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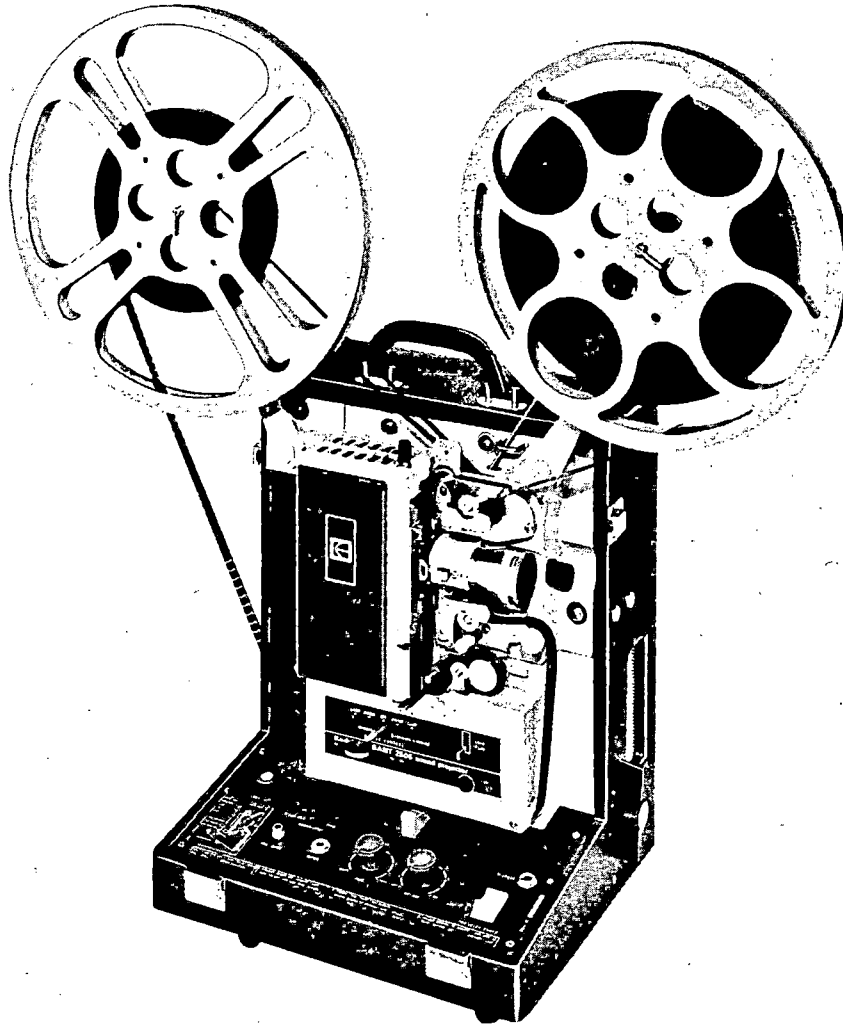
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# Service Manual KODAK PAGEANT 250S Sound Projector

This Service Manual supersedes Service Manual No. 789366.

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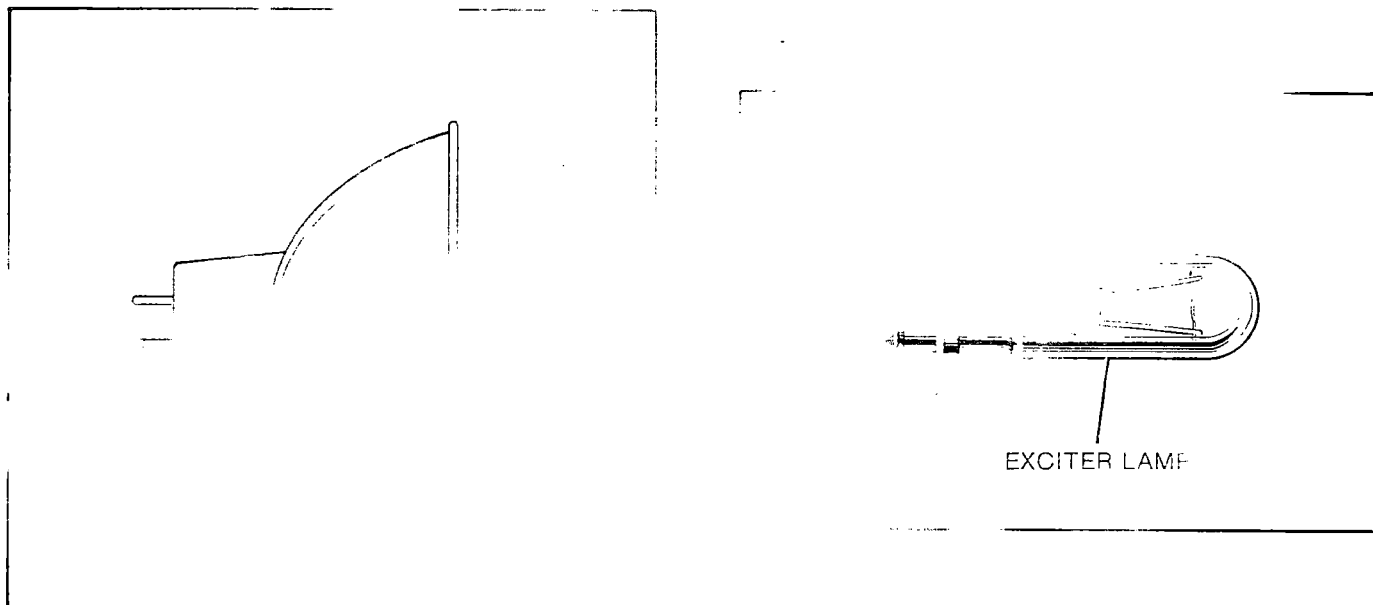
### Special Tools

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TL-815	SPRING SCALE
TL-1007	CLAW PROTRUSION GAUGE
TL-1079	SPRING GAUGE
TL-2192	THERMAL COMPOUND (WAKEFIELD Type 120 Compound•)
TL-2196	SEALANT (LOCTITE Grade B Sealant•)
TL-2199	SAE NO. 20 OIL (CITGO PACEMAKER T30 Oil•)
TL-2200	NON-MELTING GREASE (PARR PLASTILUBE No. 1 Grease•)
TL-2201	NON-MELTING GREASE WITH MOLY (PARR PLASTILUBE No. 1 Grease with 12% Moly•)
TL-2245	SYNTHETIC GREASE WITH MOLY (NYE Rheolube 733 Grease with Moly•)
TL-2493	TRAVEL GHOST TOOL
TL-2547	CEMENT (GLYPTAL Cement•)
TL-2578	KODAK NYLON GEAR LUBRICATION
110882	OIL (DOW CORNING DC200 Fluid•)
760382	5000-HZ TEST FILM
760383	BUZZ TRACK TEST FILM

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• The manufacturer's name and part number shown in parentheses are being used by Kodak at this time. In an emergency, customers may be able to purchase this product locally in a minimum of time. There may be other manufacturers' products with identical specifications that also may be suitable.

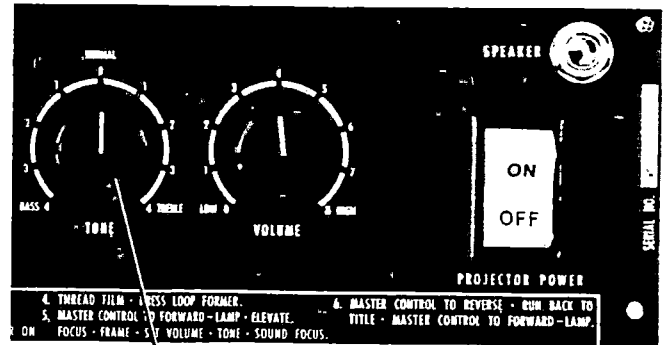
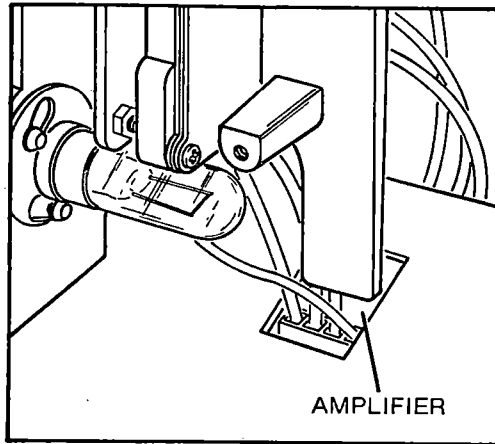


**Electrical**

Power Supply	105 to 125 V, 60 Hz
PROJECTION LAMP	200 W, ANSI code EJL, 24 V ac
EXCITER LAMP	ANSI code BSK; 6 V, 1 amp
Dielectric•Strength <sup>1</sup>	Maximum of 5.0 mA with 1200 V, rms, 60-Hz input for a minimum of 1 second

<sup>1</sup>See the glossary.

**FIGURE 1**



TONE CONTROL

**AMPLIFIER Specifications**

	"FILM"	"MICRO"	"AUX"
Maximum Output●	14.2 V minimum		
Maximum Input●●	150 mV minimum		
Signal-to-noise Ratio <sup>1</sup> ●,●●	47 dB minimum	42 dB minimum	48 dB minimum
Frequency <sup>1</sup> Response●,●●●:			
400 Hz	0 dB	0 dB	0 dB
50 Hz	-1.0 ± 1.5 dB	-0.5 dB ± 1.5 dB	-0.5 ± 1.5 dB
100 Hz	-0.5 ± 1.0 dB	0 ± 1.0 dB	0 ± 1.0 dB
200 Hz	0 ± 0.5 dB	0 ± 0.5 dB	0 ± 0.5 dB
1 kHz	1.0 ± 1.0 dB	0 ± 1.0 dB	0 ± 1.0 dB
2 kHz	2.5 ± 1.0 dB	-0.5 ± 1.0 dB	-0.5 ± 1.0 dB
4 kHz	3.5 ± 1.0 dB	-0.5 ± 1.0 dB	-0.5 ± 1.0 dB
7 kHz	3.0 ± 1.5 dB	-1.5 ± 1.5 dB	-1.0 ± 1.5 dB
10 kHz		-3.0 ± 1.5 dB	-2.0 ± 1.5 dB
15 kHz		-5.0 ± 2.0 dB	-4.0 ± 2.0 dB
TONE CONTROL●,●●●:			
50 Hz—"0-NORMAL"	0 dB		
"4-BASS"	± 1.0 dB		
"4-TREBLE"	± 1.0 dB		
7 kHz—"0-NORMAL"	0 dB		
"4-BASS"	-12.0 dB maximum		
"4-TREBLE"	+3.0 dB minimum		

● With input of 30 mV, "FILM"; 1 mV, "MICRO"; 500 mV, "AUX."

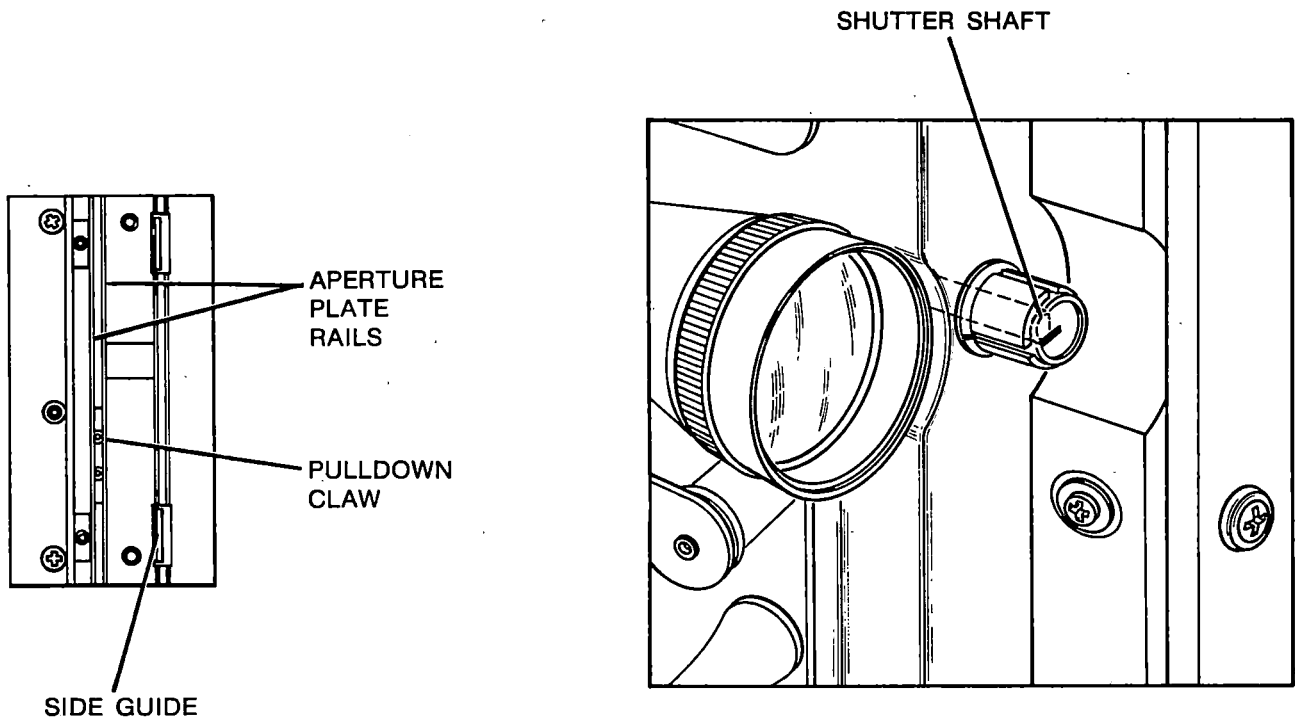
<sup>1</sup>See the glossary.

●● When output is approximately 14.2 V into 8 Ω.

●●● Output adjusted to 6 V, rms.

**NOTE:** Input is 10 kΩ for "FILM"; 600 Ω for "MICRO" and "AUX." TONE CONTROL in "NORMAL" position, except for TONE CONTROL test. Operating frequency<sup>1</sup> is 400 Hz, except for frequency response test.

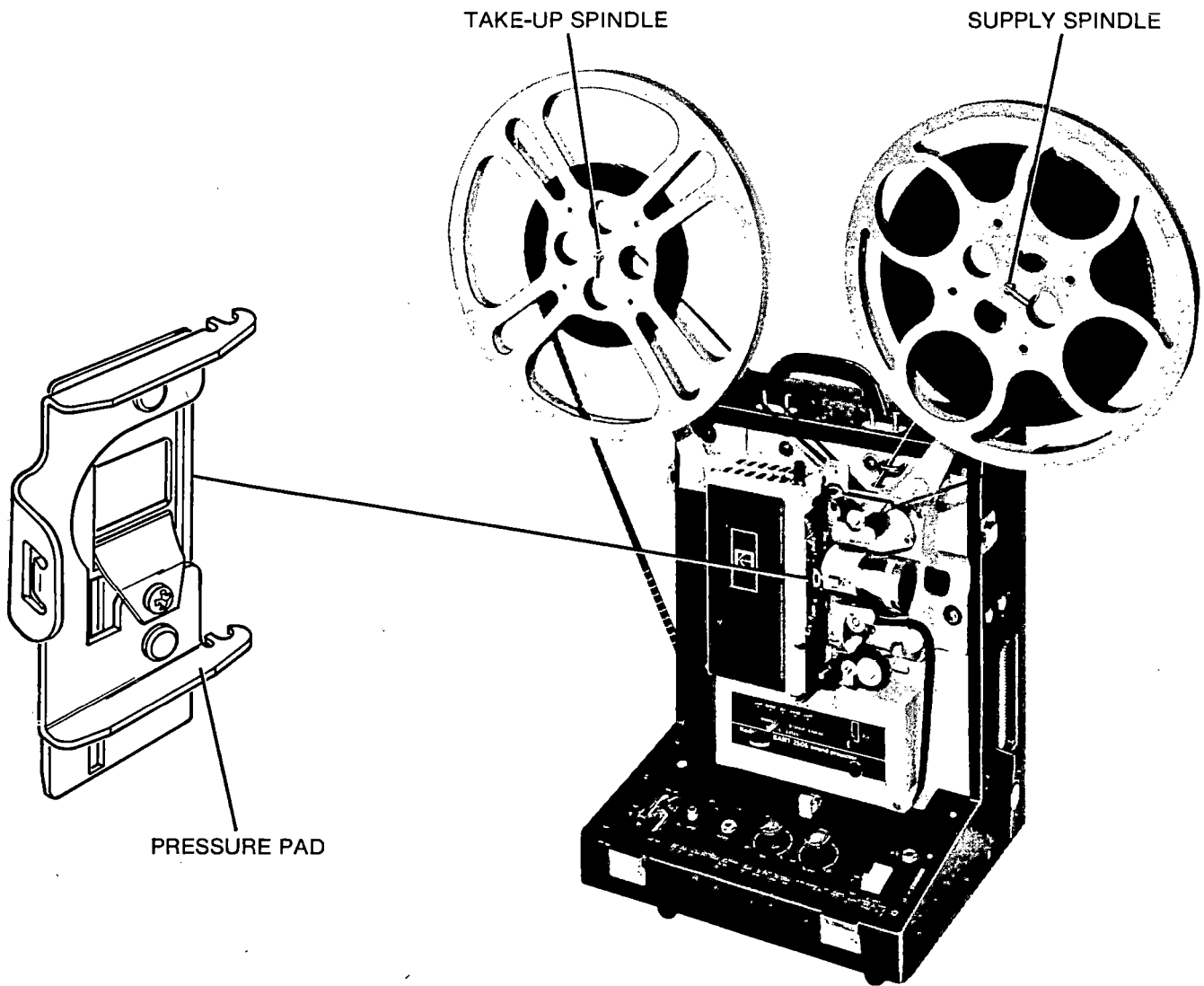
**FIGURE 2**



**Mechanical**

PULLDOWN CLAW	The end of the PULLDOWN CLAW is 0.76 mm to 1.14 mm (0.030 to 0.045") from the APERTURE PLATE RAILS.
SIDE GUIDE Force	0.280 to 0.415 N (1 to 1.5 oz f)
SHUTTER SHAFT Speed	Sound speed of 24 fps: 1440 ± 75 rpm, 115 V Silent speed of 18 fps: 1080 ± 60 rpm, 115 V

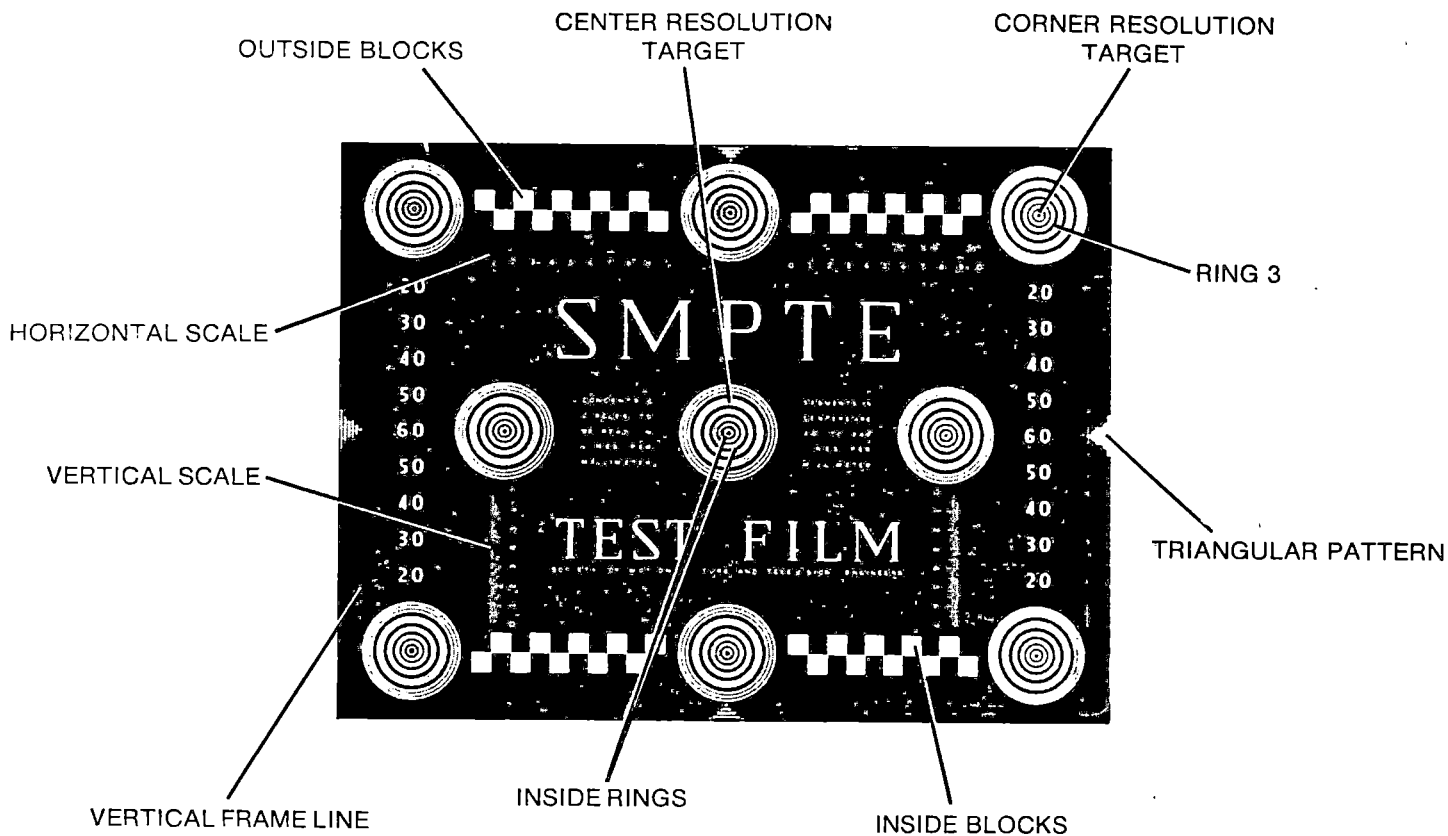
**FIGURE 3**



**Mechanical**

PRESSURE PAD Force	0.417 to 0.695 N (1.5 to 2.5 oz f)
TAKE-UP SPINDLE Torque	In "FORWARD": 7.1 to 24.7 mN•m (1.0 to 3.5 in oz) In "REVERSE": 3.5 to 14.1 mN•m (0.5 to 2.0 in oz)
SUPPLY SPINDLE TORQUE	In "FORWARD": 5.3 to 14.1 mN•m (0.75 to 2.0 in oz) In "REVERSE": 35 to 99 mN•m (5 to 14 in oz) In "REWIND": 297 to 445 mN•m (42 to 63 in oz)

**FIGURE 4**



**Mechanical**

**NOTE:** Use the SMPTE REG-16 REGISTRATION TEST FILM 761715 for the following procedures.

Travel•Ghost <sup>1</sup>	With PROJECTOR in "FORWARD," 18 fps: Check the INSIDE and OUTSIDE BLOCKS, above and below, for travel•ghost. Maximum travel•ghost is approximately 0.015 mm (0.0006").
Centering <sup>1</sup>	With PROJECTOR in "REVERSE," 18 fps: Minimum travel•ghost is normal if you make necessary adjustments in "FORWARD."
Steadiness <sup>1</sup>	Check that the same number of BARS within the TRIANGULAR PATTERN in the center of the VERTICAL FRAME LINE are visible on both sides.
Focus	In both "FORWARD" and "REVERSE," 24 fps: Image does not move more than the space between two lines on the VERTICAL and HORIZONTAL SCALES.
	Check that the INSIDE RINGS of the CENTER RESOLUTION TARGET are in focus and that the 4 CORNER RESOLUTION TARGETS are in focus in RING 3.

<sup>1</sup>See the glossary.

