

**TEAC®**

**A-6010**

**STEREO TAPE DECK**

**SERVICE MANUAL**

**TEAC CORPORATION**

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## SPECIFICATIONS

<b>Reel Size</b>	7" maximum
<b>Tape Speed</b>	7 <sup>1</sup> / <sub>2</sub> and 3 <sup>3</sup> / <sub>4</sub> ips ( $\pm 0.5\%$ )
<b>Heads</b>	4—4 track 2 channel erase, record, forward play and reverse play
<b>Motors</b>	1—two speed hysteresis synchronous for capstan drive 2—eddy current type outer rotor for reel turntables
<b>Fast Wind Time</b>	Approximately 90 seconds for 1,200 ft
<b>Wow and Flutter</b>	7 <sup>1</sup> / <sub>2</sub> ips—0.08% 3 <sup>3</sup> / <sub>4</sub> ips—0.12%
<b>Frequency Response</b>	7 <sup>1</sup> / <sub>2</sub> ips—30 to 20,000 Hz ( $\pm 2$ db 45 to 15,000 Hz) 3 <sup>3</sup> / <sub>4</sub> ips—40 to 14,000 Hz ( $\pm 2$ db 50 to 10,000 Hz)
<b>SN Ratio</b>	55 db (3% THD level to unweighted noise)
<b>Crosstalk</b>	50 db channel to channel at 1,000 Hz 40 db between adjacent tracks at 100 Hz
<b>Inputs</b>	Microphone—10,000 ohms, 0.5 mV minimum Line—300,000 ohms, 0.1 V minimum
<b>Outputs</b>	0.77 volt for a load impedance of 10,000 ohms minimum Monitoring headphone—8 ohms (150 mW)
<b>Power Requirements</b>	100/117 VAC, 50/60 Hz, 100 W
<b>Dimensions</b>	20 <sup>3</sup> / <sub>4</sub> × 17 <sup>3</sup> / <sub>8</sub> × 6 <sup>7</sup> / <sub>8</sub> inches
<b>Weight</b>	46 lbs

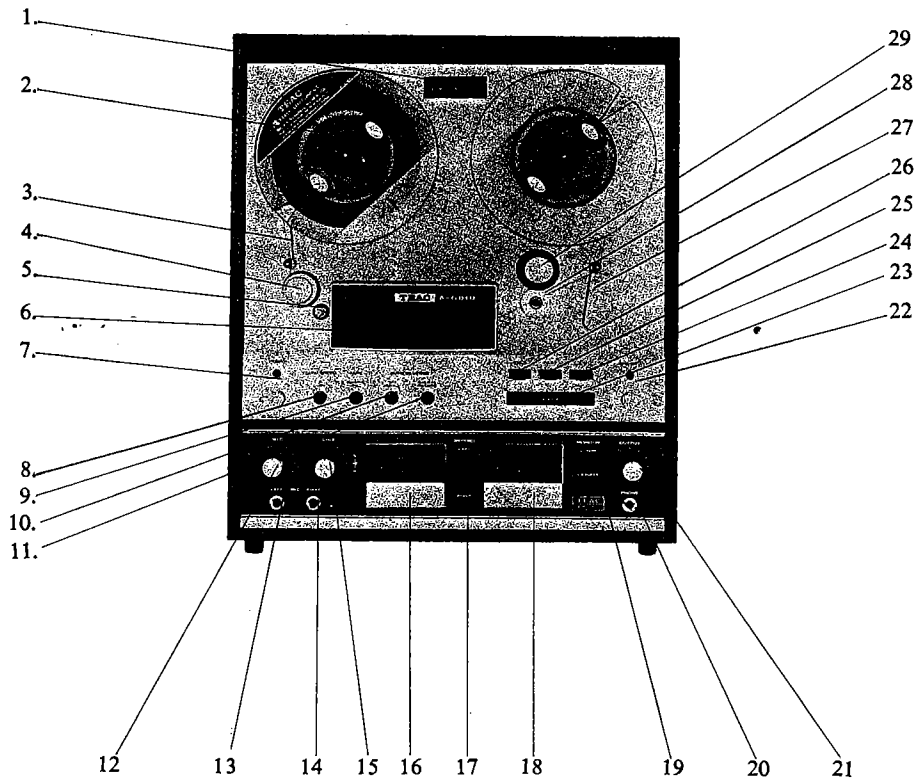
## FOR BEST PERFORMANCE

**TEAC A-6010** tape deck can be operated either in a horizontal or vertical position. When operating the equipment in a horizontal position or installed in a custom cabinet, care must be taken to allow for sufficient ventilation. The equipment should not be located in the following places when operating.

- High temperature above 100°F.
- Direct exposure to the sun.
- Near heating device.
- On top of power amplifier case.
- Humid or dusty places.
- Low temperature below 40°F.

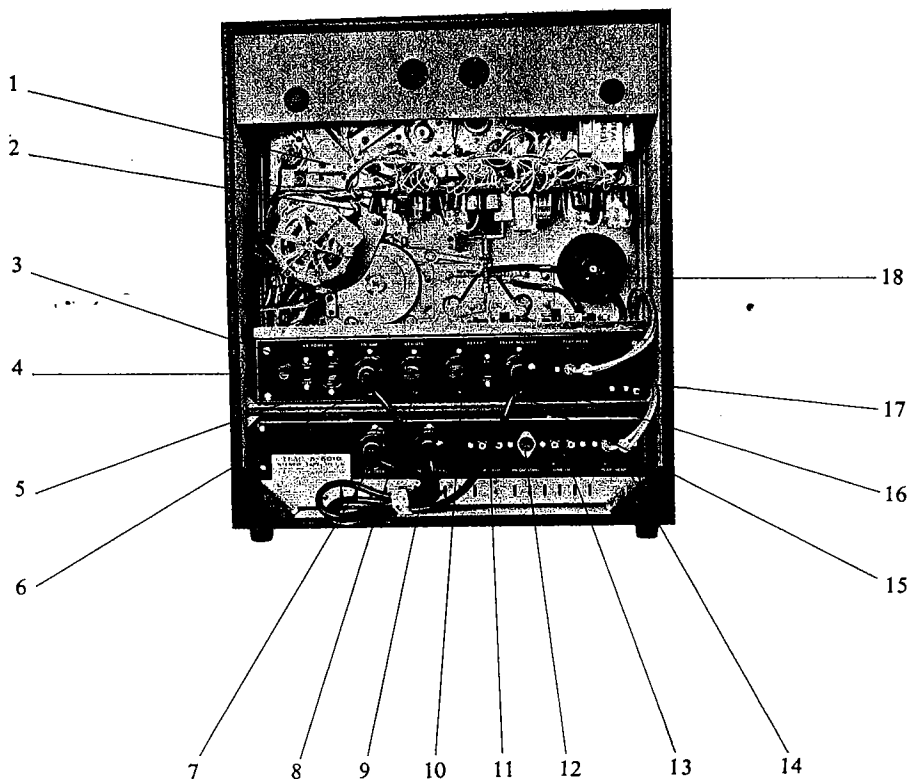
# CONTROL AND COMPONENT LOCATION

## FRONT



- |                                    |                                    |
|------------------------------------|------------------------------------|
| 1. INDEX COUNTER                   | 16. VU METER                       |
| 2. REEL TURNTABLE AND SHAFT        | 17. RECORD CHANNEL SELECTOR SWITCH |
| 3. TENSIONING ARM                  | 18. VU METER                       |
| 4. INERTIAL ROLLER                 | 19. TAPE MONITOR SWITCH            |
| 5. REVERSE SENSING POST            | 20. HEADPHONE JACK                 |
| 6. HEAD ASSEMBLY                   | 21. OUTPUT LEVEL CONTROL           |
| 7. AC POWER SWITCH INDICATOR LIGHT | 22. RECORD & INDICATOR LIGHT       |
| 8. TAPE SPEED SELECTOR SWITCH      | 23. STOP BUTTON                    |
| 9. TAPE TENSION SWITCH             | 24. FORWARD BUTTON                 |
| 10. AUTO REVERSE ON/OFF SWITCH     | 25. FAST WIND BUTTON               |
| 11. AUTO REVERSE RECORD BUTTON     | 26. REVERSE BUTTON                 |
| 12. MICROPHONE LEVEL CONTROL       | 27. AUTOMATIC SHUT-OFF             |
| 13. MICROPHONE INPUT JACK (LEFT)   | 28. CAPSTAN                        |
| 14. MICROPHONE INPUT JACK (RIGHT)  | 29. PINCH ROLLER                   |
| 15. LINE LEVEL CONTROL             |                                    |

## REAR



1. AC LINE FREQUENCY SELECTOR SWITCH
2. AC LINE FREQUENCY SELECTOR KNOB
3. AC LINE VOLTAGE SELECTOR SWITCH
4. AC LINE FUSE (2 AMP)
5. AC POWER PLUG
6. AMP/DECK CONNECTOR PLUG
7. AMP/DECK CONNECTOR PLUG
8. REMOTE CONTROL PLUG
9. ERASE/REC HEAD PLUG
10. REPEAT UNIT PLUG
11. LINE OUTPUT JACKS
12. DIN JACK
13. LINE INPUT JACKS
14. PLAY HEAD JACKS
15. REPEAT SWITCH
16. ERASE/REC HEAD PLUG
17. PLAY HEAD JACK
18. INERTIAL ROLLER FLYWHEEL

## FUNCTION OF CONTROLS

### TAPE SPEED SELECTOR

Selects either 7<sup>1</sup>/<sub>2</sub> or 3<sup>3</sup>/<sub>4</sub> ips tape speed

### AUTO REVERSE "ON/OFF"

When in the ON position it allows the recorder to reverse with the *Phase Sensing Signal*.

### AUTO REVERSE "SIGNAL RECORD"

Records the *Phase Sensing Signal* reverse signal when used with the ► button.

### ◄ BUTTON

Places the recorder in the reverse play mode. For relay & switch sequencing refer to Figure 18 on page 42.

### FAST BUTTON

Places the deck in the fast forward or rewind mode when pressed in conjunction with the ► or ◄ buttons. For relay & switch sequencing refer to Figure 19~20 on page 43~44

### ► BUTTON

Places the recorder in the forward play mode. For relay & switch sequencing refer to Figure 17 on page 41.

### STOP BUTTON

Stops the deck when in the play, record or fast wind modes.

### RECORD BUTTON

Places the deck in the record mode when pressed with the ► button. (page 41)

### MIC CONTROL

Adjusts the level of the MIC input.

### LINE CONTROL

Adjusts the level of the LINE input.

### RECORD LEFT/RIGHT BUTTONS

Select the tracks to be recorded when depressed.

### MONITOR SWITCH

Switches the line output & the VU meters to monitor the input signal or the signal from the tape.

### OUTPUT CONTROL

Adjusts the line output level.

# MEMORANDA

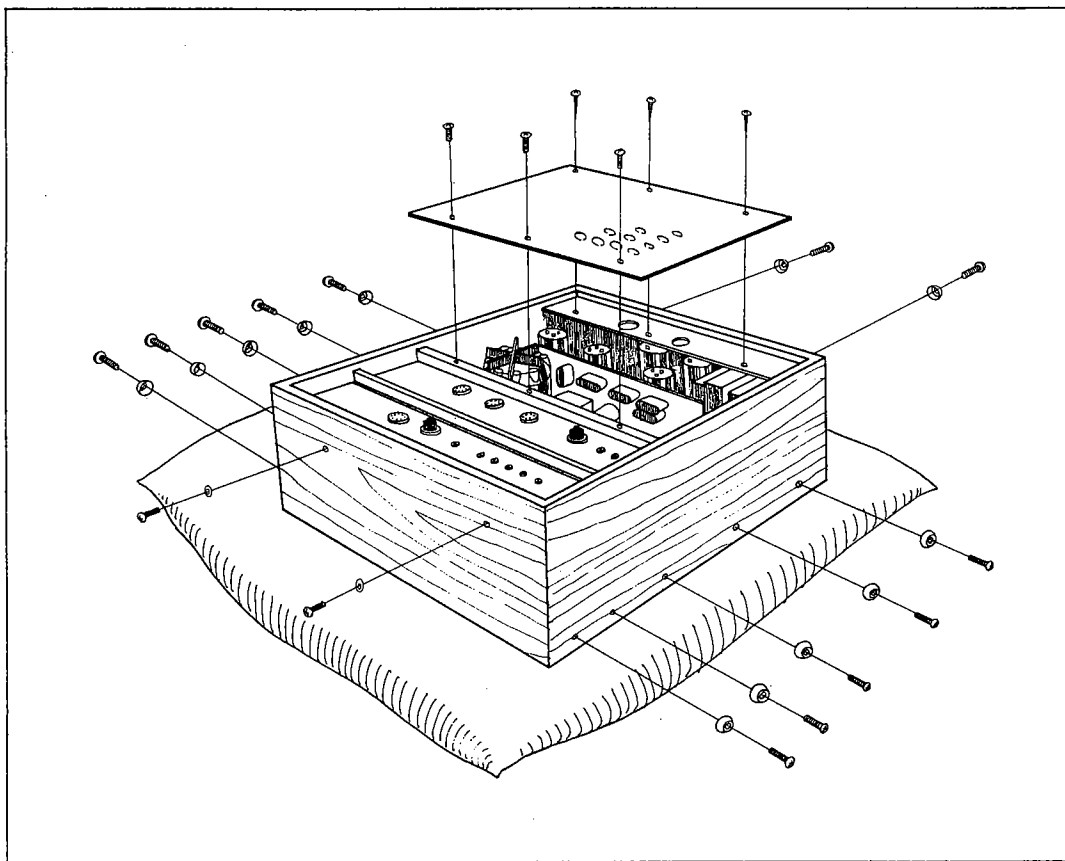
## DISASSEMBLY

### Tape Transport:

1. Remove power cord and other connecting cords.
2. Lay the equipment face down on a soft mat.
3. Remove rear cover.
4. Remove 6 screws on both sides of the case.
5. Remove 2 screws on top of case.
6. Lift the case from the transport.

### Amplifier

1. Remove 4 screws on both sides of the case.
2. Remove 2 screws on the bottom of the case.
3. Pull out the amplifier from case.





## MECHANICAL CHECKS & ADJUSTMENTS

### Pinch Roller Pressure:

The pinch roller pressure against the capstan should be 6.6 to 7.2 lbs. in the play mode.

### Procedure For Check And Adjustment:

1. Tape or hold the automatic shut-off arm in the ON position.
2. Make a strong twine loop about 10" in diameter.
3. Place this loop behind the pinch roller and around the pinch roller shaft. Attach a 0-8 lb. spring scale to the other side of the loop.
4. Place the deck in the play mode.
5. Holding the scale at right angles to the head assembly, slowly draw the scale away from the pinch roller.

Read the scale at the instant the pinch roller leaves the capstan

6. If adjustment is necessary, adjust the takeup nut (Fig. 1) on the CAPSTAN SOLENOID.

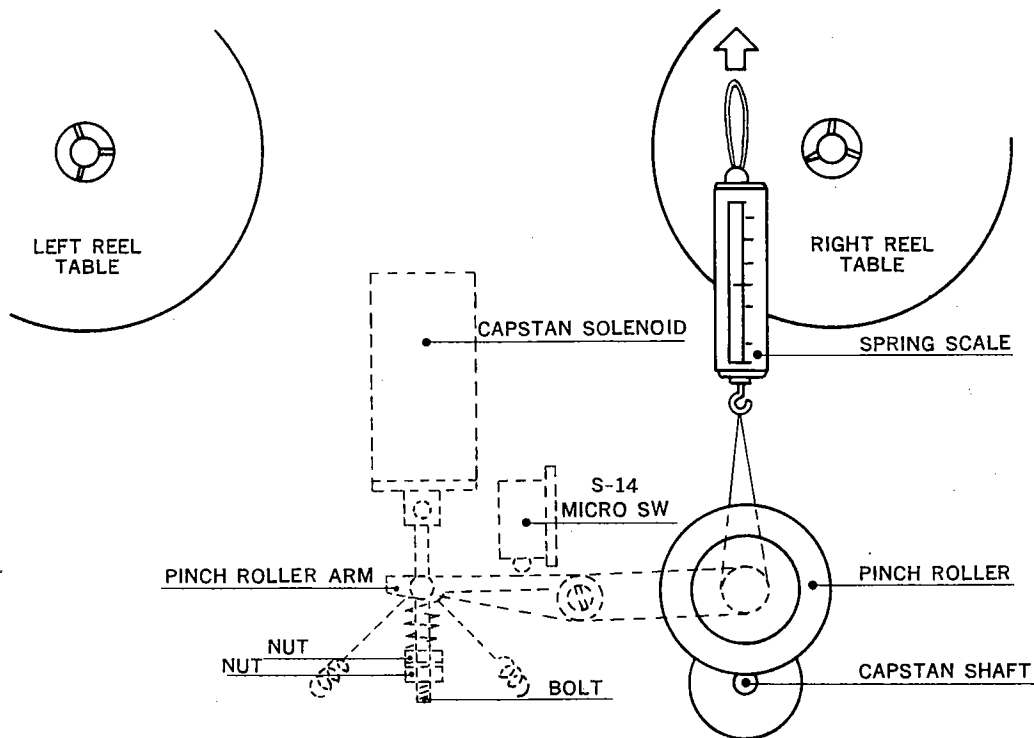


FIG. 1. PINCH ROLLER PRESSURE ADJUSTMENT

**Supply & Takeup Motor Torque:**

Supply & takeup motor torques should be within the limits listed in the chart below.

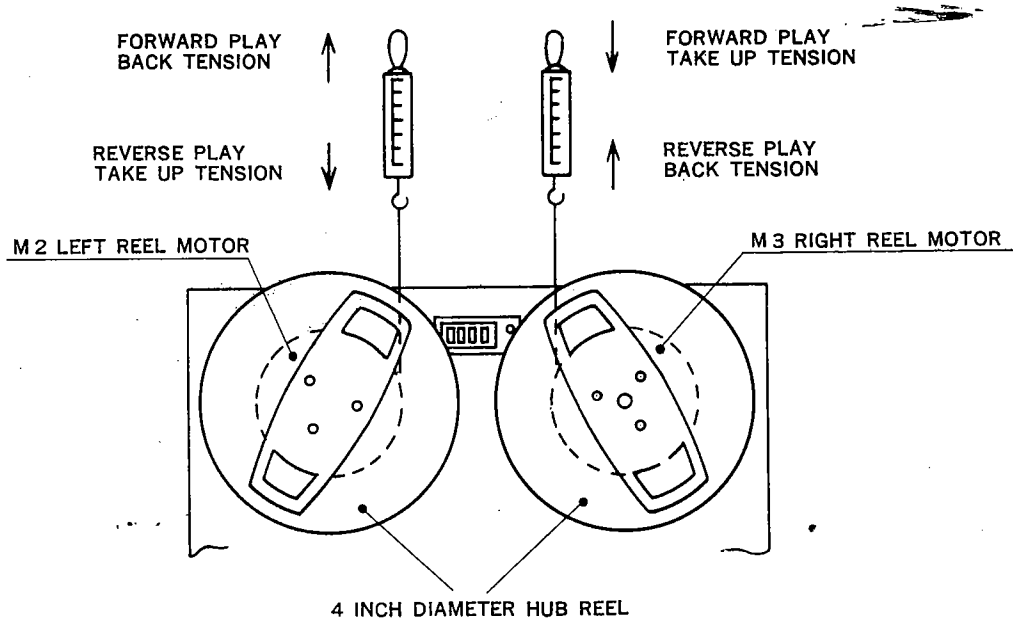
MODE	LEFT REEL	RIGHT REEL
Forward Play	1.6 to 1.7 oz.	2.3 to 2.4 oz.
Reverse Play	3.2 to 3.3 oz.	1.6 to 1.7 oz.

**Procedure for Check & Adjustment:**

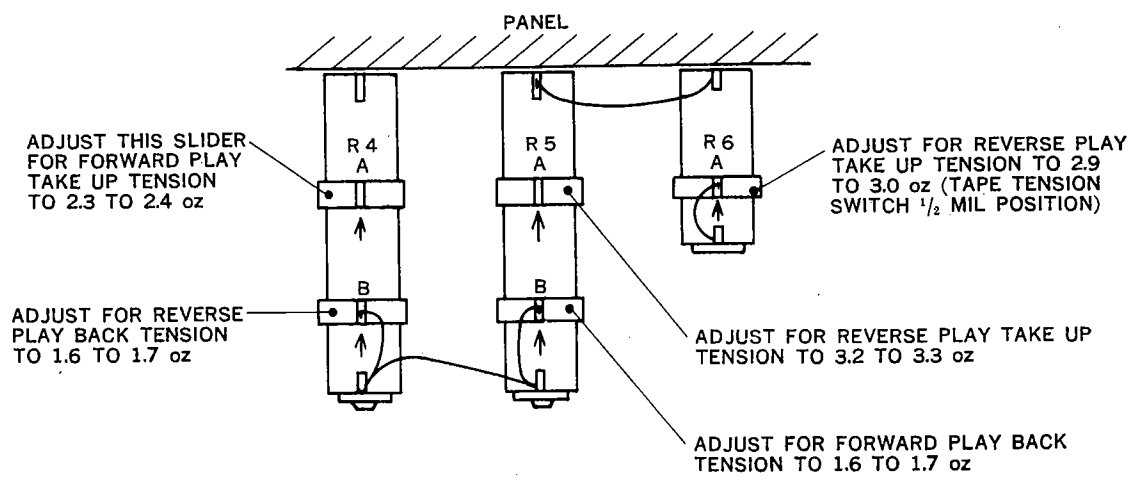
1. Tape or hold the auto-shutoff arm in the ON position.
2. Place an empty 7 inch reel with a 4 inch diameter hub on the left turntable.
3. Make small loops at both ends of a 30" length of string.
4. Attach one loop to the tape anchor on the tape reel & the other end to a 0-8 oz. spring scale.
5. Depress the ◀ button & allow the clockwise rotation of the reel to draw the string around the hub.
6. Making certain that the string is not rubbing the reel flanges, allow the scale to move in towards the hub holding back with just enough tension to allow a steady reading on the scale.
7. If necessary, adjust resistor R-5 slider A. (Fig. 2) until a scale reading of 3.2 to 3.3 oz. is obtained.
8. After all the string has been wound on the reel, depress the ▶ button.
9. As soon as motor pull is felt slowly pull the scale away from the hub against the motor torque until a constant reading is obtained. If necessary, adjust R-5 slider B (Fig. 2) until a scale reading of 1.6 to 1.7 oz. is obtained.
10. Place the reel on the right reel turntable. Depress the ▶ button and check torque using the same procedure as outlined in step 6. If necessary, adjust R-4 slider A (Fig. 2) until a scale reading of 2.3 to 2.4 oz. is obtained.
11. After all the string has been wound on the reel depress the ◀ button.
12. As soon as motor pull is felt slowly pull the scale away from the hub against the motor torque until a constant reading is obtained. If necessary adjust R-4 slider B (Fig. 2) until a scale reading of 1.6 to 1.7 oz. is obtained.

**Half-MIL Tension Adjustment**

13. Refer to the "Supply and Takeup Motor Torque" section and repeat steps 1 through 6. When the TAPE button is in the 1/2 MIL position the reading on the scale should decrease by 1/8 ounce from the normal reading. If adjustment is required, adjust the slider A of R-6 (Fig. 2).



**TAPE TENSION MEASUREMENT SPRING SCALE MOTION**



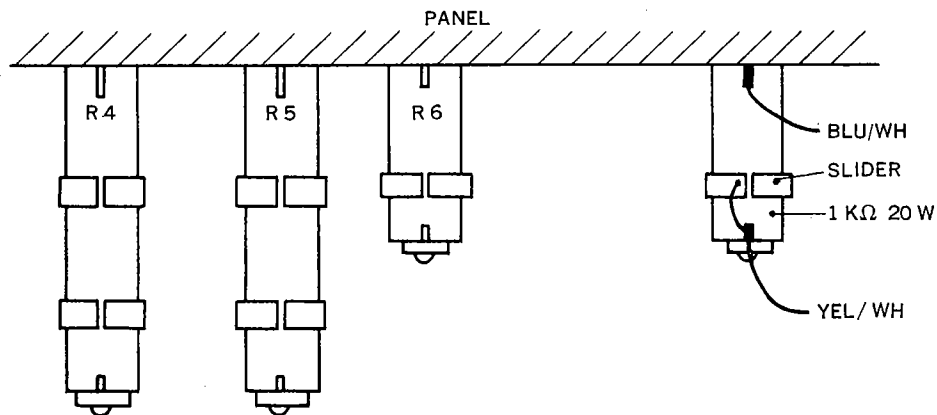
↑ : INCREASE TENSION DIRECTON

**FIG. 2. TAPE TENSION ADJUSTMENT-RESISTORS**

**Fast Wind Torque Adjustment:**

1. Load a full 1,800 ft reel of tape on the left reel turntable and an empty ( $2\frac{1}{4}$ " hub) reel on the right turntable.
2. Thread approximately 30 feet of tape from the full reel to the empty one (about 3 seconds in fast forward) then stop the deck.
3. Depress the ◀ button and then the FAST button. The full reel should start rotating quickly and smoothly.
4. Reverse the full and empty reel and repeat the above procedure pressing the ▶ and FAST buttons.

Note: Due to the stable operation of the outer rotor motors no adjustment should be required. Because of this some of the 6010 decks are not equipped with a slider type resistor. On later units with a slider resistor the sliding arm is not connected. If adjustment is required the fixed resistor will have to be replaced with an adjustable one or, on the later models, one of the wires would have to be connected to the slider. Refer to Figure 3 for resistor location.



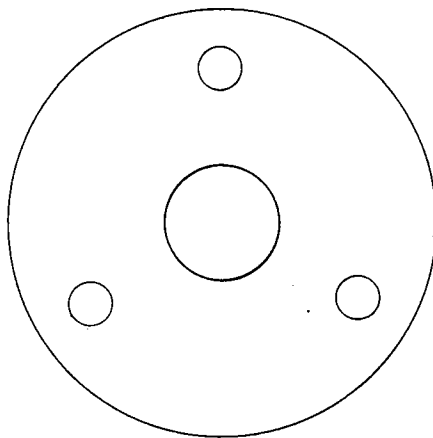
**FIG. 3. LOCATION OF FAST WIND BACK TENSIONING RESISTOR. (1 KΩ. 20 W)**

**Reel Height Adjustment:**

Due to manufacturing differences in plastic tape reels or in cases of slightly warped reels it might be necessary to move the reel outward to prevent the tape from rubbing on the reel flange. Reel adjustment paper shims are provided with the recorder and can be placed on the outside of the reel turntable to compensate for occasional difference in reel thickness. If it is found that all reels rub, adjustment in the height of the turntable must be made.

1. Remove the rubber turntable cover by pulling it out of the recessed edge in the reel turntable.
2. Remove the 3 screws and pull the reel turntable off the motor.
3. Metal shims are used for factory adjustments and if these shims are installed they can be used as a pattern to cut paper shims. If they are not installed, trace the shim pattern below.

**CAUTION:** Do not exceed  $\frac{1}{16}$ " total shim thickness.



**FULL SCALE SHIM DIAGRAM**

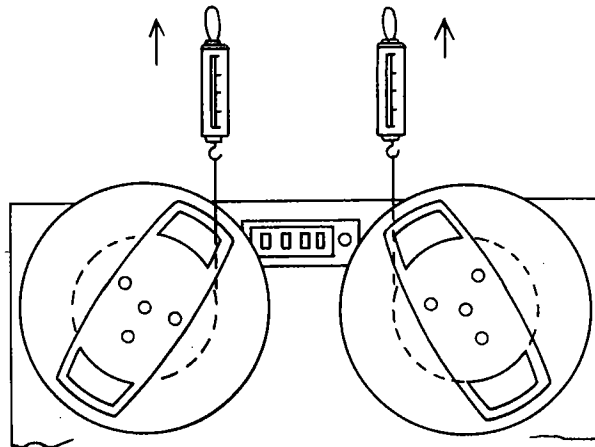
**Brake Adjustment:**

Brake adjustments are made with no power connected to the equipment.

