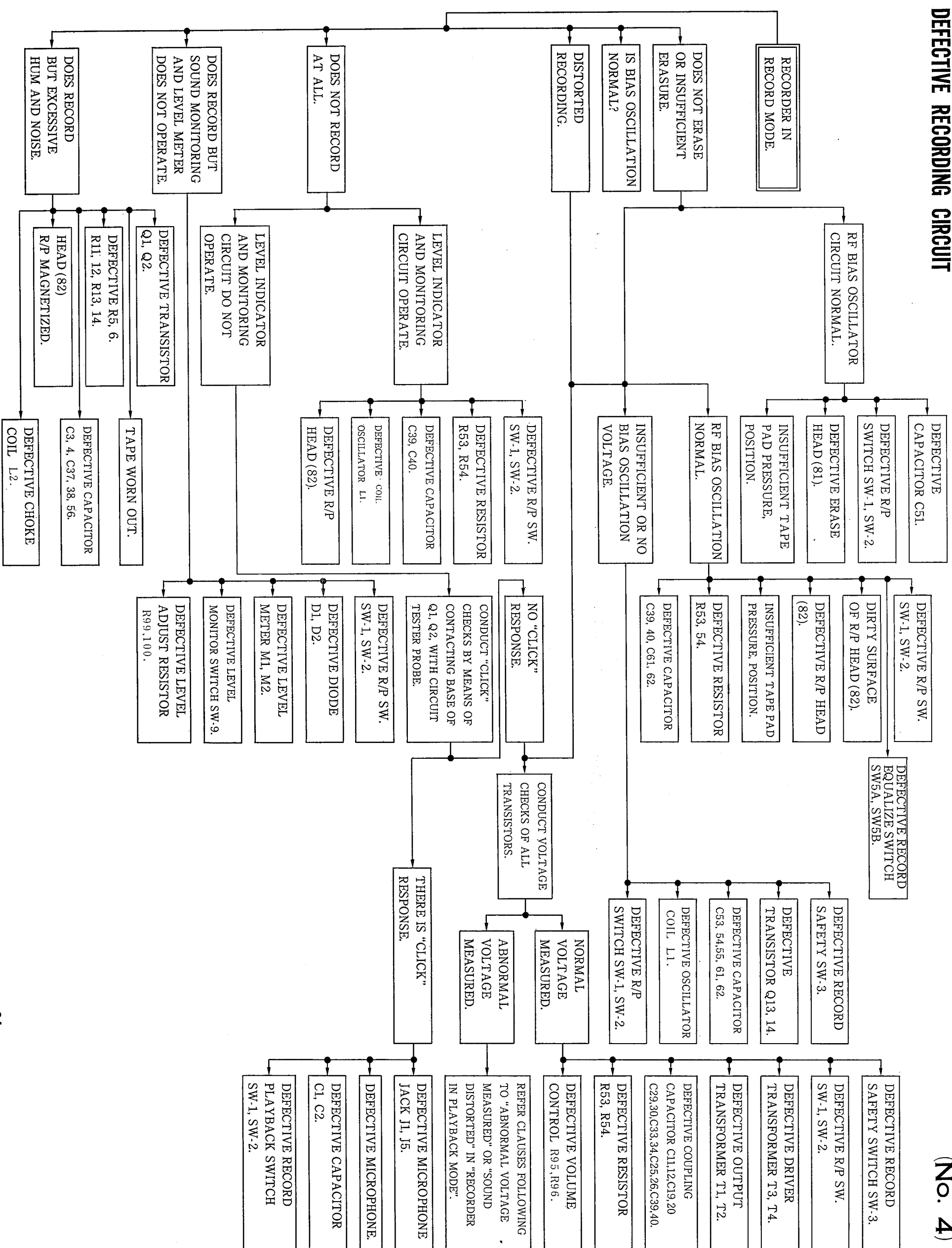
# DEFECTIVE PLAYBACK CIRCUIT

(No. 3)