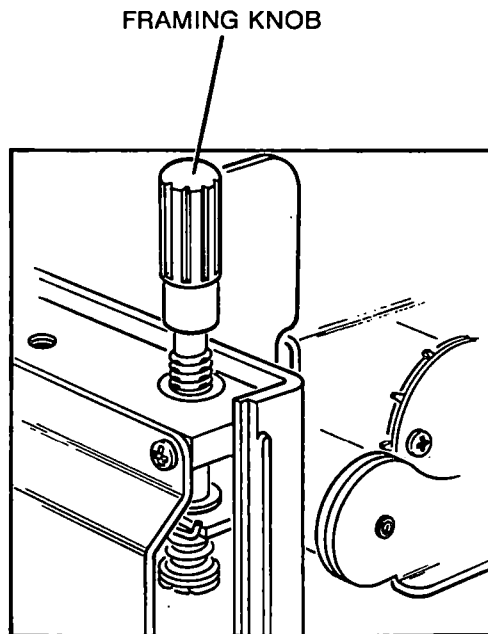
**FIGURE 5**



**Mechanical**

Framing <sup>1</sup>	Move the FRAMING KNOB to the middle position; use a point in the center of the VERTICAL SCALE to check the framing. The correct framing of the image is a minimum of 0.51 mm (0.02") above and below this point when you adjust the FRAMING KNOB to the clockwise and counterclockwise position.
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<sup>1</sup>See the glossary



**FIGURE 6**

## PULLDOWN CLAW

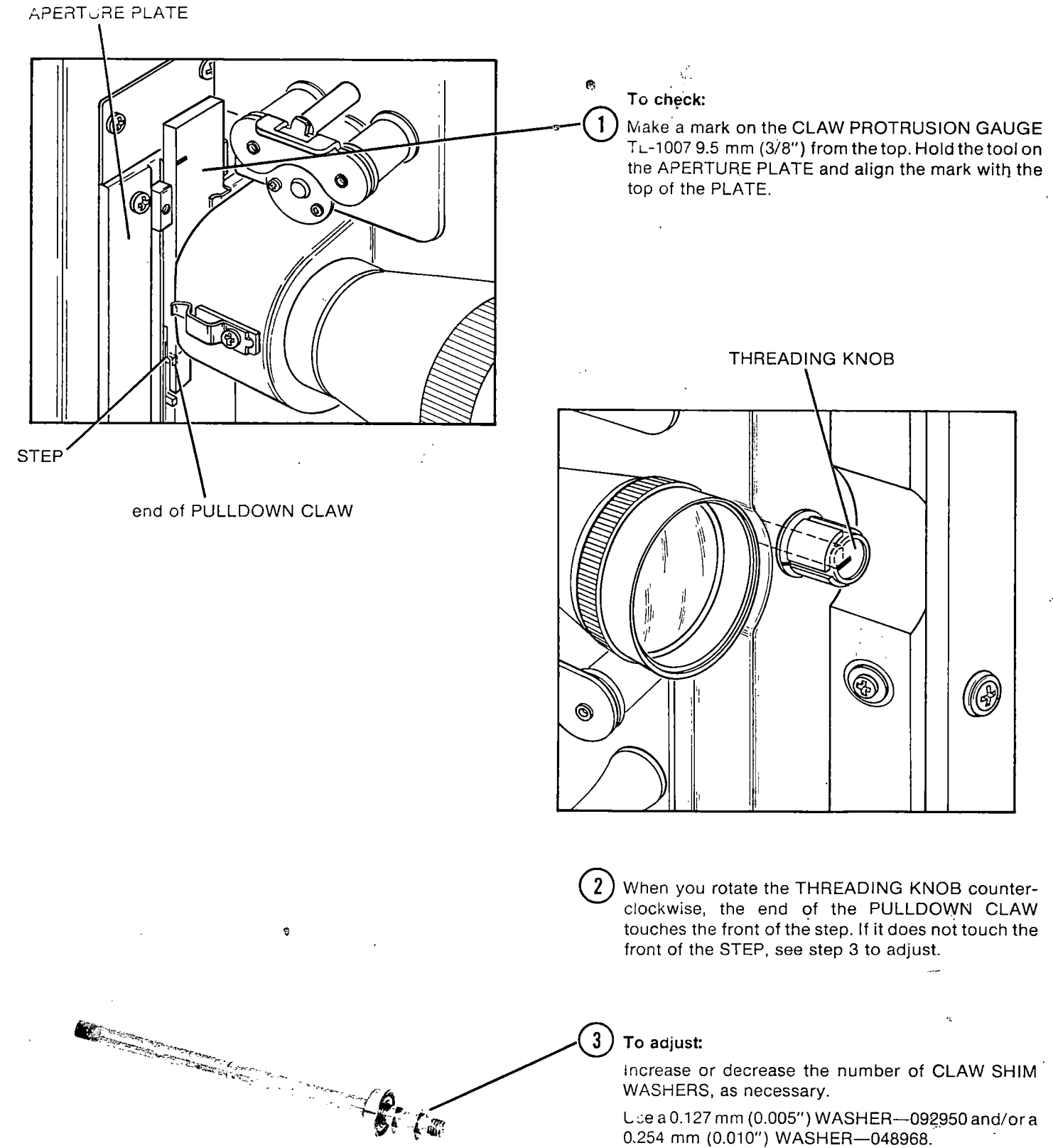
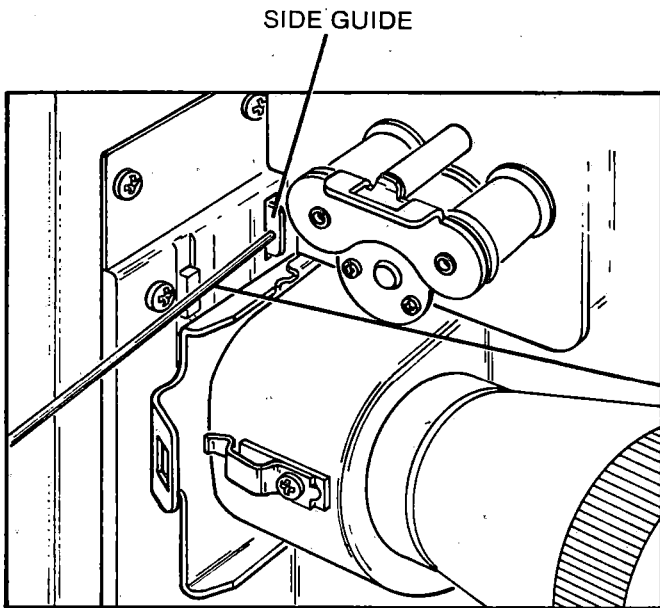


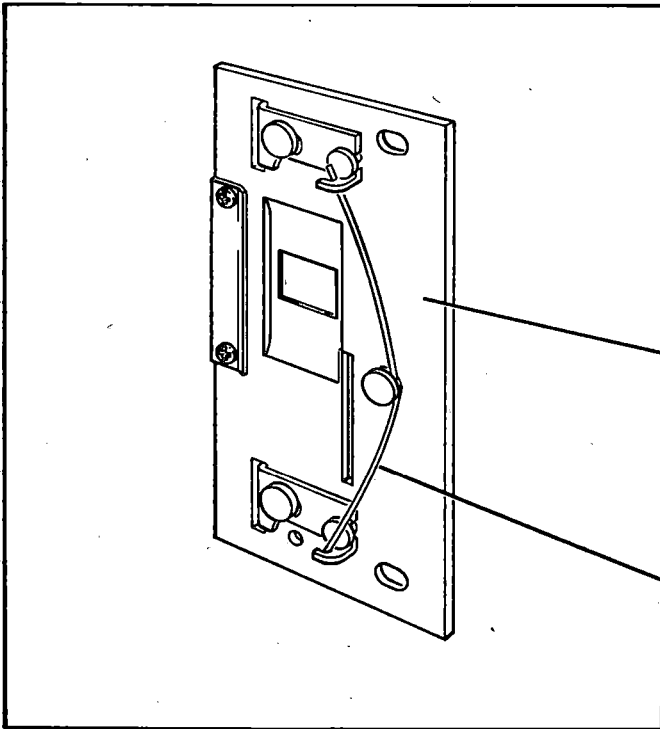
FIGURE 7

SMP20A

**SIDE GUIDE Force**



① **To check:**  
Hold a SPRING GAUGE TL-1079 against each SIDE GUIDE. The SIDE GUIDE moves when the indication on the GAUGE is 0.417 to 0.695 N (1.5 to 2.5 oz f).

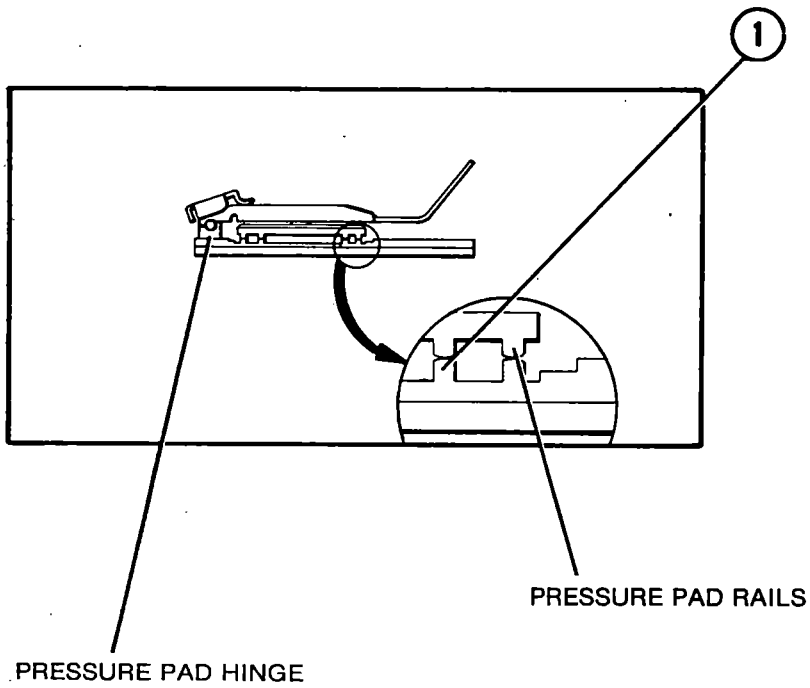


② **To adjust:**  
Remove the APERTURE PLATE and bend the SIDE GUIDE SPRING.

**FIGURE 8**

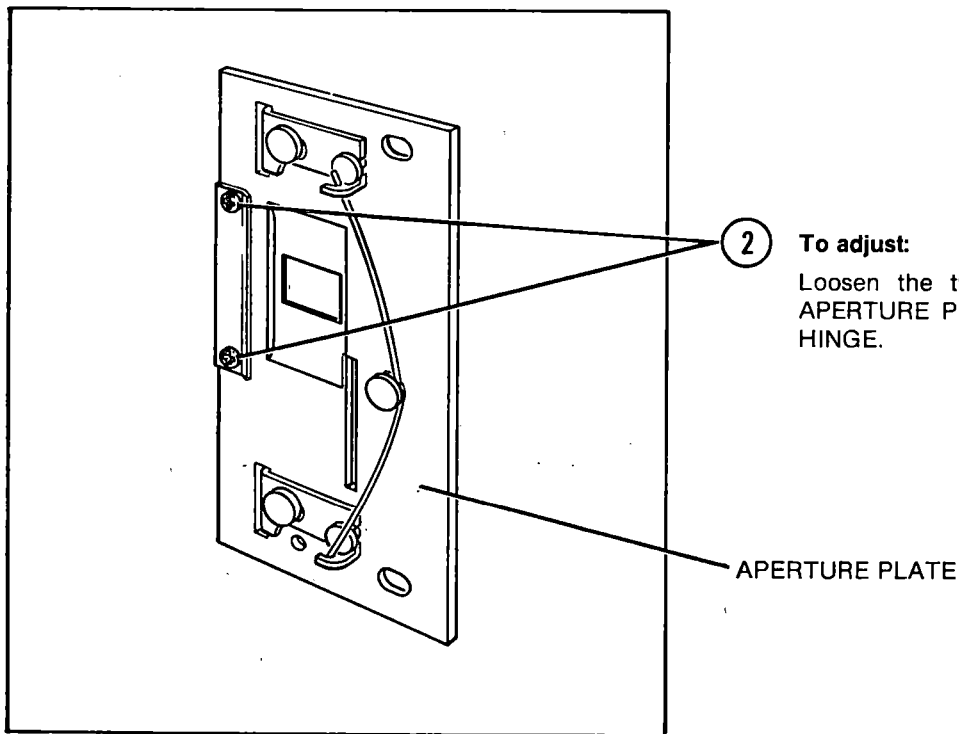
SMP20A

**PRESSURE PAD RAILS**



**To check:**

Check the alignment of the APERTURE PLATE RAILS and PRESSURE PAD RAILS.

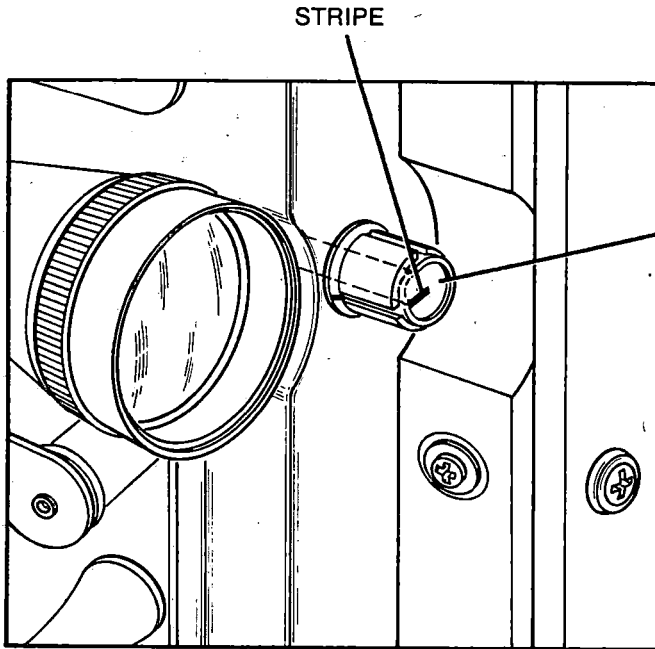


**To adjust:**

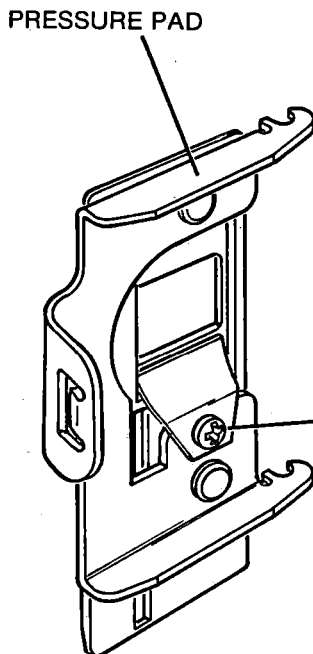
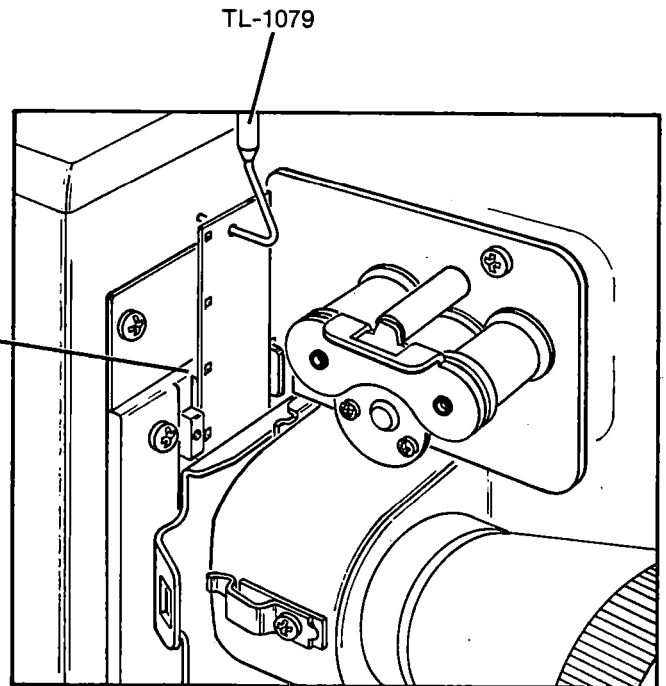
Loosen the two SCREWS on the back of the APERTURE PLATE to align the PRESSURE PAD HINGE.

**FIGURE 9**

**PRESSURE PAD Force**



① **To check:**  
Rotate the **THREADING KNOB** until the white **STRIPE** is in this position. Pull a section of film through the **GATE** with a **SPRING GAUGE TL-1079**. When the force is correct, the indication on the **GAUGE** is 0.417 to 0.695 N (1.5 to 2.5 oz f).

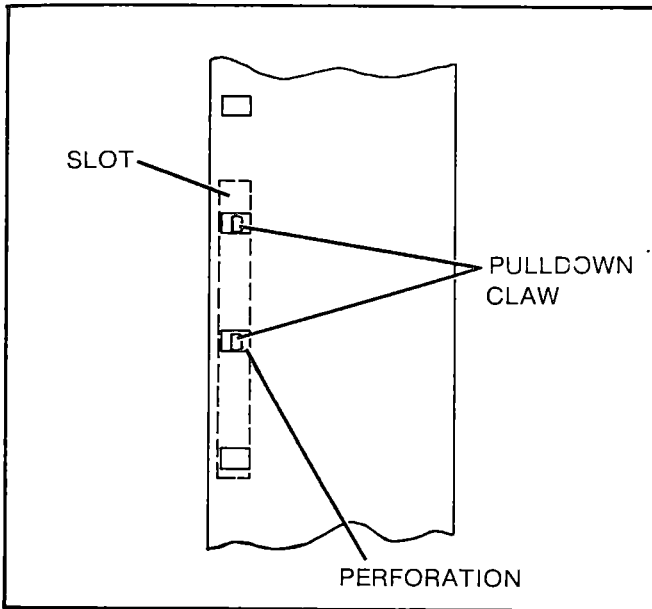


② **To adjust:**  
Adjust the **SCREW**. After adjustment, use one drop of **SEALANT TL-2196** on the **SCREW**.

**FIGURE 10**

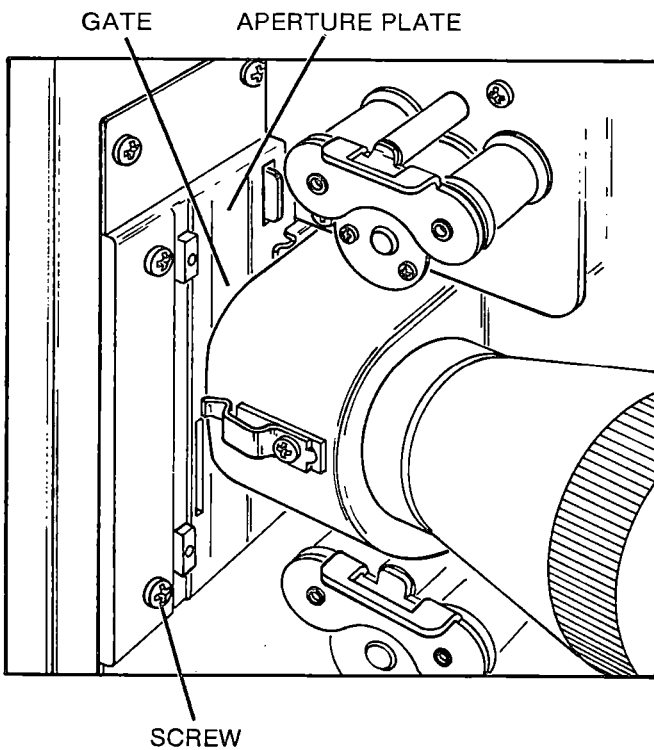
SMP20A

## APERTURE PLATE



① To check:

Insert a section of film in the GATE. When the PULLDOWN CLAW is in the correct position, it is approximately in the center of the film PERFORATIONS and the CLAW is in alignment with the SLOT.



② To adjust:

Loosen the two SCREWS that hold the APERTURE PLATE to the PROJECTOR and move the APERTURE PLATE for correct adjustment.

③ If necessary, adjust the ECCENTRIC.

ECCENTRIC

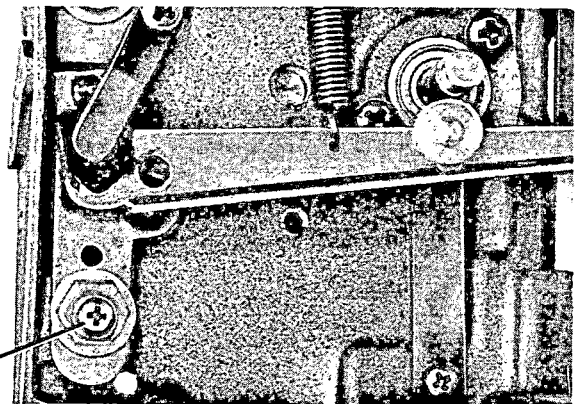
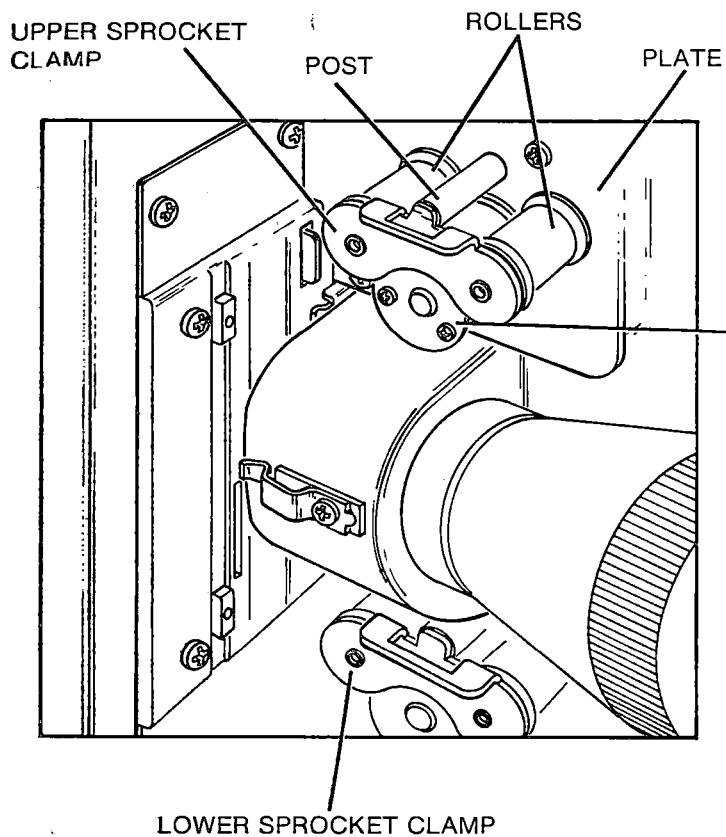


FIGURE 11

SMP20A

A5

## SPROCKET CLAMPS



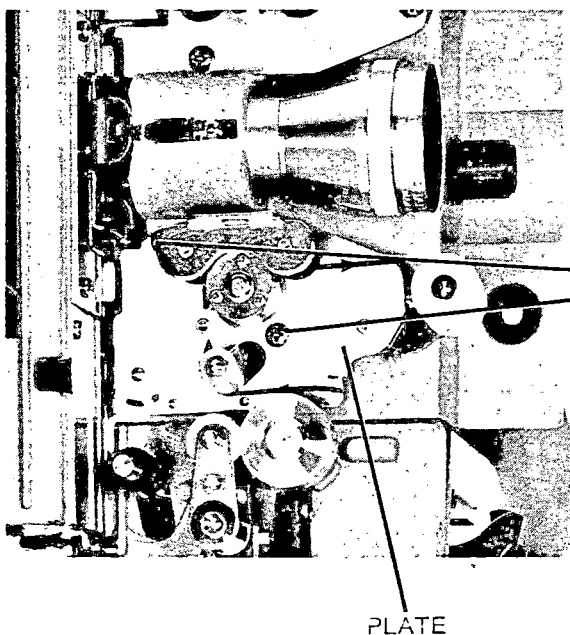
### To check:

To check the clearance between the SPROCKET and the UPPER SPROCKET CLAMP do the following:

- 1 Insert 2 sections of film between the SPROCKET and the SPROCKET CLAMP.
- 2 Close the CLAMP and check that the ROLLERS rotate.
- 3 Insert 3 sections of film between the SPROCKET and the SPROCKET CLAMP.
- 4 Close the CLAMP and check that the ROLLERS do not rotate.

### To adjust:

- 5 Bend the POST on the PLATE to adjust the clearance.
- 6 Check the LOWER SPROCKET CLAMP with the same procedure.