1. Place an empty 7" reel with a 4" diameter hub on the left reel turntable.
2. Make a small loop at both ends of a 30" length of string.
3. Attach one loop to the anchor on the reel hub and the other to a 0 to 32 oz. spring scale.
4. Wind several turns of string around the hub, counterclockwise.
5. Pull the scale away from the reel, making certain the string does not rub on the reel flanges. The turntable will rotate counterclockwise. Take a reading only when the turntable is in steady motion, because the force required to overcome the static friction will produce a false and excessively high initial reading.
6. The scale reading should be between  $9\frac{1}{2}$  to  $11\frac{1}{2}$  oz. If it is not, then adjust the left motor brake by holding the adjusting rod (Fig. 4) and loosening the set screw on the locking collar. Then slide the rod through the collar and retighten the set screw. Pulling the rod out tightens the brake.
7. To adjust the right reel brake repeat all steps as described for the left reel with the exception that all directions of rotation are clockwise.

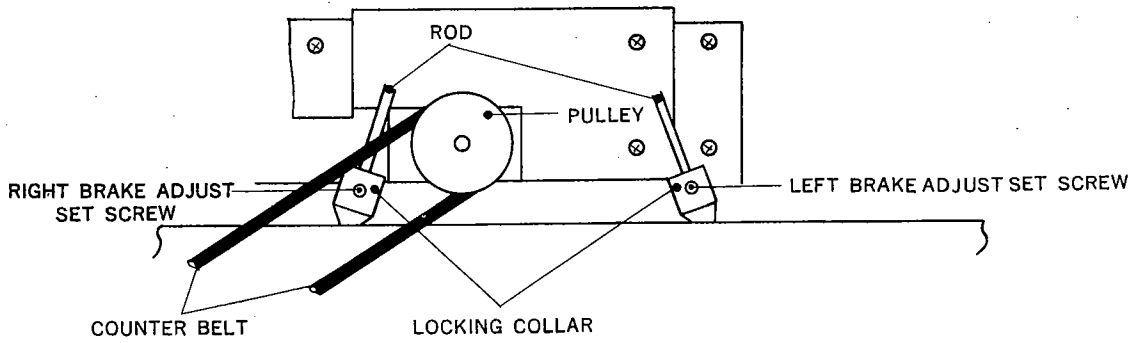
Note: The difference in readings between the right and left brakes should be kept within  $1\frac{1}{2}$  ounces.

FRONT



BRAKE ADJUSTMENT SPRING SCALE MOTION.

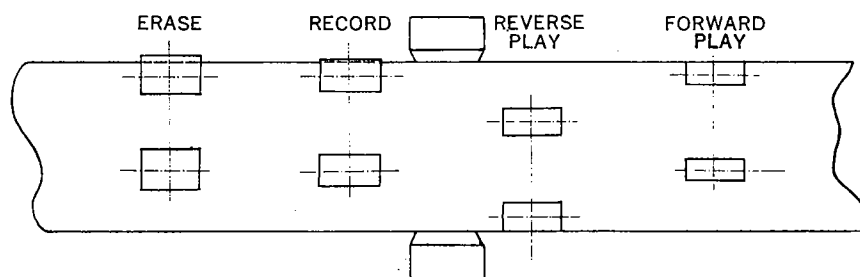
REAR



**FIG. 4. BRAKE ADJUSTMENT PARTS LOCATION**

## Head Replacement and Alignment

1. Remove the head cover by loosening the two set screws on top of it with an Allen wrench.
  2. Remove the head assembly by loosening the four screws marked Ⓐ in Figure 5-1.
  3. Remove the head assembly top plate by removing the screws marked Ⓒ and Ⓓ in Figure 5-1 Gently separate the top plate from the rest of the assembly.
  4. Using a low heat iron, unsolder the four wires of the defective head from the printed circuit board.
  5. Remove the two nuts (one on the erase head) securing the defective head to the plate.
  6. Install the replacement head on the head mounting plate and solder the lead wires to the printed circuit board.
  7. Replace the top plate by tightening screws Ⓒ first and then tightening screws Ⓓ.
  8. Reinstall the head assembly on the recorder.
  9. Thread a length of tape with the oxide removed across the heads and observe the height of the head poles. The erase head pole should be above the edge of the tape by about the thickness of a pencil line. The record head pole should be even with the top of the tape. The reverse playback head pole should be even with the bottom of the tape and the forward play head pole should be even with the top of the tape. If a highly critical height adjustment is desired, refer to Figure 5-2. Head height adjustment is performed by adjusting the 3 screws holding the head plate to the top plate.
  10. After the height adjustment, make sure that all head surfaces are parallel with the tape guide surfaces when viewed from the side.
  11. Perform azimuth alignment as described in the "Electrical Checks and Adjustments" section.
- Note: Head height is adjusted at the factory to very critical tolerances. Normally, head replacement would not disturb the height adjustment.



REVISED HEAD LOCATION ON LATE MODELS.



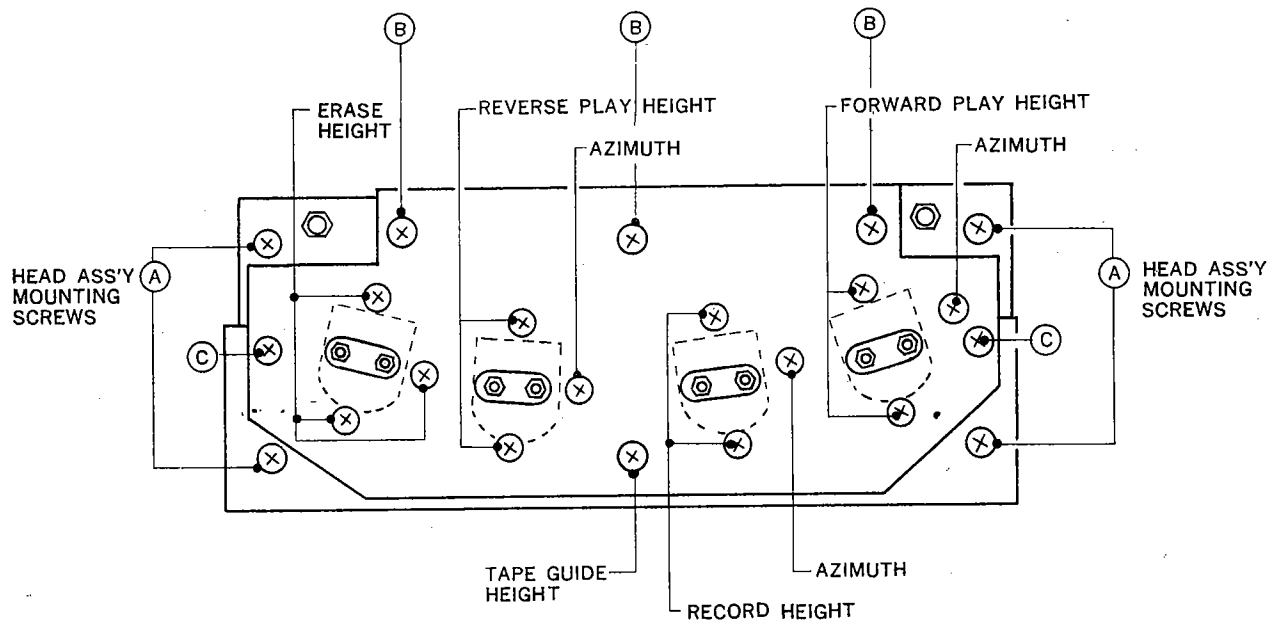


FIG. 5-1 HEAD ASS'Y (TOP VIEW)

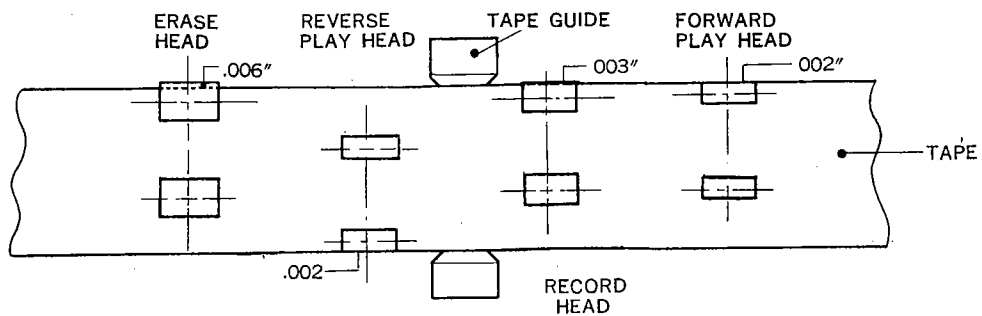
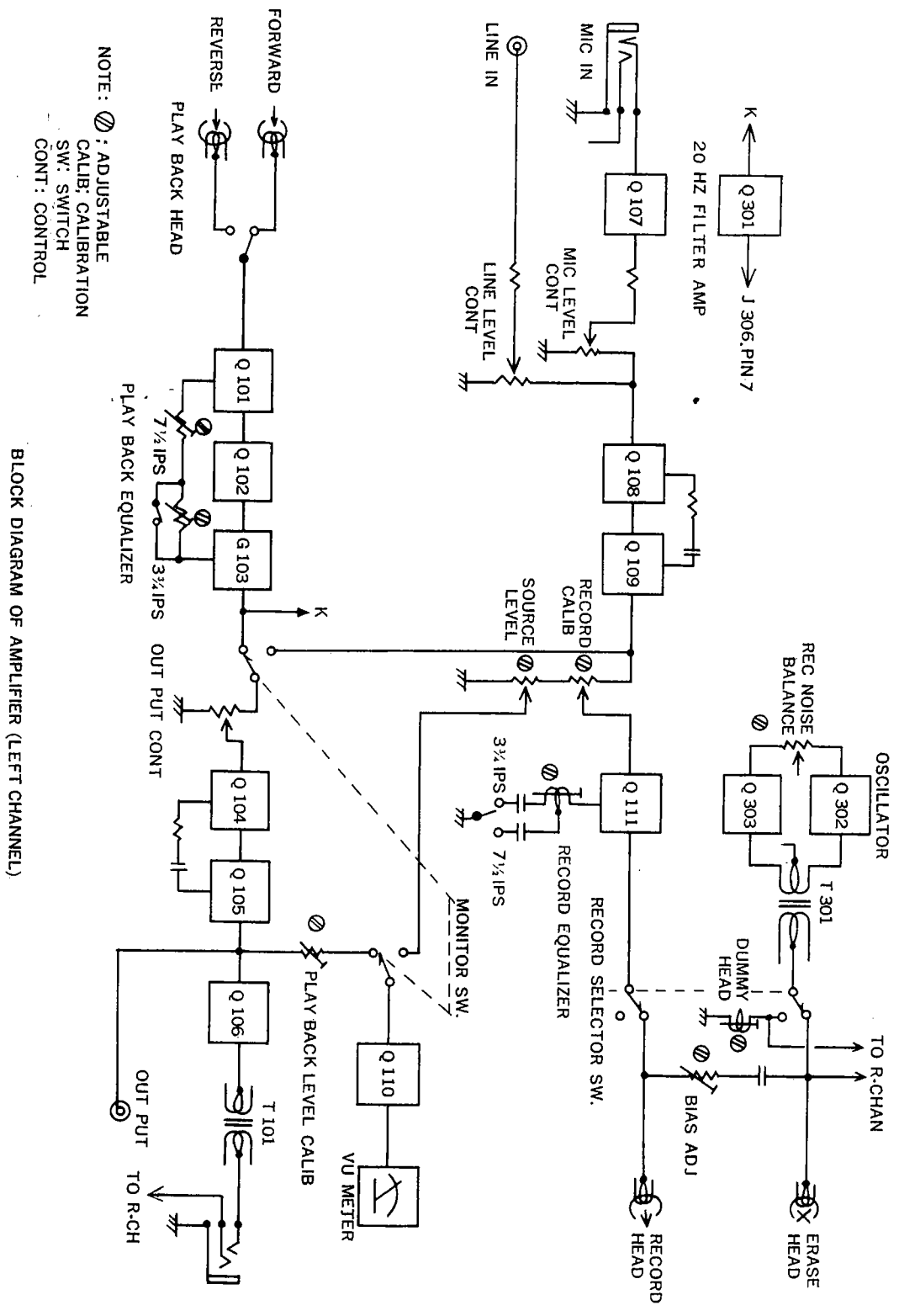


FIG. 5-2 HEAD ALIGNMENT

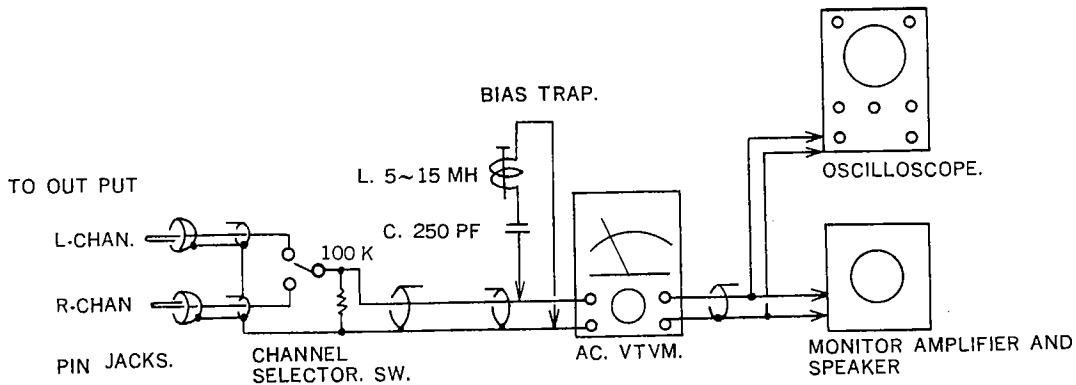


BLOCK DIAGRAM OF AMPLIFIER (LEFT CHANNEL)

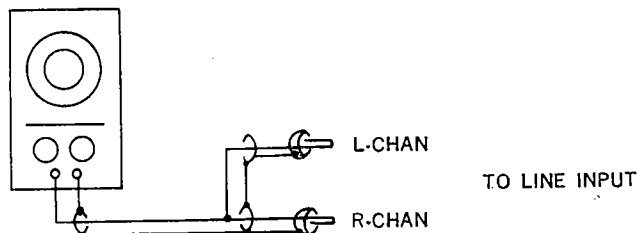
## ELECTRICAL CHECKS & ADJUSTMENTS

### Equipment Required:

1. Test Tape For 7½ ips: TEAC 62801, AMPEX 31321-01, 31321-04 or equivalent.  
For 3¾ ips: TEAC 62801, AMPEX 31321-01, or 31321-04 can be used, but the response will be -2 db down at frequencies above 7.5 kHz in respect to NAB standards.
2. AC VTVM -60 db (1 mV) Sensitivity
3. Audio Oscillator 50 to 15,000 Hz.
4. Amplifier and speaker or headsets for monitoring.
5. 1 mil. 1,800 foot recording tape.
6. Channel Selecting Switch.
7. Bias Trap.



**FIG. 6-1 TEST EQUIPMENT HOOK UP**



**FIG. 6-2 AUDIO OSCILLATOR AND CONNECTION CABLE**

**Playback Performance:** (Refer to Fig. 7-1)

**CAUTION:** Clean and demagnetize heads before proceeding.

1. Thread a playback test tape on the recorder.
2. Connect the test equipment as illustrated in Figure 7-1.
3. Set the TAPE SPEED to  $7\frac{1}{2}$  ips and the MONITOR switch to TAPE.
4. Play a 500 or 700 Hz reference tone (recorded at 10 db below normal level). Adjust output level control so the VTVM reads -10 db.

**Playback Head Azimuth Alignment:** (Refer to Page 15)

5. Play a 12 or 15 KHz tone and turn azimuth adjustment screw Figure 5-1 of the forward playback head until a maximum peak is obtained on the VTVM.
6. Depress the ◀ button and turn azimuth adjustment screw Figure 5-1 of the reverse playback head for maximum peak on the VTVM.

**Frequency Response Check & Adjustment:**

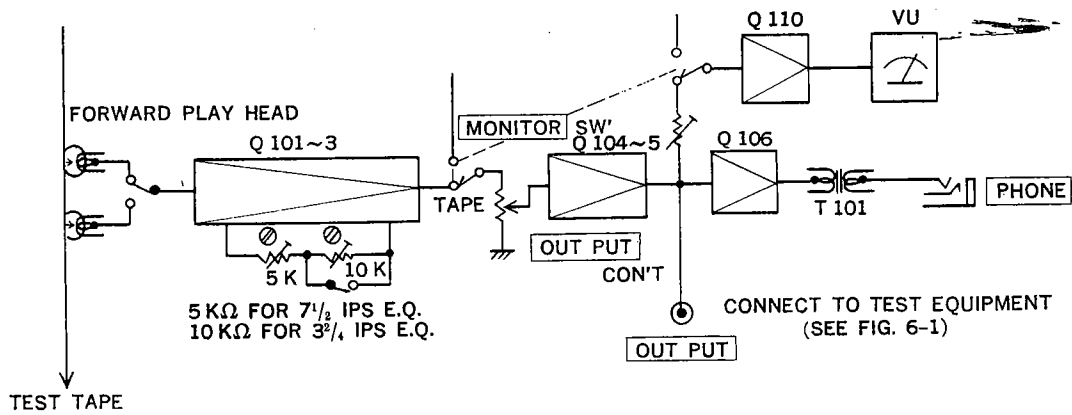
7. Play the test tape tones from 12 or 15 KHz down to 50 Hz observing the output response on the VTVM. Make this test with both channels in forward and reverse play modes at both speeds.
8. If adjustment is required, adjust VR-101 (Fig. 7-3) left channel and VR-201 (Fig. 7-3) right channel at  $7\frac{1}{2}$  ips and VR-102 (Fig. 7-3) left channel and VR-202 (Fig. 7-3) right channel at  $3\frac{3}{4}$  ips. Adjust these trimmers for most even VTVM readings above 7.5 KHz, trying to bring them as close as possible to the 500 Hz reference reading.

**Playback Noise Check:**

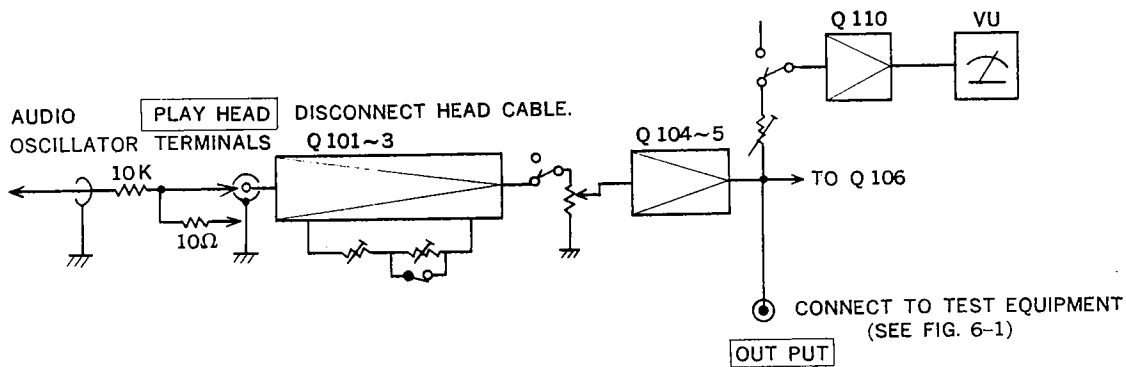
9. Play a bulk erased tape and read the noise level on the VTVM. The noise level for both channels in both directions at  $7\frac{1}{2}$  and  $3\frac{3}{4}$  ips should be -55 db or less. (Refer to Fig. 11)

**Playback Amplifier Check:** (Refer to Fig. 7-2)

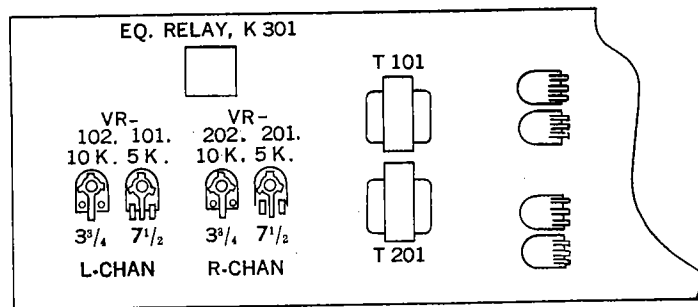
If a complete playback amplifier check is desired, connect an Audio Oscillator to the playback input circuit as shown in Figure 7-2. Then check the frequency response, noise, amplifier gain, etc. Figure 8 shows a typical frequency response curve. This is a high gain circuit and excessive input may cause overloading and distortion in the amplifier. Adjust the output level of the audio oscillator so the VU meter indication is kept below 0 VU. Make certain that the Audio Oscillator and input cables are free from hum and noise, which may cause false readings.



**FIG. 7-1 SIMPLIFIED CIRCUIT FOR PLAY BACK PERFORMANCE CHECKING**

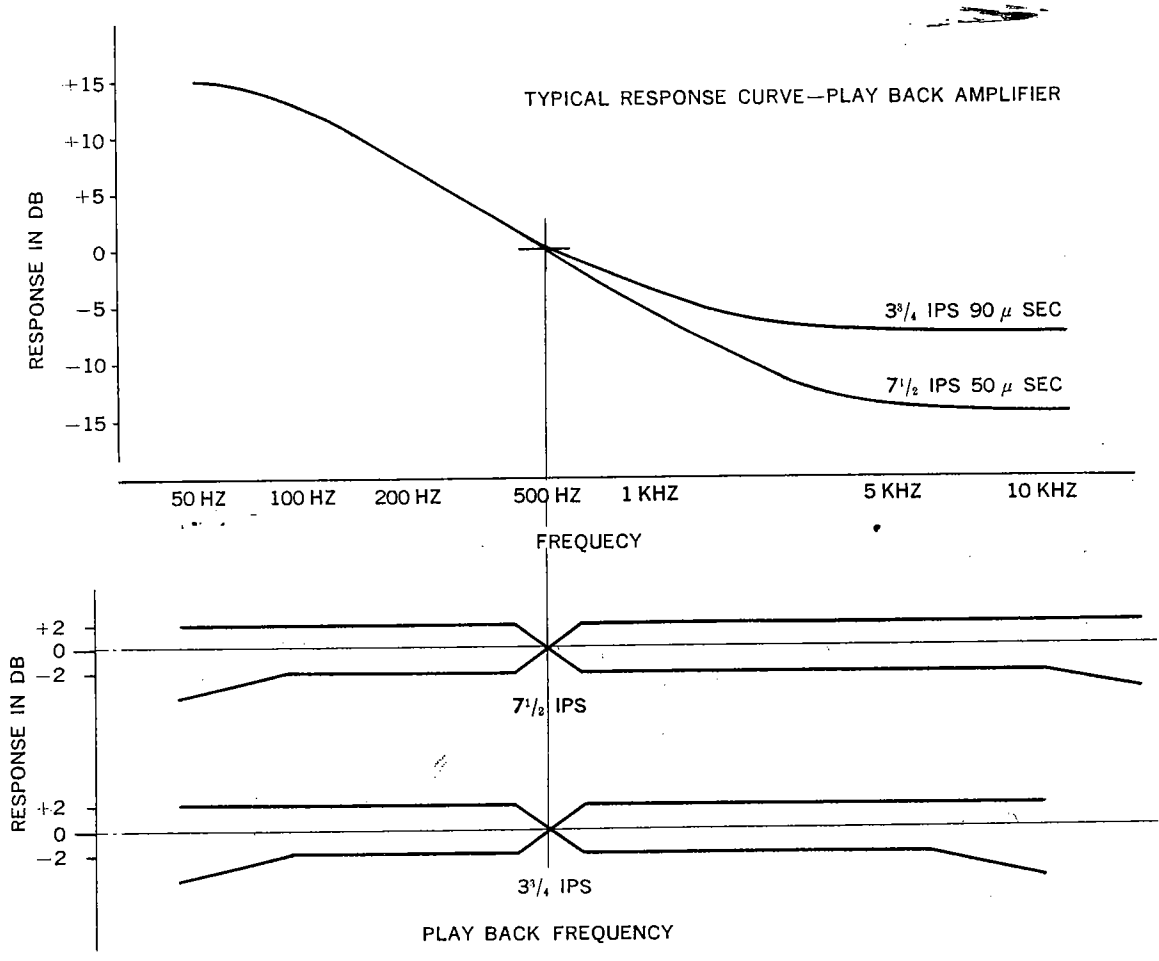


**FIG. 7-2 SIMPLIFIED CIRCUIT FOR PLAY BACK AMPLIFIER CHECKS**



**FIG. 7-3 PLAY BACK EQUALIZER ADJUSTABLE RESISTORS LOCATION. (AR-60 BOTTOM VIEW)**





**FIG. 8 TYPICAL RESPONSE CURVE AND PLAY BACK FREQUENCY RESPONSE LIMITS**

**Record Performance: (With Bias Trap)**

1. Connect an Audio Oscillator to the LINE IN jacks of both channels. Apply a 500 Hz signal at approximately 1 volt level to both input jacks.
2. Connect the rest of the test equipment exactly the same as for playback (Fig. 6-1).
3. Thread a blank tape on the recorder and set the TAPE SPEED to 7 $\frac{1}{2}$  ips and the MONITOR switch to SOURCE.
4. Depress the LEFT and RIGHT RECORD buttons.
5. Set the LINE level control to obtain a reading of 0 VU.
6. Set the MONITOR switch to the TAPE position.

**Record Bias:**

Note: The bias oscillator frequency is 100KHz ( $\pm 10$  KHz).

7. While recording a 500 Hz tone, adjust VR-106 (Fig. 9-2) for maximum peak on the VTVM. Then turn VR-106 clockwise until the meter reading decreases by 0.5 to 1 db from the maximum level.
8. Perform the same steps on the right channel adjusting VR-206 (Fig. 9-2).

**Record Head Azimuth Alignment:**

9. While recording a 15 KHz signal set the LINE input level control so the VTVM reads -15 to -20 db (-15 to -20 VU) below normal operating level. Adjust record head azimuth screw (Fig. 5-1) for maximum peak on the VTVM.
10. Check the right channel. The peaks should be of the same level.

**Frequency Response:**

11. While recording a 500 Hz signal, set the LINE input level control to obtain VU meter reading of 0 VU and adjust the OUTPUT level control to obtain a VTVM reading of approximately 0 db.
12. Reset the LINE input level control to obtain a VTVM reading of -15 to -20 db.
13. Record a signal from 50 Hz to 15 KHz at 7 $\frac{1}{2}$  ips or from 50 Hz to 7.5 KHz at 3 $\frac{3}{4}$  ips. Observe the output on the VTVM (Refer to Fig. 13).
14. If adjustment is required, adjust L-101 (Fig. 9-2) left channel and L-201 (Fig. 9-2) right channel. These coils are in use for both tape speeds and should be adjusted at 7 $\frac{1}{2}$  ips. If the coil adjustments do not help, then change the value of C-125 (Fig. 9-2) left channel and C-225 (Fig. 9-2) right channel for 7 $\frac{1}{2}$  ips and C-126 (Fig. 9-2) left channel and C-226 (Fig. 9-2) right channel for 3 $\frac{3}{4}$  ips. Adjust this circuit for most even VTVM readings, trying to bring them as close as possible to the 500 Hz reference reading.