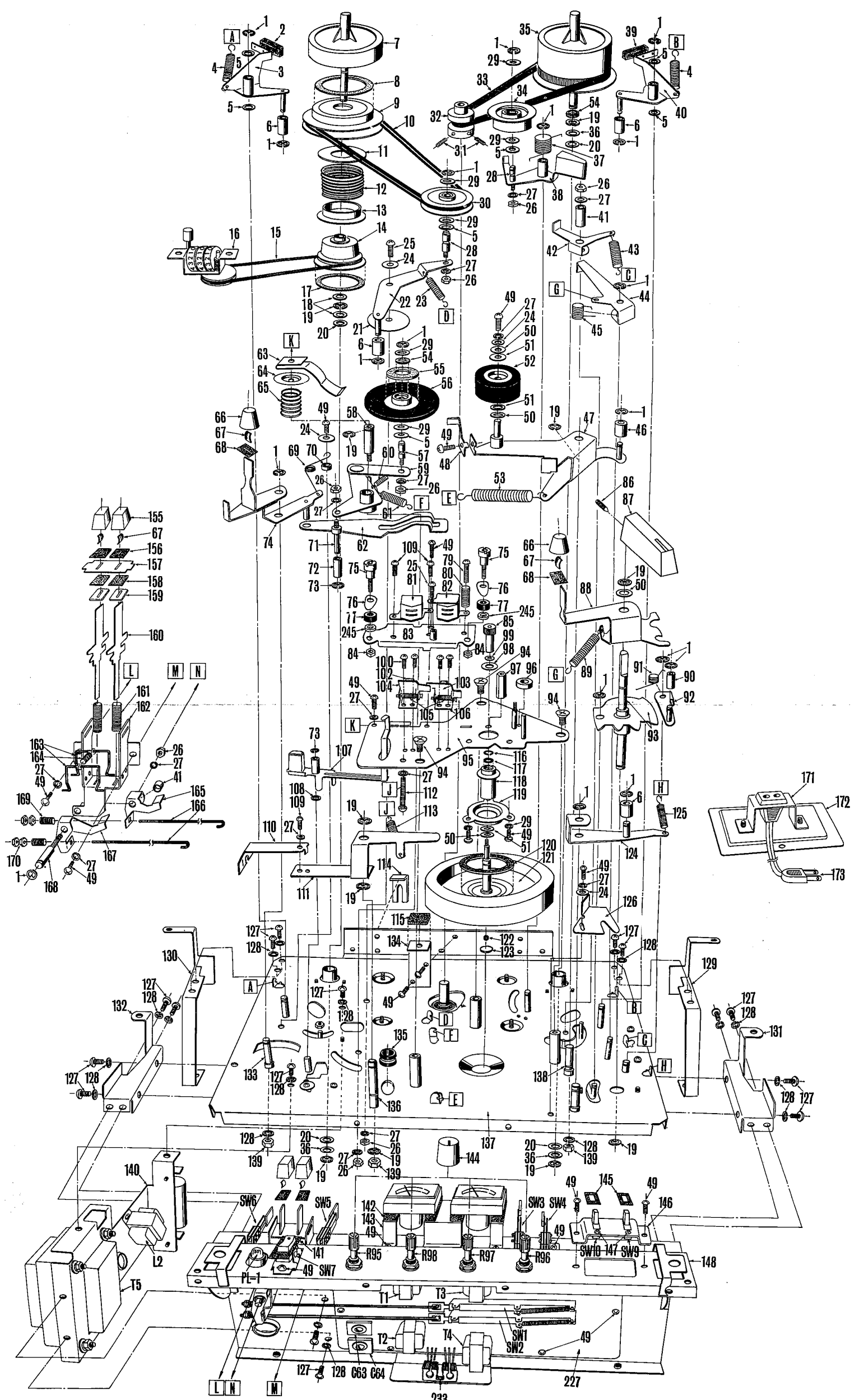


# DEFECTIVE RECORDING CIRCUIT

(No. 4)