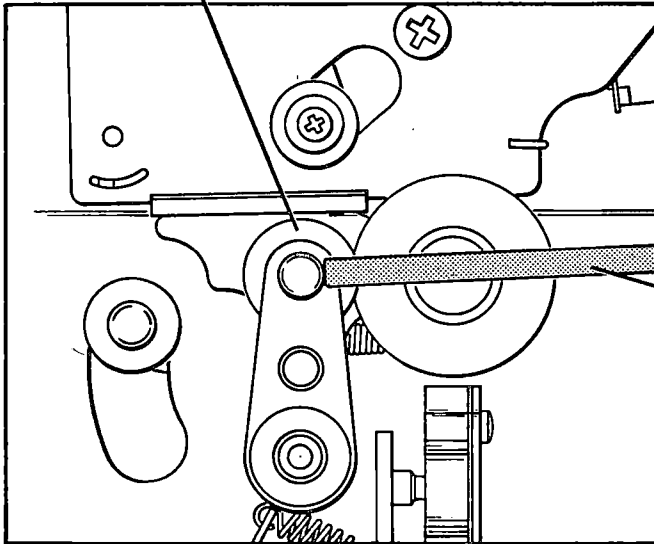


- 7 To adjust, loosen the 2 SCREWS and move the PLATE.

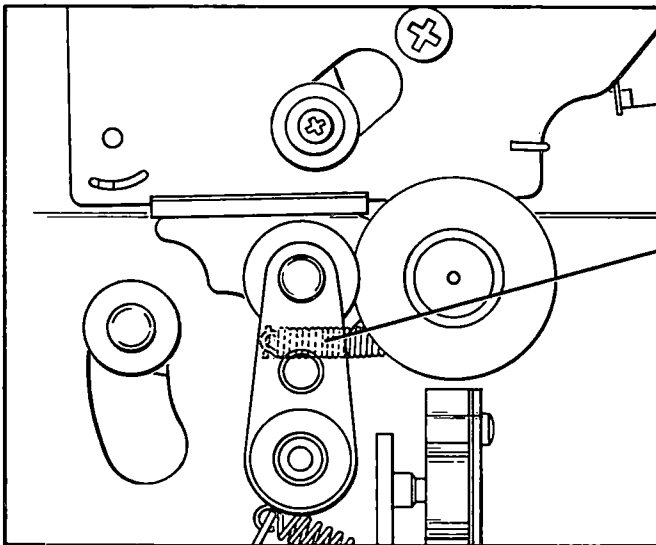
FIGURE 12

**PRESSURE ROLLER Force**

PRESSURE ROLLER



**1 To check:**  
Use a **SPRING SCALE TL-815** to check for a force of **3.34 to 5.00 N (12 to 18 oz f)** on the **PRESSURE ROLLER**.

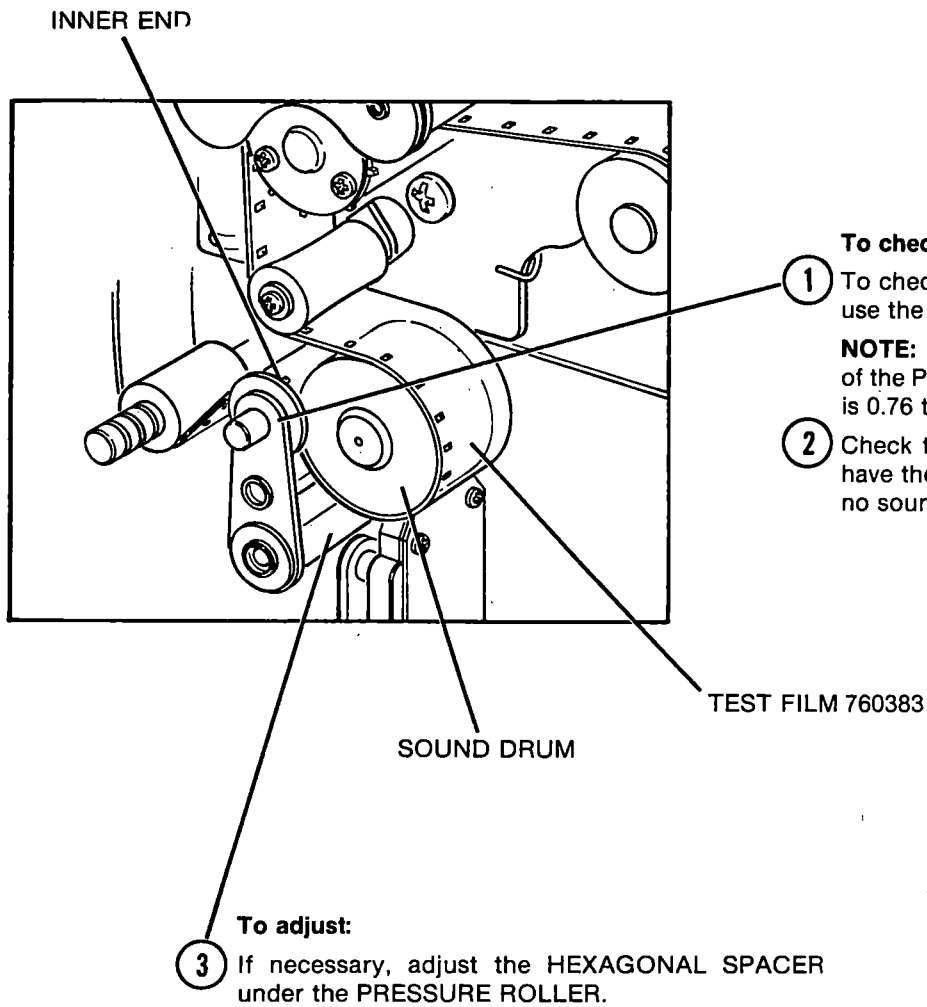


**2 To adjust:**  
Bend or install a new **EQUALIZING SPRING**

**FIGURE 13**



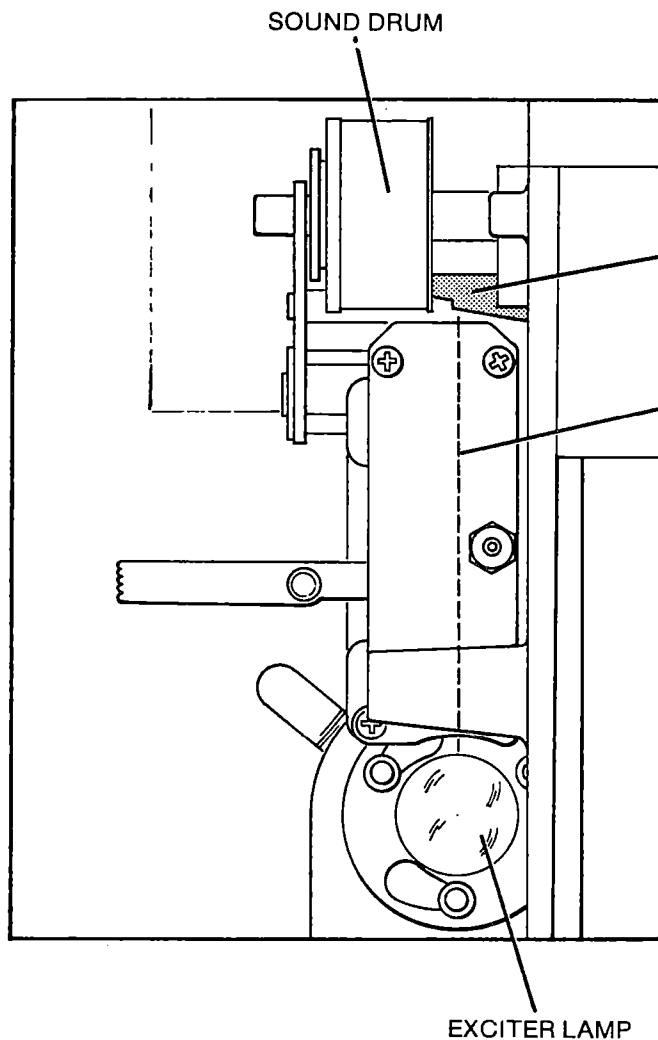
**PRESSURE ROLLER Position**



<sup>1</sup>See the glossary.

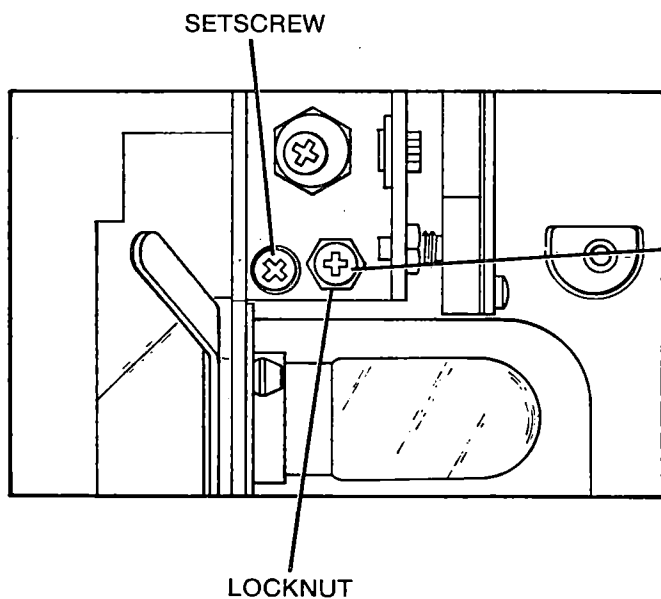
**FIGURE 14**

## EXCITER LAMP



① **To check:**

Check that the SCANNING BEAM from the EXCITER LAMP is approximately 0.31 mm (0.012") from the edge of the SOUND DRUM and that it is in the center of the PHOTOCELL.

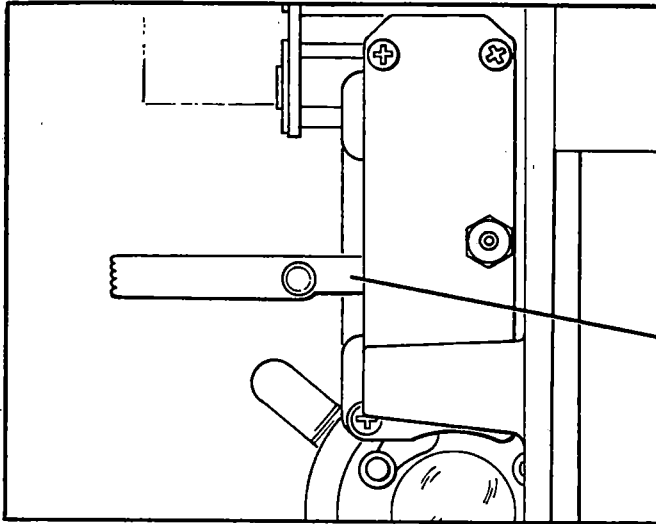


**To adjust:**

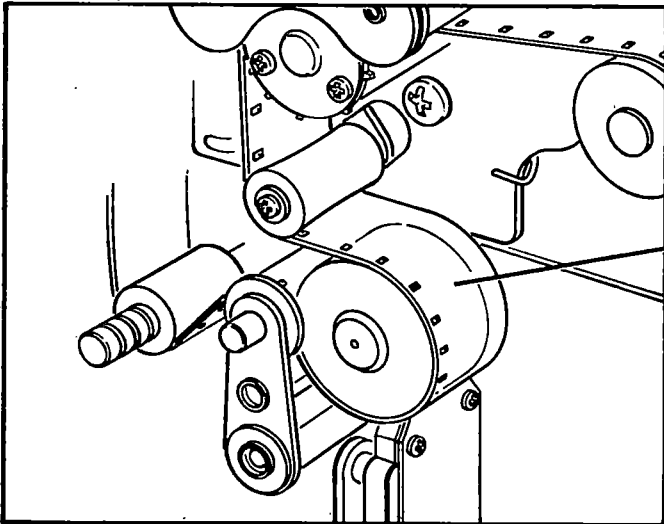
- ② Loosen the SETSCREW and LOCKNUT.
- ③ Adjust the ADJUSTING SCREW until you have correct clearance and the SCANNING BEAM is in the center of the PHOTOCELL.
- ④ Tighten the SETSCREW and LOCKNUT.
- ⑤ See steps 1—3 in figure 14.

FIGURE 15

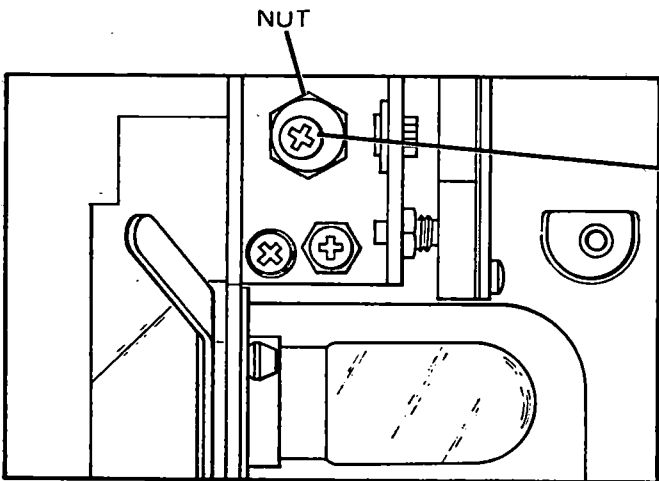
**Focus**



**To check:**  
1 Move the FIDELITY CONTROL LEVER to the center position.



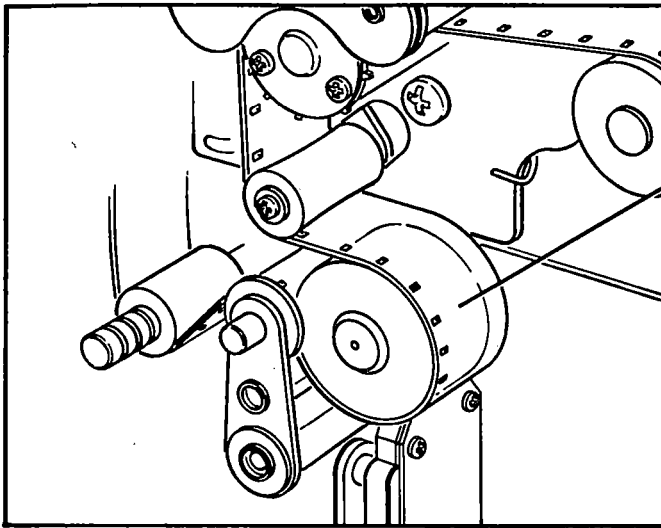
2 Use the 5000-Hz TEST FILM—760382 to check the focus.



**To adjust:**  
3 Loosen the LOCK SCREW and rotate the NUT for the maximum sound output.

**FIGURE 16**

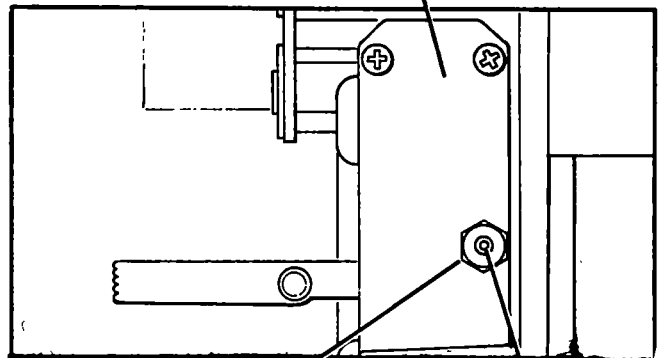
Sound



To check:

- 1 Install the 5000-Hz TEST FILM 760382 in the PROJECTOR.

SOUND OPTICS ASSEMBLY



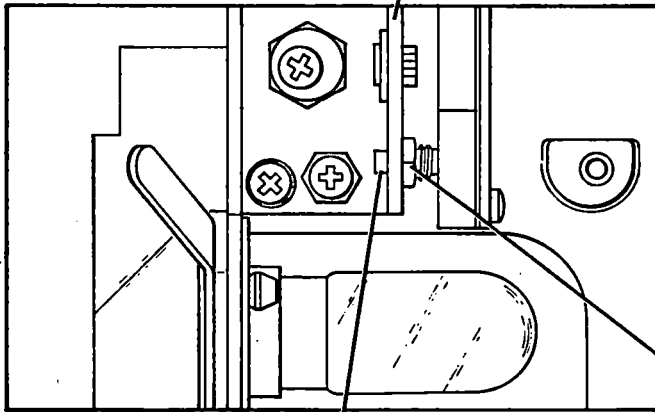
SCREW

- 2 Loosen the NUT on the SOUND OPTICS ASSEMBLY and adjust the SCREW for maximum output.
- 3 With the PROJECTOR in the "ON" position, touch the EXCITER LAMP to check for microphonics<sup>1</sup>.

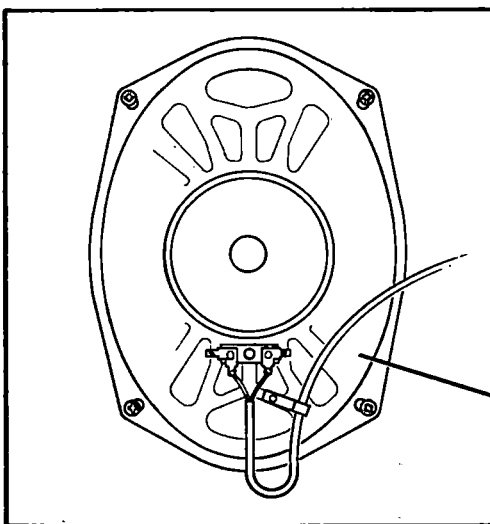
To adjust:

- 4 Loosen the NUT between the SOUND OPTICS ASSEMBLY and the MOUNTING PLATE; adjust the SCREW for minimum microphonics in the SPEAKER.

MOUNTING PLATE



SCREW

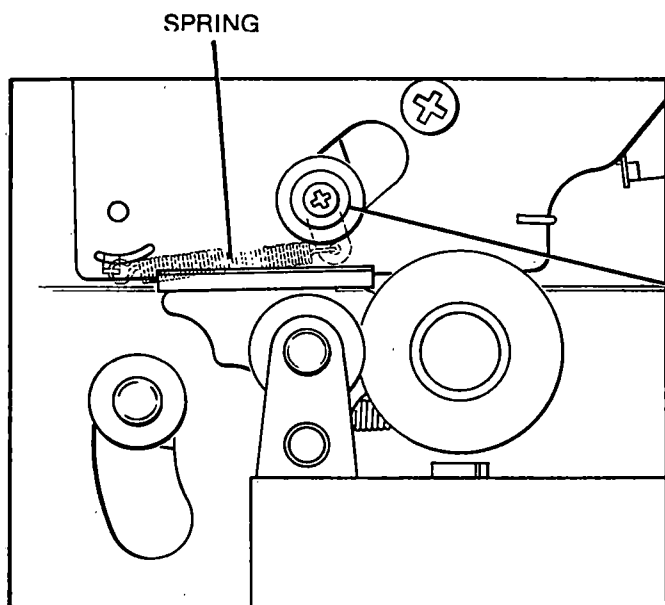


SPEAKER

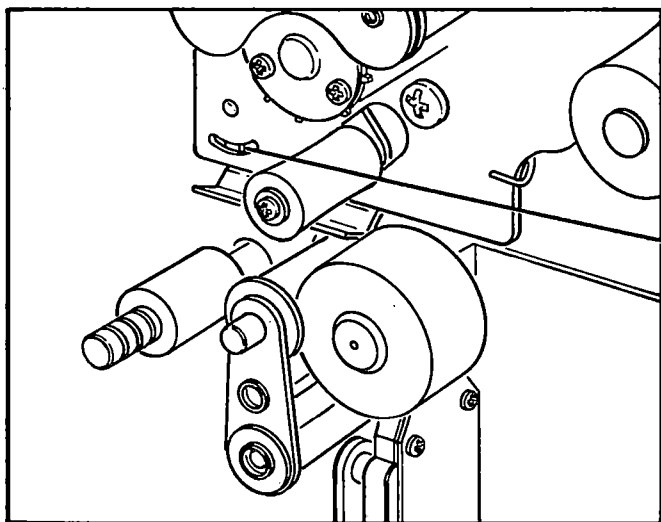
<sup>1</sup>See the glossary.

FIGURE 17

**DAMPER ROLLER ARM**



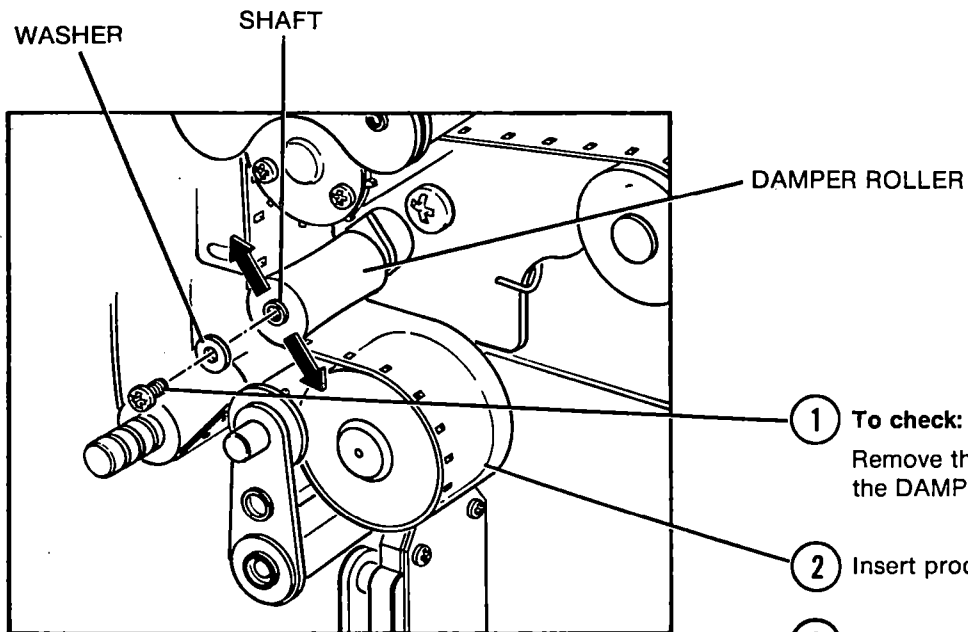
- To check:**
- 1 Check that the DAMPER ROLLER ARM returns to this position after you press and release it.
- NOTE:** Check that the SPRING has no tension on it when the DAMPER ROLLER ARM is in this position.



- To adjust:**
- 2 Move the SPRING TENSION LEVER to increase or decrease tension on the SPRING.

**FIGURE 18**

## DAMPER ROLLER



- ① **To check:**  
Remove the SCREW and WASHER from the end of the DAMPER ROLLER.
- ② Insert processed<sup>1</sup> film in the PROJECTOR.
- ③ Check that the DAMPER ROLLER slowly moves off the SHAFT in "FORWARD" and onto the SHAFT in "REVERSE." If necessary, see step 4 to adjust.

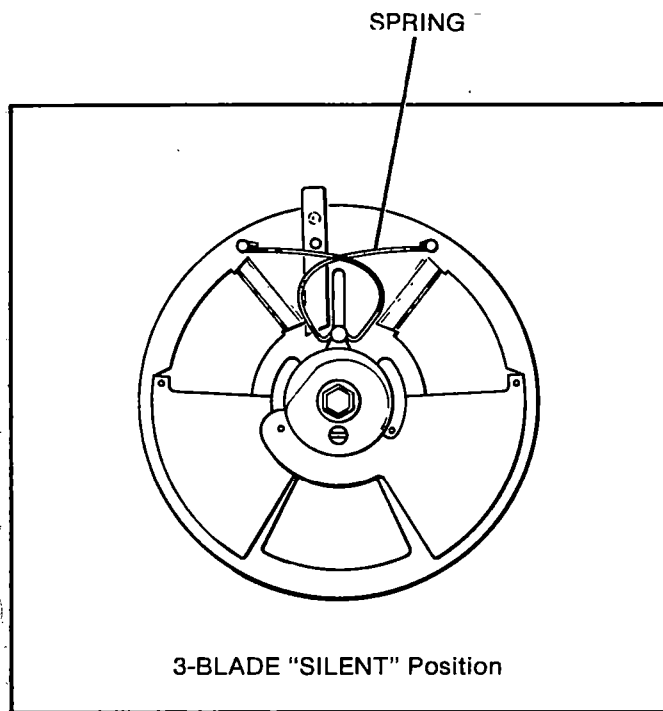
**To adjust:**

- ④ Bend the SHAFT up or down on this angle.