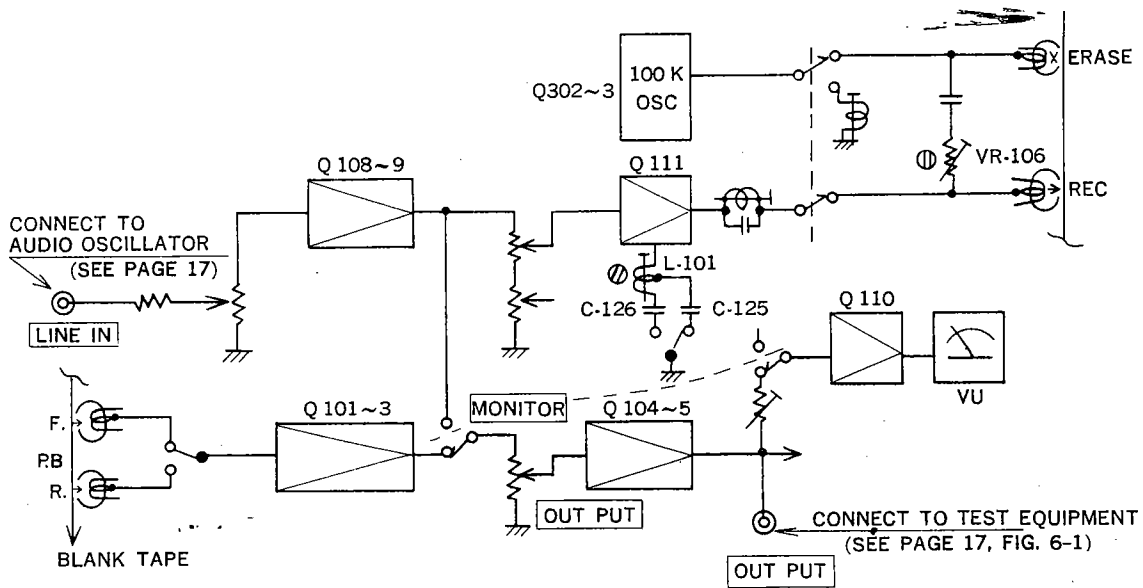


FIG. 9-1 RECORD PERFORMANCE CHECKS HOOK UP (L-CHAN)

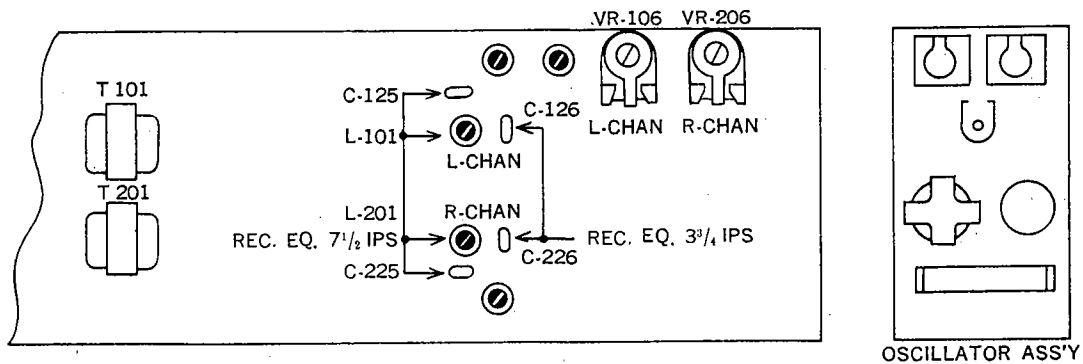


FIG. 9-2 ADJUSTABLE PARTS LOCATION (AR-60 BOTTOM VIEW)

## RECORD AND PLAYBACK LEVEL ADJUSTMENT

1. Connect test equipment as shown in Figure, 10-1
2. Set the MONITOR switch to TAPE
3. Play a 500 or 700 Hz test tone recorded at reference level. Adjust the OUTPUT level control so the VTVM reads exactly 0db (.775 volts).  
Then adjust the VU meters for OVU by adjusting VR-103 (Fig. 10-4) left channel and VR-203 (Fig. 10-4) right channel. After this setting do not disturb the OUTPUT level control.
4. Remove the playback test tape and thread a blank tape on the recorder.
5. Connect an Audio Oscillator to both the LINE IN jacks and set the MONITOR switch to SOURCE (Fig. 10-2)
6. Set the Audio Oscillator to 500 Hz at approximately 1 volt signal output.
7. Adjust the LINE input control for a reading of 0db on the VTVM after this setting do not disturb the LINE input level control. Then adjust the VU meters for OVU by adjusting VR-104 (Fig. 10-4) left channel and VR-204 (Fig. 10-4) right channel.
8. Set the MONITOR switch to TAPE.
9. Place the deck in the RECORD mode and adjust the VU meters for OVU by adjusting VR-105 (Fig. 10-4) left channel and VR-205 (Fig. 10-4) right channel. (See Fig. 10-3)
10. Press the MONITOR switch to SOURCE.  
The VU meter level should remain the same.

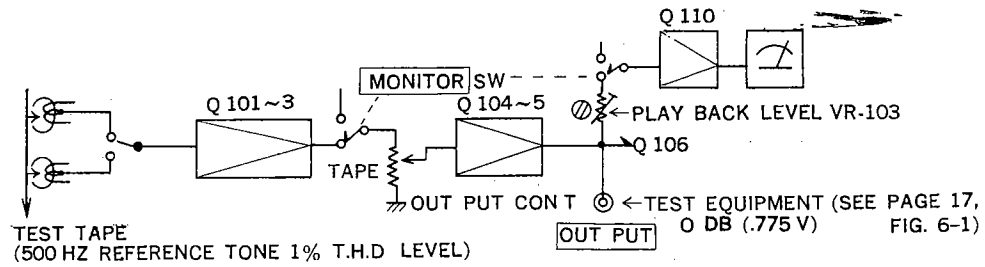
### Record Amplifier Bias Trap (See check point on Fig. 10-3)

1. Thread a recording test tape on the deck. Place the recorder in the record mode with no signal input.
2. While holding a VTVM probe at the junction of L-103 (Fig. 10-4) and C-124, adjust L-103 for minimum reading on the VTVM.
3. Repeat the procedure for the right channel by connecting the VTVM to the junction of L-203 (Fig. 10-4) and C-224 and adjusting L-203.

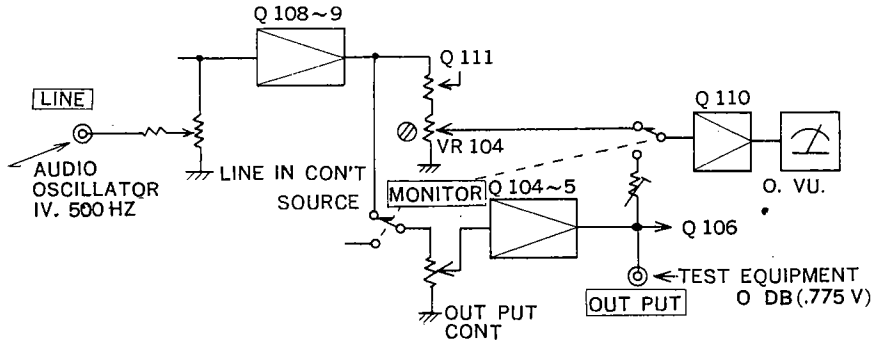
Note: The tank circuit prevents the bias signal from entering the record amplifier and under normal no signal conditions no voltage should be present at the junction of L-103 and C-124 or L-203 and C-224.

### Bias Oscillator "Dummy Load":

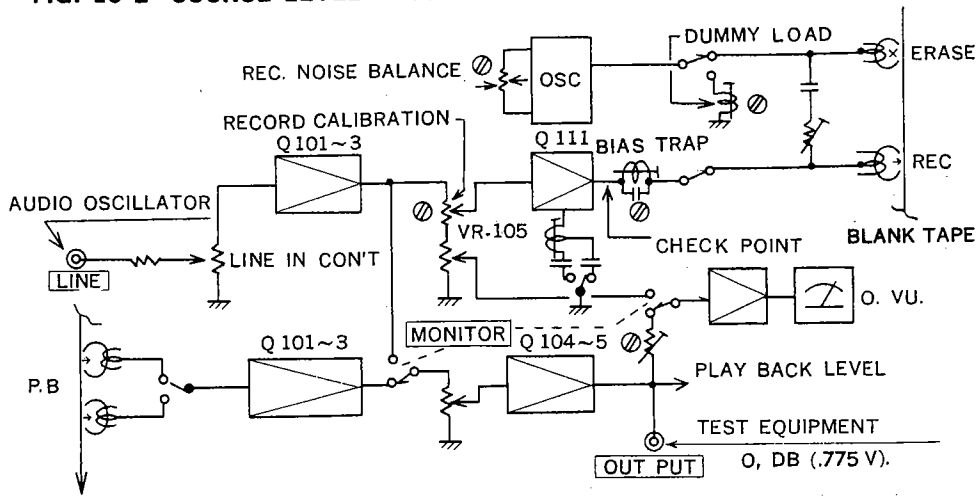
The tank circuit consisting of L-301, R-309 and C-308 is used to retain oscillator stability when recording monaurally since during this mode the load from only one channel is present at the oscillator. If adjustment is required, adjust L-301 for optimum oscillator stability in monaural record mode.



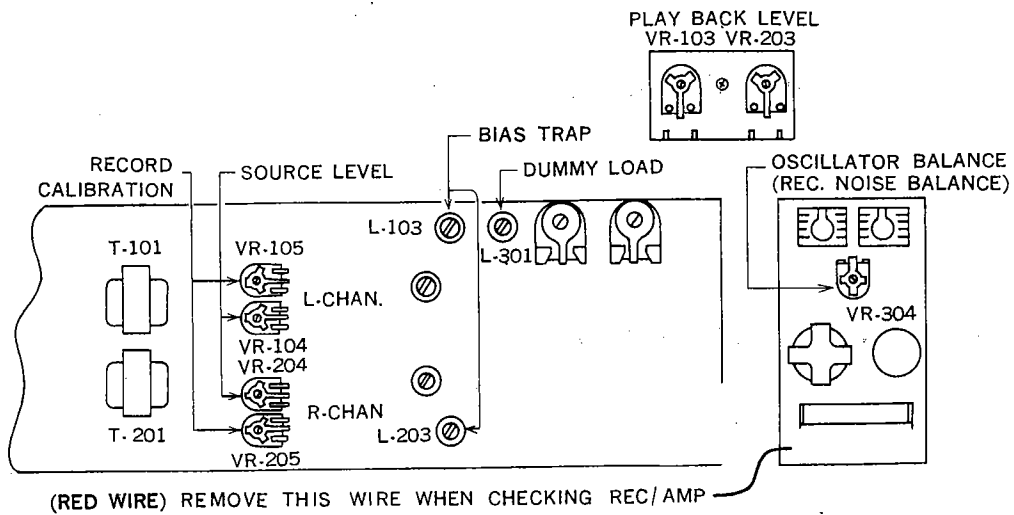
**FIG. 10-1 PLAYBACK LEVEL ADJUSTMENT**



**FIG. 10-2 SOURCE LEVEL ADJUSTMENT HOOK UP**



**FIG. 10-3 RECORD AND PLAY BACK LEVEL ADJUSTMENT HOOK UP**



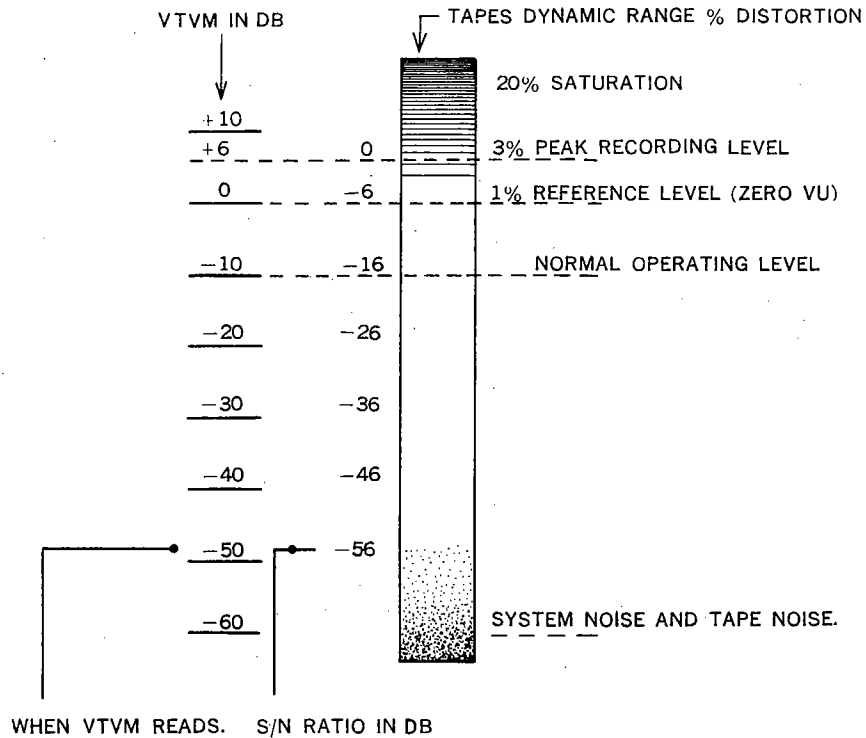
**FIG. 10-4 ADJUSTABLE PARTS LOCATION (AR-60 BOTTOM VIEW)**

**Record Noise and Erase Check:**

1. While recording a (1KHz) signal, adjust LINE input level control to obtain a VTVM reading of +6 db.  
Set the LINE and MIC level to minimum.
3. Rewind the tape to the start of the 1KHz recording.
4. Place the recorder in RECORD mode once more and read the noise level while recording over the previously recorded 1KHz signal.
5. Check the signal to noise ratio for both channels at both speeds. The noise level for both channels in both directions should be -55 db or less. This represents the signal to noise ratio for 3% total harmonic distortion (peak recording level) (see Fig. 11)

**Bias Oscillator Balance:**

While monitoring the record mode with no signal input, adjust VR-304 (Fig. 10-4) for minimum noise and dropouts.

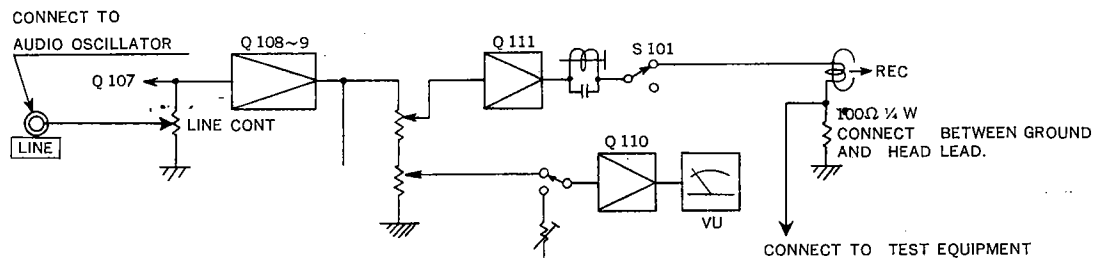


**FIG. 11 SIGNAL-TO-NOISE RATIO COMPUTATIONS.**

**Record Amplifier Check:** (Refer to Fig. 12)

If a more complete check of the record amplifier is required, connect a VTVM to the record circuit as shown in (Figure 12) then check the frequency response, noise, amplifier gain, etc. To avoid overloading the amplifier the frequency response check should be made at least 15 to 20 db below normal operating level.

Note: Disable the bias oscillator during frequency response checks of the amplifier by removing the RED wire on Pin 3 of the "TO DECK" plug. (See Fig. 10-4)



**FIG 12. RECORD AMPLIFIER CHECKS HOOK UP**



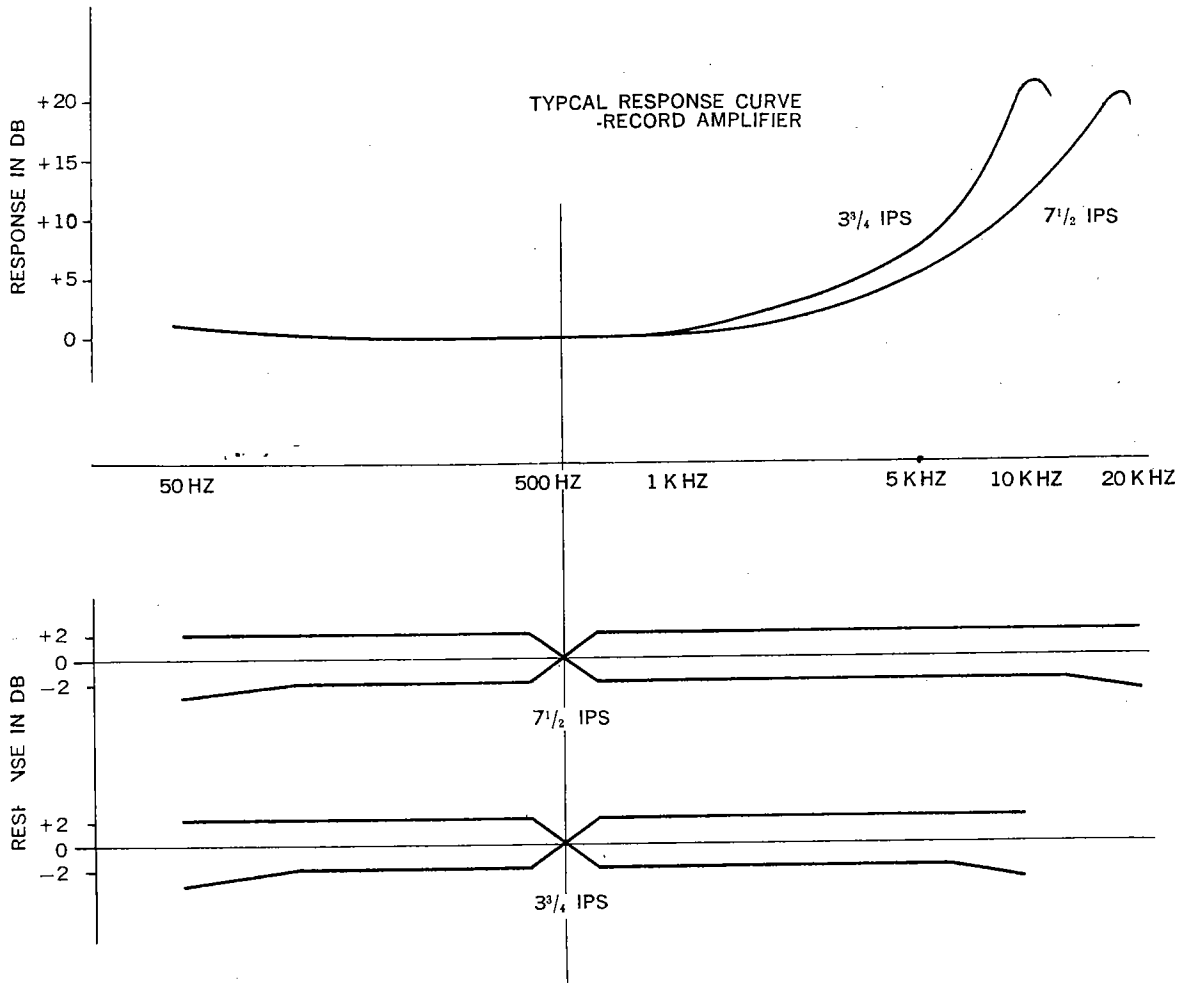


FIG. 13 TYPICAL RESPONSE CURVE AND OVERALL FREQUENCY RESPONSE LIMITS

## SPECIAL CIRCUITS

### Phase Sensing System:

The phase sensing reverse utilizes a separate amplifier located on the bottom of the 6010 transport section.

When the SIGNAL RECORD and ► buttons are depressed, the AC line frequency (50 or 60 Hz) signal is recorded on the tape at a level of approximately +10~11 db. This signal, however, is recorded out of phase between the left and right channels since one of the record head poles is electrically reversed during this mode. During playback with the autoreverse ON, the record heads act as the sensing device and are connected out of phase as they were during the recording of the reversing signal.

Because the heads are now out of phase in respect to the normal audio signals they generate very little or no output since the signals tend to cancel each other out. However, when the previously recorded, out of phase, reversing signal reaches the recording head it is now in phase in respect to the record head and generates a signal which is amplified, rectified and utilized to energize the reverse relay.

It is feasible that a strong signal with no counterpart on the other channel to cancel it out could cause the recorder to reverse. However, proper adjustment of the reversing amplifier sensitivity control would eliminate this possibility.

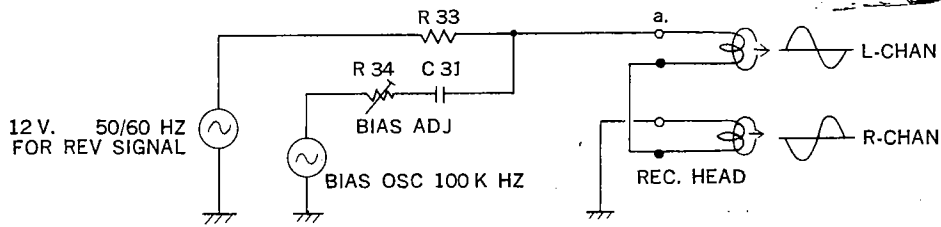
It must be understood that the reversing signal is recorded at such a high level that normal signals do not approach this level.

### Phase Sensing System Adjustments:

1. Thread a blank tape (1/2 Mil tape) on the recorder and set MONITOR switch to TAPE.
2. Connect a VTVM to the recorder output and while recording the PSS reverse signal on 1/2 mil tape adjust R-34 for maximum peak on the VTVM.
3. Depress the SIGNAL RECORD and the ► buttons for approximately 15 seconds.
4. Rewind the tape to the start of the recorded signal and press the ► button.
5. Adjust R-19 (Fig. 14) until the recorder stops and reverses. (See page 53)
6. Rewind the tape once more and check to see if the recorder stops and reverses at the start of the signal. If the reverse signal is audible momentarily before the recorder reverses then increase the sensitivity of R-19 slightly.

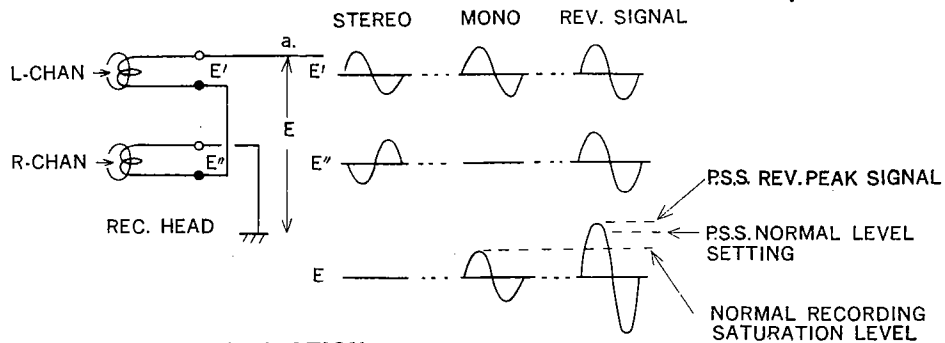
NOTE: If the use of 1/2 Mil tape is not anticipated the above adjustments can be made with 1 Mil tape.



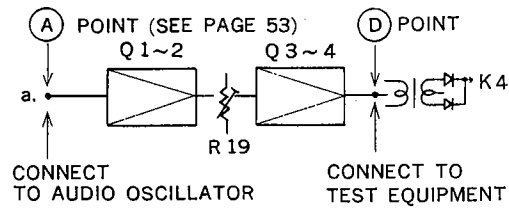
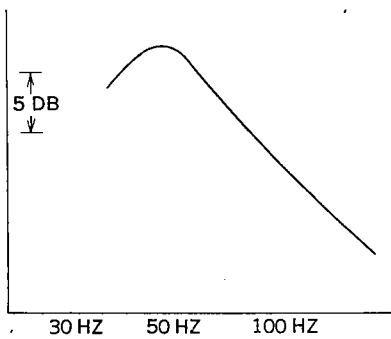


RECORD HEAD IS CONNECTED OUT OF PHASE BY S-4 (AUTO-REV ON/OFF SWITCH)  
 PRESSING THE "SIGNAL RECORD" SWITCH REMOVES THE RECORDING HEADS FROM THE RECORD AMPLIFIER

**1.METHOD OF REVERSE SIGNAL RECORDING**



**2.METHOD OF P.S.S. OPERATION**



**3.P.S.S. REVERSE AMPLIFIER AND FREQUENCY RESPONSE CURVE**

**FIG. 14 THEORY OF PHASE-SENSING-SYSTEM**

**Repeat Unit Theory of Operation: (Model RC-602)**

Note: Refer to simplified diagram (Fig- 15-1)..

During the play mode capacitor C-1 ② is charged through R-3 by a voltage provided through S-14 contacts ①. As the foil passes over the sensing post C-1 is connected to the base of the transistor through the sensing foil ③. This completes the biasing network for the transistor causing it to conduct and energize relay K-3 ④. This relay places the deck in the reverse mode

⑤. However, ⑥ as the pinch roller releases for the 3 second pause it switches the contacts of S-14 ⑦, causing C-1 to discharge through the diode ⑧. When the reverse relay energizes, relay K-1 ⑩ is energized through contacts ⑨ on the reverse relay, switching the collector of the transistor to K-2 ⑬ through contacts ⑫. At this time, since the pinch roller arm has returned to the play position, S-14 contacts ⑩ again provide a charging voltage for C-1 ⑬. The capacitor takes 40 seconds to charge, preventing the repeat unit from placing the recorder in the forward mode, if the capacitor charged too quickly, while the foil was still touching the sensing post. As the sensing foil on the opposite end of the tape passes over the sensing post ⑭ it again connects C-1 ⑬ to bias the transistor and energize relay K-2 ⑬. However, since relay K-2 switches contacts ⑭ the reverse relay is no longer in the circuit and the deck is placed in the forward mode.

**Ampex Reverse System Unit: (Model RC-603)**

A 20 Hz filter amplifier is built into the 6010 recorder. This circuit consisting of Q-301 and associated components feeds the 20 Hz signal present on Ampex prerecorded tapes to the "Ampex System Reverse Unit" where it is amplified, rectified and utilized to energize relay K-3 (in the Ampex Reverse Unit) which places the recorder in the reverse mode by in turn energizing the reverse relay K-5. When K-5 energizes, it provides voltage for the K-1 (in the Ampex Reverse Unit) which switches the output of the amplifier to K-2 (in the Ampex Reverse Unit). As the 20 Hz signal on the other end of the tape is received it causes the recorder to go into the forward mode. (Refer to Fig. 15-2)

The unit, which is an optional accessory, plugs into the "REPEAT" receptacle.

Note: Due to the different levels of the Ampex reversing signal (sometimes as much as -10 db) the 6010 may fail to reverse on some tapes with this system.

If adjustment is required, play a tape which has an Ampex reverse signal on it and as the signal reaches the playback head adjust the 10k ohm potentiometer in the reverse unit until the recorder reverses. There are no provisions on the 6010 for recording the 20 Hz Ampex reverse signal.