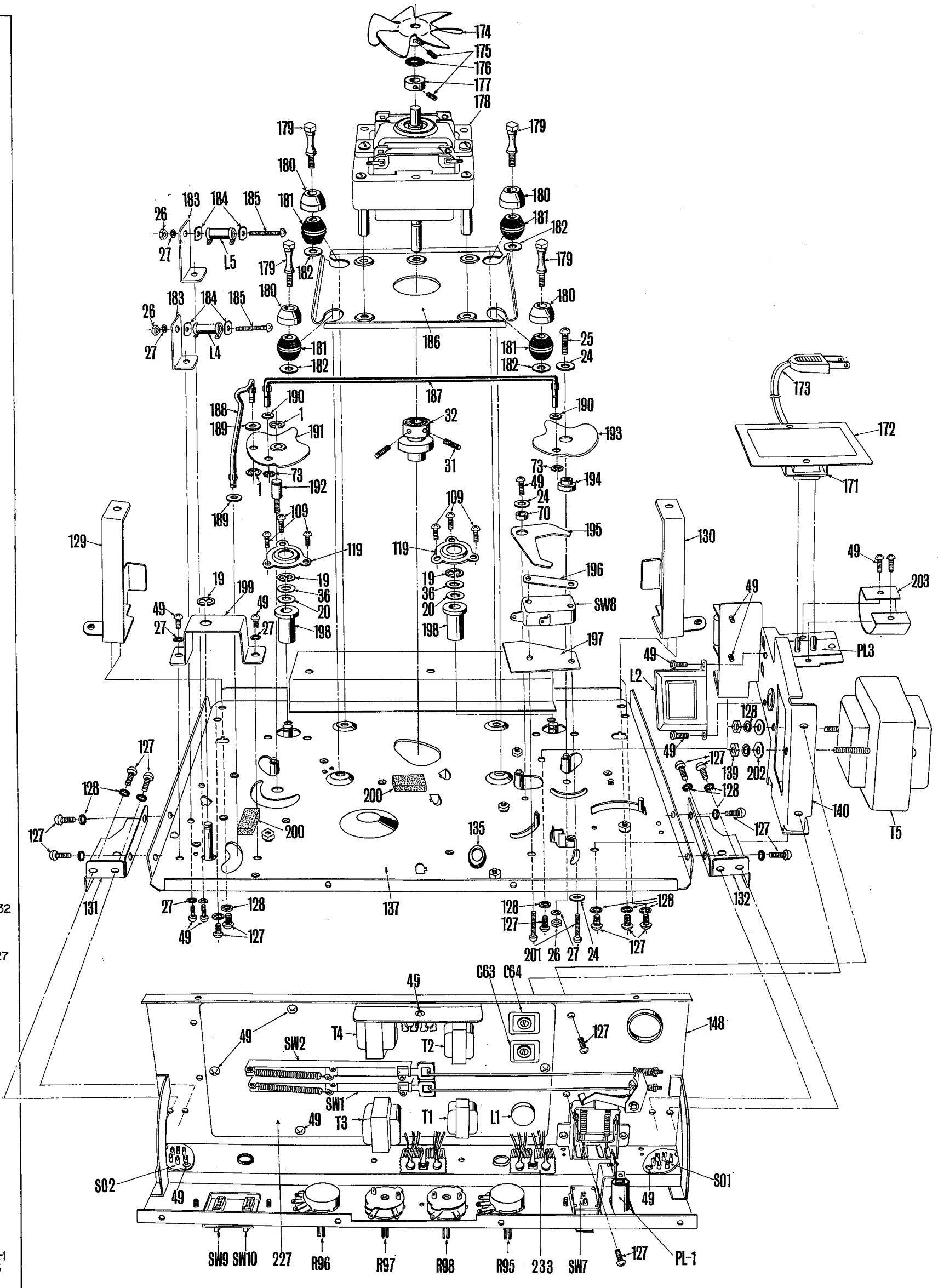


- 1
- 2, 35, 39
- 7
- 5, 29
- 4, 3
- 8, 33
- 34
- 5, 9, 54
- 32, 1, 40
- 6, 10, 19, 5
- 1, 29, 36
- 11, 31, 20
- 5
- 1, 37
- 29, 28
- 12, 26
- 27, 38
- 30, 27
- 13, 28
- 4, 29, 41
- 16, 5
- 25, 5
- 24, 28, 42, 43
- 27
- 26
- 17, 1
- 18, 22, 23, 49, 44
- 27
- 19, 24
- 20, 21, 1, 50, 45
- 6, 29, 51
- 63, 54, 52
- 64, 55
- 65, 56
- 51
- 49, 19, 1
- 66, 58, 50, 47
- 67, 24, 29, 49, 46
- 5
- 68, 1, 69, 70, 19, 60, 57
- 59, 48
- 26, 27, 53, 86
- 87
- 155, 27, 61
- 67
- 74, 71, 62, 109, 66, 49
- 156, 75
- 157, 72, 75, 49, 79, 67, 19
- 81, 80, 68
- 158, 73, 82, 76, 88, 50
- 159
- 76
- 77, 85, 245
- 160, 83, 99, 245
- 84, 98, 94, 1
- 100
- 102, 97, 96, 89, 91
- 49, 104, 103, 1, 90
- 161, 27, 94, 92
- 162, 105, 106
- 73, 93
- 163, 26, 107
- 164, 95, 116
- 27, 94, 117
- 49, 41, 118, 1, 171
- 165, 108, 112, 119, 6, 172
- 169, 166, 109, 19
- 113, 125
- 110, 27, 29
- 50, 49
- 51, 120
- 167, 121, 124
- 170, 27, 114, 49, 173
- 1, 49
- 168, 111, 19, 24
- 126
- 115
- 127
- 134, 122
- 128, 123
- 130, 129
- 127
- 128, 49
- 132
- 135, 131
- 133, 138
- 127, 128
- 136
- 128, 20, 27, 137, 19
- 36, 26
- 139, 27, 19, 144
- 140, 49, 145, 49
- SW6, SW5, 142, SW3, SW4, 146
- 143
- 49, SW10, 147, SW9
- 141, R95, R98, R97, R96, 148
- L2, 49, SW7
- PL-1
- T5, T1, T3
- T2, T4, SW1, 49, SW2
- 127, 128, C63, C64, 227
- 233