<sup>1</sup>See the glossary.

**FIGURE 19**

## Shutter



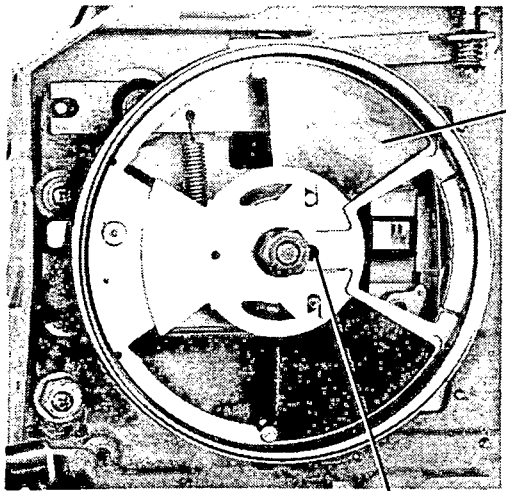
### To check:

- ① Operate the PROJECTOR at 24 fps: "SOUND." Check that the shutter changes from the 3-BLADE "SILENT" position to the 2-BLADE "SOUND" position.
- ② Operate the PROJECTOR at 18 fps: "SILENT." Check that the shutter does not change.

### To adjust:

- ③ Decrease the tension on the SPRING if the shutter does not change at 24 fps.
- ④ Increase the tension on the SPRING if the shutter changes at 18 fps.

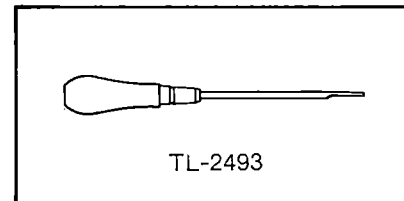
FIGURE 20



TIMING LUG HOLE

- To check:
- 1 After you assemble the SHUTTER ASSEMBLY, check for travel•ghost.
  - 2 If travel•ghost is visible, see step 3 to adjust.

- To adjust:
- 3 Insert the TRAVEL GHOST TOOL TL-2493 in the TIMING LUG HOLE. Tap the end of the tool.
  - 4 If the travel•ghost is on top of the image, lift up the tool; if it is on the bottom of the image, press down on the tool.



\*See the glossary.

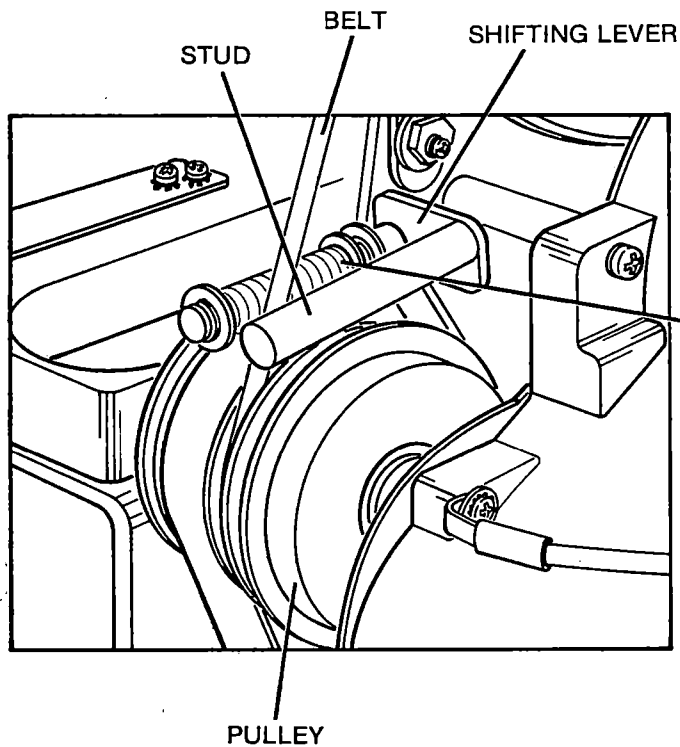
FIGURE 21



## Speed

### ① To check:

Check that the PROJECTOR changes from 18 fps to 24 fps and from 24 fps to 18 fps. If it does not change, see step 2 to adjust.



### To adjust:

② Bend the SHIFTING ROLLER and STUD on the SHIFTING LEVER.

**NOTE:** The position of the SHIFTING ROLLER and the STUD is correct when:

- the BELT does not touch the SHIFTING ROLLER or STUD in "SILENT" or "SOUND."
- the PULLEY does not touch the SHIFTING ROLLER or STUD in "SILENT" or "SOUND."
- manual rotation of the THREADING KNOB changes the speed.

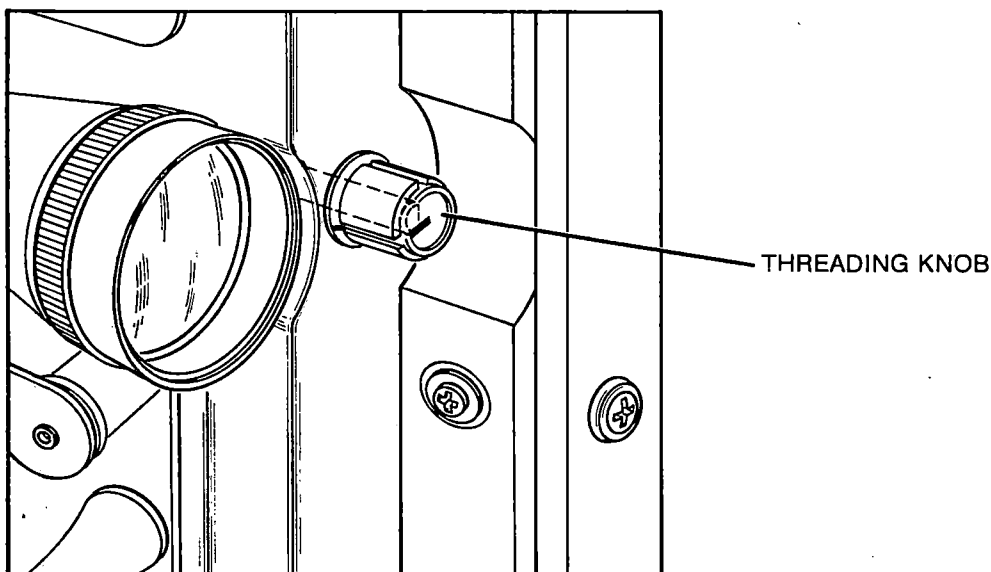
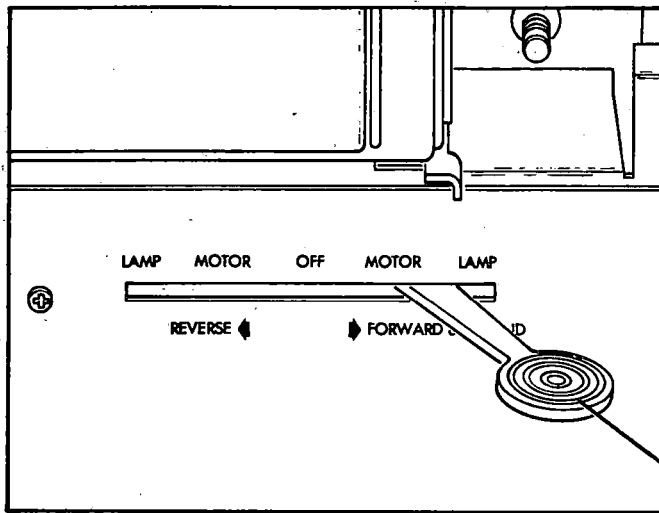


FIGURE 22

## MASTER CONTROL LEVER

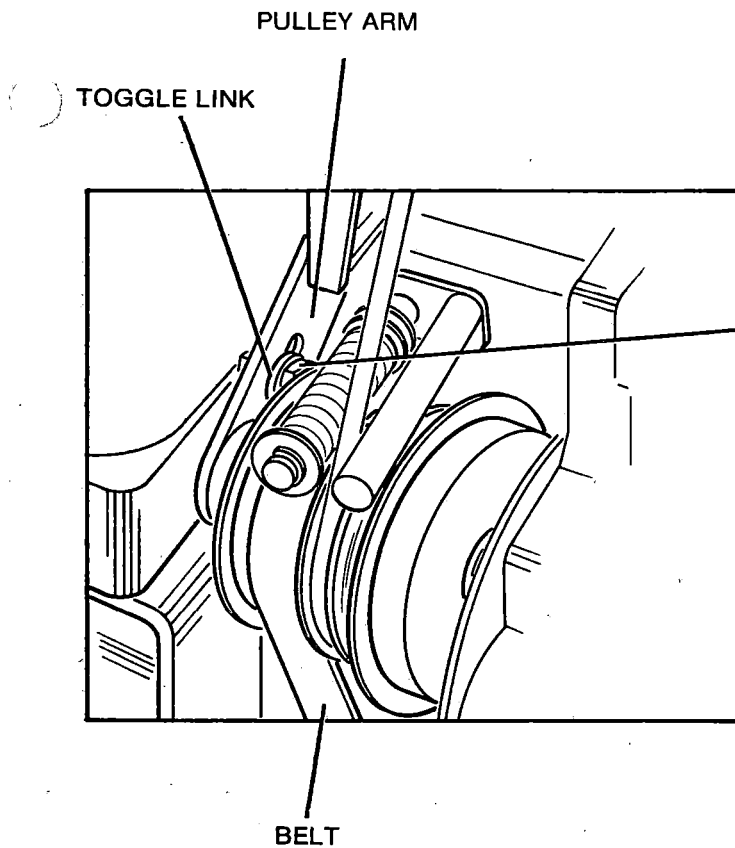


### To check:

- 1 Check that the PROJECTOR operates in "FORWARD" and "REVERSE" and the speed does not change from fast to slow.

### To adjust:

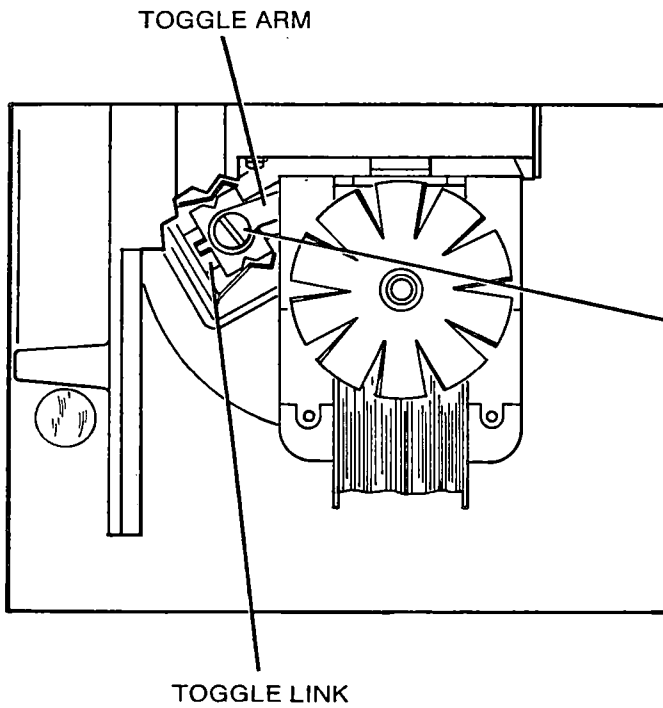
- 2 Move the MASTER CONTROL LEVER to the "FORWARD" position.



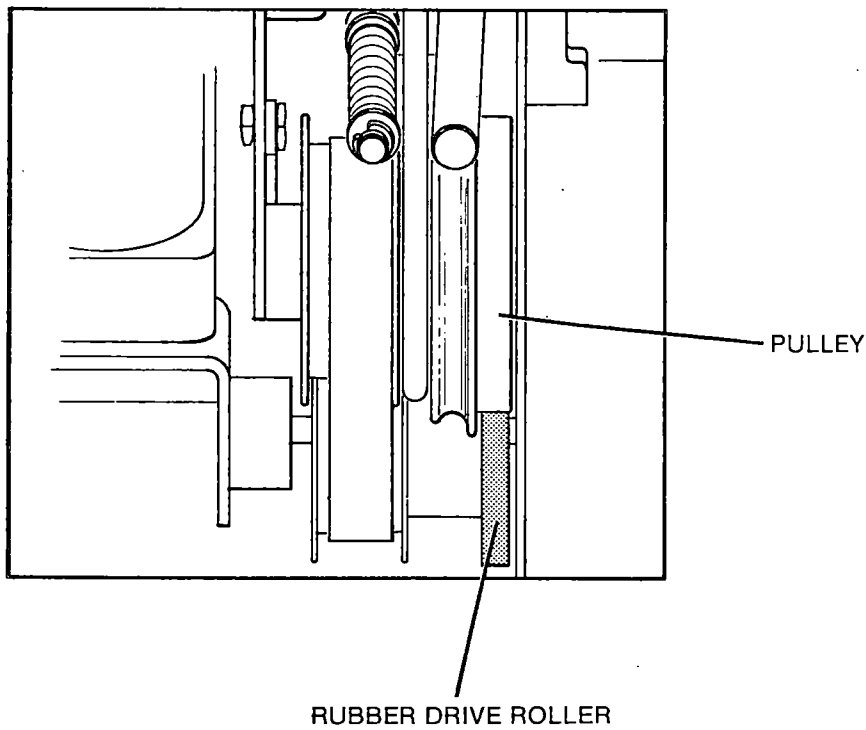
- 3 Loosen the TOGGLE SCREW and adjust the TOGGLE LINK on the PULLEY ARM until the BELT is tight.

FIGURE 23

**MASTER CONTROL LEVER**

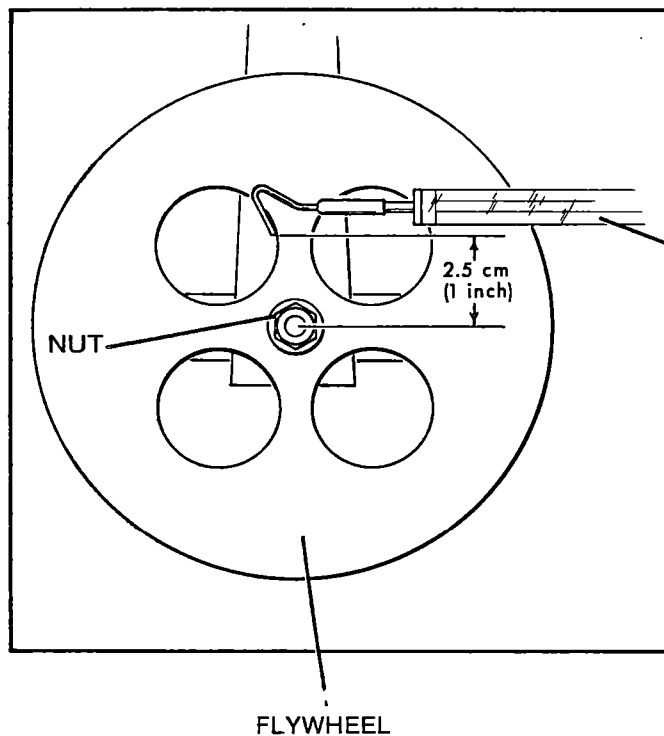


- ④ Move the MASTER CONTROL LEVER to the "REVERSE" position.
- ⑤ Loosen the PULLEY ARM SCREW to adjust the TOGGLE LINK on the TOGGLE ARM until the black RUBBER DRIVE ROLLER moves the PULLEY in "REVERSE."



**FIGURE 24**

**FLYWHEEL**



**To check:**

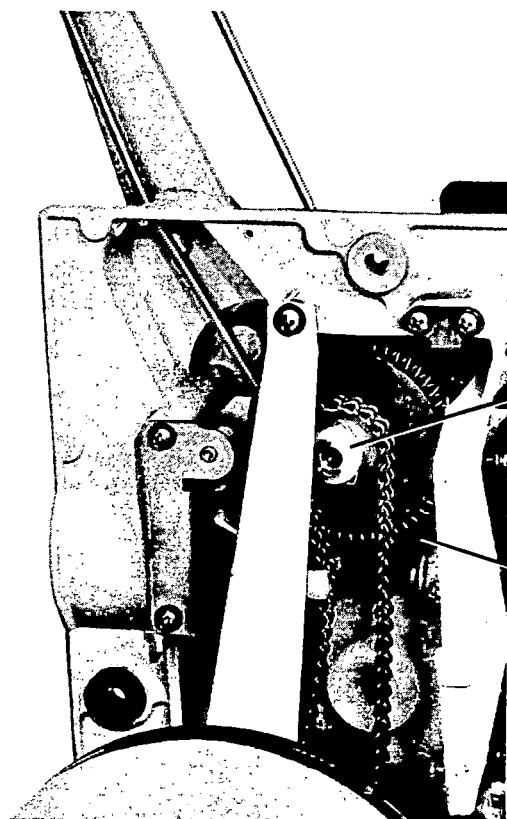
① Use SPRING GAUGE TL-1079 to check for an indication on the GAUGE of 0.834 to 1.251 N (3 to 4.5 oz f) to move the FLYWHEEL when the GAUGE is 25.4 mm (1") above the center of the NUT.

**To adjust:**

② Tighten or loosen the NUT.

**FIGURE 25**

**REVERSING MECHANISM**



**To adjust:**

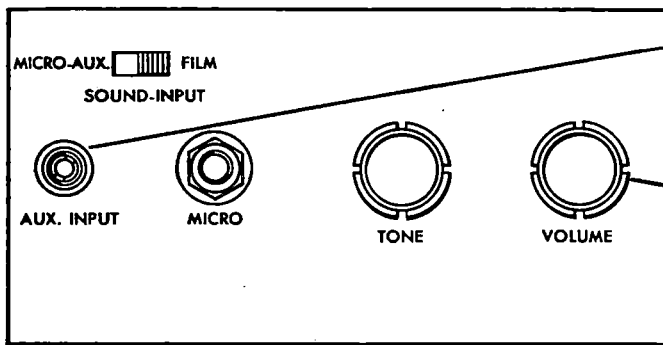
- ① Tightly press the SUN GEAR forward.
- ② Next, pull it backwards 0.38 to 0.51 mm (0.015 to 0.020").

REVERSING MECHANISM

**FIGURE 26**

SMP20A

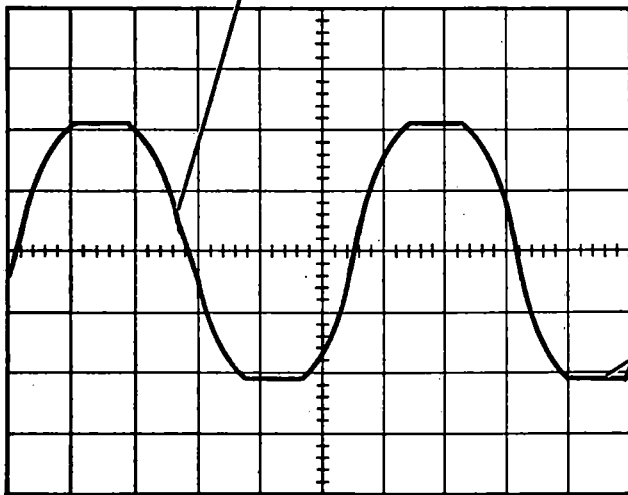
# AMPLIFIER



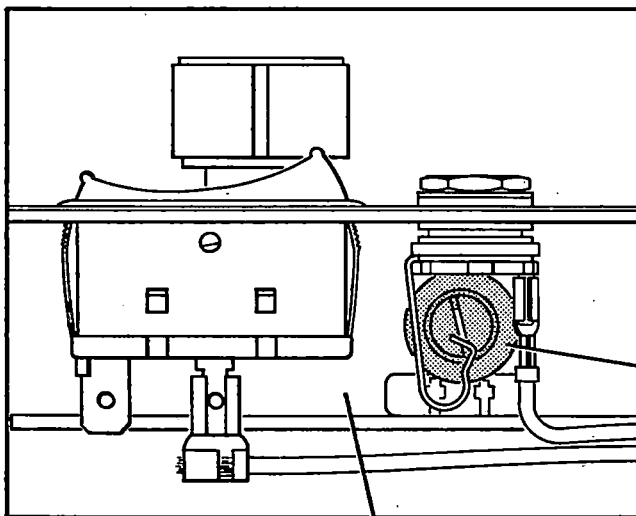
To check:

- 1 Insert a 400-Hz, 500 mV, 600 $\Omega$  signal into the "AUX. INPUT" JACK.
- 2 Rotate the VOLUME KNOB until CLIPPING is on the top and bottom of the WAVEFORM.

WAVEFORM



- 3 Check that the CLIPPING is the same size on the top and the bottom.



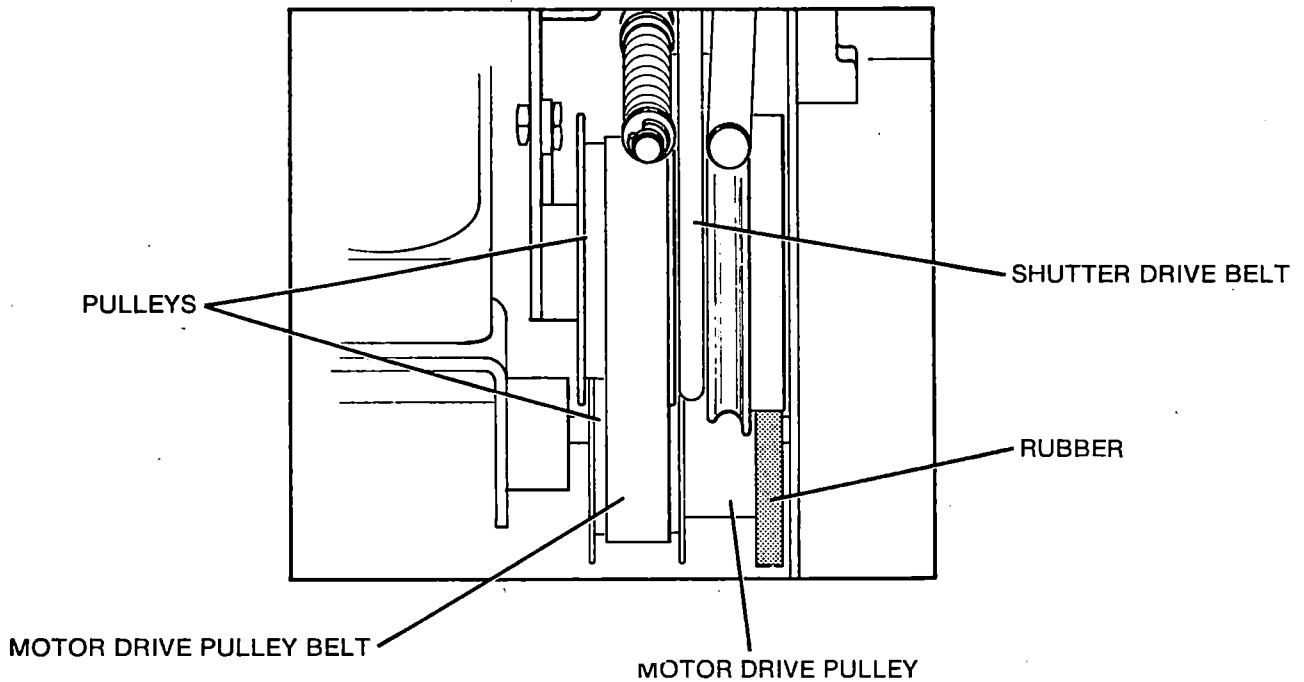
To adjust:

- 4 If the CLIPPING is not the same size on the top and the bottom, adjust R42.