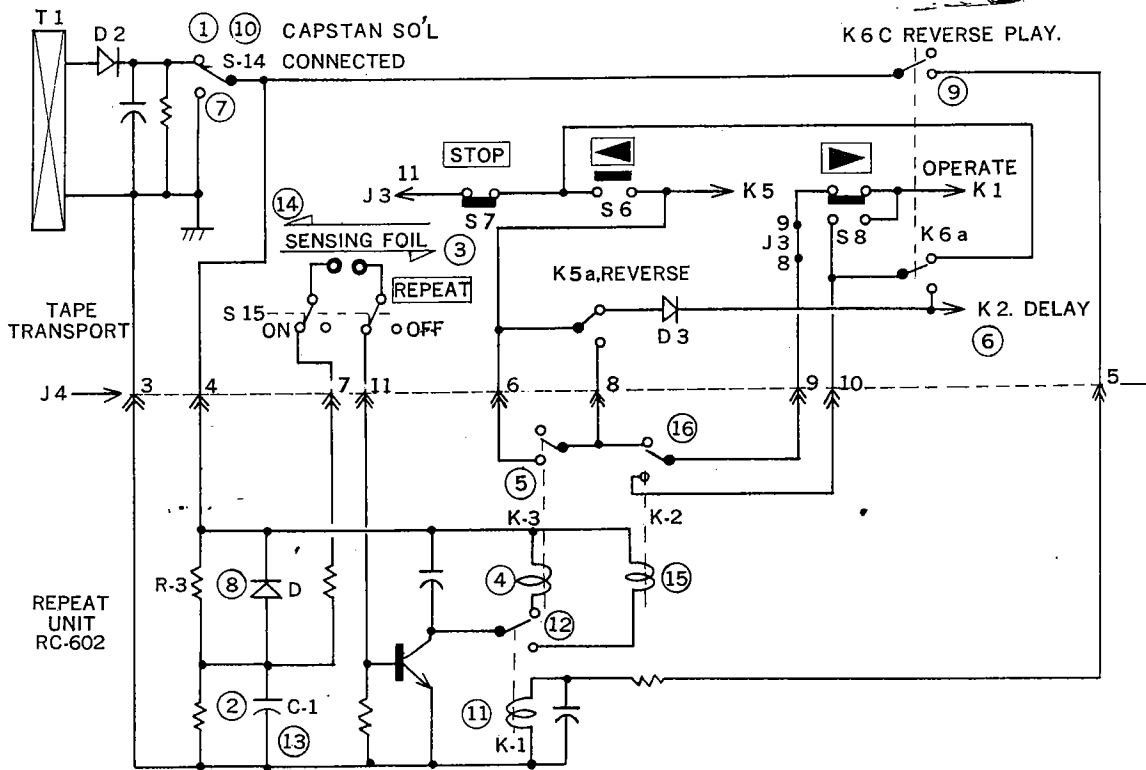


FIG. 15-1 SIMPLIFIED DIAGRAM FOR REPEAT UNIT — RC-602 —

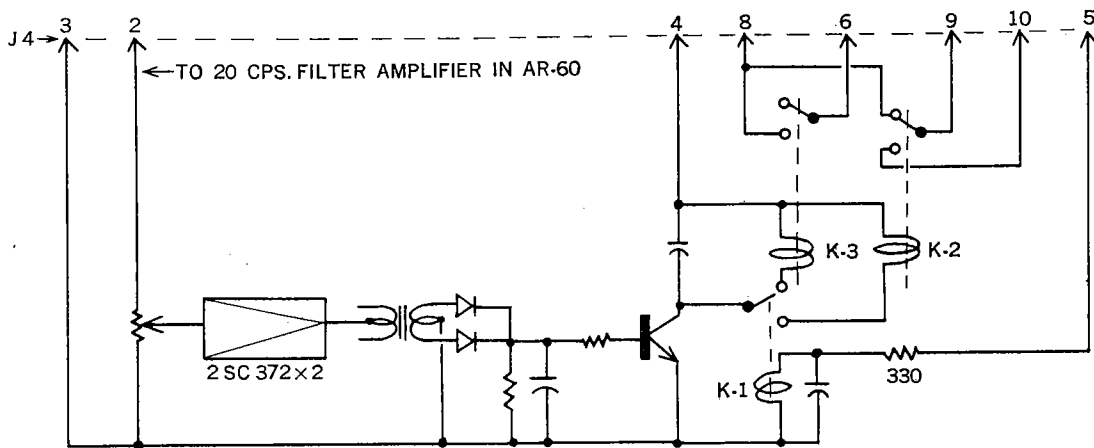
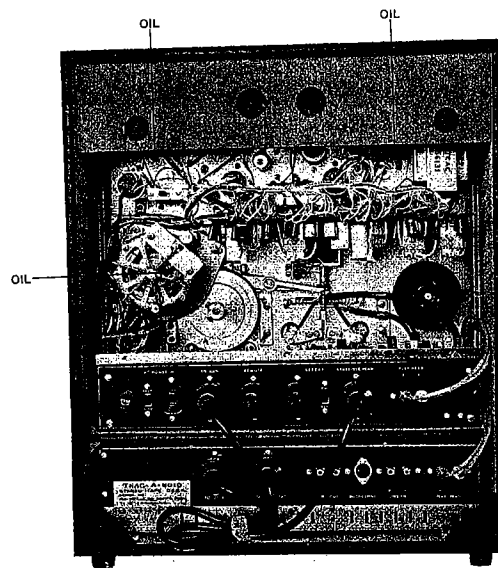
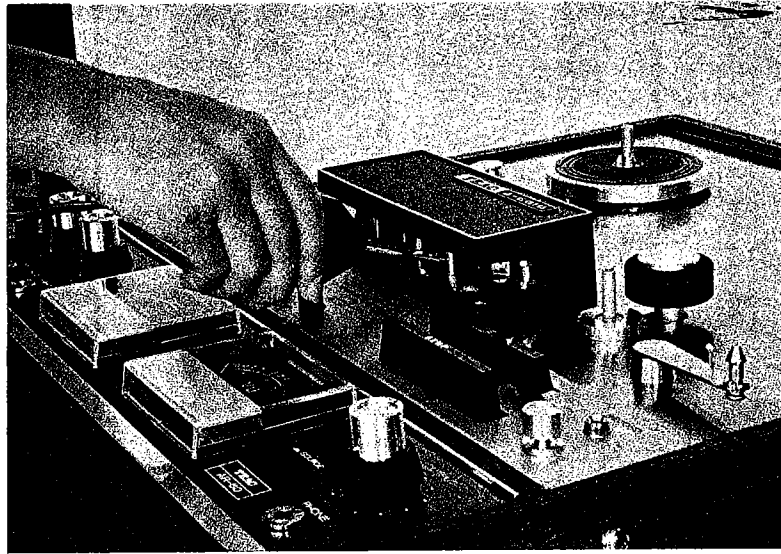


FIG. 15-2 SIMPLIFIED DIAGRAM FOR AMPLEX REVERSE SYSTEM UNIT — RC-603 —



## PREVENTIVE MAINTENANCE

### Equipment Required

TEAC Cleaner	Model TZ-251
For Heads	#251 A
For Pinch Roller	#251 B
TEAC Demagnetizer	Model E-1
TEAC Oil and Polisher	Model TZ-252
	#29228

### Cleaning:

To prevent the loss of high frequency response or insufficient erasure, the heads should be cleaned frequently. Under average operating conditions, cleaning the heads after each eight to ten hours of use will insure against the loss of high frequency response. To clean the heads, moisten a clean, lintless cloth with carbon tetrachloride or alcohol. Carefully wipe the face of each head and the tape guides to remove all traces of dirt and magnetic oxide deposits.

### Demagnetization:

The tape heads should be demagnetized occasionally with a head demagnetizer to maintain the best possible performance of the equipment and to prevent the possibility of gradual deterioration of your recorded tapes.

### Demagnetizing:

To demagnetize the heads, use a two-pole type demagnetizer, with a piece of tape over the tips. With the power completely removed from the recorder, gently place the protected tips against the upper pole pieces of the first head. Then slowly move the tips downward toward the lower pole pieces of the head. Alternate between the two sets of pole pieces while slowly withdrawing the demagnetizer. Repeat this process for each of the heads. Do not remove the power from the demagnetizer until it is at least 2 feet away from the recorder.

### Lubrication

Note: Lubricate the equipment immediately after operation while it is warm.

The following parts of the tape transport mechanism require lubrication after every thousand hours of operation, or yearly. Use a high grade of SAE-10 nondetergent oil or TEAC #24228 oil (Mobil D.T.E. heavy medium).

Capstan assembly upper bearing	
(Remove dust cap).....	2 drops
Pinch roller bearing .....	1 drop
Motors .....	4 drops (after every 1,000 hours of operation)

Caution: DO NOT OVERLUBRICATE. If oil spills on the pinch roller or belt, clean it immediately with ethyl alcohol.

# MEMORANDA

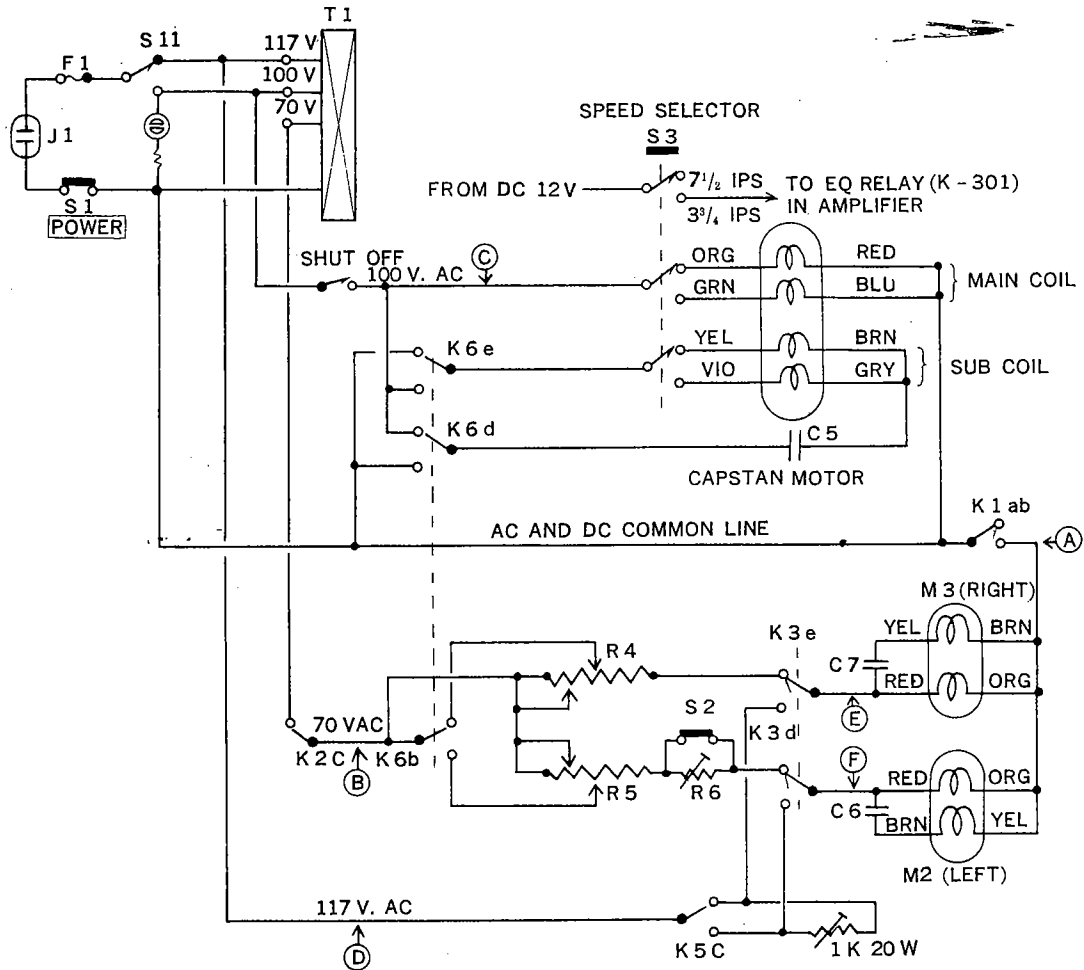
## TROUBLE SHOOTING CHARTS

MALFUNCTION	POSSIBLE SOURCE OF TROUBLE	CORRECTIVE PROCEDURE
Capstan fails to turn	Belt off or slipping, line fuse (F-1), auto-shutoff switch (S-13), phase advance capacitor (C-5), reverse play relay (K-6), speed select switch (S-3).	Refer to simplified diagram (Fig. 16) and repair or replace the defective components.
Pinch roller fails to contact capstan in play mode	AC voltage selector switch in wrong position, remote control jumper plug not installed or loose, stop switch (S-9), reverse play relay (K-6), switch (S-8), delay relay (K-2), fast relay (K-3), capstan solenoid.	The normal DC resistance of the capstan solenoid is 1.3 k ohms. Refer to simplified diagram (Fig. 17) and repair or replace the defective components.
Right reel does not rotate in the play mode	Delay relay (K-2), reverse play relay (K-6), resistor (R-4), fast relay (K-3), capacitor (C-7)	Refer to simplified diagram (Fig. 16 and 17) and repair or replace the defective components.
Left reel does not rotate in play mode	Delay relay (K-2), reverse play relay (K-6), resistor (R-5), fast relay (K-3), capacitor (C-6)	Refer to simplified diagram (Fig. 16 and 17) and repair or replace the defective components.
Left reel operates with low torque	Resistor (R-5), tension switch (S-2)	Repair or replace defective components.
Both reel motors fail to operate	Operating relay (K-1)	Clean contacts on K-1 or replace relay.
Recorder does not operate in forward play	Remote control jumper plug missing or loose, reverse play relay (K-6), switch (S-8), signal record switch (S-5), operate relay (K-1), brake solenoid (L-1)	Normal DC resistance of the brake solenoid is 1.3 k ohms. Refer to simplified diagram (Fig. 17) and repair or replace the defective components.

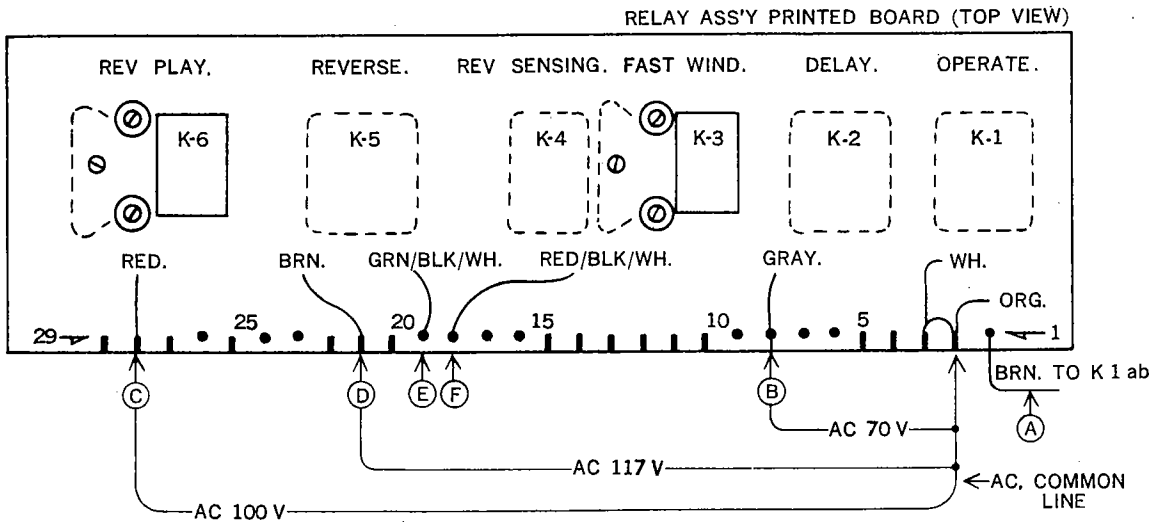
MALFUNCTION	POSSIBLE SOURCE OF TROUBLE	CORRECTIVE PROCEDURE
Recorder does not operate in reverse play	Remote control jumper plug missing or loose, stop switch (S-9), switch (S-6), resistor (R-8), reverse relay (K-5)	Refer to simplified diagram (Fig. 18) and repair or replace the defective components.
Pinch roller 4-second delay faulty	Reverse relay (K-5), resistor (R-7), capacitor (C-3), delay relay (K-2)	Refer to simplified diagram (Fig. 17) and repair or replace defective components.
Fast forward or rewind mode inoperative	Reverse relay (K-5), fast relay (K-3)	Refer to simplified diagram (Fig. 19 or 20) and repair or replace defective components.
No record and/or no erase	Record head dirty, erase head dirty, operate relay (K-1), Auto Reverse switch (S-4) in "ON" Position, record switches (S-101) & (S-201), connections from deck to amplifier, capacitor (C-32), record switch (S-10), resistor (R-32), record relay (K-7), diode (D-5), resistor (R-31), record amplifier, bias oscillator, record head, erase head.	Refer to simplified diagram (Fig. 17) and repair or replace defective components. For record amplifier troubleshooting refer to voltage chart (page 55).
No playback	Playback head dirty, amplifier to deck connections, monitor switch (S-303), playback amplifier	Refer to playback amplifier voltage chart.
Auto-reverse does not function with sensing foil	Foil length too short, sensing post dirty.	Foil should be $\frac{1}{2}$ " long. Clean sensing post.
Auto-reverse does not function with PSS signal	Defective (old) tape, signal too short in duration, record head dirty, switch (S-4), switch (S-5), resistor (R-34), capacitor (C-31), resistor (R-33), autoreverse amplifier faulty or out of adjustment.	Refer to page 30 and Fig. 14. Repair or replace faulty components. The autoreverse signal duration should be 1 to 2 seconds.



MALFUNCTION	POSSIBLE SOURCE OF TROUBLE	CORRECTIVE PROCEDURE
Repeat operation faulty	Foil length too short, sensing post dirty, repeat switch (S-15) not on or faulty, repeat unit faulty	For repeat unit troubleshooting refer to Fig. 15-1. There is a built-in 40-second recycling period for the repeat unit. It will not operate if a repeat cycle of less than 40 seconds is required.
Playback noise or hum	Faulty connections, head selector relay (K-8), faulty playback head. Faulty Playback Amplifier	Repair or replace faulty components.
Noise or hum during record	Magnetized head, faulty connections, Mic level set to maximum, switch (S-5), switch (S-4), record relay (K-7), faulty head. Faulty Record Amplifier	Demagnetize and clean head, repair or replace faulty components.
Wow & flutter	Defective tape, dirty or defective pinch roller, oily or defective belt, reel motor tension.	Clean or replace defective components. Adjust motor tension.
Incorrect tape speed	50/60 Hz cycle change knob in wrong position. Incorrect pinch roller pressure	Reset cycle change knob. Adjust pinch roller pressure.
Brakes do not release	Defective brake solenoid	The D.C. resistance of the brake solenoid should be 1.6K ohms. Replace solenoid.



NOTE: ○ CHECK POINT



NOTE: REV (REVERSE.)

FIG. 16 A.C. POWER DISTRIBUTION FOR MOTORS

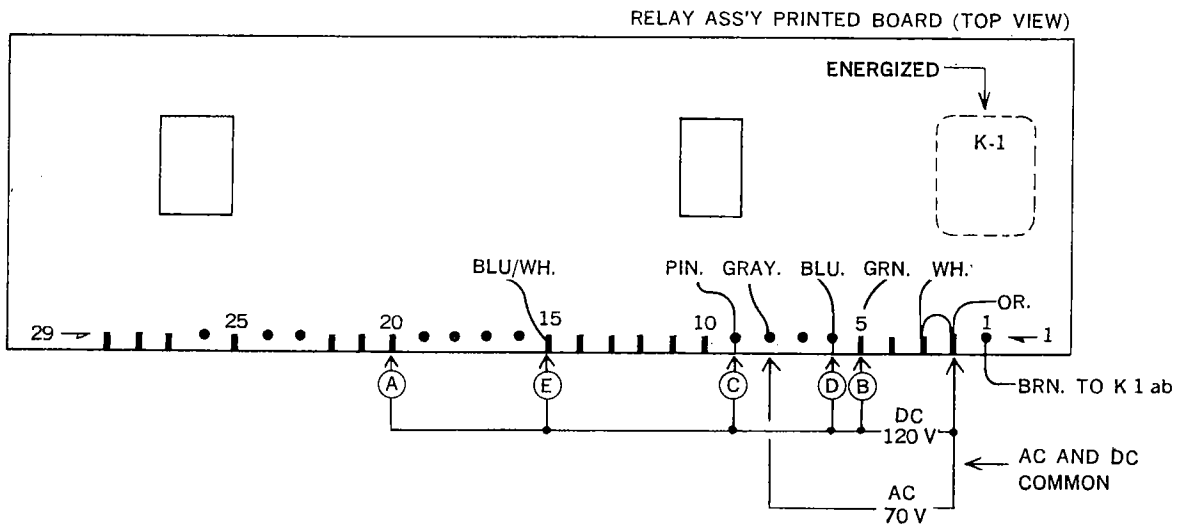
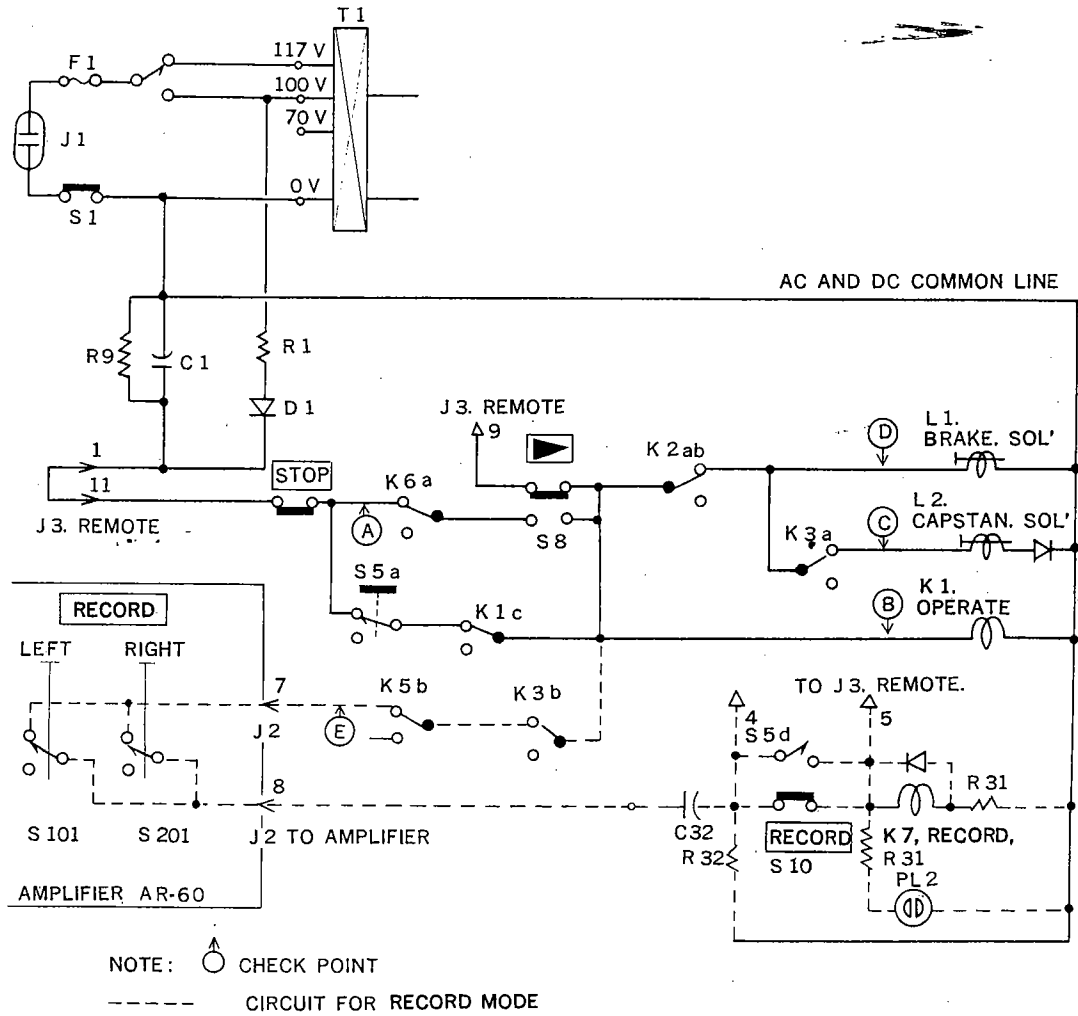
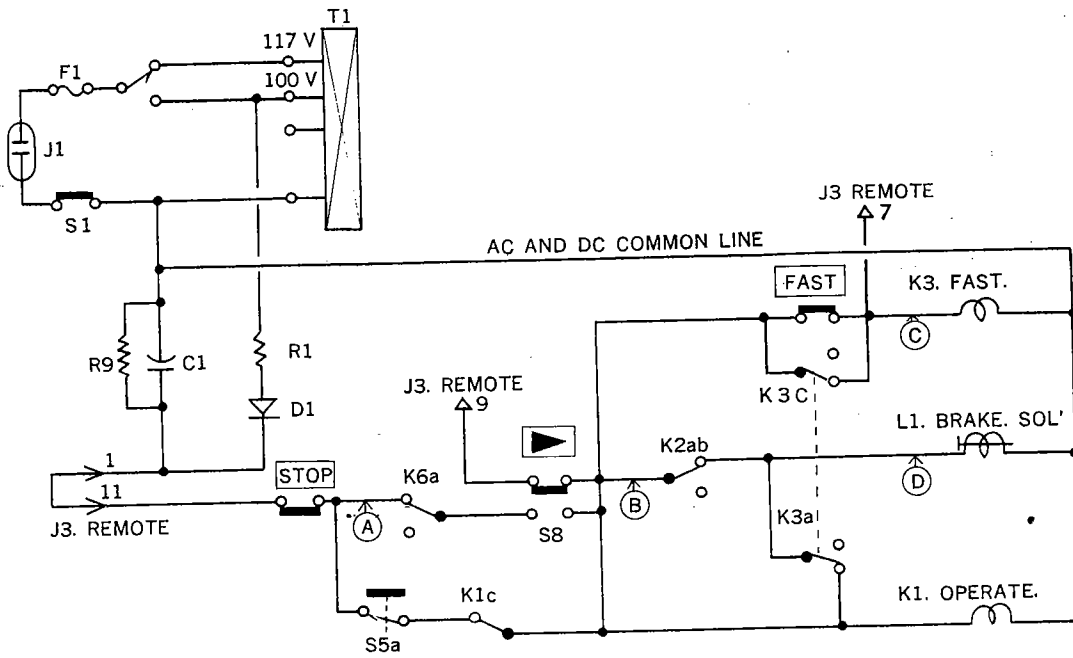


FIG. 17 SIMPLIFIED CIRCUIT FOR FORWARD PLAY AND RECORD MOOE





NOTE: ○ CHECK POINT

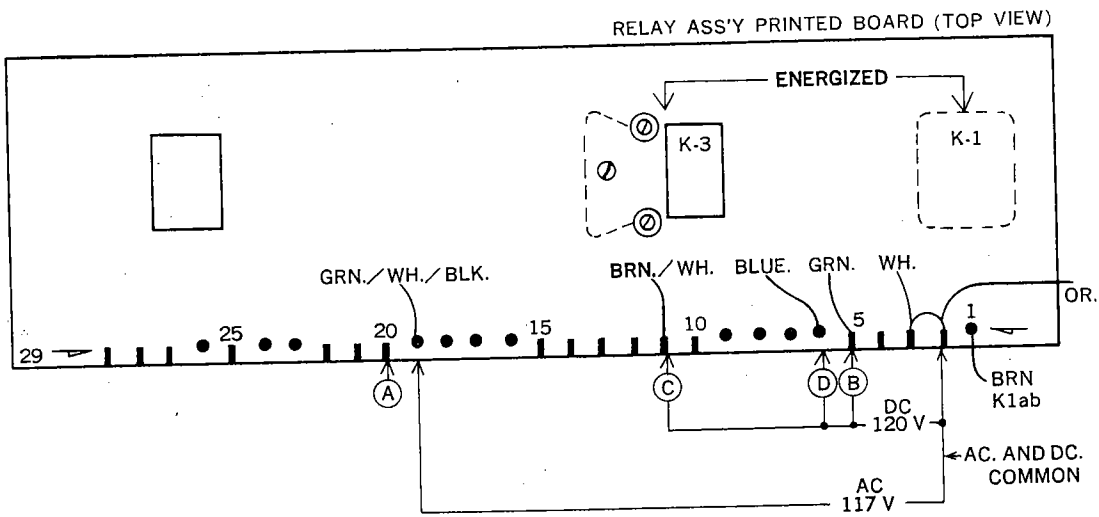
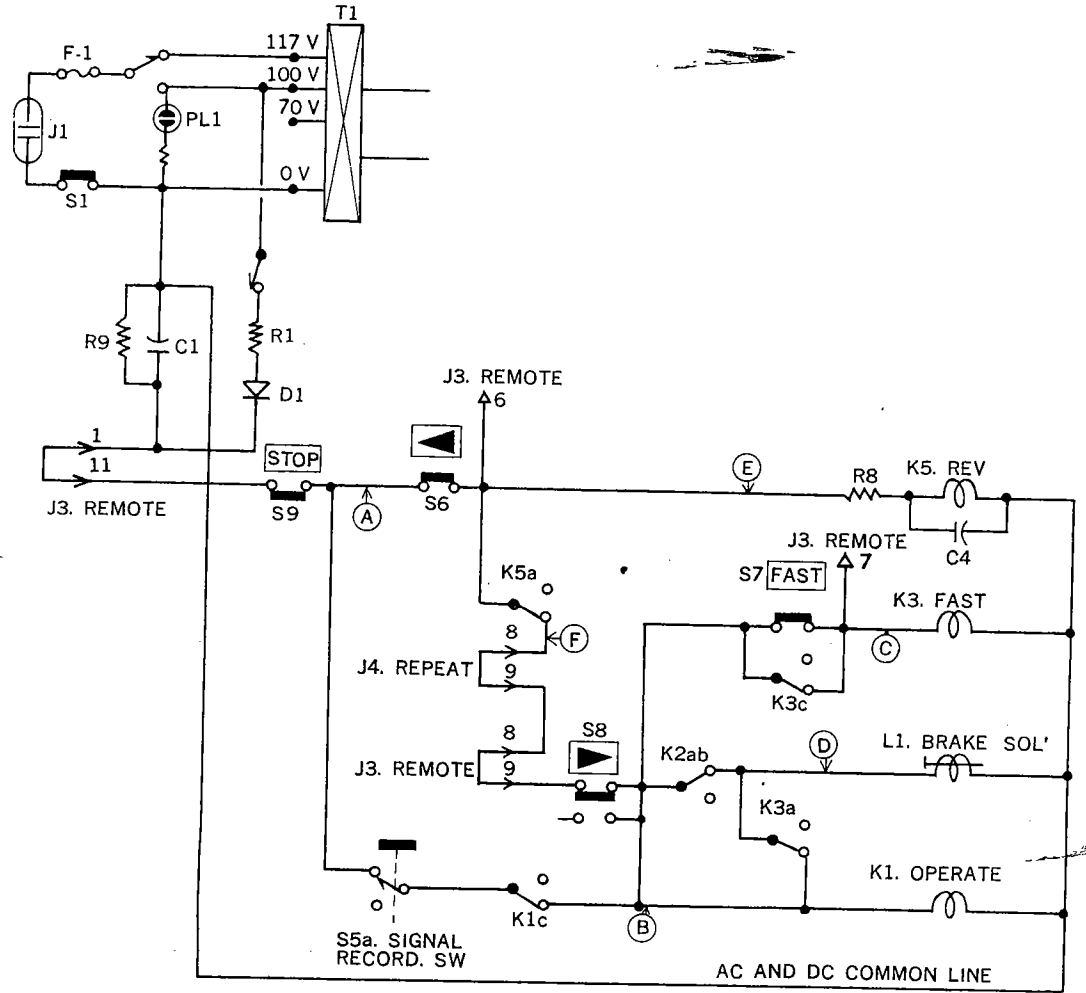