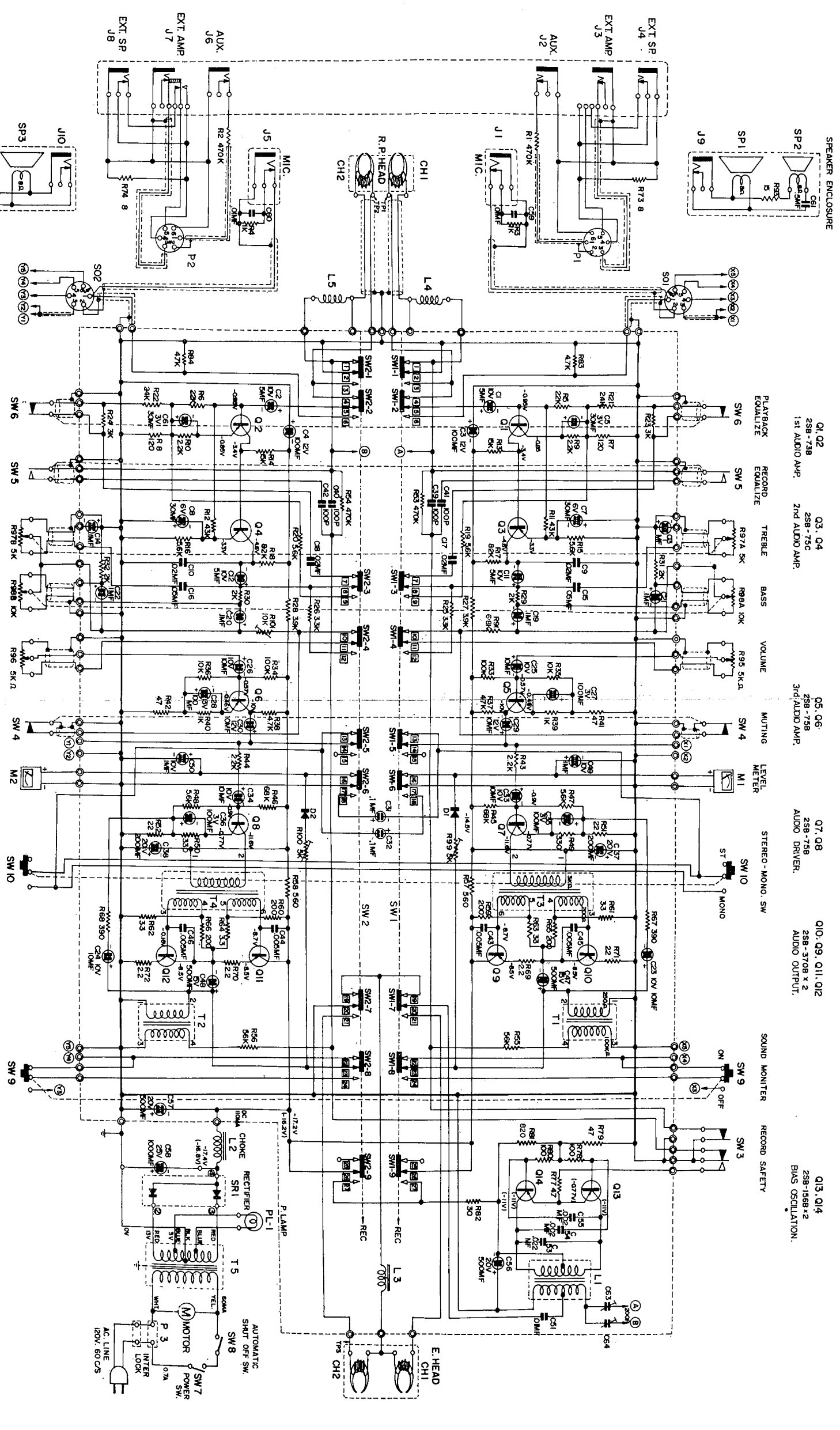
RD-708 MECHANISM EXPLODED (TOP VIEW)