FIGURE 27

AMPLIFIER

**Mechanical**



**PROJECTOR does not operate in "FORWARD."**

<p>Lubricant on MOTOR DRIVE PULLEY BELT</p> <p>Adjustment of MASTER CONTROL LEVER is not correct.</p> <p>SHUTTER DRIVE BELT is not in the correct position.</p>	<p>Clean lubricant from PULLEYS and install a new MOTOR DRIVE PULLEY BELT.</p> <p>See Adjustments, "MASTER CONTROL LEVER," figures 23 and 24.</p> <p>Check position of SHUTTER DRIVE BELT.</p>
---	--

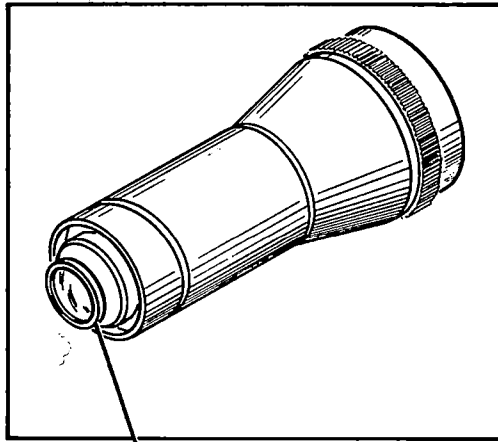
**PROJECTOR does not operate in "REVERSE."**

<p>RUBBER on MOTOR DRIVE PULLEY has lubricant on it.</p> <p>Adjustment of "MASTER CONTROL" is not correct.</p> <p>SHUTTER DRIVE BELT is not in the correct position.</p>	<p>Install a new MOTOR DRIVE PULLEY.</p> <p>See Adjustments, "MASTER CONTROL LEVER," figures 23 and 24.</p> <p>Check position of SHUTTER DRIVE BELT.</p>
--	--

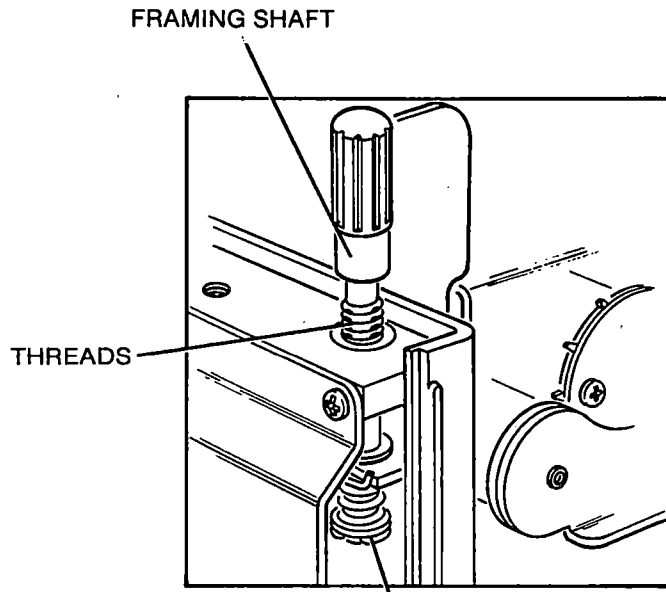
**Speed does not operate correctly.**

<p>Adjustment of speed is not correct.</p>	<p>See Adjustments, "Speed," figure 22.</p>
--	---

**FIGURE 28**



FIELD FLATTENER ELEMENT



FRAMING SHAFT RETAINING RING

**Focus of image is not correct.**

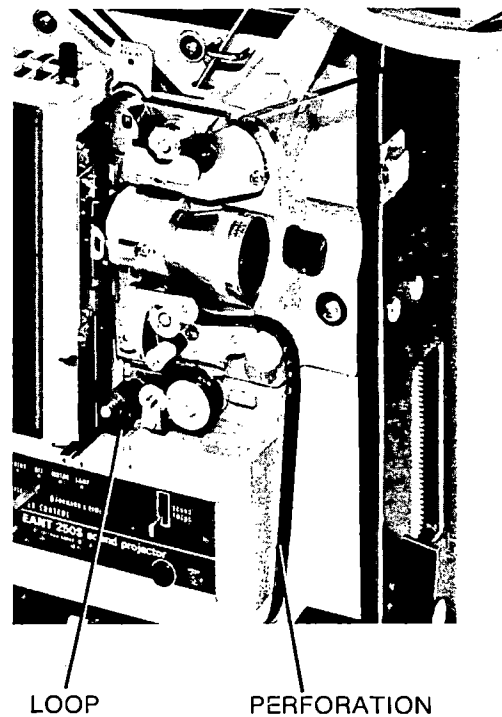
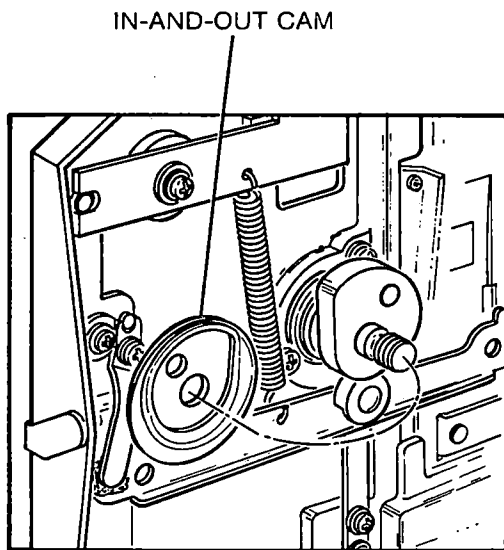
<p>Alignment of the APERTURE PLATE and PRESSURE PAD ASSEMBLY is not correct. FIELD FLATTENER ELEMENT does not move freely.</p>	<p>See Adjustments, "PRESSURE PAD RAILS," figure 9. Clean.</p>
--	--

**Image is not in the correct frame.**

<p>Damage to THREADS on the FRAMING SHAFT. FRAMING SHAFT RETAINING RING is not in the PROJECTOR.</p>	<p>Install a new FRAMING SHAFT. Install a new FRAMING SHAFT RETAINING RING.</p>
--	---

**FIGURE 29**





**PROJECTOR does not have a lower LOOP and damages film PERFORATIONS.**

Alignment of PRESSURE PAD RAILS with APERTURE PLATE RAILS is not correct.

Adjustment of PRESSURE ROLLER and ARM ASSEMBLY is not correct.

Damage to IN-AND-OUT CAM.

See Adjustments, "PRESSURE PAD RAILS," figure 9.

See Adjustments, "PRESSURE ROLLER Force and Position," figures 13 and 14.

Install a new IN-AND-OUT CAM.

**PROJECTOR breaks the splices<sup>1</sup>**

Damage to splice

PRESSURE PAD force is too high.

SPROCKET CLAMP adjustment is not correct.

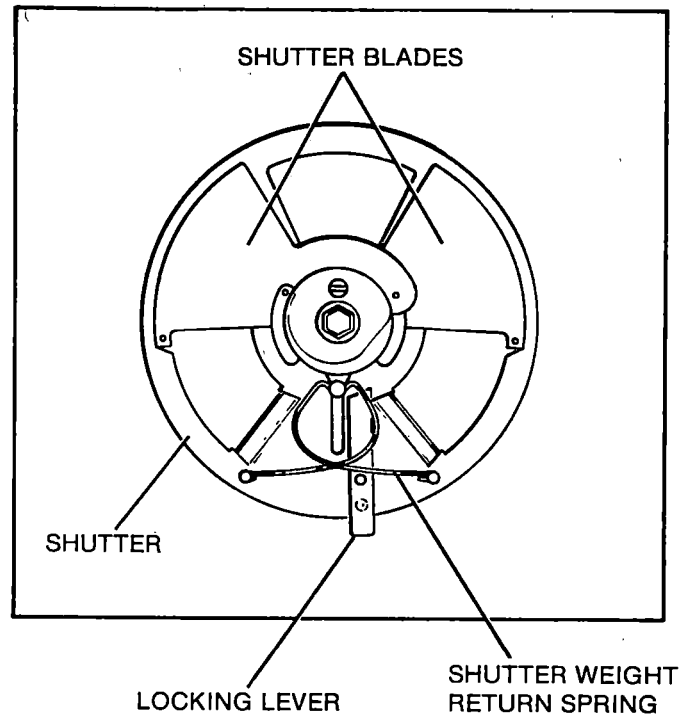
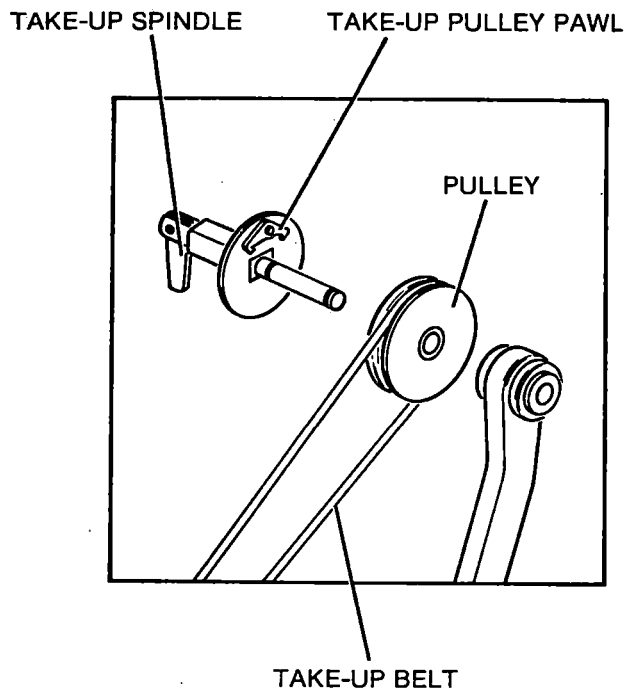
Use a new splice.

See Adjustments, "PRESSURE PAD Force" figure 10.

See Adjustments, "SPROCKET CLAMPS," figure 12.

<sup>1</sup>See the glossary.

**FIGURE 30**



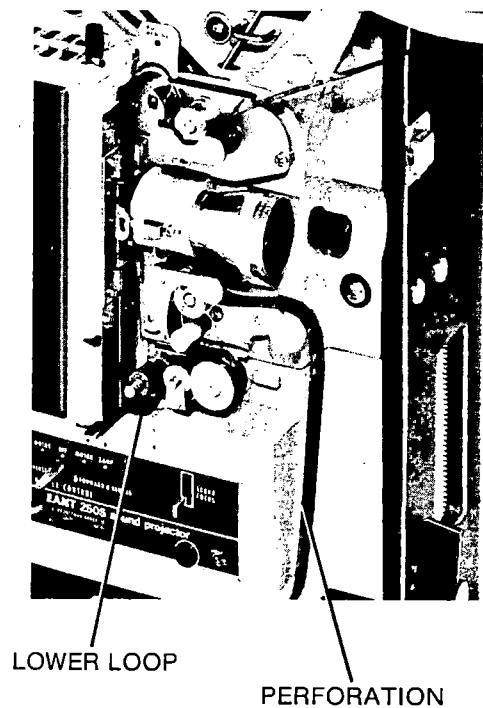
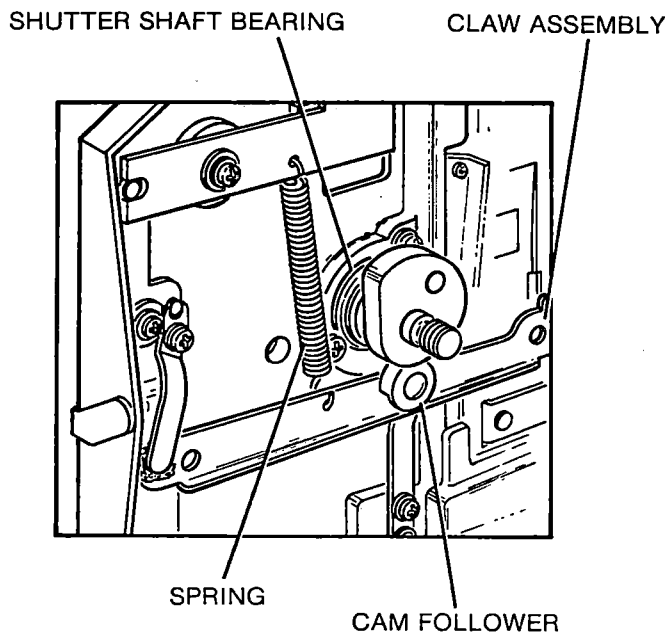
**TAKE-UP SPINDLE torque is not correct.**

<p>TAKE-UP PULLEY PAWL does not move freely.</p> <p>TAKE-UP BELT is broken, has damage, or is not in the correct position on the PULLEY.</p>	<p>Use a lubrication; see Lubricants and Adhesives, figure 43.</p> <p>Check position of TAKE-UP BELT; install a new TAKE-UP BELT, if necessary.</p>
--	---

**Shutter does not change from the 2-BLADE to 3-BLADE position or from the 3-BLADE to 2-BLADE position**

<p>Adjustment of the shutter is not correct or SHUTTER BLADES are not clean.</p> <p>Check the position of the LOCKING LEVER.</p> <p>The tension on the SHUTTER WEIGHT RETURN SPRING is not correct.</p>	<p>See Adjustments, "Shutter," figure 20.</p> <p>Change position, if necessary.</p> <p>Adjust the tension.</p>
---	--

**FIGURE 31**



**No steadiness<sup>1</sup> of image**

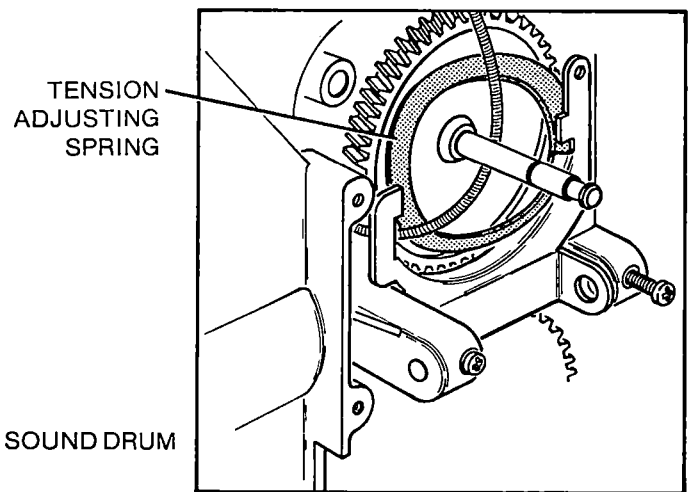
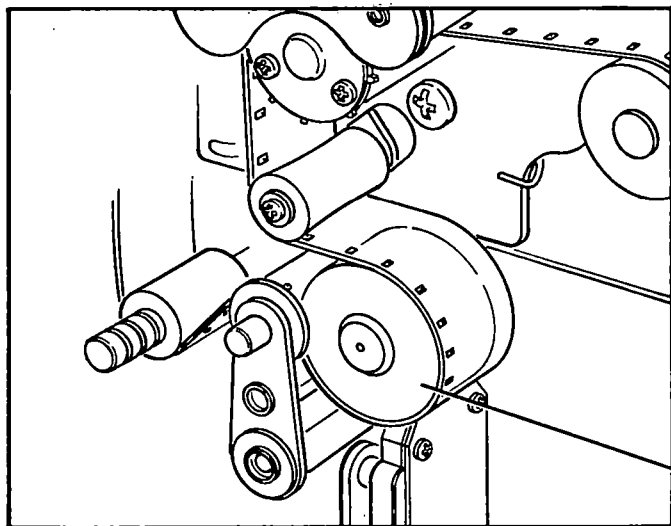
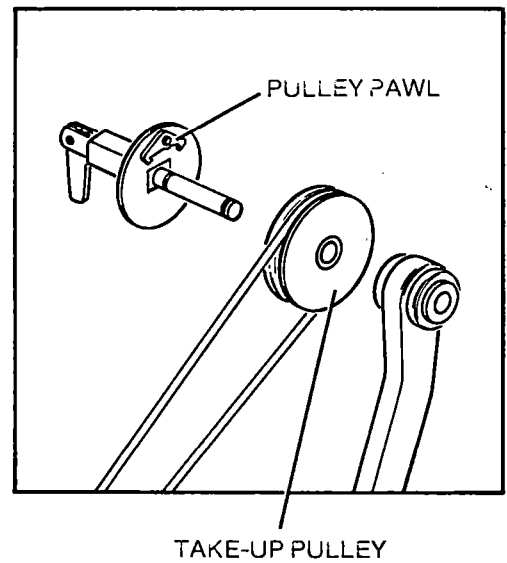
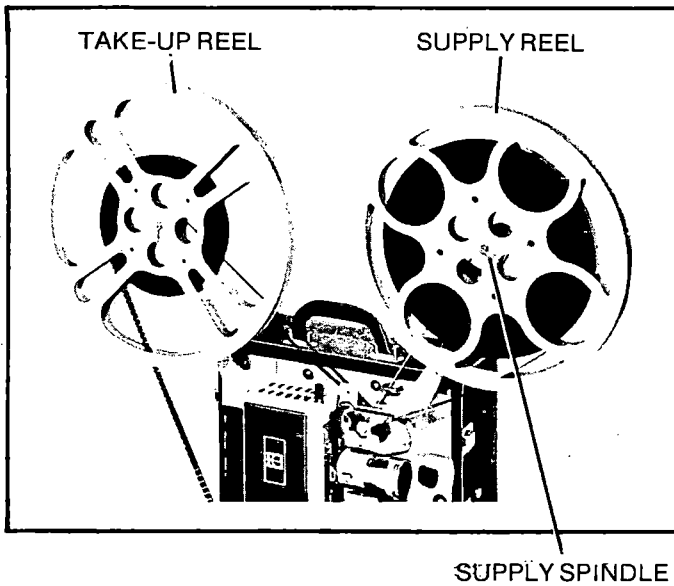
<p>The PULLDOWN CLAW clearance in the APERTURE PLATE is not correct.          PRESSURE PAD force is not correct.          SIDE GUIDE force is not correct; SIDE GUIDES do not move freely.          SPRING tension on CAM FOLLOWER is not correct.          SHUTTER SHAFT BEARING does not move freely.</p>	<p>See Adjustments, "PULLDOWN CLAW," figure 7.          See Adjustments, "PRESSURE PAD Force," figure 10.          See Adjustments, "SIDE GUIDE FORCE," figure 8.          Check the tension and adjust.          Install a new SHUTTER SHAFT BEARING.</p>
---	--

**PROJECTOR does not have a LOWER LOOP and damages film PERFORATIONS.**

<p>PULLDOWN CLAW clearance is not correct.          PRESSURE PAD force is not correct.          Damage to CAM FOLLOWER</p>	<p>See Adjustments, "PULLDOWN CLAW," figure 7.          See Adjustments, "PRESSURE PAD Force," figure 10.          Install a new CLAW ASSEMBLY.</p>
--	---

<sup>1</sup>See the glossary.

**FIGURE 32**



**Film on TAKE-UP REEL is loose when the PROJECTOR operates in "REVERSE."**

TAKE-UP PULLEY does not rotate freely.  
 PULLEY PAWL is dirty and does not have lubrication.

Clean and lubricate the BEARINGS; see Lubricants and Adhesives, figure 43.  
 Clean and lubricate the PULLEY PAWL; See Lubricants and Adhesives, figure 43.

**SUPPLY REEL spills film when the PROJECTOR operates in "FORWARD."**

SUPPLY SPINDLE torque is not correct.

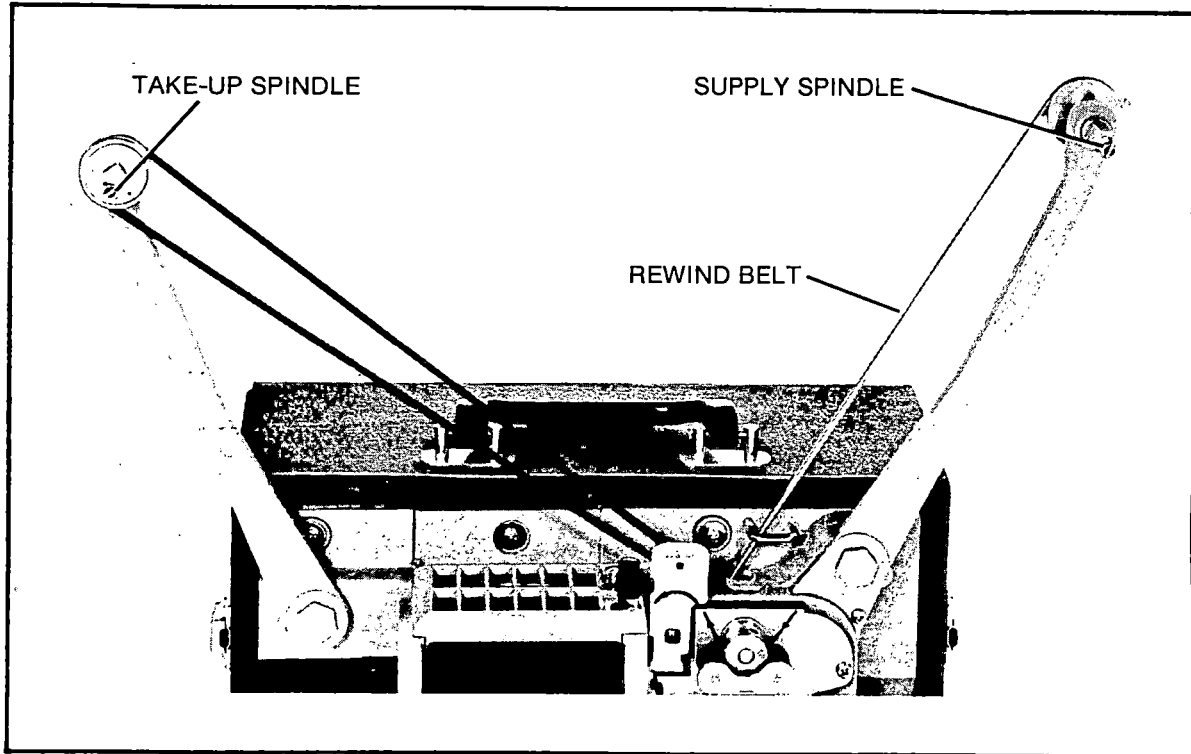
Check for a torque of 35 to 99 mN•m (5 to 14 in oz). If the torque is not correct, install a new TENSION ADJUSTING SPRING.

**Film position on SOUND DRUM is not correct when the PROJECTOR operates in "REVERSE."**

Adjustment of the DAMPER ROLLER ARM is not correct.

See Adjustments, "DAMPER ROLLER ARM," figure 18.