FIG. 20 SIMPLIFIED CIRCUITS FOR FAST FORWARD MODE



NOTE: ○ CHECK POINT

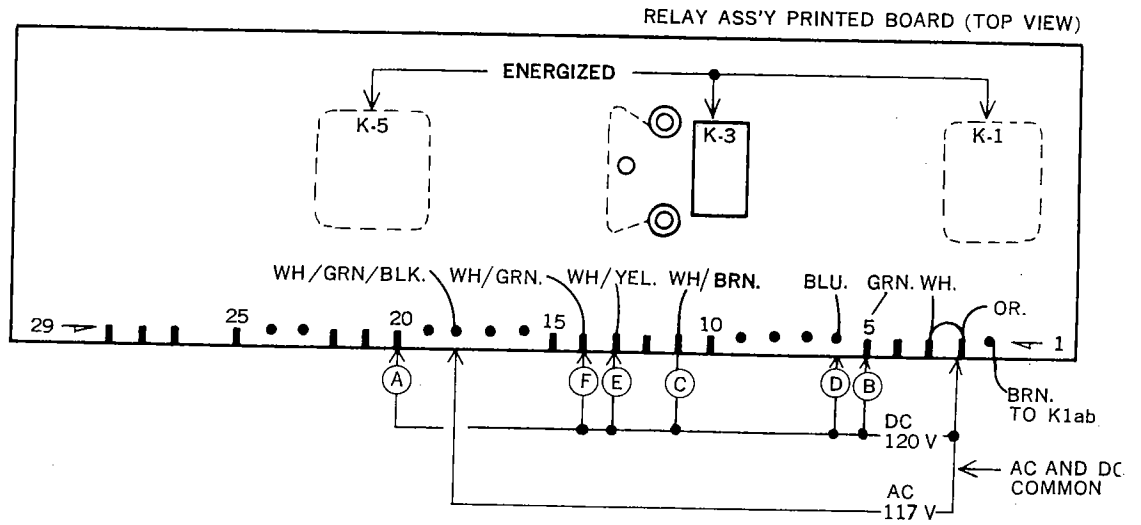
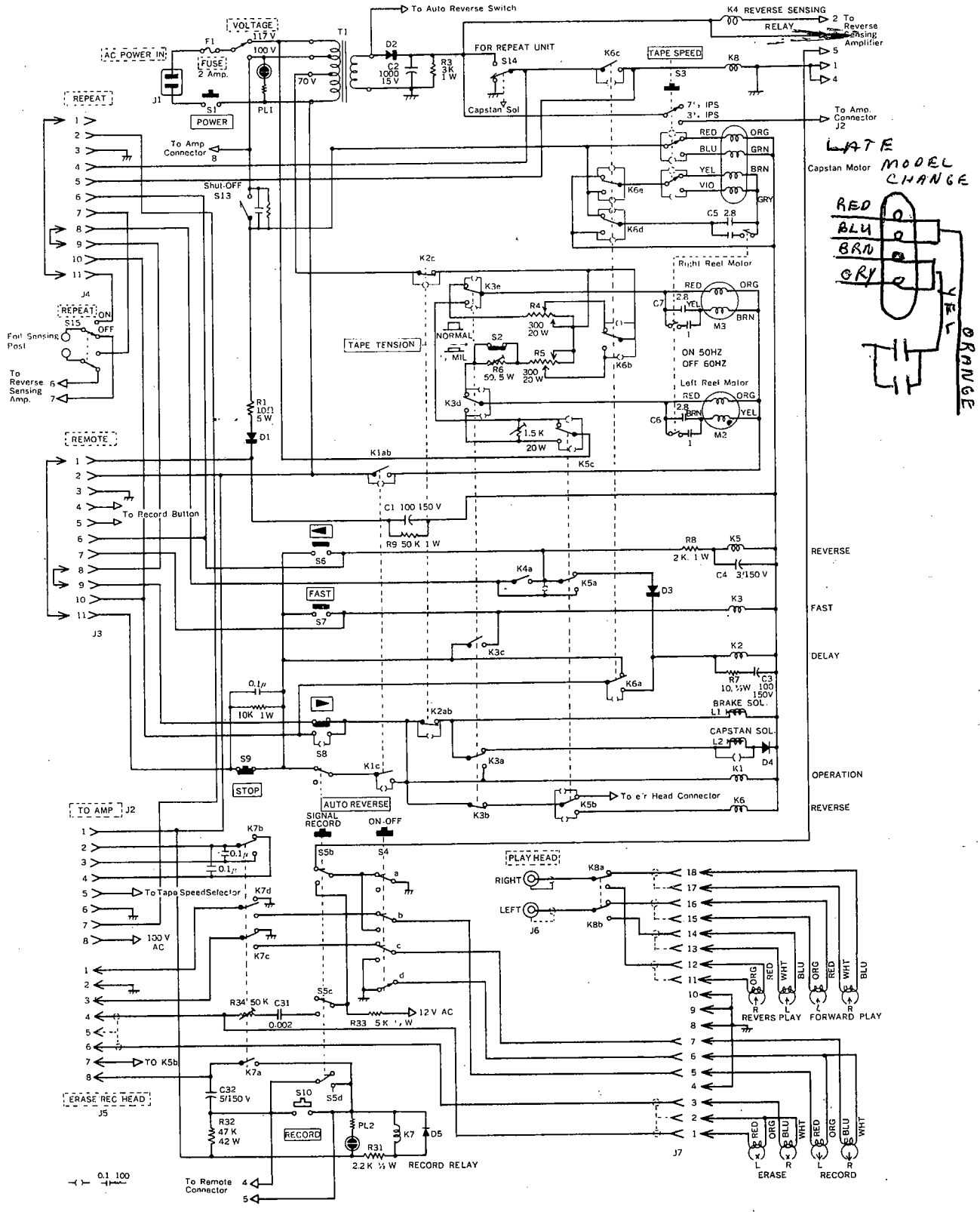


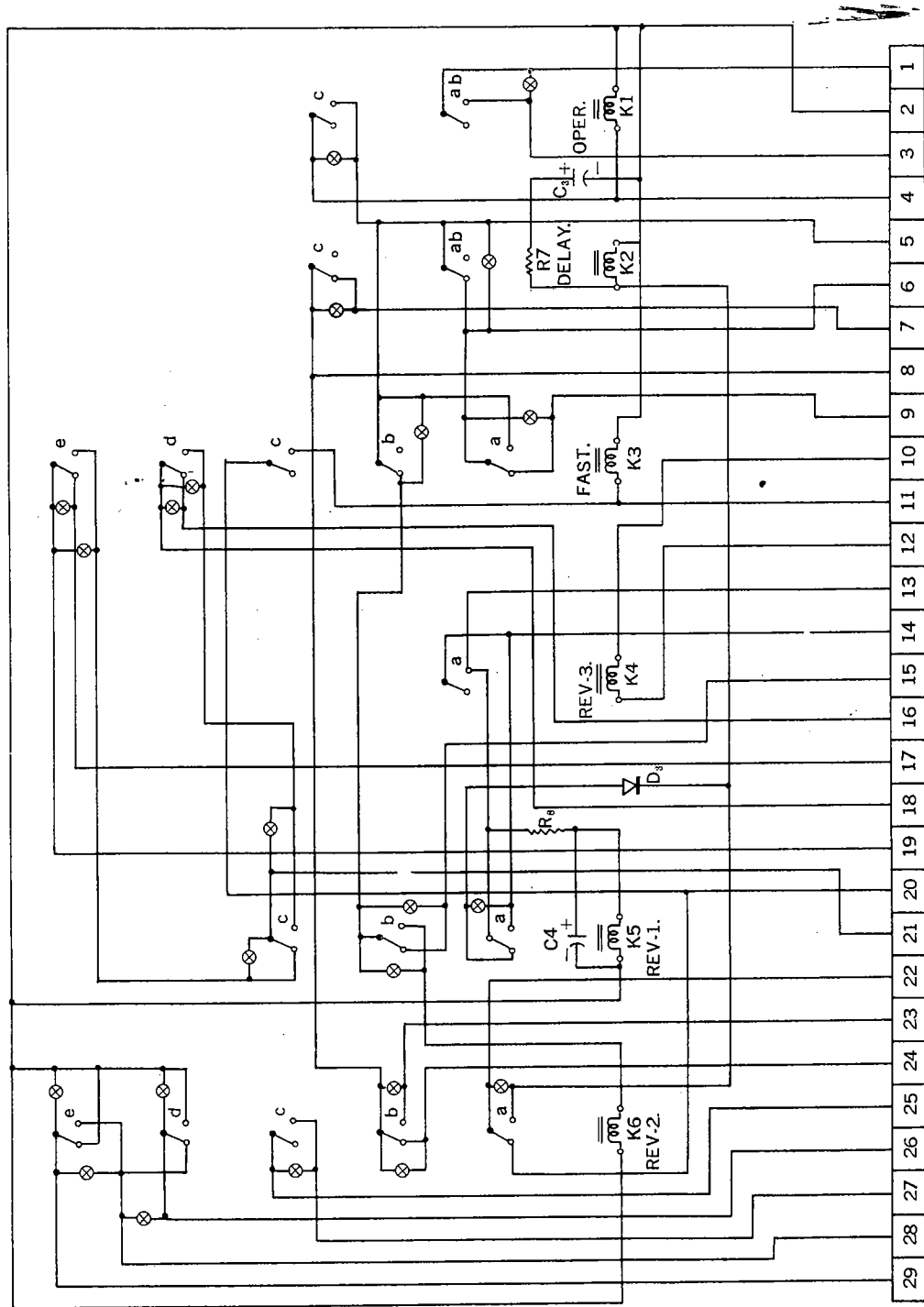
FIG. 19 SIMPLIFIED CIRCUITS FOR REWIND MODE



TAPE TRANSPORT CONTROL CIRCUIT



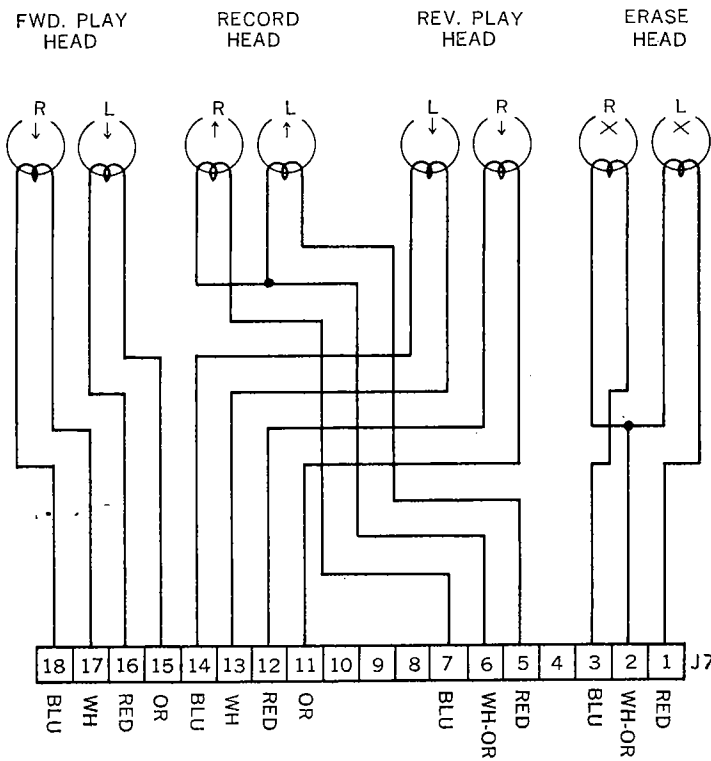




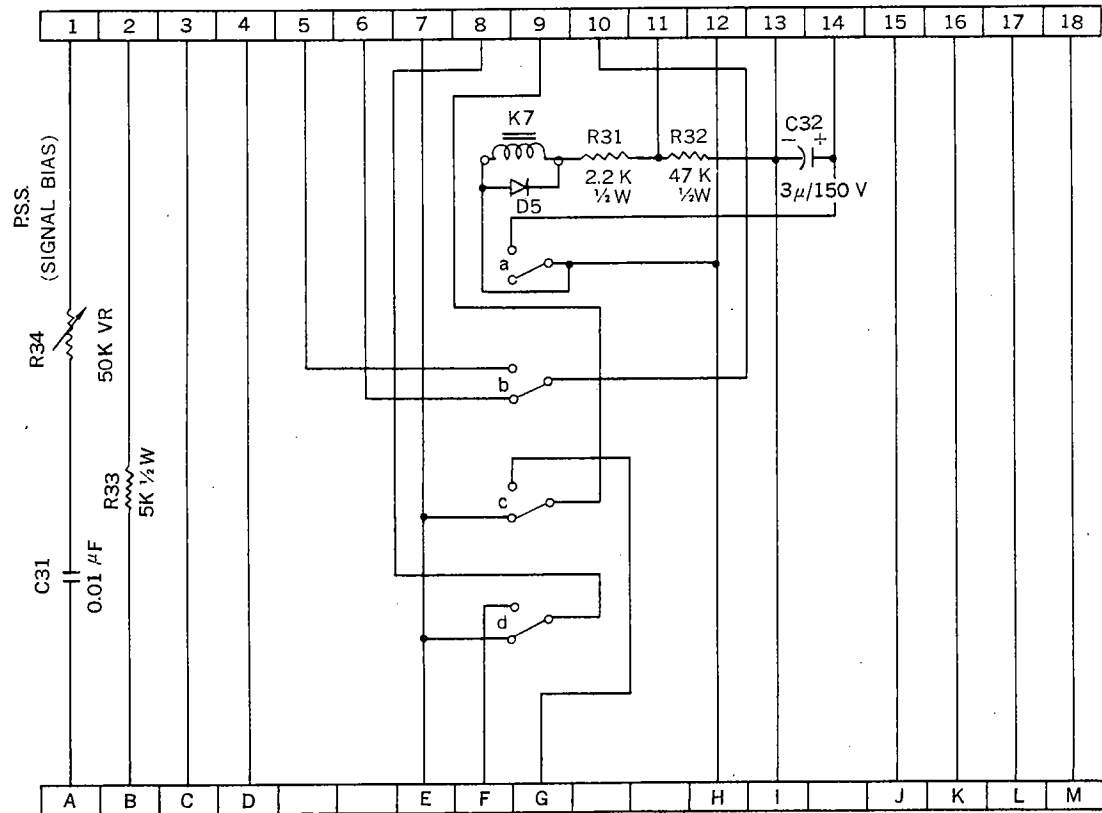
- C<sub>3</sub> 100 $\mu$ F/150 V
- C<sub>4</sub> 3 $\mu$ F/150 V
- R<sub>7</sub> 10K  $\frac{1}{2}$  W
- R<sub>8</sub> 3K  $\frac{1}{2}$  W
- $\otimes$ —0.1 $\mu$ F + 100 $\Omega$

TRANSPORT CONTROL RELAY ASSEMBLY CIRCUIT



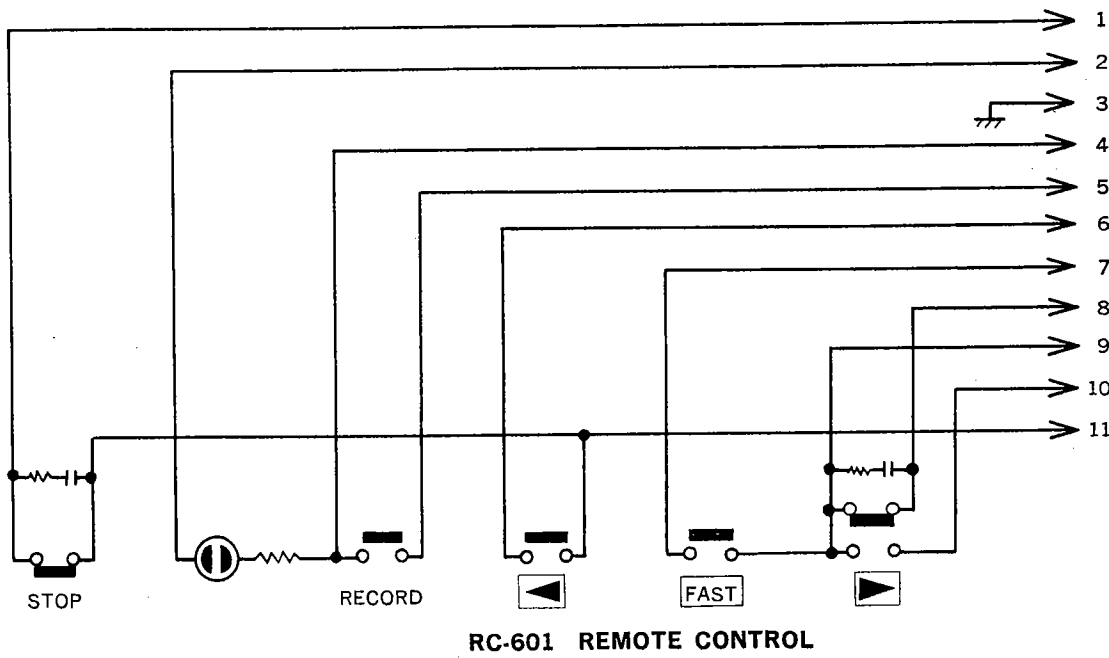
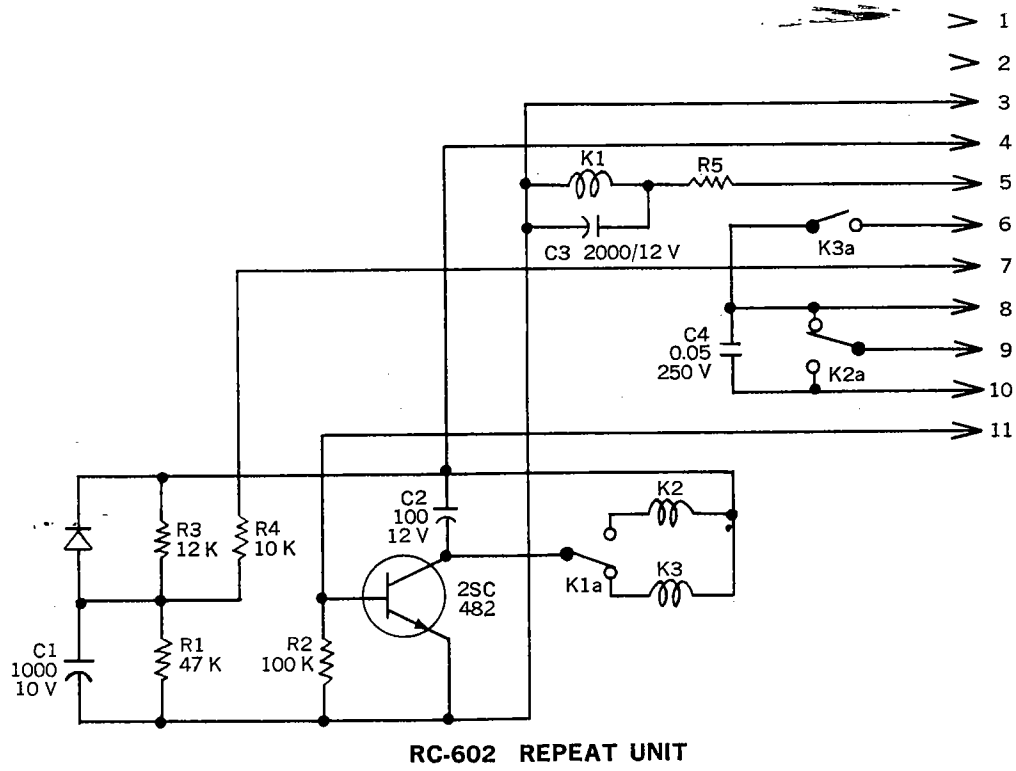


**HEAD ASSEMBLY CIRCUIT**



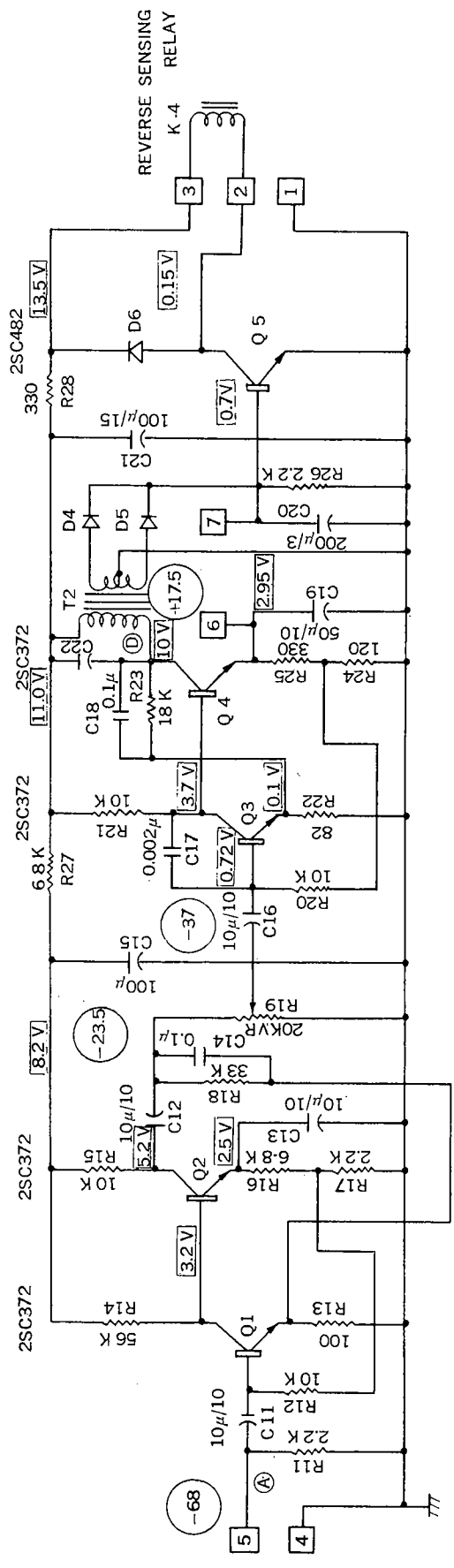
**RECORD RELAY ASSEMBLY CIRCUIT**





~~SECRET~~

~~SECRET~~

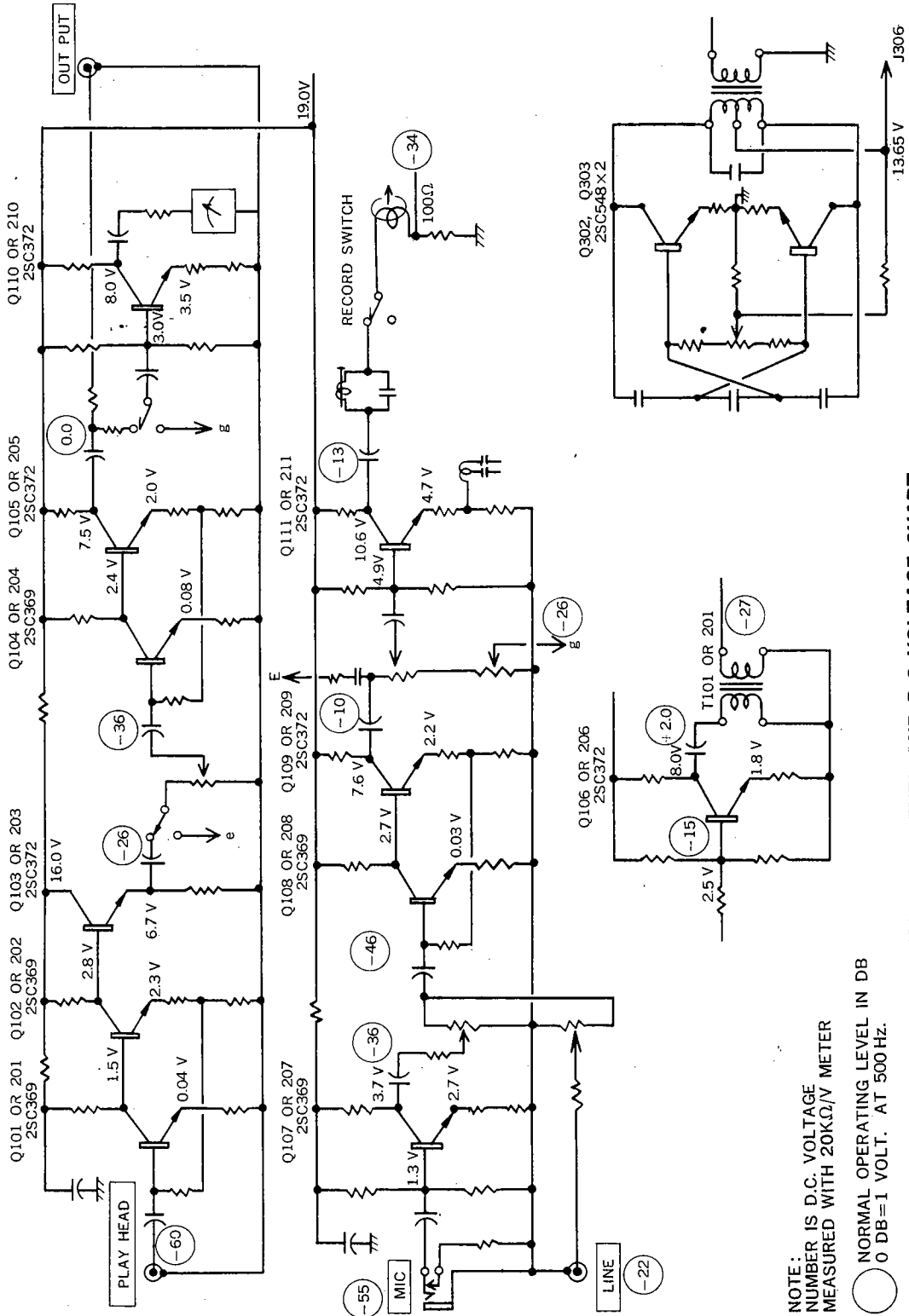


NOTE: □ NUMBER IS PRINTED ON BOARD  
 ○ LEVEL AT 50 HZ~60 HZ  
 ▭ DC. VOLTAGE

P.S.S. REVERSE AMPLIFIER SCHEMATIC DIAGRAM



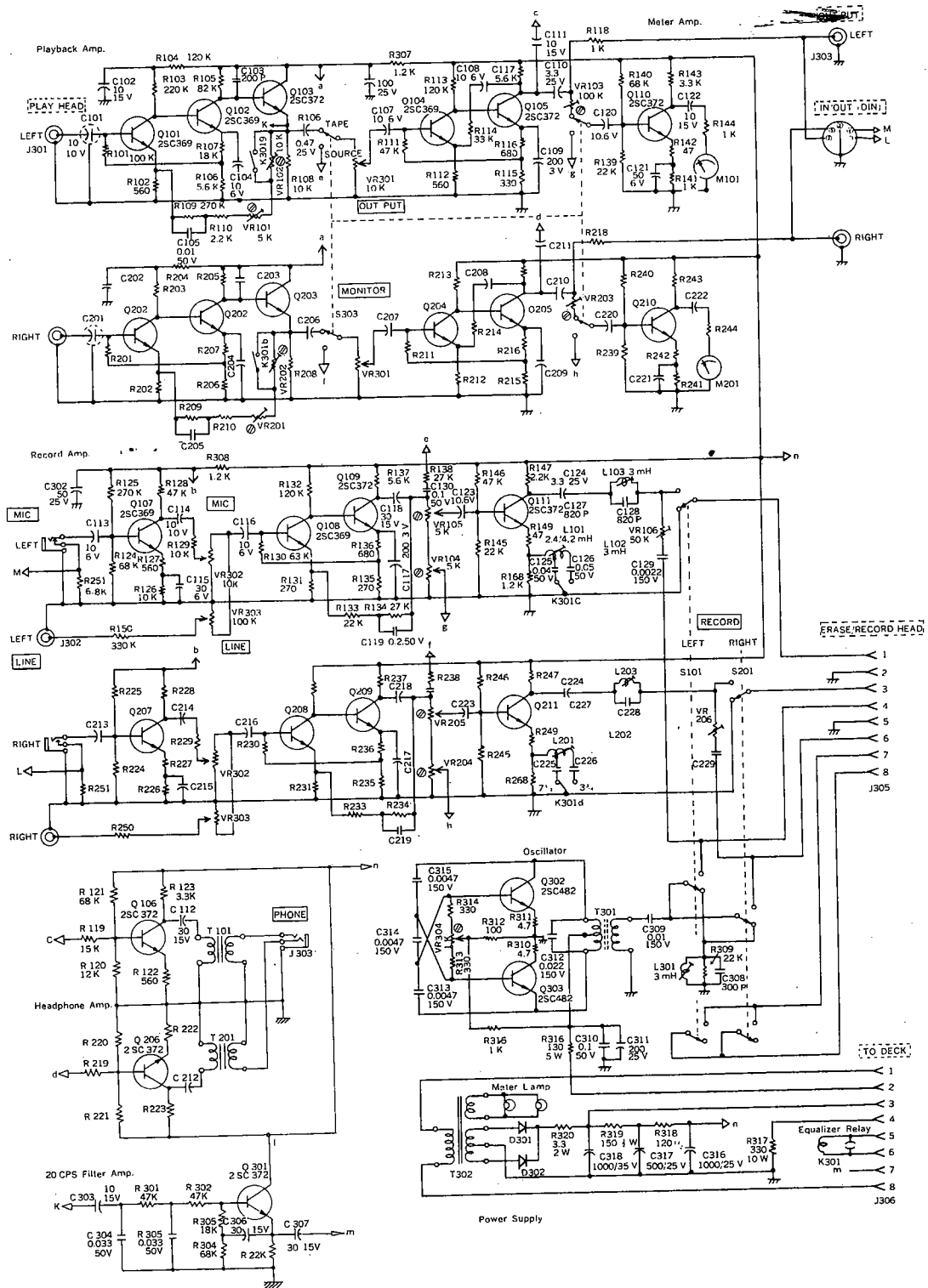




NOTE:  
 NUMBER IS D.C. VOLTAGE  
 MEASURED WITH 20K $\Omega$ /V METER  
 ○ NORMAL OPERATING LEVEL IN DB  
 0 DB=1 VOLT. AT 500 HZ.