- 174
- 175
- 176
- 177
- 178
- 179
- 180
- 183, 184, 185, 181
- 26
- 27
- L5
- 179, 182
- 180
- 183, 184, 185
- 26
- 186, 25
- 27, L4, 181
- 182, 24
- 190, 187, 173
- 188, 132, 190
- 189, 191, 193, 172
- 31
- 73
- 1, 192, 49, 194, 171
- 109, 24
- 189, 70
- 129, 195, 130
- 119, 49
- 19, 196, 203
- 199
- 49, 36
- 20, SW8
- 27, 198
- 197
- 49, PL3
- L2
- 128
- 127, 49
- 139, 202
- 128
- 200
- 140
- 127, 135, T5
- 131, 27, 128, 137, 132
- 49, 127
- 201, 26, 27, 24, 127
- C63, C64,
- 49,
- 49, T4, 127, 148
- SW2, T2
- SW1
- 49, T3, T1, L1
- S02, 49, S01
- SW9, SW10, 227, R96, R97, R98, R95, 233, SW7, 227, 233,

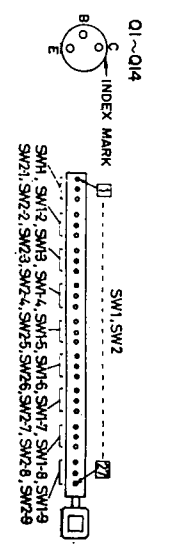
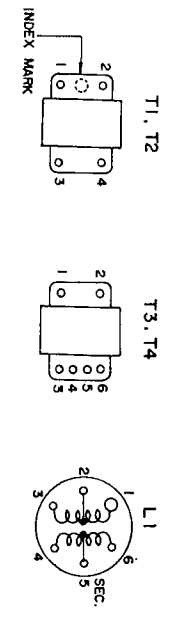


RD-708 MECHANISM EXPLODED (BOTTOM VIEW)

RESISTOR	93 94 3 4 73 1 2 74	83 94 21 5 6 22 23 24 7 13 10	53 54 12 19 16 18 32 30 29 28 101	13 9 8 11 15 21 12 9 10 12 16 22	19 20 25 26 27 28 29 30 49 50	33 34 35 31 36 32 37 38 45 43 44 46 23 24 47 48	55 56 79 81 78 80 77 82	58 59 54 53 56 63 51 64	
CAPACITOR	61 62 59 60	1 2 5 6 3 4	41 39 40 42 7 8 14 17 10 12 16 22	01 02 25B-73B 1st AUDIO AMP.	03 04 25B-75C 2nd AUDIO AMP.	05 06 25B-75B 3rd AUDIO AMP.	07 08 25B-75B AUDIO DRIVER.	010 09 011 012 25B-370B x 2 AUDIO OUTPUT.	013 014 25B-156B x 2 BIAS OSCILLATION.
MISCELLANEOUS	SP2 J9 J3 J1 J6 J8 SP3 CH1 SP1 J4 J2 J5 J7 J10 SP4 CH2	PI S01 L5 L4 L3 L2	SW6 01 02 SW5	R97A 03 04 R97B R98A R98B R99 R96 05 06 SW4	M1 M2 D1 07 08 SW10 T3 T4 09 011 012 T1 T2 SW9	SW3 L2 013 014 SR1 PL-1 L1 L3 T5 MOTOR SW8 PL3 CH1 CH2 SW7			



- NOTES:
1. SW1, SW2 RECORD-PLAYBACK SWITCH, SHOWN IN PLAYBACK POSITION.
  2. SW3 RECORD SAFETY SWITCH, SHOWN IN STOP POSITION (FORWARD ON).
  3. SW4 MUTE SWITCH, SHOWN IN STOP POSITION (FORWARD OFF).
  4. SW5 RECORD EQUALIZING SWITCH, 7 1/2 IFS OFF, 3 3/4 I 7/8 IFS ON.
  5. SW6 PLAYBACK EQUALIZING SWITCH, 7 1/2 IFS ON, 3 3/4 I 7/8 IFS OFF.
  6. SW7, SW8 POWER SWITCH.
  7. SW8 SW11 AUTOMATIC SHUT OFF SWITCH.
  8. VOLTAGE AT PLAYBACK. (VOLTAGE) AT RECORDING. NO SIGNAL.



MODEL RD-708 SCHEMATIC DIAGRAM

MODEL RD-708 WIRING CONNECTION DIAGRAM (PRINTED CIRCUIT BOARD TOP VIEW)