**FIGURE 33**



**"REWIND" does not operate.**

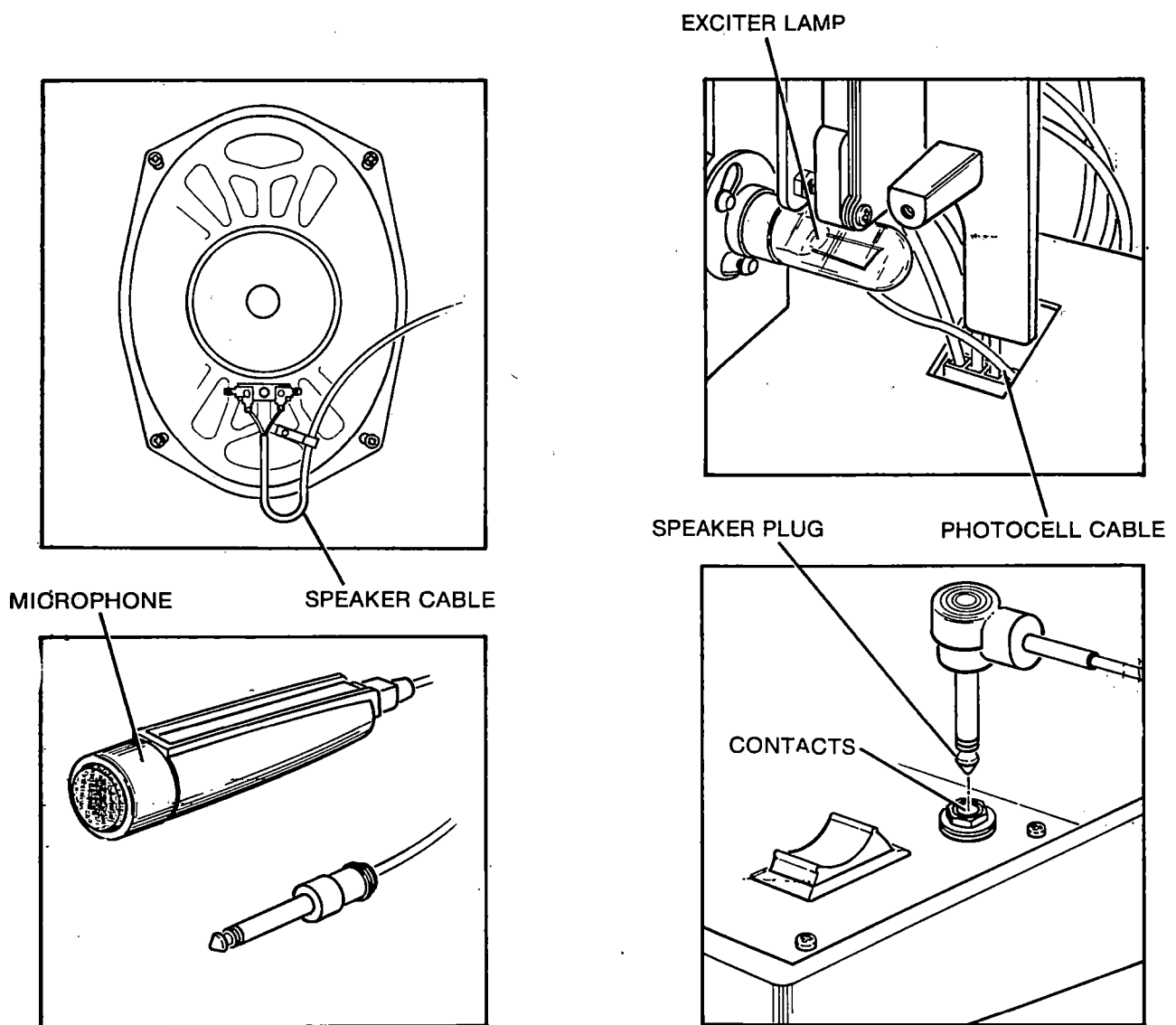
<p>REWIND BELT has damage or is broken.          Adjustment of REVERSING MECHANISM is not correct.          TAKE-UP SPINDLE and SUPPLY SPINDLE do not move freely.</p>	<p>Install a new REWIND BELT.          See Adjustments, "REVERSING MECHANISM," figure 26.          Clean and lubricate.</p>
--	---

**PROJECTOR makes scratches on the film.**

<p>DAMPER ROLLER or SOUND DRUM PRESSURE ROLLER does not rotate freely.          Alignment of PRESSURE PAD RAILS with APERTURE PLATE RAILS is not correct.</p>	<p>See Adjustments, "DAMPER ROLLER ARM" and "PRESSURE ROLLER Force and Position," figures 13, 14 and 18.          See Adjustments, "PRESSURE PAD RAILS," figure 9.</p>
---	--

**FIGURE 34**

**Sound**



**No film sound; EXCITER LAMP has illumination.**

**Install the MICROPHONE**

1. If no sound through MICROPHONE, check the AMPLIFIER.
2. If you hear sound through MICROPHONE, check the following:

Position of film in PROJECTOR  
 SPEAKER PLUG connection  
 SPEAKER CABLE connections  
 PHOTOCELL CABLE and connection  
 Adjustment of EXCITER LAMP, focus, and sound

See diagram, figure 54.

See Adjustments, "EXCITER LAMP, Focus and Sound," figures 15-17.

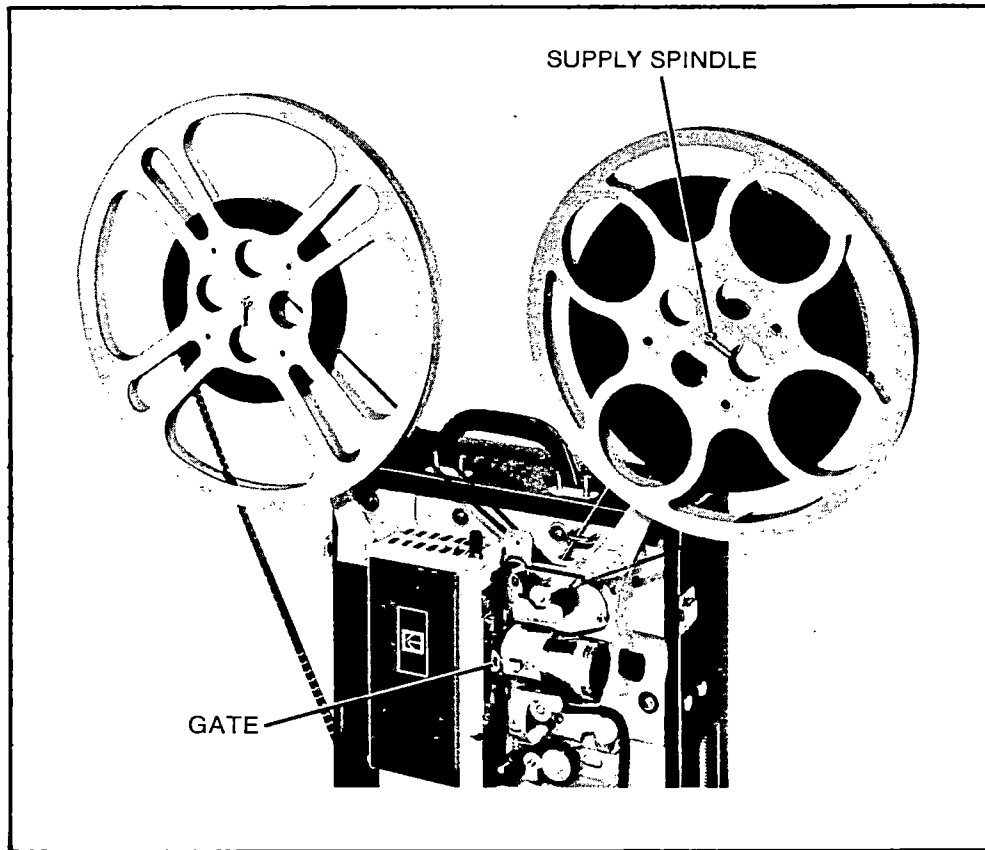
**High noise<sup>1</sup>**

SPEAKER PLUG does not make correct connection.

Clean CONTACTS; insert PLUG correctly.

**FIGURE 35**

<sup>1</sup>See the glossary.



**SUPPLY SPINDLE** rotates when **PROJECTOR** operates in "FORWARD" without film.

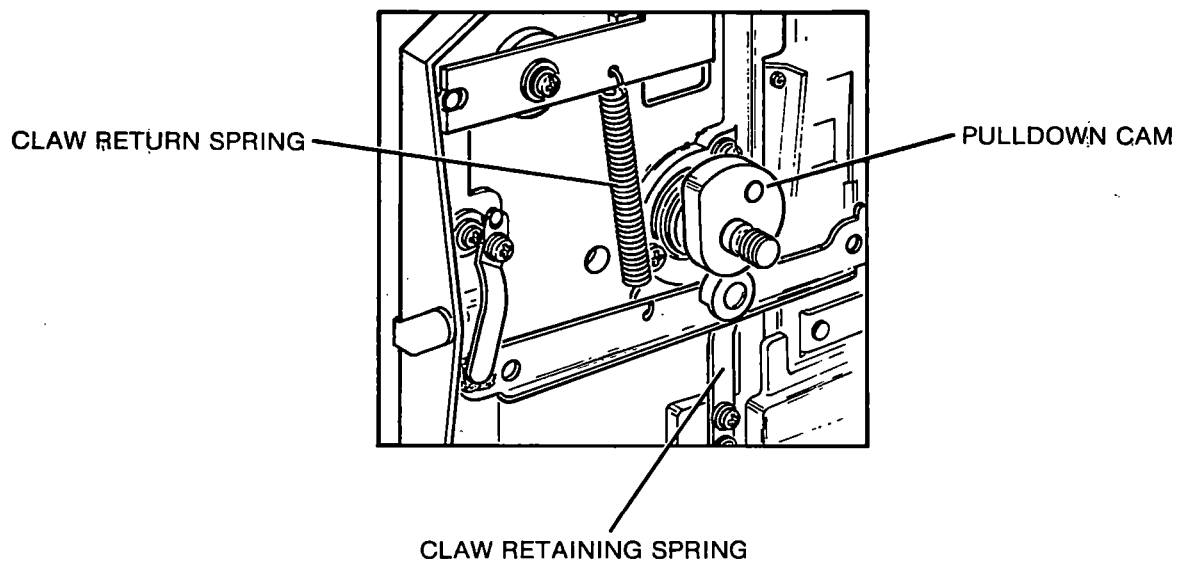
Position of SUN GEAR is not correct.	See Adjustments, "REVERSING MECHANISM," figure 26.
--------------------------------------	--

**Film makes noise<sup>1</sup> in GATE.**

<p>PRESSURE PAD force is not correct.          Clearance of PULLDOWN CLAW in APERTURE PLATE is not correct.</p>	<p>See Adjustments, "PRESSURE PAD Force," figure 10.          See Adjustments, "PULLDOWN CLAW," figure 7.</p>
---	---

<sup>1</sup>See the glossary.

**FIGURE 36**



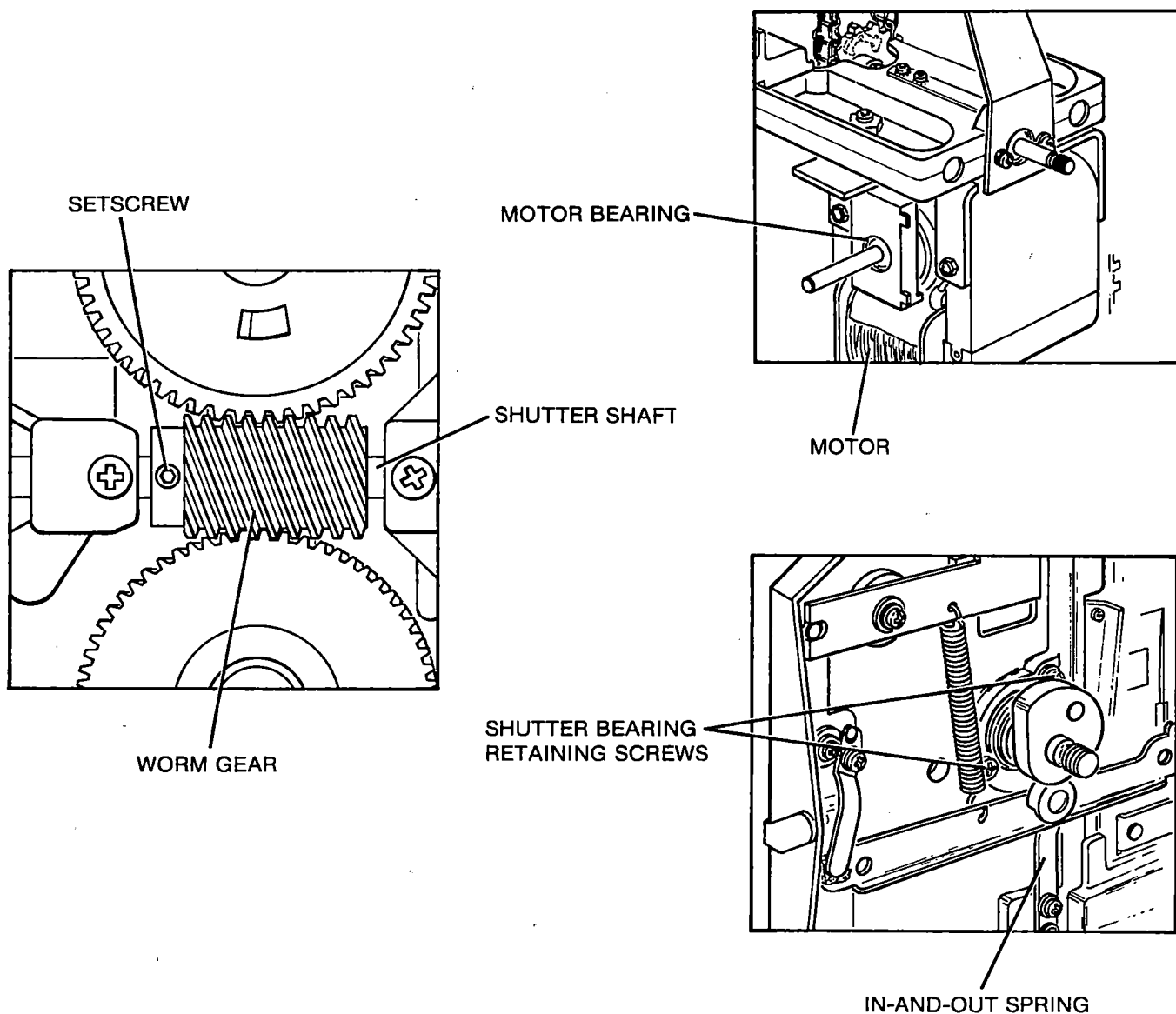
**PROJECTOR makes noise<sup>1</sup> with no film in it.**

<p>The PULLDOWN CLAW clearance in the APERTURE PLATE is not correct.</p> <p>Adjustment of the CLAW is not correct.</p> <p>Tension is not correct on the CLAW RETURN SPRING.</p> <p>Tension is not correct on the CLAW RETAINING SPRING.</p> <p>Damage to PULLDOWN CAM</p>	<p>See Adjustments, "APERTURE PLATE," figure 11.</p> <p>See Adjustments, "PULLDOWN CLAW," figure 7.</p> <p>Install a new CLAW RETURN SPRING.</p> <p>Install a new CLAW RETAINING SPRING.</p> <p>Install a new PULLDOWN CAM.</p>
---	---

<sup>1</sup>See the glossary.

**FIGURE 37**





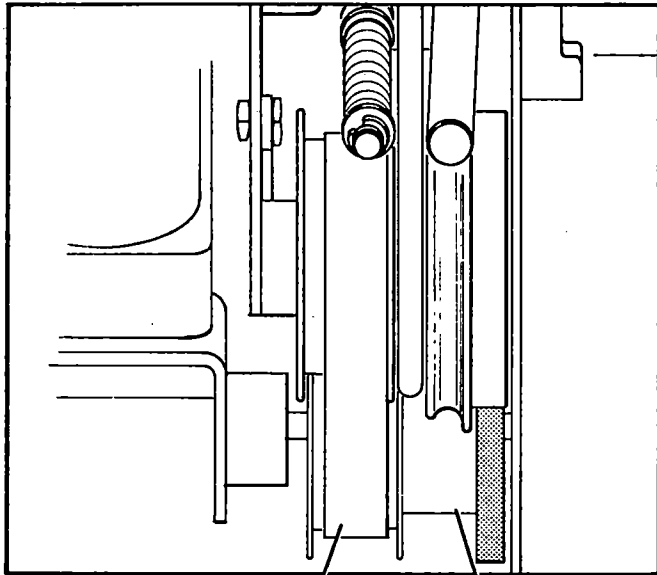
**PROJECTOR makes noise<sup>1</sup> with no film in it.**

Tension on the IN-AND-OUT SPRING is not correct.  
 Damage to SHUTTER SHAFT BEARING.  
 SHUTTER BEARING RETAINING SCREWS are loose.  
 WORM GEAR is not tight on SHUTTER SHAFT.  
 Adjustment of speed is not correct.  
 Damage to MOTOR BEARINGS.

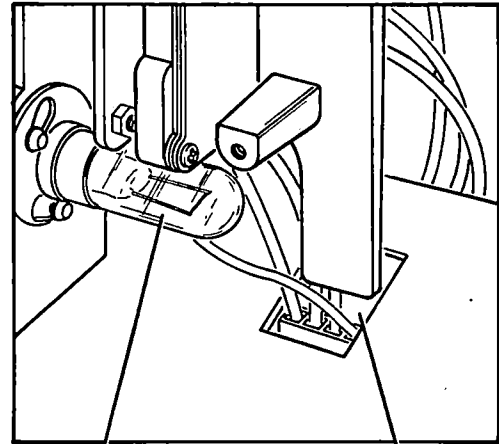
Install a new IN-AND-OUT SPRING.  
 Install a new SHUTTER SHAFT BEARING.  
 Tighten.  
 Tighten the SETSCREWS.  
 See Adjustments, "Speed," figure 22.  
 Install a new MOTOR.

<sup>1</sup>See the glossary.

**FIGURE 38**



DRIVE PULLEY BELT      DRIVE PULLEY



EXCITER LAMP      AMPLIFIER BOARD

**PROJECTOR speed is not correct.**

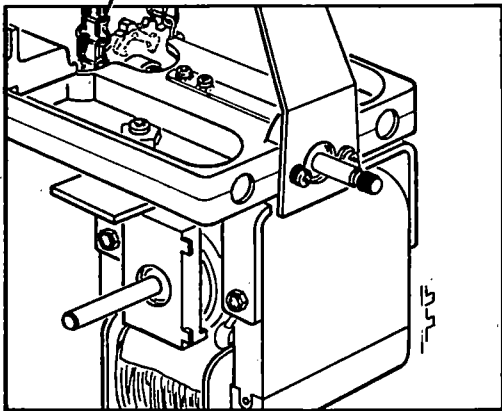
Lubrication is on DRIVE PULLEY and DRIVE PULLEY BELT.	Install a new DRIVE PULLEY and/or DRIVE PULLEY BELT.
---	--

**No film sound; EXCITER LAMP has no illumination.**

<p>EXCITER LAMP does not operate.          Connection from EXCITER LAMP to AMPLIFIER BOARD is not correct.          IC1 on AMPLIFIER BOARD does not operate.</p>	<p>Install a new EXCITER LAMP.          Check the connection.          Install a new IC1; see figure 54.</p>
--	--

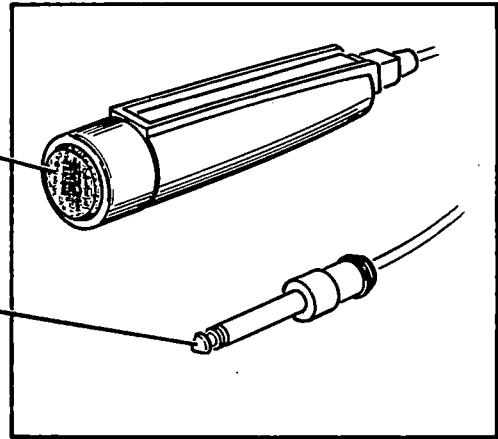
**FIGURE 39**

SOUND DRUM REVERSE DRIVE CHAIN

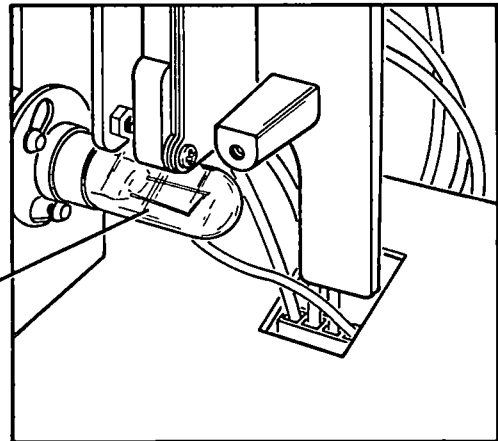


MICROPHONE

MICROPHONE PLUG



EXCITER LAMP



**Noise<sup>1</sup> in SPEAKER**

<p>SOUND DRUM REVERSE DRIVE CHAIN is loose or too tight. Electrical connections are not correct.</p>	<p>Adjust as necessary. Check connections.</p>
--	--

**Microphonics<sup>1</sup> without MICROPHONE PLUG in**

<p>EXCITER LAMP has damage. Position of EXCITER LAMP is not correct. Adjustment of SOUND OPTICS ASSEMBLY is not correct.</p>	<p>Install a new LAMP. Check. See Adjustments, "EXCITER LAMP, Focus, and Sound," figures 15—17.</p>
--	---

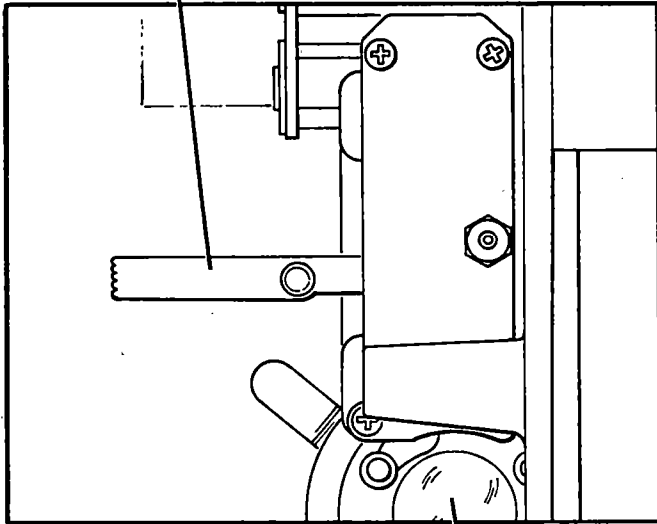
**Microphonics with MICROPHONE PLUG in**

<p>Damage to MICROPHONE or MICROPHONE PLUG</p>	<p>Install a new MICROPHONE and/or MICROPHONE PLUG.</p>
--	---

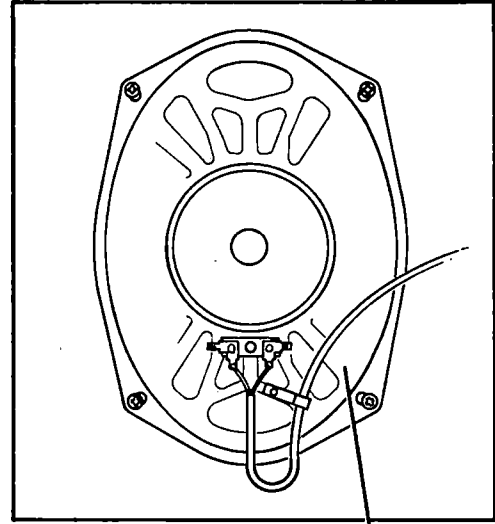
<sup>1</sup>See the glossary.

**FIGURE 40**

FIDELITY CONTROL LEVER



EXCITER LAMP



SPEAKER

**Low sound or sound distortion**

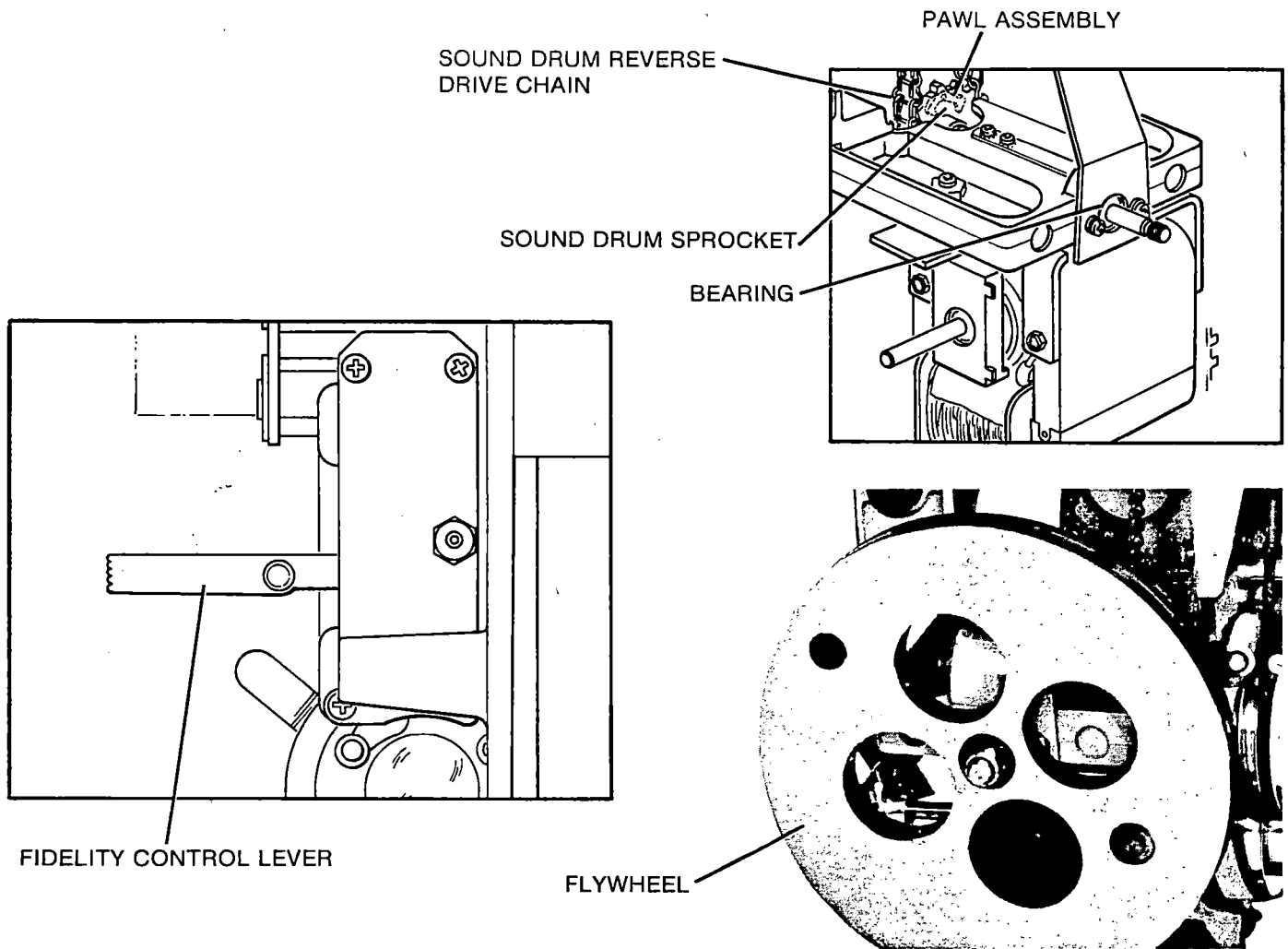
<p>Adjustment of the FIDELITY CONTROL LEVER is not correct. The position of the EXCITER LAMP is not correct. SOUND OPTICS ASSEMBLY adjustment is not correct.</p>	<p>Adjust.  Check the position. See Adjustments, "EXCITER LAMP, Focus, and Sound," figures 15—17.</p>
---	---

**SPEAKER makes noise<sup>1</sup> when "VOLUME" is high.**

<p>Damage to SPEAKER.</p>	<p>Install a new SPEAKER.</p>
---------------------------	-------------------------------

<sup>1</sup>See the glossary.