**RECORD AND PLAY BACK AMPLIFIER LEVEL AND D.C VOLTAGE CHART**



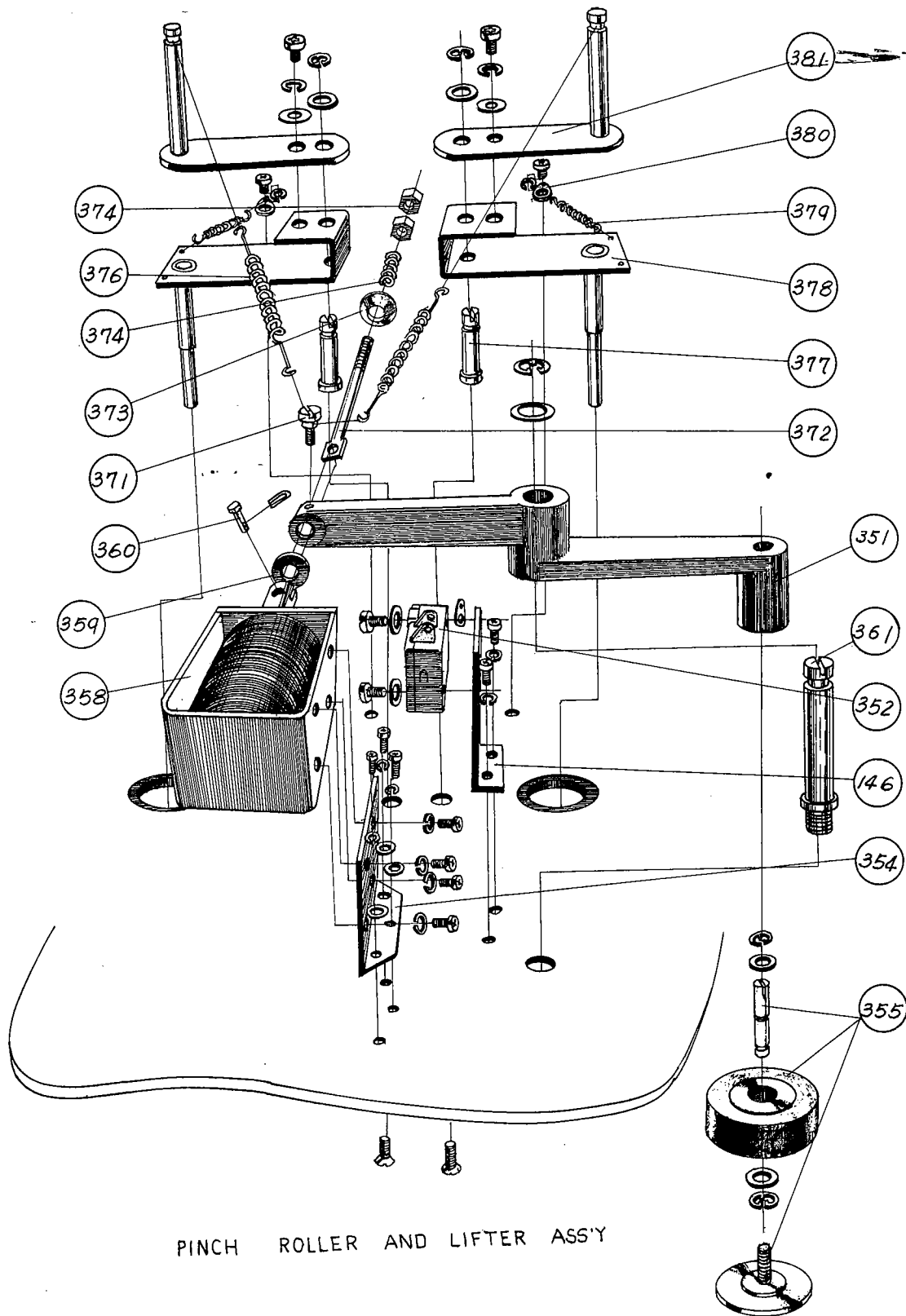


**RECORDING/PLAYBACK AMPLIFIER SCHEMATIC DIAGRAM**

**IF YOU HAVE ANY QUESTIONS OR REQUIRE CLARIFICATION ON POINTS  
COVERED IN THIS MANUAL PLEASE CONTACT  
TEAC SERVICE SECTION**

## AMPLIFIER

REF. NO.	PART NO.	DESCRIPTION
801	23199	Panel
802	23190	Chassis
803	23202-1	Back Panel
804	23191	Printed Board Retainer
805	23192	Printed Board Retainer
806	23198	Amplifier Cover
807	23194	Printed Board Retainer
808	23193	Printed Board Retainer
809	24063	Printed Board Retainer
810	26112	Name Plate
811	25233-1	Knob (Outer)
812	25226	Knob (Inter)
813	53710	Double Potentiometer 10K $\Omega$ A Carbon
814	53709	Double Potentiometer 100K $\Omega$ A Carbon
815	43010	Jack
816	43418	Jack (3P)
817	23195	Nut (A)
818	23196	Nut (B)
819	44327	Push Switch
820	58114	Volume Indicator Meter
821	45206	Terminal Strip IL-2P
822	48056	Printed Board Ass'y
823	53402	
824	43444	Pin Jack
825	43406	GT Socket
826	43409	GT Plug
827	45501	
828	43001	DIN Connector
829	52211	Resistor 320 $\Omega$ 10W
830	56132	Power Transformer



PINCH ROLLER AND LIFTER ASS'Y

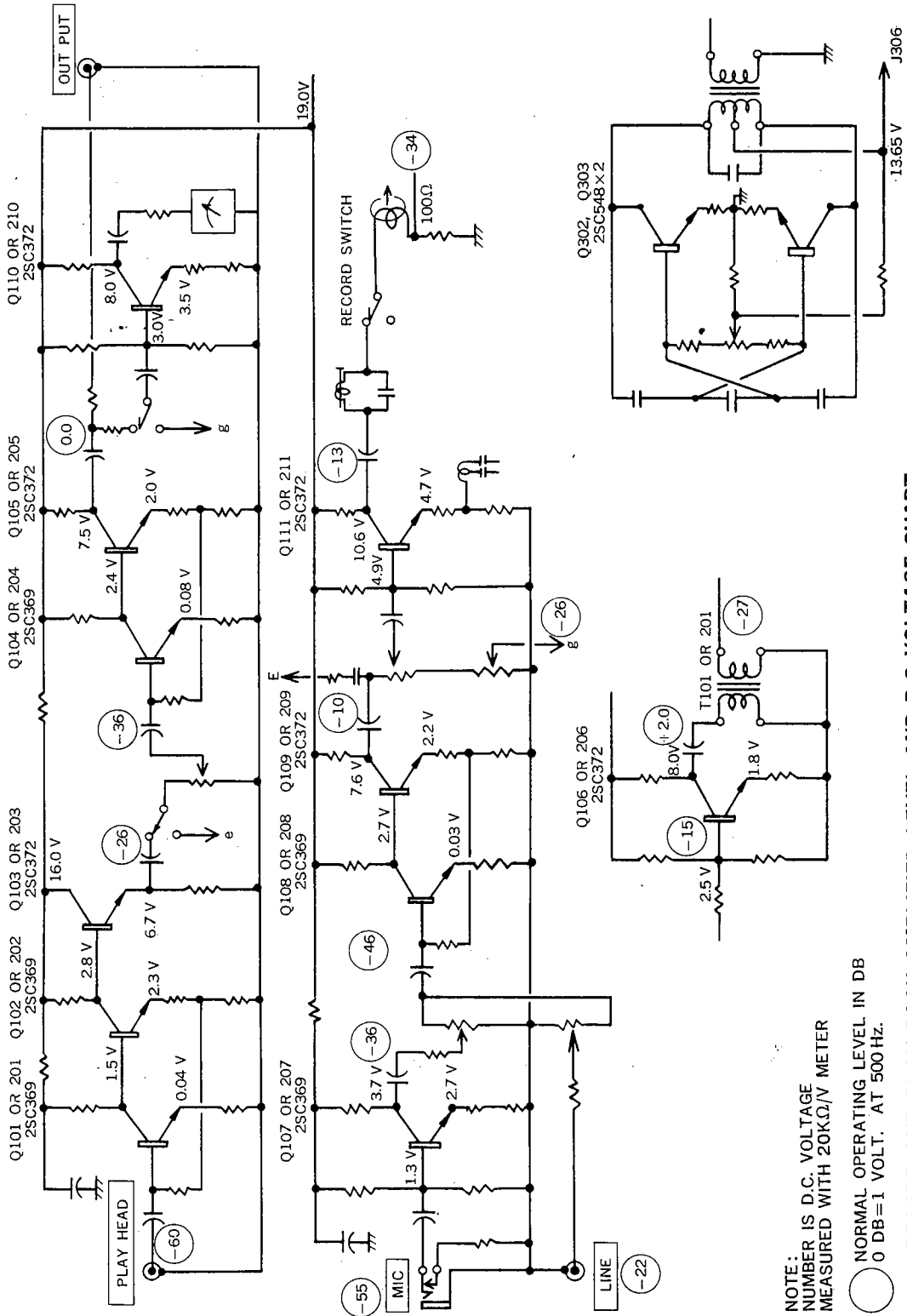
PINCH ROLLER AND LIFTER ASS'Y



## CAPSTAN ASS'Y

REF. NO.	PART NO.	DESCRIPTION
300		Capstan Ass'y
301	12280	Capstan Base
302	27125	Rubber Grommet
303	24032	Spacer
304	27290	Washer
305	12277	Belt Changer
307	12295	Belt Change Spring
308	12292	Belt Change Holder
309	12294	Belt Change Shaft
310	12293	Belt Change Knob
311	12281	Capstan Shaft
312	12284	Molt Plain
313	12305	Felt
315	12304	Capstan Metal
316	12303	Metal Holder
317		Ball Bearing
318	12146	Washer
319	12150	Stop Ring
320	12302	Fly Wheel
321	12285	Capstan Belt
322	12011	Motor Pulley
323	12279	Motor Mounting Plate
324	70112	Capstan Motor
325	12250	Fan
326	12291	Motor Protector
330		Capstan and Holder Ass'y
351	14159	Pinch Roller Arm
361	14157	Roller Arm Shaft
371	15197	Littern Spring Screw
527	27144	Wire Clamper
529		Spark Killer Ass'y

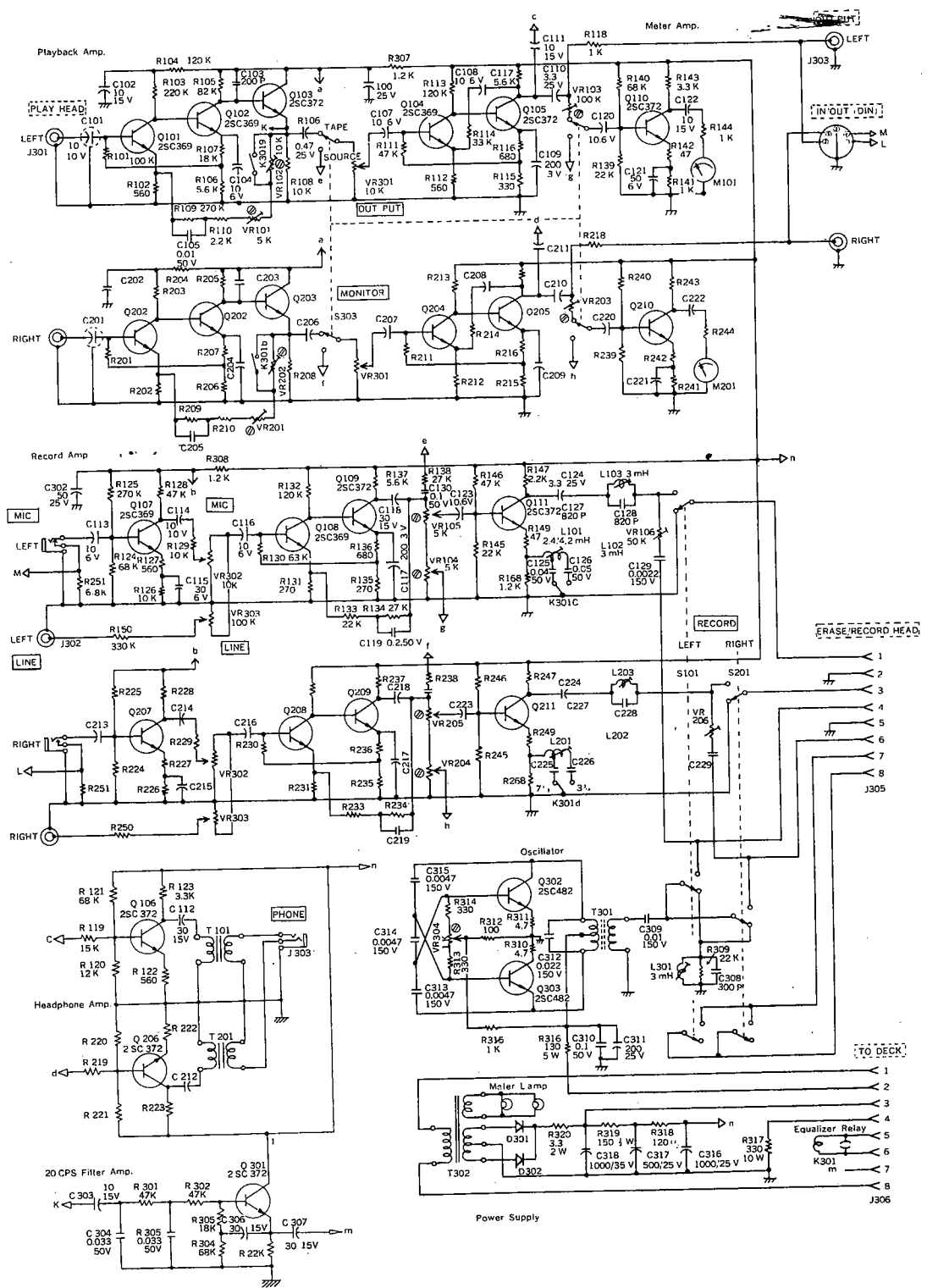




NOTE:  
 NUMBER IS D.C. VOLTAGE  
 MEASURED WITH 20KΩ/V METER  
 ○ NORMAL OPERATING LEVEL IN DB  
 0 DB=1 VOLT. AT 500 HZ.

**RECORD AND PLAY BACK AMPLIFIER LEVEL AND D.C VOLTAGE CHART**





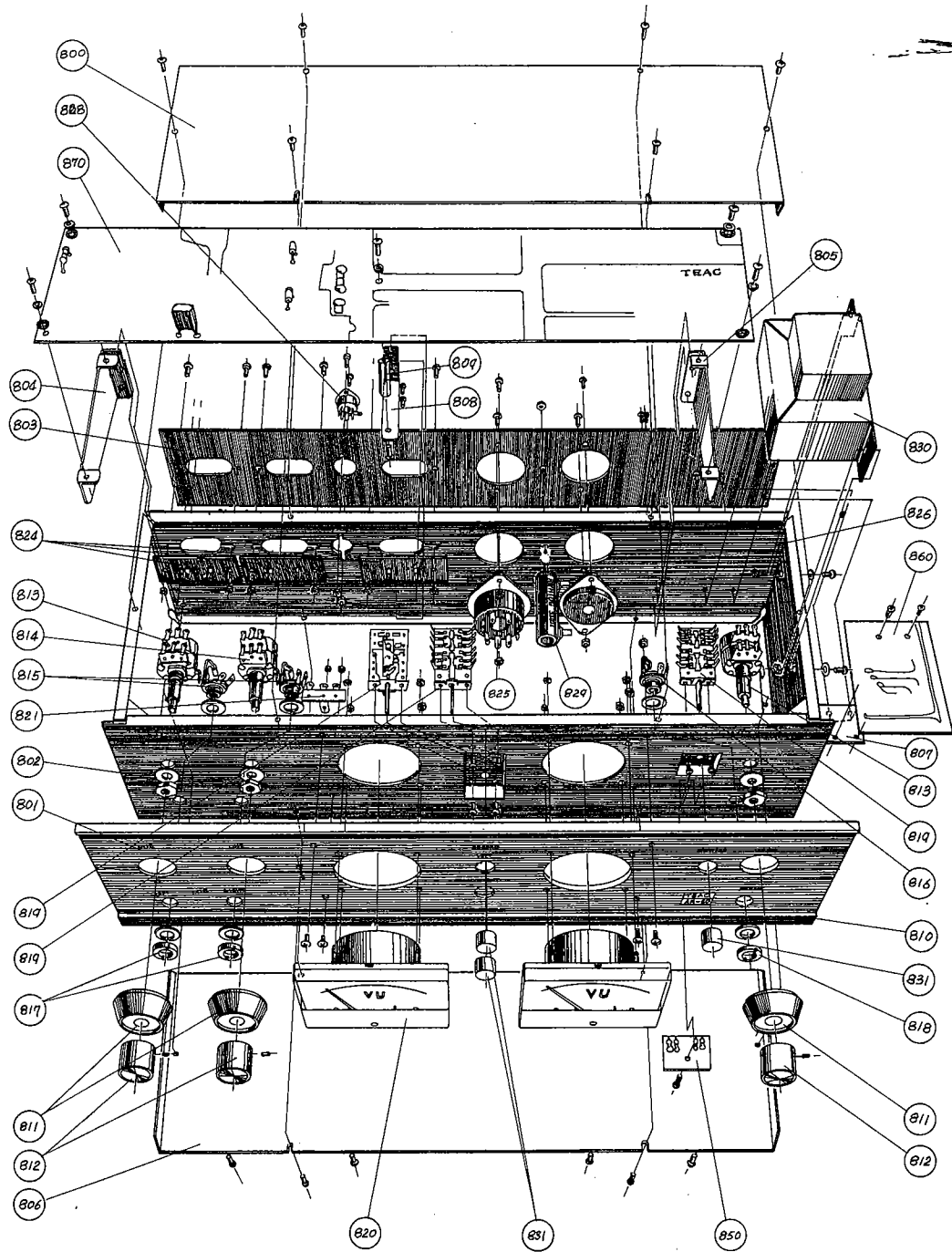
**RECORDING/PLAYBACK AMPLIFIER SCHEMATIC DIAGRAM**

**IF YOU HAVE ANY QUESTIONS OR REQUIRE CLARIFICATION ON POINTS  
COVERED IN THIS MANUAL PLEASE CONTACT  
TEAC SERVICE SECTION**

## AMPLIFIER

REF. NO.	PART NO.	DESCRIPTION
801	23199	Panel
802	23190	Chassis
803	23202-1	Back Panel
804	23191	Printed Board Retainer
805	23192	Printed Board Retainer
806	23198	Amplifier Cover
807	23194	Printed Board Retainer
808	23193	Printed Board Retainer
809	24063	Printed Board Retainer
810	26112	Name Plate
811	25233-1	Knob (Outer)
812	25226	Knob (Inter)
813	53710	Double Potentiometer 10K $\Omega$ A Carbon
814	53709	Double Potentiometer 100K $\Omega$ A Carbon
815	43010	Jack
816	43418	Jack (3P)
817	23195	Nut (A)
818	23196	Nut (B)
819	44327	Push Switch
820	58114	Volume Indicator Meter
821	45206	Terminal Strip IL-2P
822	48056	Printed Board Ass'y
823	53402	
824	43444	Pin Jack
825	43406	GT Socket
826	43409	GT Plug
827	45501	
828	43001	DIN Connector
829	52211	Resistor 320 $\Omega$ 10W
830	56132	Power Transformer





**AR-60 AMPLIFIER EXPLODED VIEW**

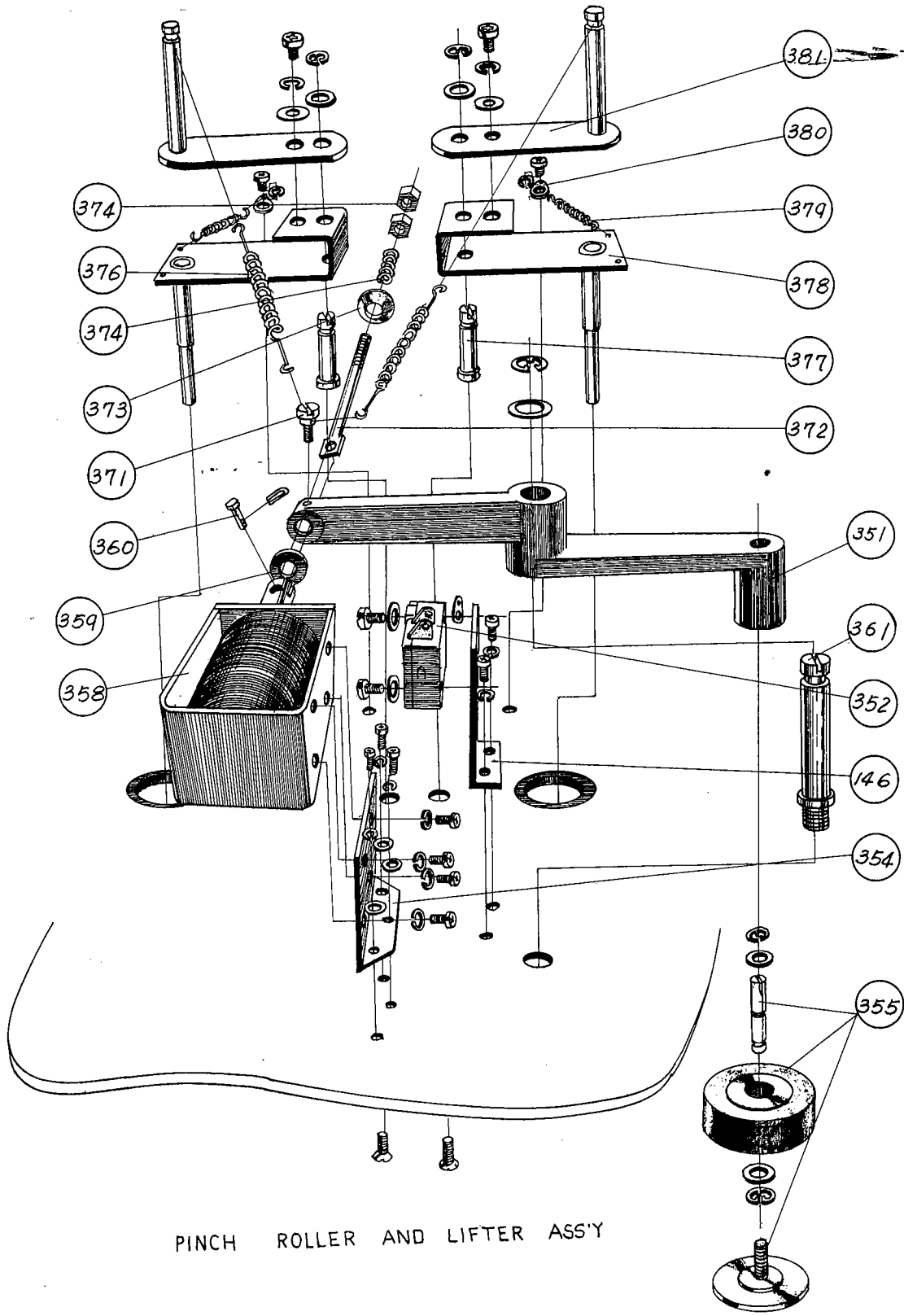




## PINCH ROLLER AND LIFTER ASS'Y

REF. NO.	PART NO.	DESCRIPTION
350		Pinch Roller Ass'y
357	14159	Pinch Roller Arm
352	44613	Micro Switch
146	27314	M.S Retainer
354	14155	Solenoid Mounting Plate
355	14009	Pinch Roller Ass'y
358	61624	Solenoid
359	27322	Felt Washer
360	12155	Plunger Pin A
361	14157	Arm Shaft
370		Tape Lifter Ass'y
371	15197	Littern Spring Screw
372	12153	Pressure Adjusting Screw
373	14158	Washer
374	22004	Pressure Adjusting Spring
375	14150	Double Nut
	14151	
376	15196	Return Spring
377	15198	Lifter Arm Shaft
378	15013	Lifter Arm Ass'y
379	15202	Lifter Spring
380	45501	Earth Washer
381	15014	Lifter Link Ass'y