**FIGURE 41**



**Sound is erratic.**

<p>Film is not in the correct position.          Adjustment of the DAMPER ROLLER ARM is not correct.          SOUND DRUM in figure 33 does not rotate freely.          Adjustment of SOUND DRUM REVERSE DRIVE CHAIN is not correct.          PRESSURE ROLLER position or tension is not correct.          Adjustment of FLYWHEEL is not correct.          Adjustment of LOWER SPROCKET is not correct.          DAMPER ROLLER SPRING tension is not correct.          Lubrication of DAMPER ROLLER is not correct.</p>	<p>Check.          See Adjustments, "DAMPER ROLLER ARM," figure 18.          Install a new BEARING if necessary. Check the SOUND DRUM SPROCKET and PAWL ASSEMBLY.          Adjust.          See Adjustments, "PRESSURE ROLLER Force and Position," figures 13 and 14.          Adjust.          See Adjustments, "SPROCKET CLAMPS," figure 12.          See Adjustments, "DAMPER ROLLER ARM," figure 18.          See Lubricants and Adhesives, figure 49.</p>
--	--

**FIDELITY CONTROL LEVER does not have maximum response.**

<p>Adjustment of SOUND OPTICS ASSEMBLY is not correct.</p>	<p>See Adjustments, "EXCITER LAMP, Focus, and Sound," figures 15—17.</p>
--	--

**FIGURE 42**

TAKE-UP ARM BEARINGS and PAWL  
SAE NO. 20 OIL TL-2199

SUPPLY ARM BEARING  
NON-MELTING GREASE TL-2200

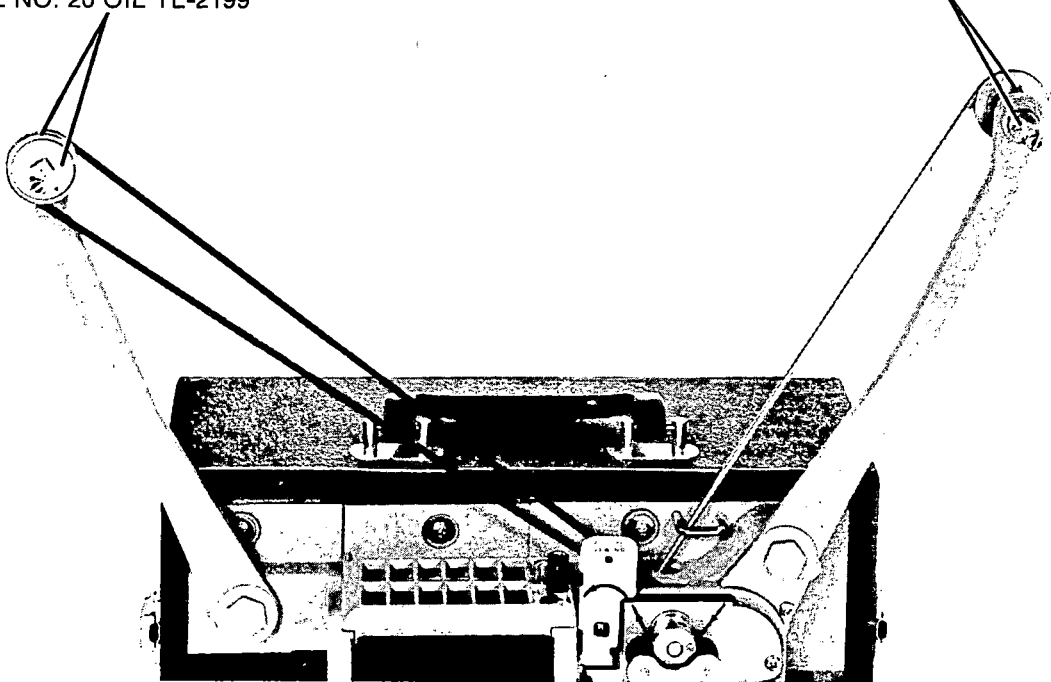
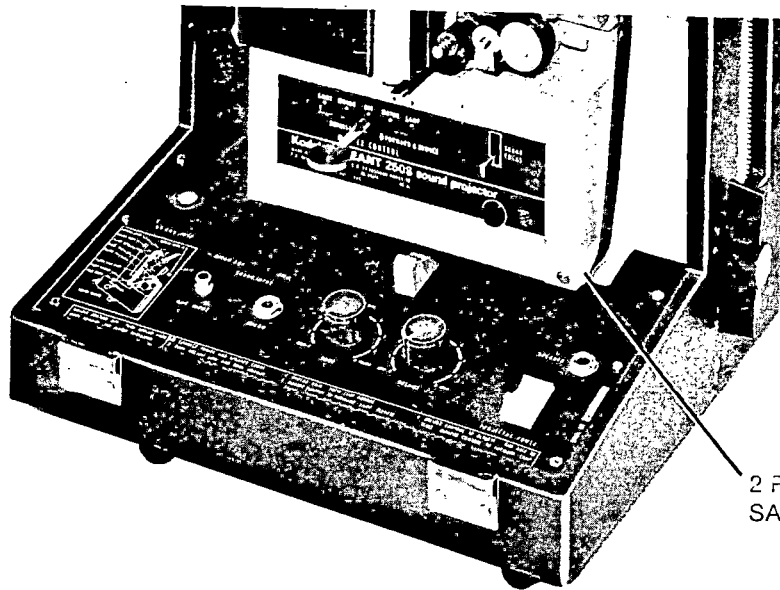


FIGURE 43



2 ROLLERS  
SAE NO. 20 OIL TL-2199

FIGURE 44

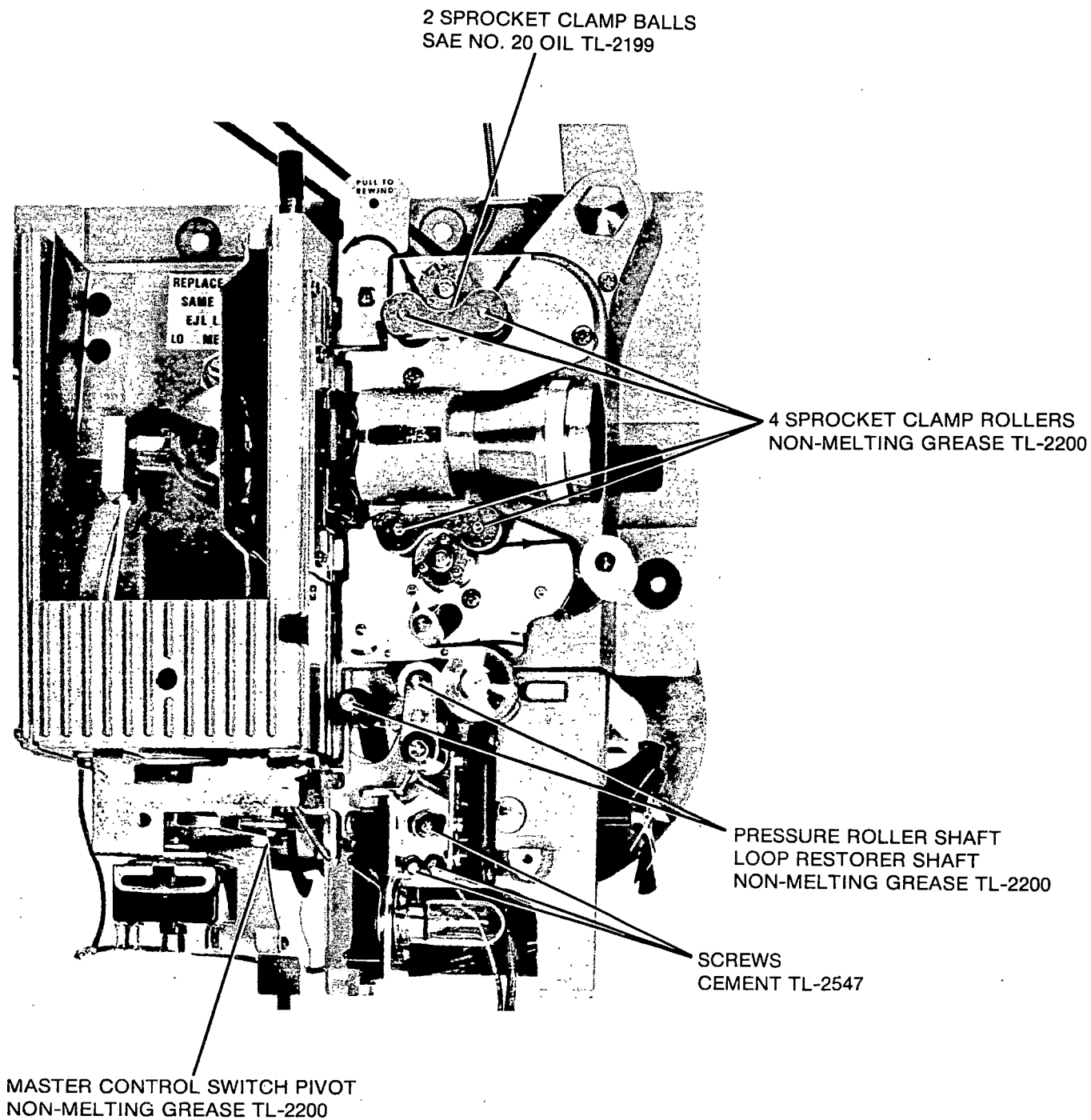
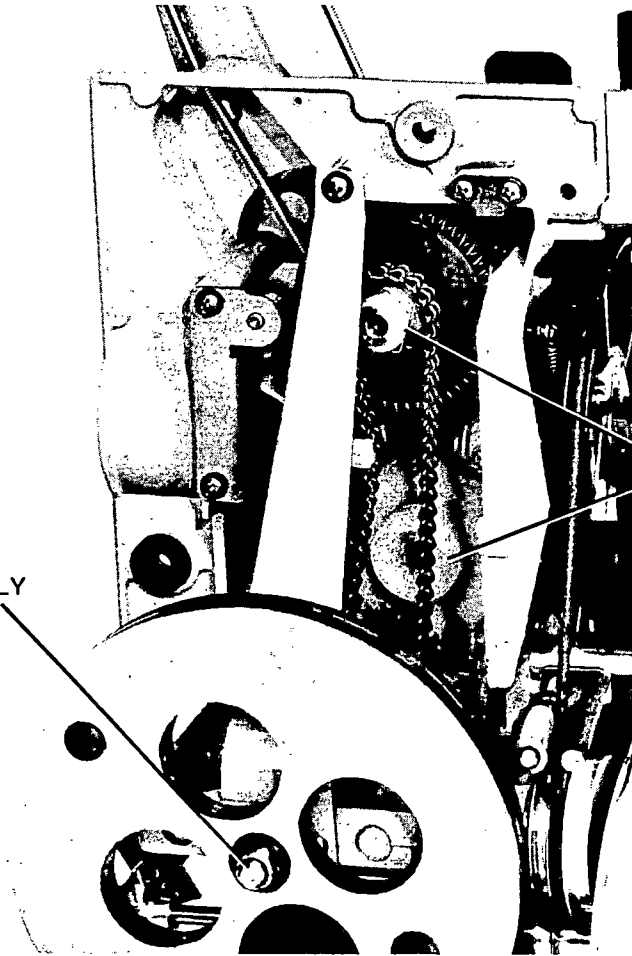


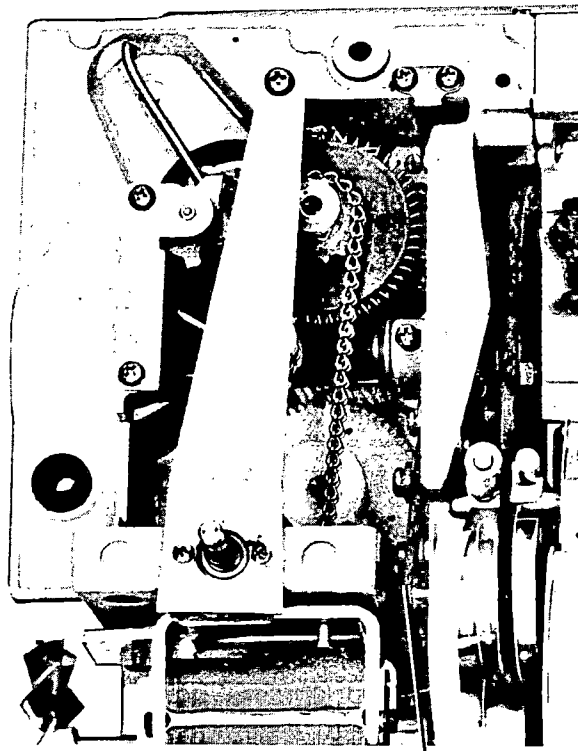
FIGURE 45

SOUND DRUM SHAFT  
SYNTHETIC GREASE WITH MOLY  
TL-2245



ALL NYLON GEARS  
NYLON GEAR LUBRICATION  
TL-2578

FIGURE 46



TOGGLE ARM PIVOTS and DETENTS  
NON-MELTING GREASE TL-2200

FIGURE 47



3 CLAW PIVOT BALLS  
NON-MELTING GREASE WITH MOLY TL-2201

CAM FOLLOWER  
(R) FLUOROSULFONE WITH MOLY TL-2584  
GREASE TL-2245

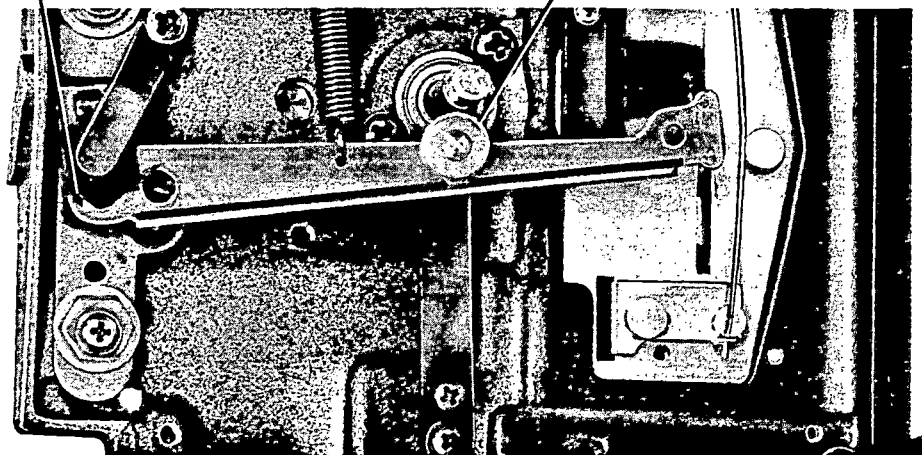


FIGURE 48

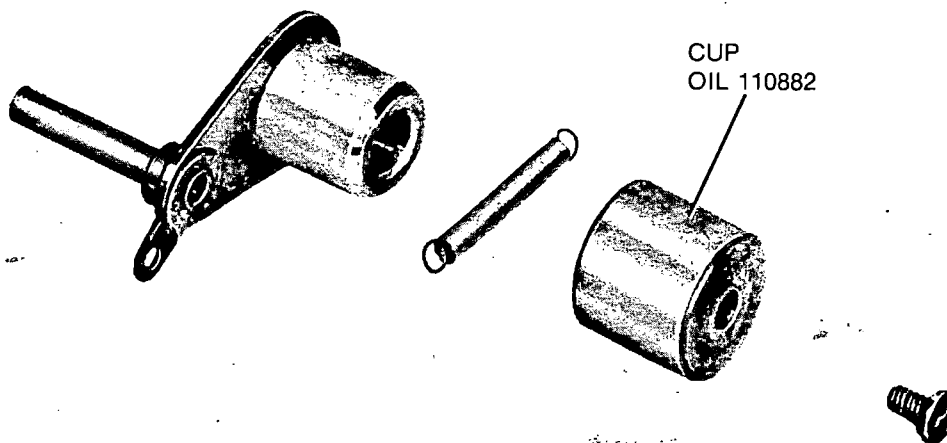
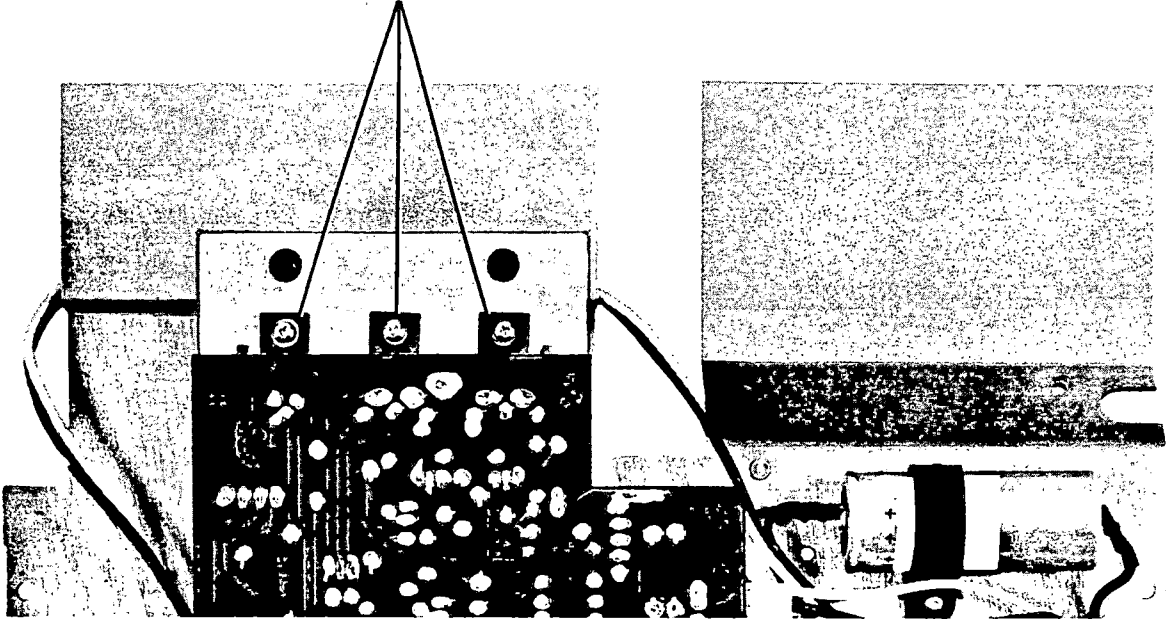


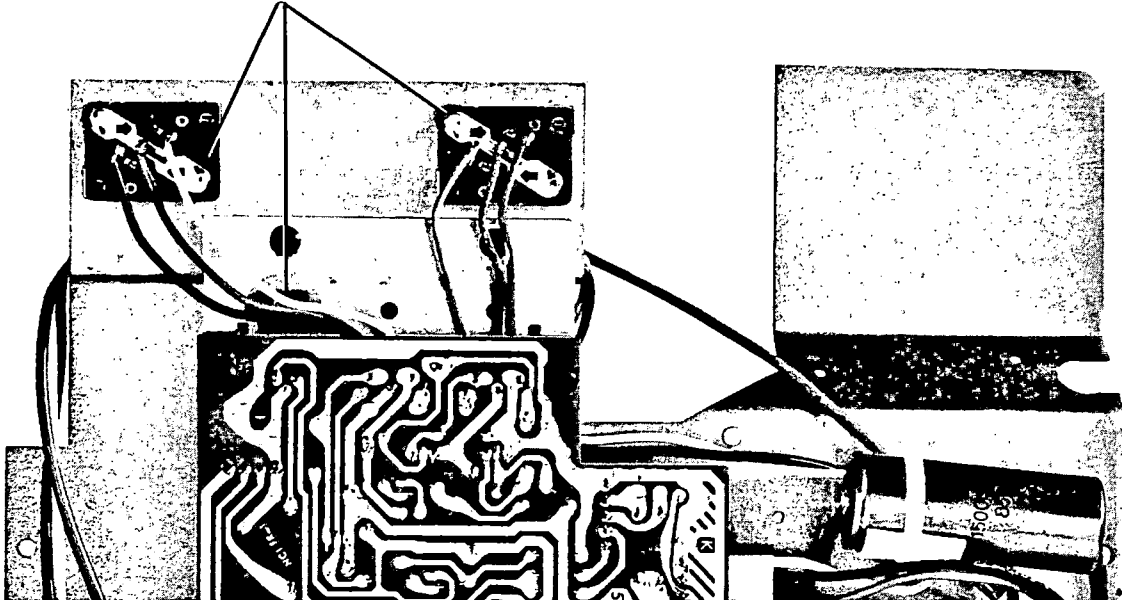
FIGURE 49

Under 2 TRANSISTORS, 1 INTEGRATED CIRCUIT:  
THERMAL COMPOUND TL-2192



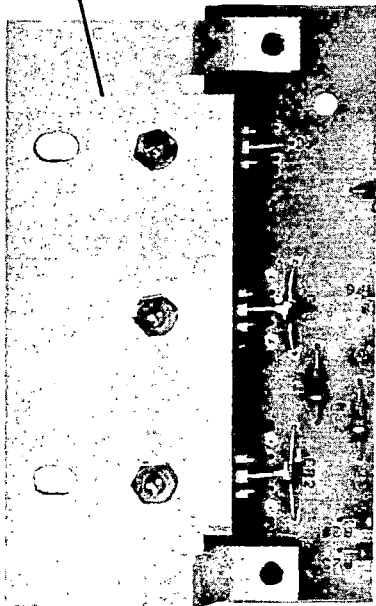
**FIGURE 50** Used in Serial No. AO0001 to BO4730.

Under 2 TRANSISTORS, 1 INTEGRATED CIRCUIT:  
COMPOUND TL-2192



**FIGURE 50a** Used in Serial No. BO4731 and up.

HEAT-SINK PLATE  
THERMAL COMPOUND TL-2192



HEAT-SINK PLATE  
COMPOUND TL-2192

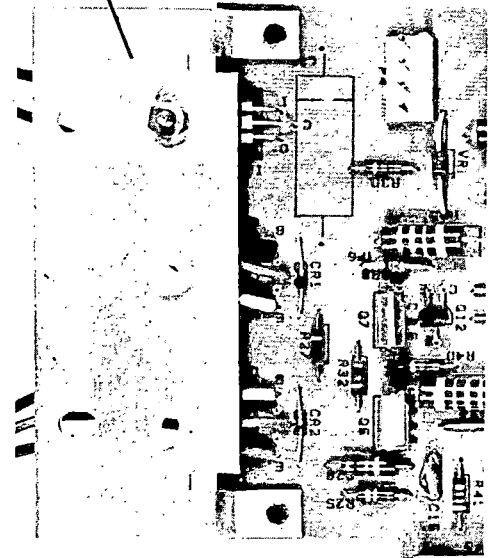


FIGURE 51 Used in Serial No. AO0001 to BO4730.