PINCH ROLLER AND LIFTER ASS'Y

PINCH ROLLER AND LIFTER ASS'Y

11

12

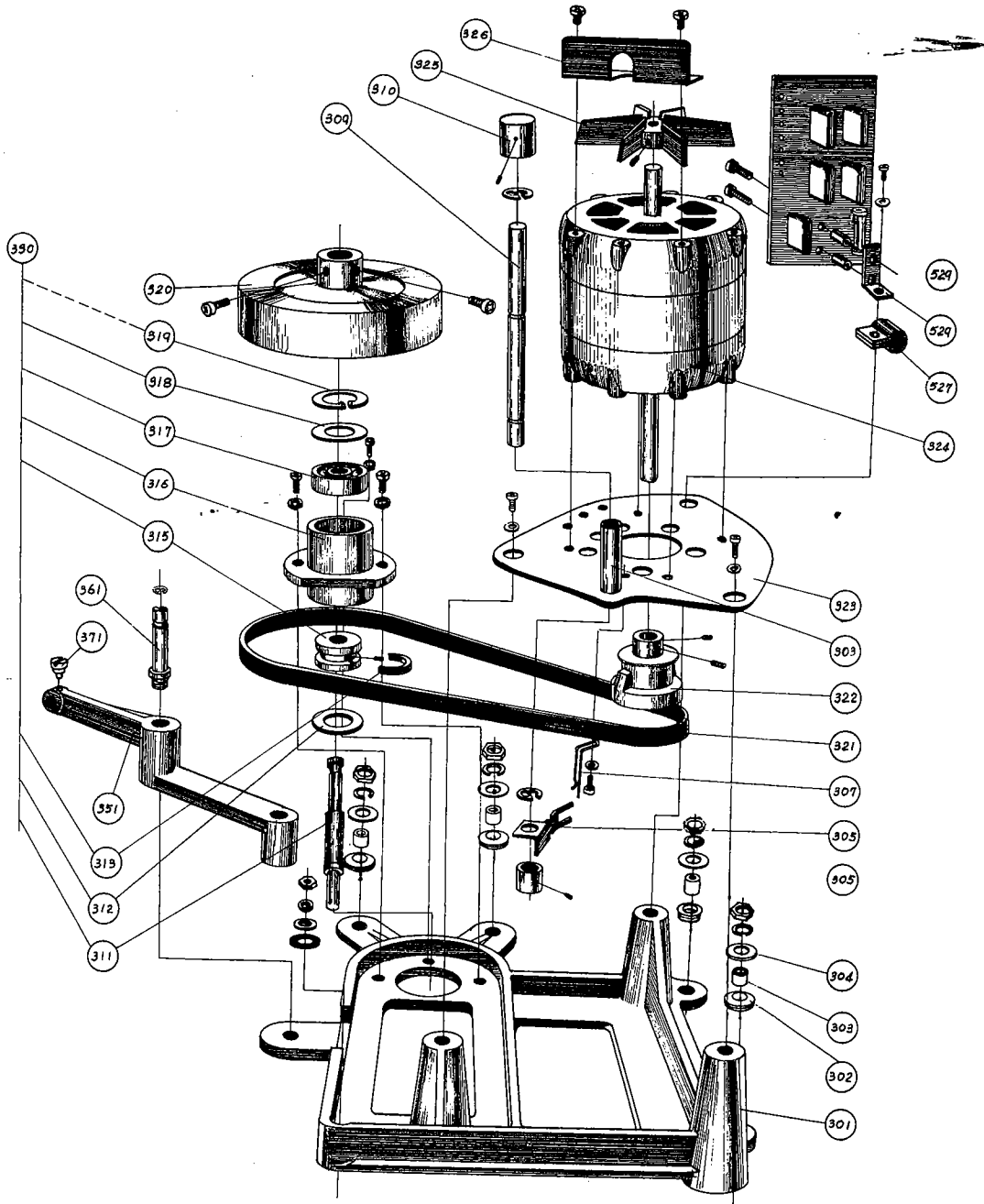
13

14

## CAPSTAN ASS'Y

REF. NO.	PART NO.	DESCRIPTION
300		Capstan Ass'y
301	12280	Capstan Base
302	27125	Rubber Grommet
303	24032	Spacer
304	27290	Washer
305	12277	Belt Changer
307	12295	Belt Change Spring
308	12292	Belt Change Holder
309	12294	Belt Change Shaft
310	12293	Belt Change Knob
311	12281	Capstan Shaft
312	12284	Molt Plain
313	12305	Felt
315	12304	Capstan Metal
316	12303	Metal Holder
317		Ball Bearing
318	12146	Washer
319	12150	Stop Ring
320	12302	Fly Wheel
321	12285	Capstan Belt
322	12011	Motor Pulley
323	12279	Motor Mounting Plate
324	70112	Capstan Motor
325	12250	Fan
326	12291	Motor Protector
330		Capstan and Holder Ass'y
351	14159	Pinch Roller Arm
361	14157	Roller Arm Shaft
371	15197	Littern Spring Screw
527	27144	Wire Clamper
529		Spark Killer Ass'y





CAPSTAN ASS'Y

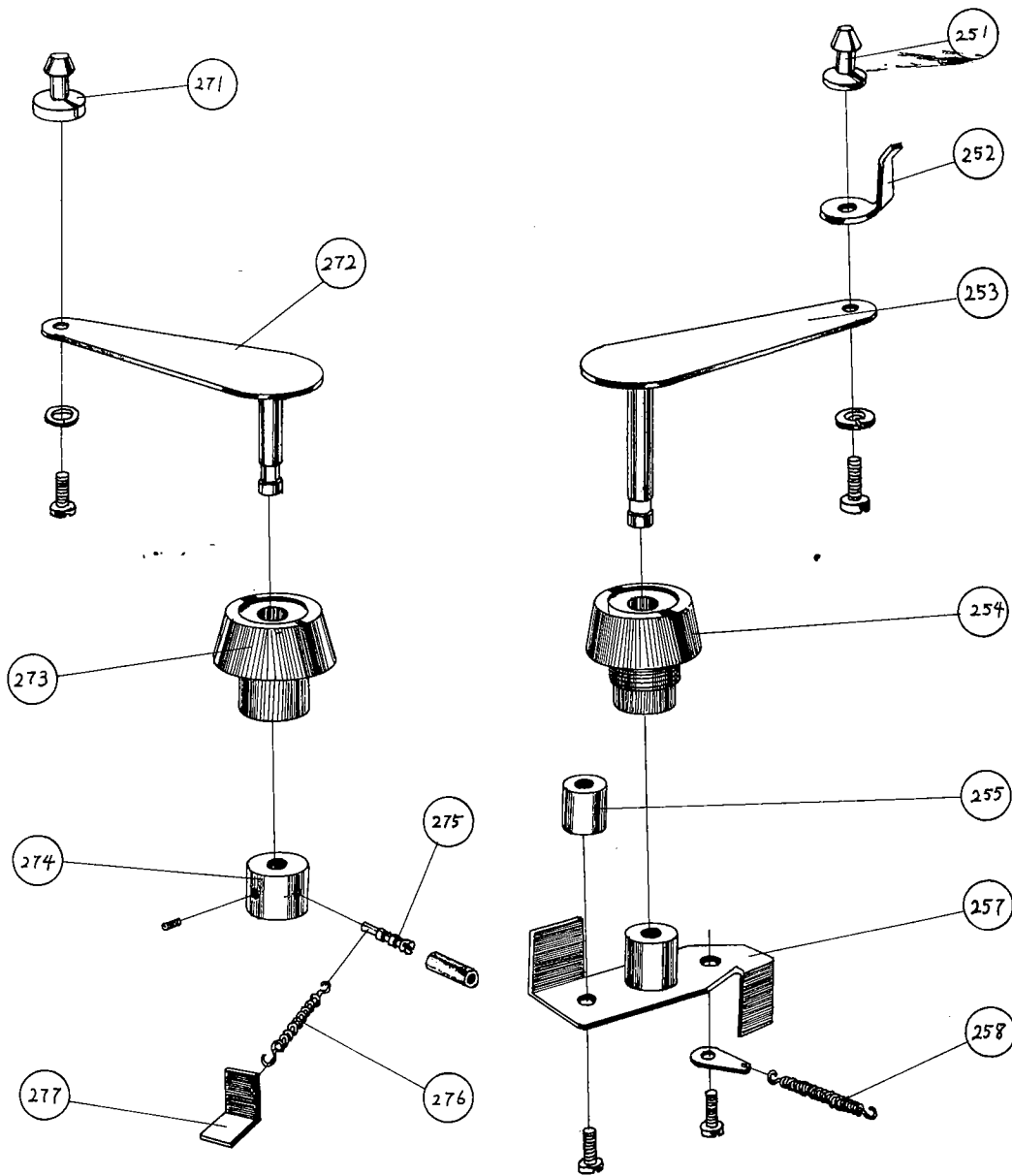




## SHUT-OFF SWITCH AND COMPLIANCE ARM ASS'Y

REF. NO.	PART NO.	DESCRIPTION
250		Shut-off Switch Ass'y
251	18234	Tape Guide
252	18236	Hook
253	18238	Arm Ass'y
254	18192	Arm Holder A
255	27336	Micro Switch Mounting Plate
257		Earth Washer
258	18231	Tension Spring
270		Compliance Arm Ass'y
271	18235	Tape Guide
272	18199	Arm Ass'y
273	18191	Arm Holder B
274	18135	Stop Ring
275	12154	Spring Hook
276	22003	Return Spring
277	27053	Spring Hook





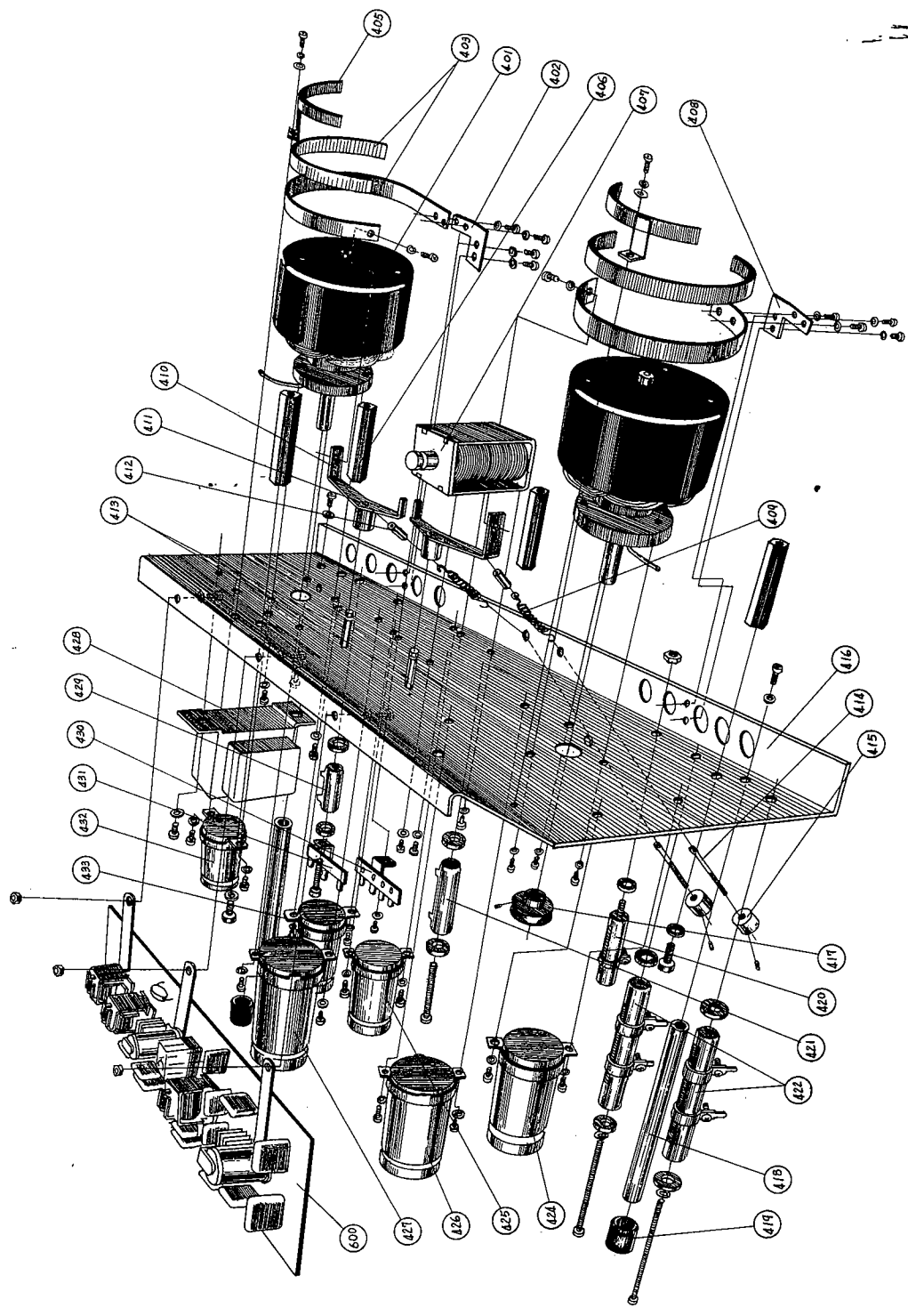
**SHUT-OFF SWITCH AND COMPLIANCE ARM ASS'Y**



## REEL MOTOR ASS'Y

REF. NO.	PART NO.	DESCRIPTION
400		Reel Ass'y
401	70220	Reel Motor
402	17226	Brake Band Retainer (L)
403	17223	Brake Band
	17138	
405	17224	Brake Guard
406	11172	Reel Base stay
407	61623	Solenoid Ass'y
408	17226	Brake Band Retained (R)
409	17221	Tension Spring
410	17214	Brake Arm (L)
411	17213	Brake Arm (R)
413	17218	Brake Arm Shaft
414	17220	
415	17216	
416	16151-3	Reel Motor Retainer
417	27317	Counter Pulley
418	24066	Stay
419	32174	Rubber Foot
420	52422	Enamel Rhostat 50Ω/10HA
421	52425	Enamel Rhostat 1.5K/20HA
422	52421	Enamel Rhostat 300Ω/30HA
424	54531	Capacitor (MP) 1+2.8μF/250WV
425	55117	Electrolytic Capacitor 1000μF/15V
426	54531	Capacitor 1(0.5)+2.8μF/250WV
427	54531	Capacitor 1(0.5)+2.8μF/250WV
428	56131-1	Transformer (Primary: 100V, 115V)
429	52210	Enamel Phostat 10Ω/10HA
430	45201	Terminal Strip 1L-3P
431	45206	Terminal Strip 1L-2P
432	55112	Electrolytic Capacitor 100μF/150WV
433		Electrolytic Capacitor 100μF/150WV
600		Control Unit Printed Board Ass'y
428	56141-1	Transformer (Primary: 100V, 220V)
	27353	Transformer Retainer





REEL MOTOR ASS'Y



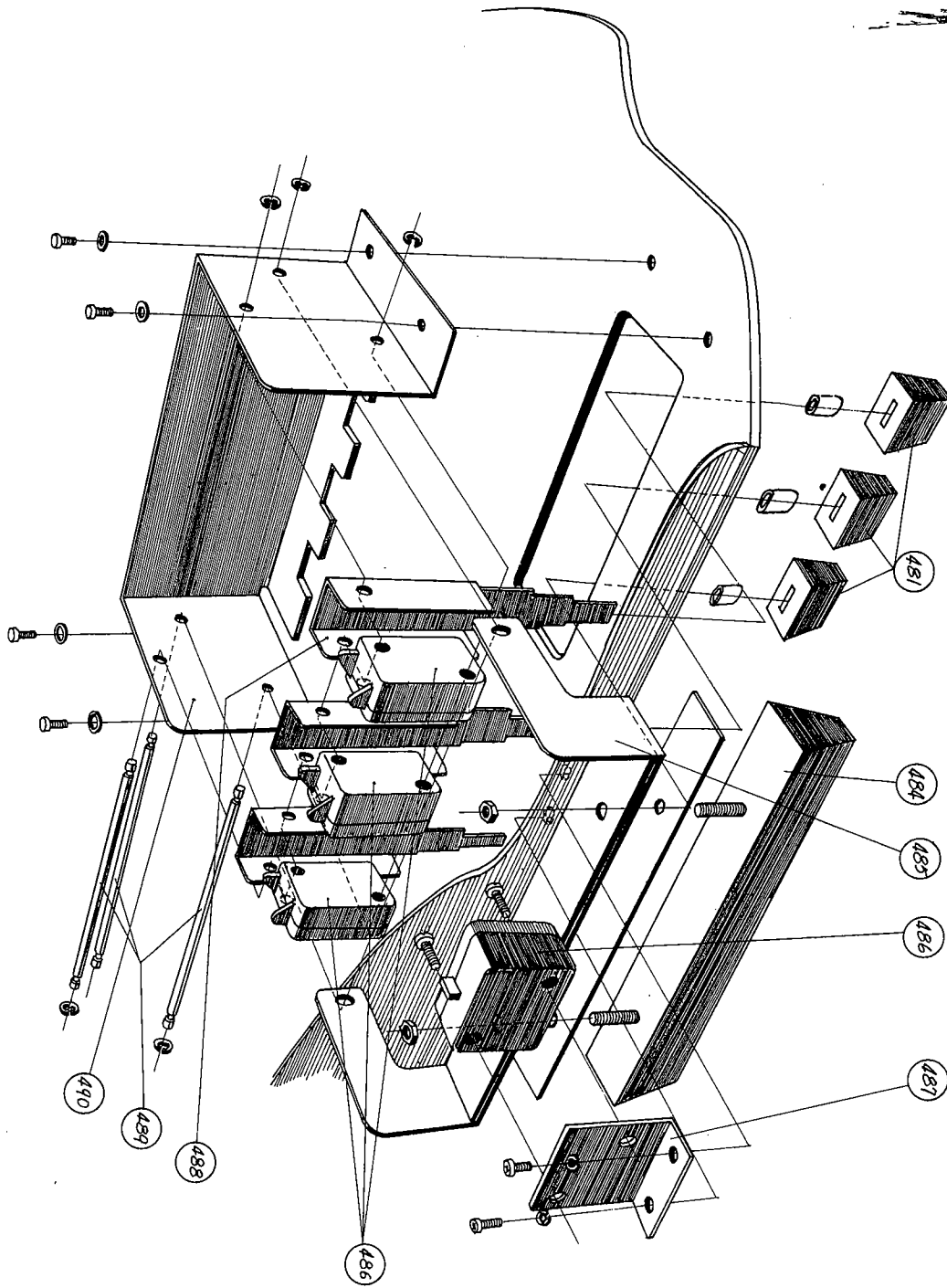


## TRANSPORT SELECTOR ASS'Y

REF.

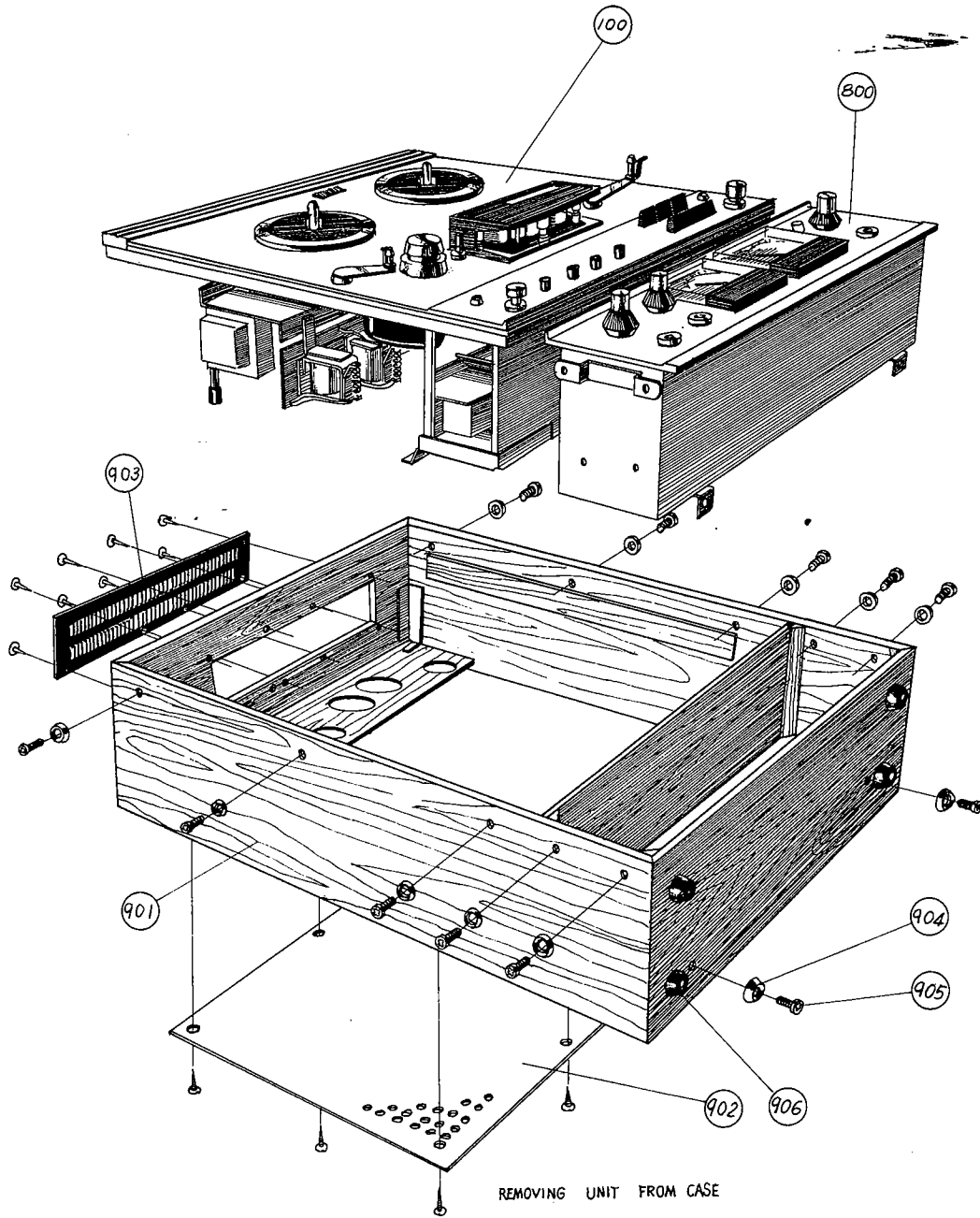
NO.	PART NO.	DESCRIPTION
480		Transport Select Ass'y
481	25227	Button (B)
484	25234	Button (A)
485	27306	Switch Retainer (B)
486	44609	Micro Switch
487	27304	Micro Switch Retainer
488	27307	Switch Retainer (C)
489	25230	Shaft
490	27305	Switch Retainer (A)





**TRANSPORT SELECTOR ASS'Y**





**REMOVING UNIT FROM CASE**

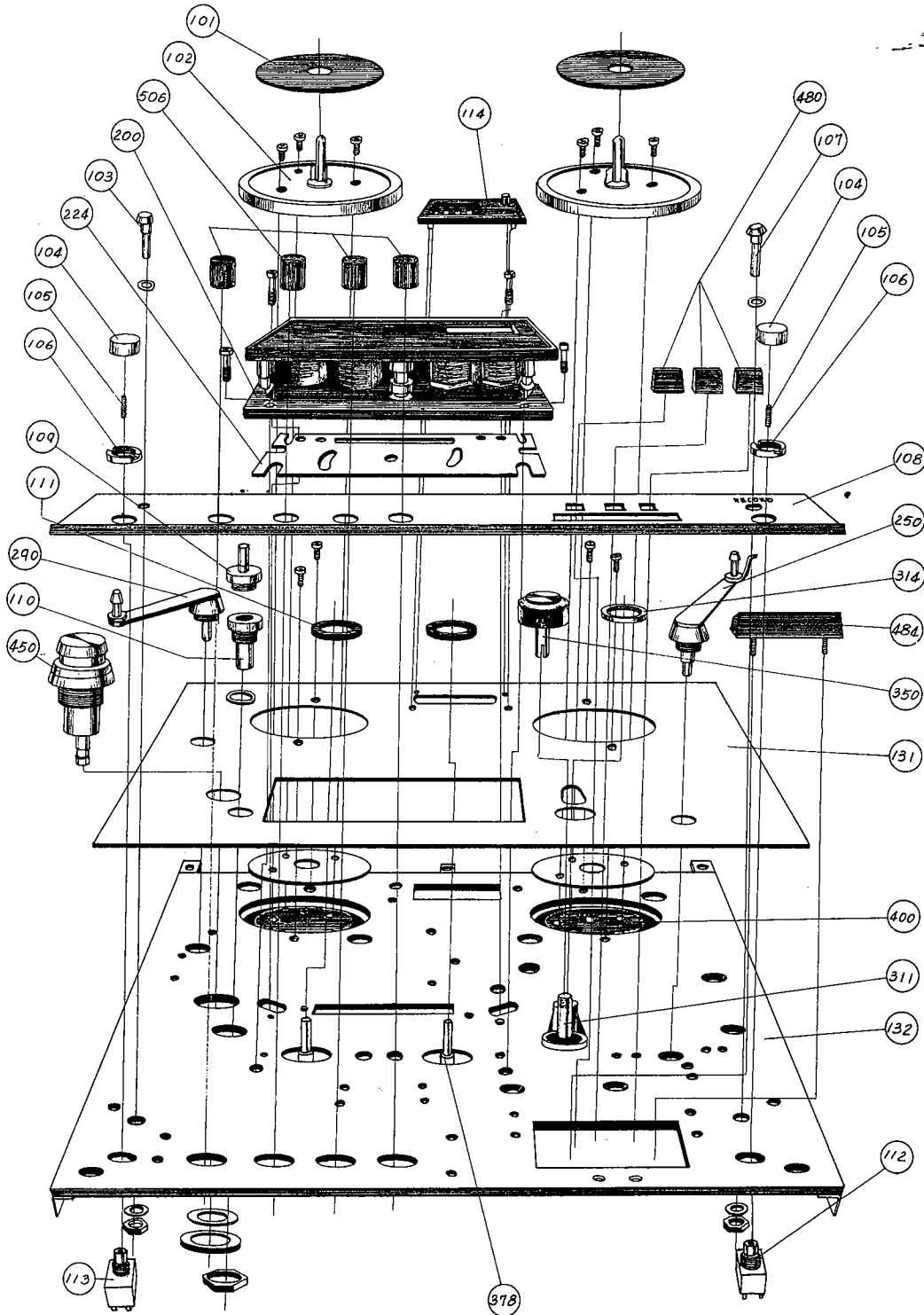


## REMOVING UNIT FROM CASE

REF. NO.	PART NO.	DESCRIPTION
100	A-6000	Tape Transport Ass'y
800	AR-60	Record / Playback Amplifier Ass'y
900		Case Ass'y
901	28425	Case
902	28426	Back Board
903	28410	Case Grille (B)
904		Washer M4
905		Screw M4×20
906	28383	Rubber Foot







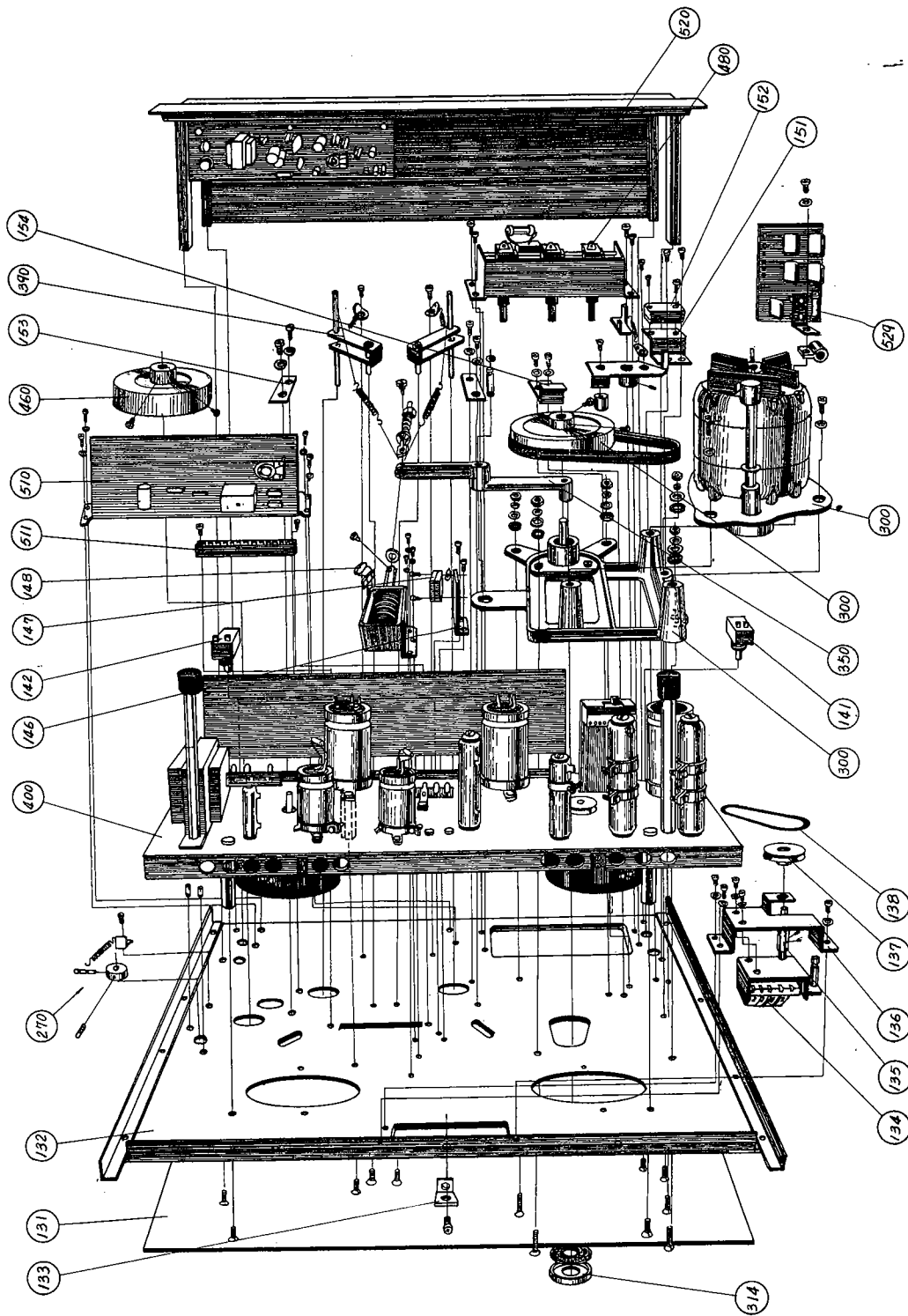
**TAPE TRANSPORT-TOP EXPLODED VIEW**



## TAPE TRANSPORT

REF. NO.	PART NO.	DESCRIPTION
101	16147	Reel Sheet
102	16152	Reel Table (Yellow)
103	41417	Neon Lamp (With Resistor)
104	25228	Push Button
105		Screw
106	25229	Nut
107	41426	Neon Lamp (Reb., With Resistor)
108	11178	Front Panel
109	44969	Sensing Ass'y
110	41211	Socket
111	11173	Rubber Stopper
112	44328	Record Switch
113	44329	Power Switch
114	27181	Counter Escutcheon
131	11176	Front Panel
132	11175	Top Panel
200		Head Ass'y
224	13375	Shielding Plate
250		Shut-off Switch Ass'y
270		Compliance Arm Ass'y
311	12281	Capstan Shaft
314	12286	Dust Cap
350		Pinch Roller Ass'y
378	15013	Tape Lifter Arm
400		Reel Ass'y
450		Inertial Roller Ass'y
480	25227	Transport Selector Ass'y
484	25234	Button
506	25232	Push Button





**TAPE TRANSPORT BOTTOM EXPLODED VIEW**

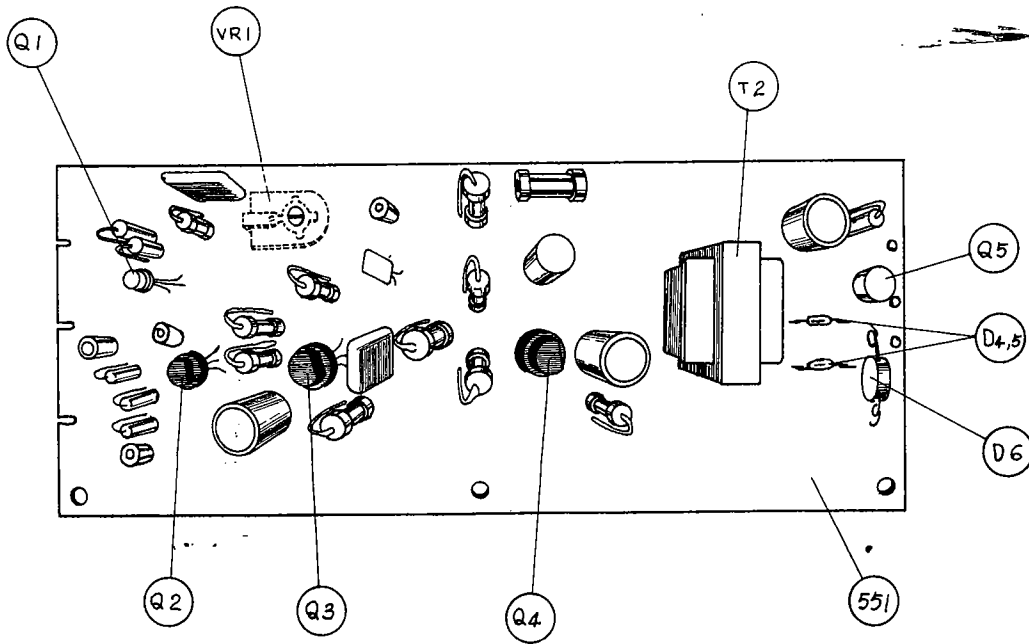


## TAPE TRANSPORT

REF. NO.	PART NO.	DESCRIPTION
131	11176	Front Panel
132	11175	Top Panel
133	11171	Bench-later Mounting Plate
134	58506	Index Counter
135	27318	Counter Joint
136	11694	Counter Retainer
137	58506	Index Counter Roller
138	27316	Counter Belt
141	44328	Record Switch
142	44329	Power Switch
146	27314	M.S Retainer
147	44613	Micro Switch
148	42210	Diode
151	27295	Switch Retainer
152	44613	Micro Switch
153	13377	Head Ass'y Mounting
154	27254	Magnet Ass'y
	18125	
270		Compliance Arm Ass'y
300		Capstan Ass'y
314	12286	Dust Cap
350		Pince Roller Ass'y
370		Tape Lifter Ass'y
400		Reel Ass'y
460	12214	Z-wheel
480		Transport Selector Ass'y
510		Reverse Printed Board Ass'y
511	43610	Head Connector
520		Connector Panel Ass'y
529		Spark Killer Ass'y







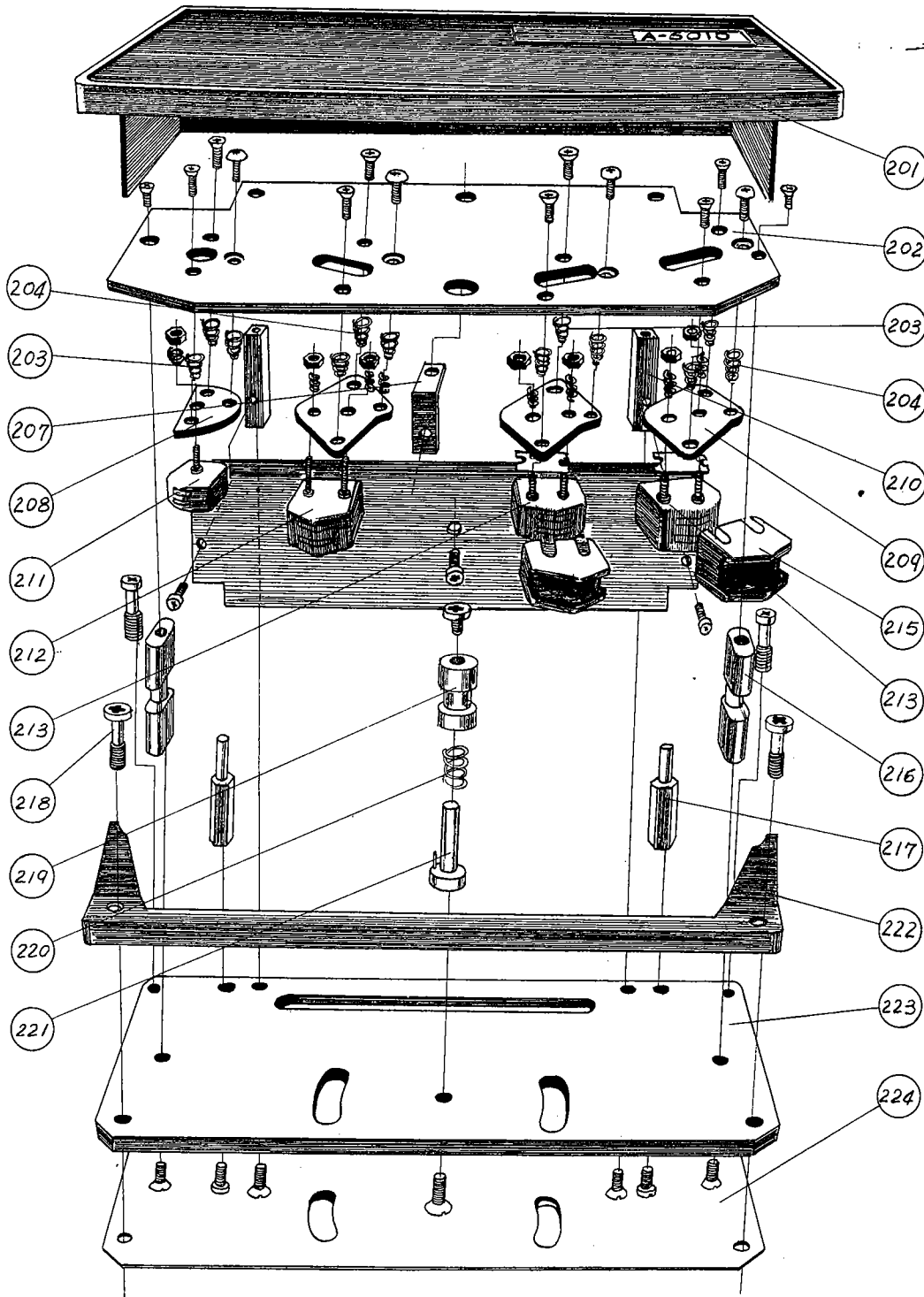
**REVERSE AMP UNIT PRINTED CIRCUIT BOARD ASS'Y**



## REVERSE AMP UNIT

REF. NO.	PART NO.	DESCRIPTION
550		Reverse Amp Unit Printed Circuit Board Ass'y
551	48049	Printed Board
Q1~4	42325	Transistor 2SC372
T <sub>2</sub>	56210	Transformer
D4, 5	42213	Diode
D <sub>6</sub>	42209	Diode
VR <sub>1</sub>	53320	Potentiometer 20K $\Omega$ Carbon





HEAD ASS'Y

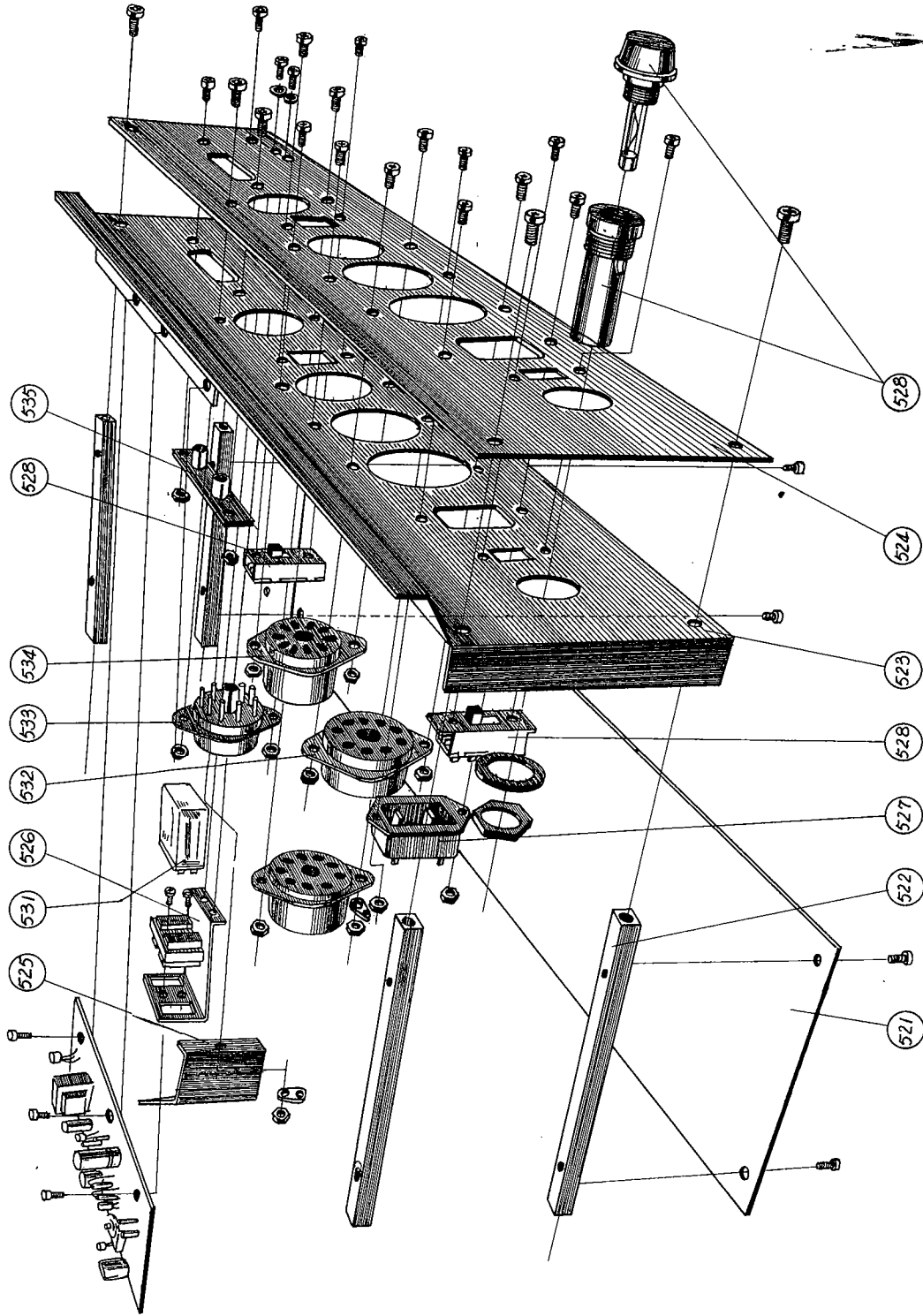


## HEAD ASS'Y

REF. NO.	PART NO.	DESCRIPTION
200		Head Ass'y
201	13371	Head Housing
202	13373	Head Retainer
203	22050	Spring B.
204	22047	Spring A.
207	13260	Angle
208	13360	E. Head Mounting Plate
209	13383	Head Mounting Plate
210	13261	Pole
211	66303	Erase Head
212	66604	Record Head
213	66904	Playback Head
215	13370	Shield Can
216	13381	Guid
217	13376	Supporter
218	13277	Head Ass'y Retaining
219	13264	Guide
220	22011	Spring
221	13263	Guide Shaft
	13265	
222	13372	Head Cover
223	13374	Housing Base
224	13375	Shielbing Plate







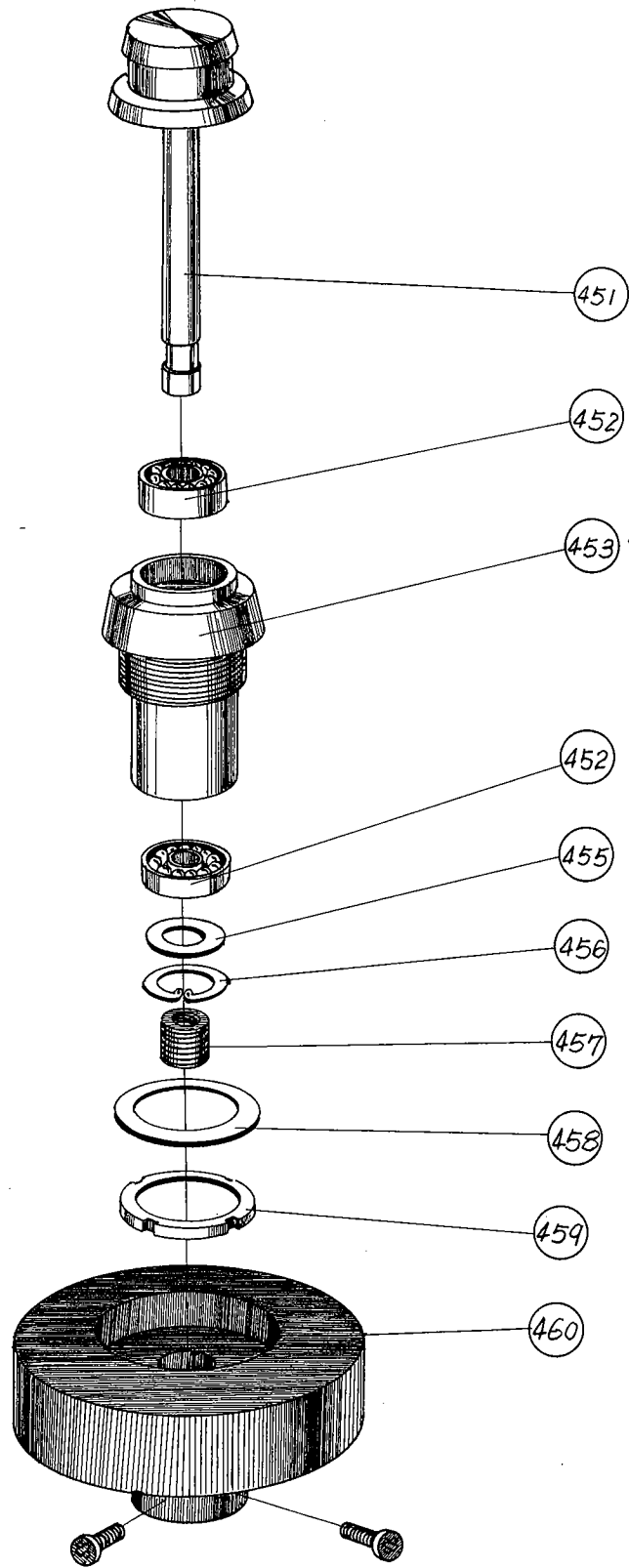
**CONNECTOR PANEL ASS'Y**



## CONNECTOR PANEL ASS'Y

REF. NO.	PART NO.	DESCRIPTION
520		Connector Panel Ass'y
521	27302-1	Chassis Cover
522	24065	Chassis Stay
523	27301	Chassis
524	11180-2	Dress Panel (100V, 115V)
525	11181	Shield
526	13388	Head Retainer
527	43105	AC Receptacle
528	44408	Switch
529	41207	Fuse Post
530	41114	Fuse (2A)
531	61503	Relay
532	43406	Socket 8P
533	43409	Socket 8P
534	43235	Socket 11P
535	43444	Pin Jack
11197		Dress Panel (100V, 220V)





**INERTIAL ROLLER ASS'Y**



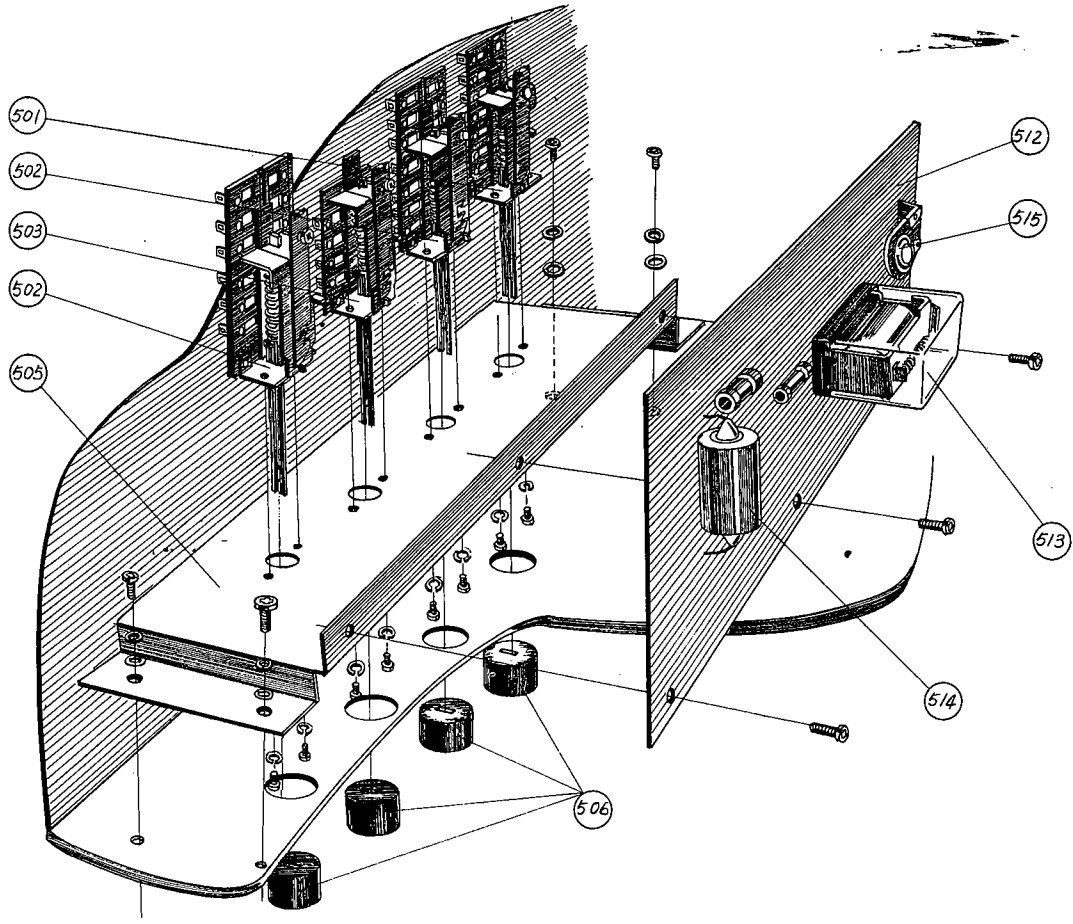
## INERTIAL ROLLER ASS'Y

REF.

NO.	PART NO.	DESCRIPTION
450		Inertial Roller Ass'y
457	12235	Inertial Roller
452		Ball Bearing
453	12236	Roller Metal
455	27319	Washer
456	12150	Stop Ring
457	12142	Spring Spacer
458	12144	Metal Holder Washer
456	12143	Metal Holder Nut
460	12214	Z-Wheel







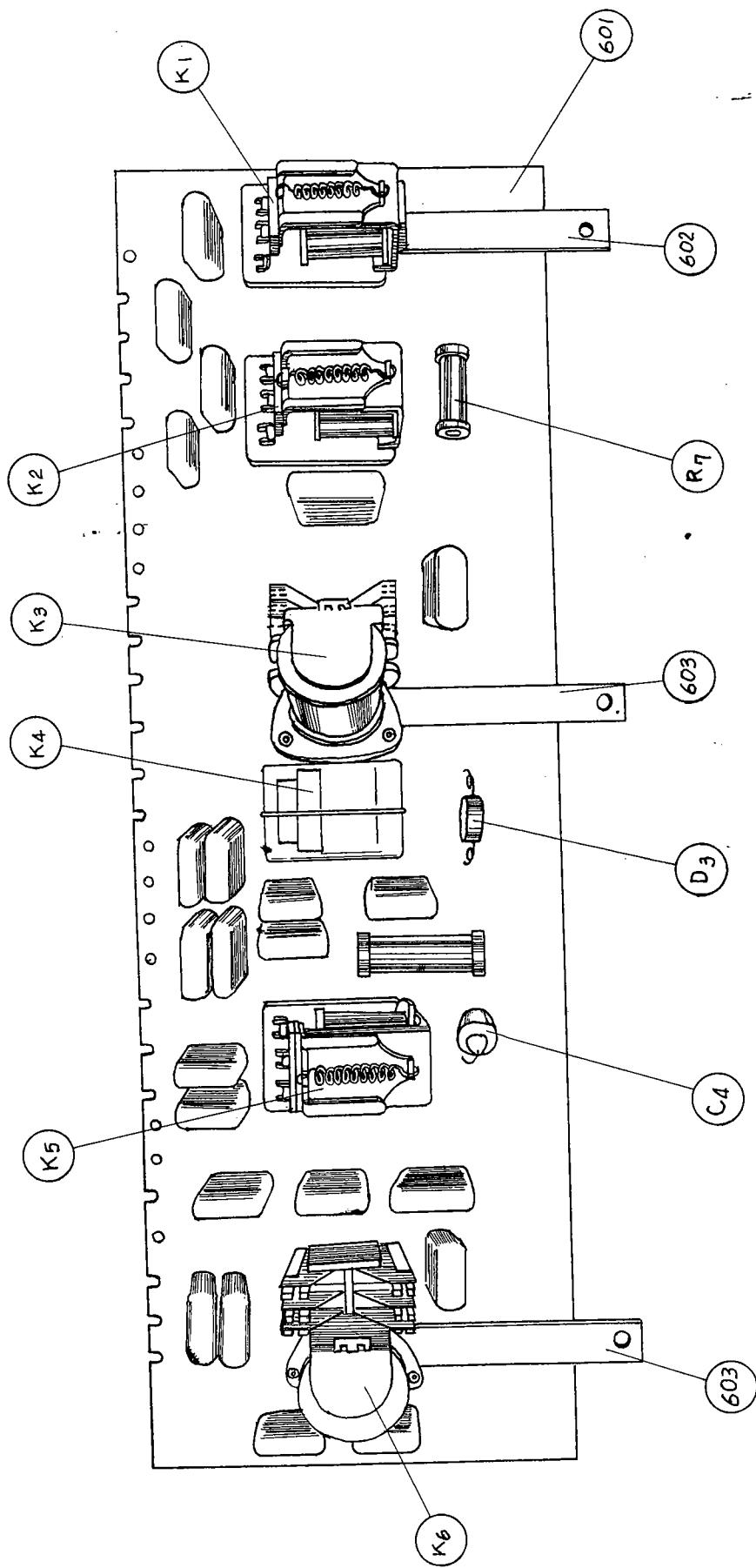
PUSH SWITCH ASS'Y



## PUSH SWITCH ASS'Y

REF. NO.	PART NO.	DESCRIPTION
501	44330	Push Switch
502	44331	Push Switch
503	44332	Push Switch
505	27303	Switch Retainer
506	25232	Push Button
510		Record Printed Board Ass'y
512	48050	Printed Board
513	61043	Relay
514	55510	Electrolytic Capacitor 5 $\mu$ F/150WV
515	53306	Potentiometer 50K $\Omega$ B Carbon





CONTROL UNIT PRINTED CIRCUIT BOARD ASS'Y



## CONTROL UNIT

RFE.

NO.	PART NO.	DESCRIPTION
600		Control Unit Printed Board Ass'y
601	48071	Printed Board
602	27308	Printed Board Retainer (A)
603	27309	Printed Board Retainer (B)
K <sub>1</sub>	61040	Relay DC 120V
K <sub>2</sub>	61040	Relay DC 120V
K <sub>3</sub>	61039	Relay DC 120V
K <sub>4</sub>	61041	Relay DC 120V
K <sub>5</sub>	61040	Relay DC 12V
K <sub>6</sub>	61039	Relay DC 120V
C <sub>4</sub>	55509	Capacitor 3 $\mu$ F/150W
D <sub>3</sub>	42209	Diode
R <sub>7</sub>	51410	Resistor 10 $\Omega$ 1W (Wired)







**TEAC CORPORATION**  
3-7-3 NAKA-CHO, MUSASHINO, TOKYO  
PHONE MUSASHINO (0422) 51-8181