FIGURE 51a Used in Serial No. BO4731 and up.

ELEVATION ASSEMBLY  
SYNTHETIC GREASE  
WITH MOLY TL-2245

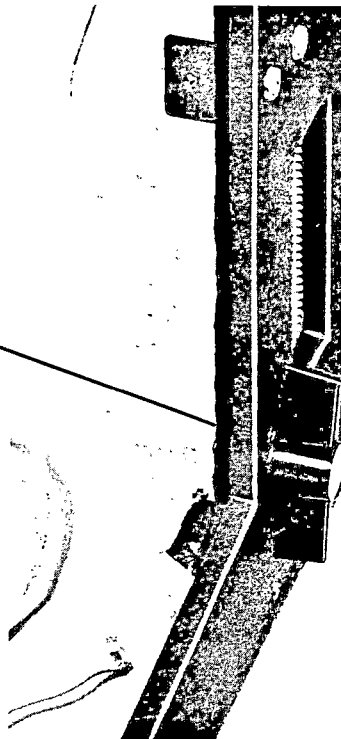
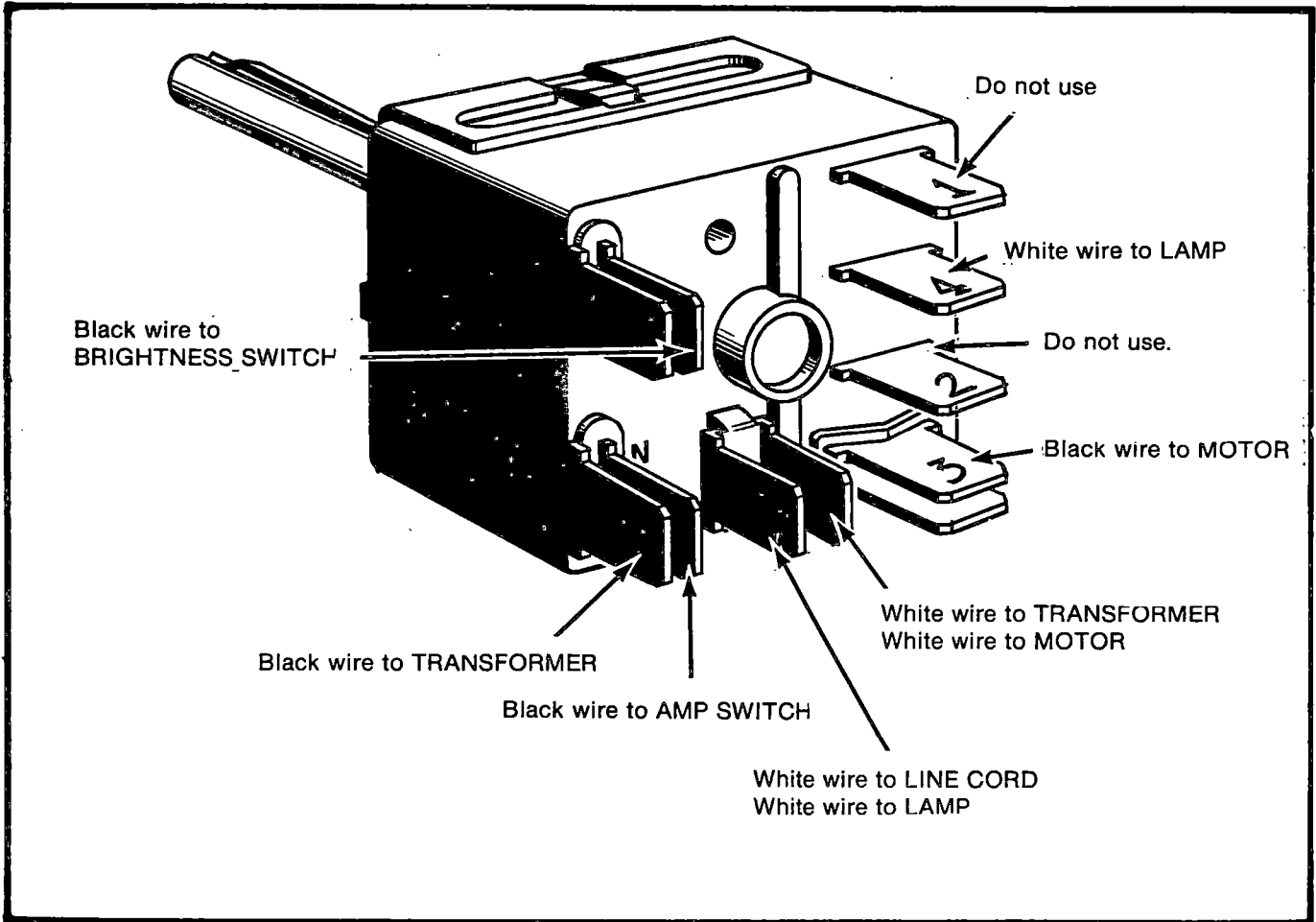
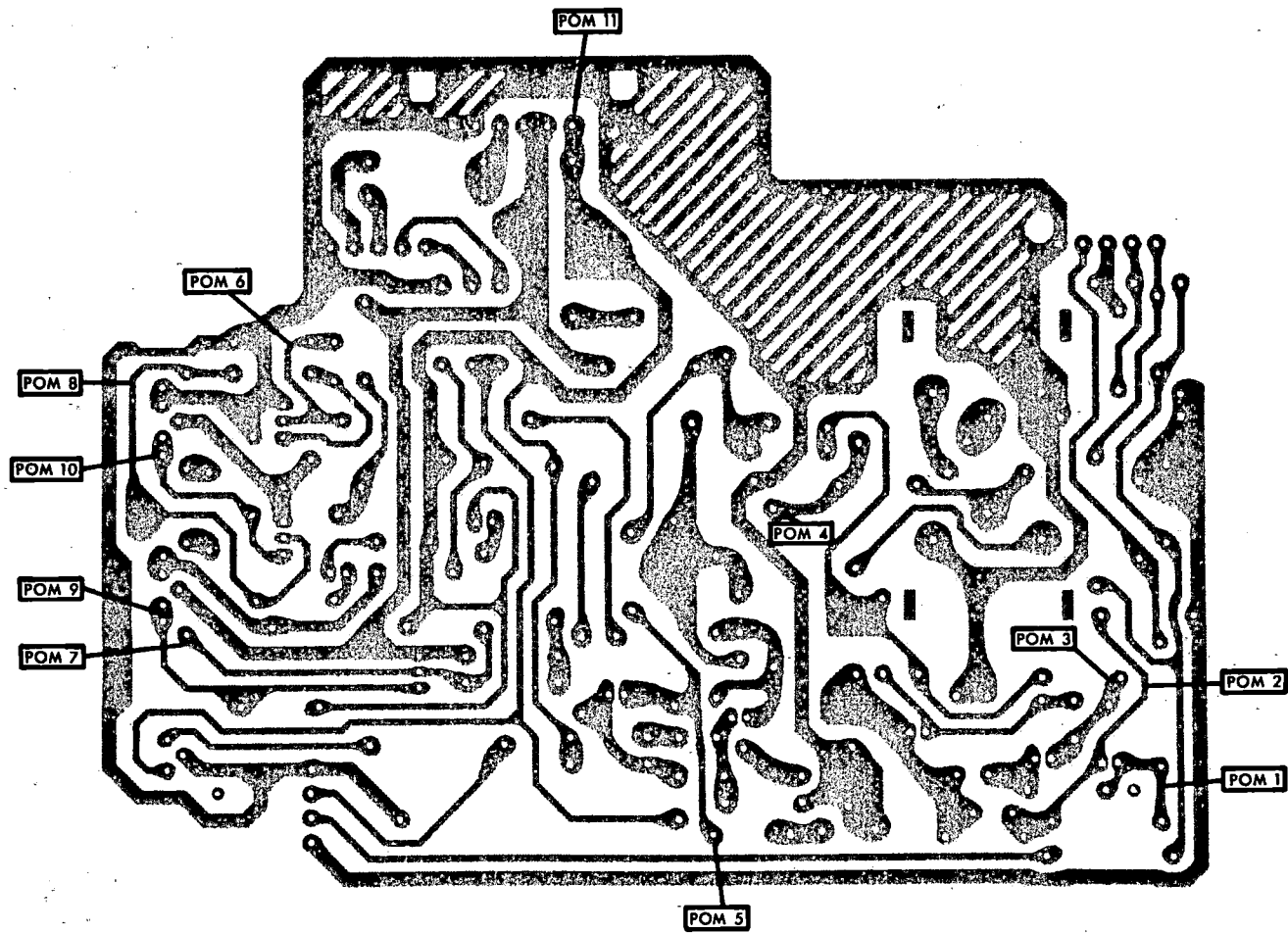


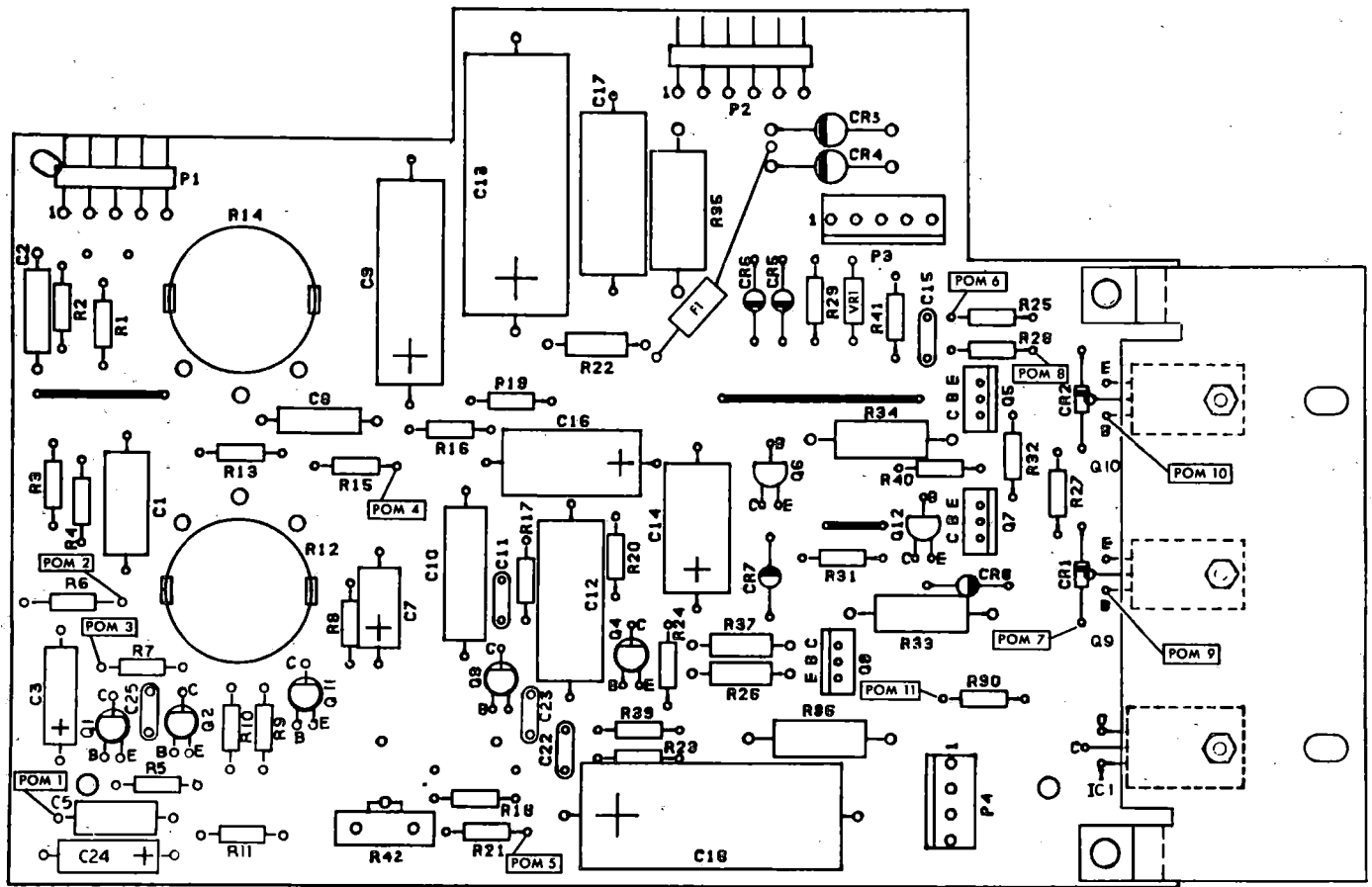
FIGURE 52

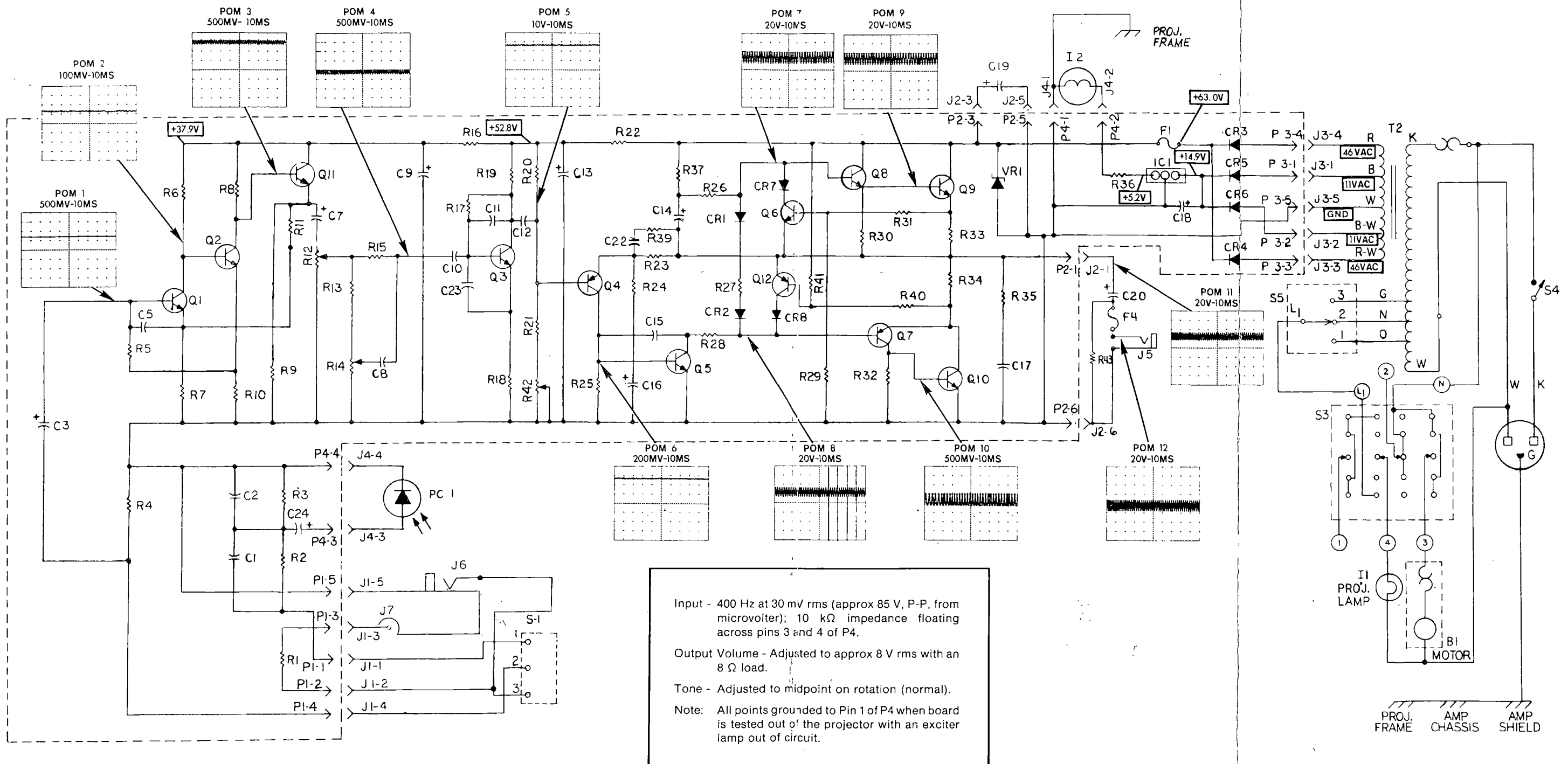


KODAK PAGEANT 250S Sound Projector  
MASTER CONTROL SWITCH Wiring Diagram

FIGURE 53



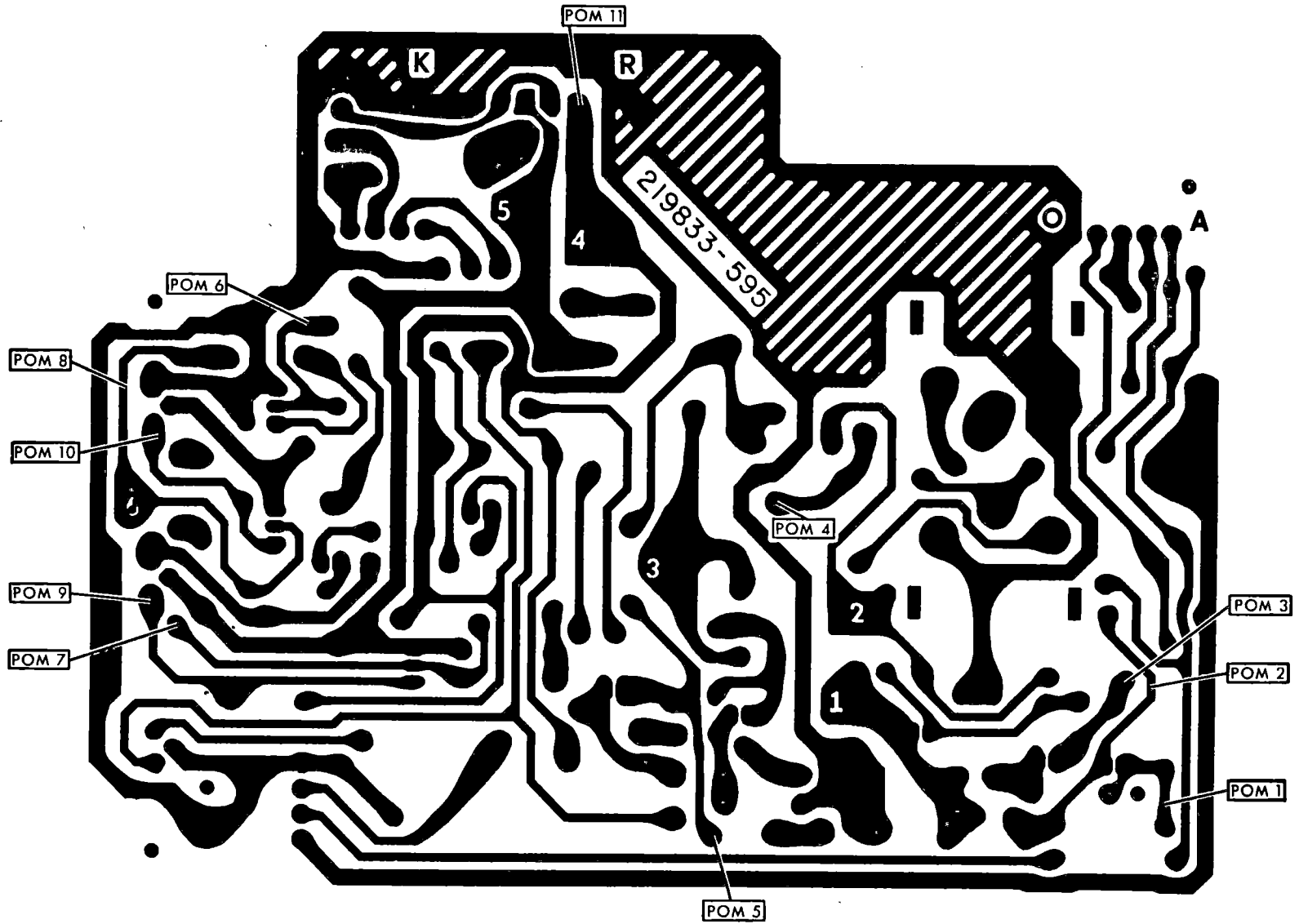




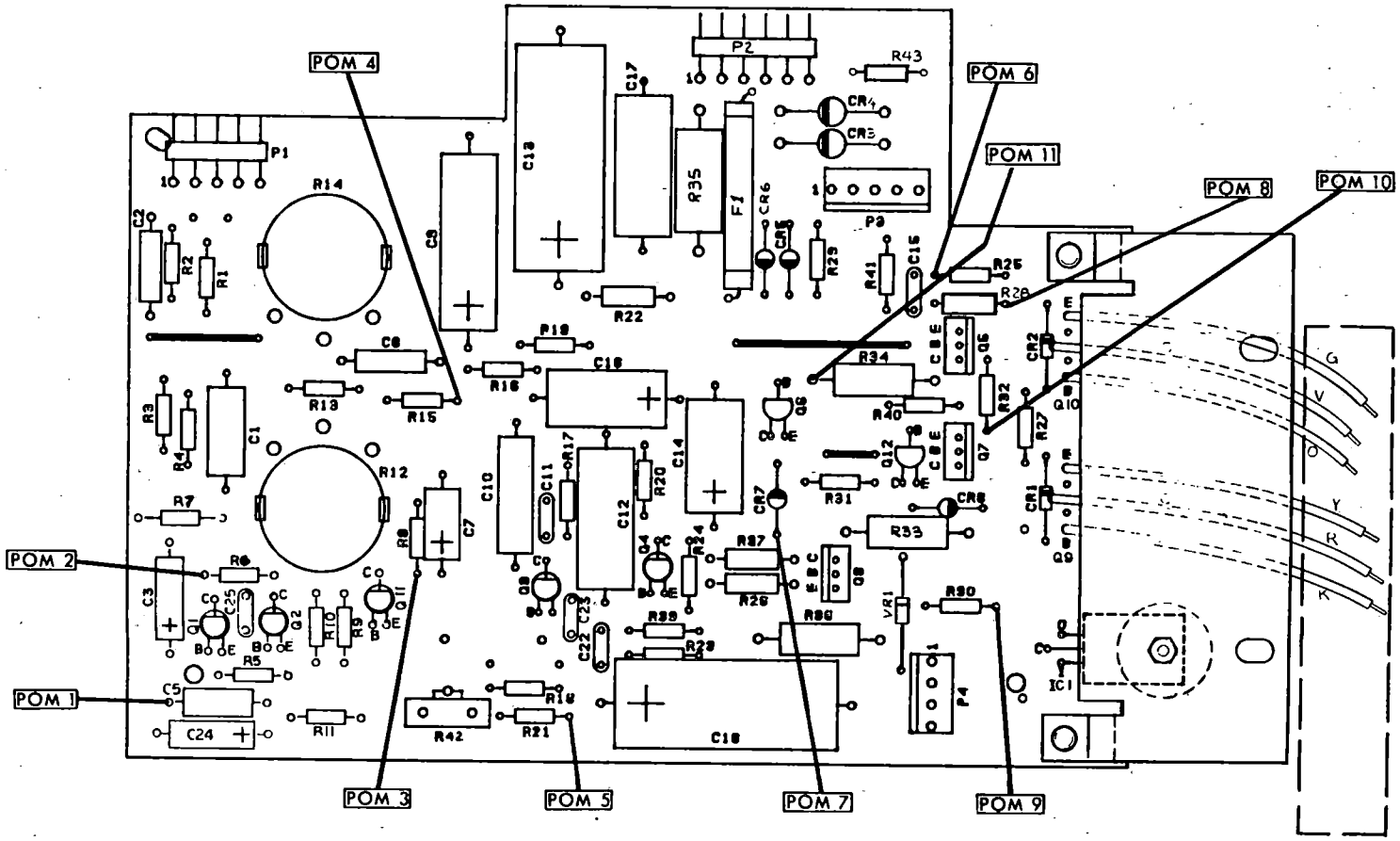
Included in CIRCUIT DIAGRAM PACKAGE 789414.

FIGURE 54 Used in Serial No. AO001 to BO4730.

Included in CIRCUIT DIAGRAM PACKAGE 789414.







KODAK PAGEANT 250S Sound Projector

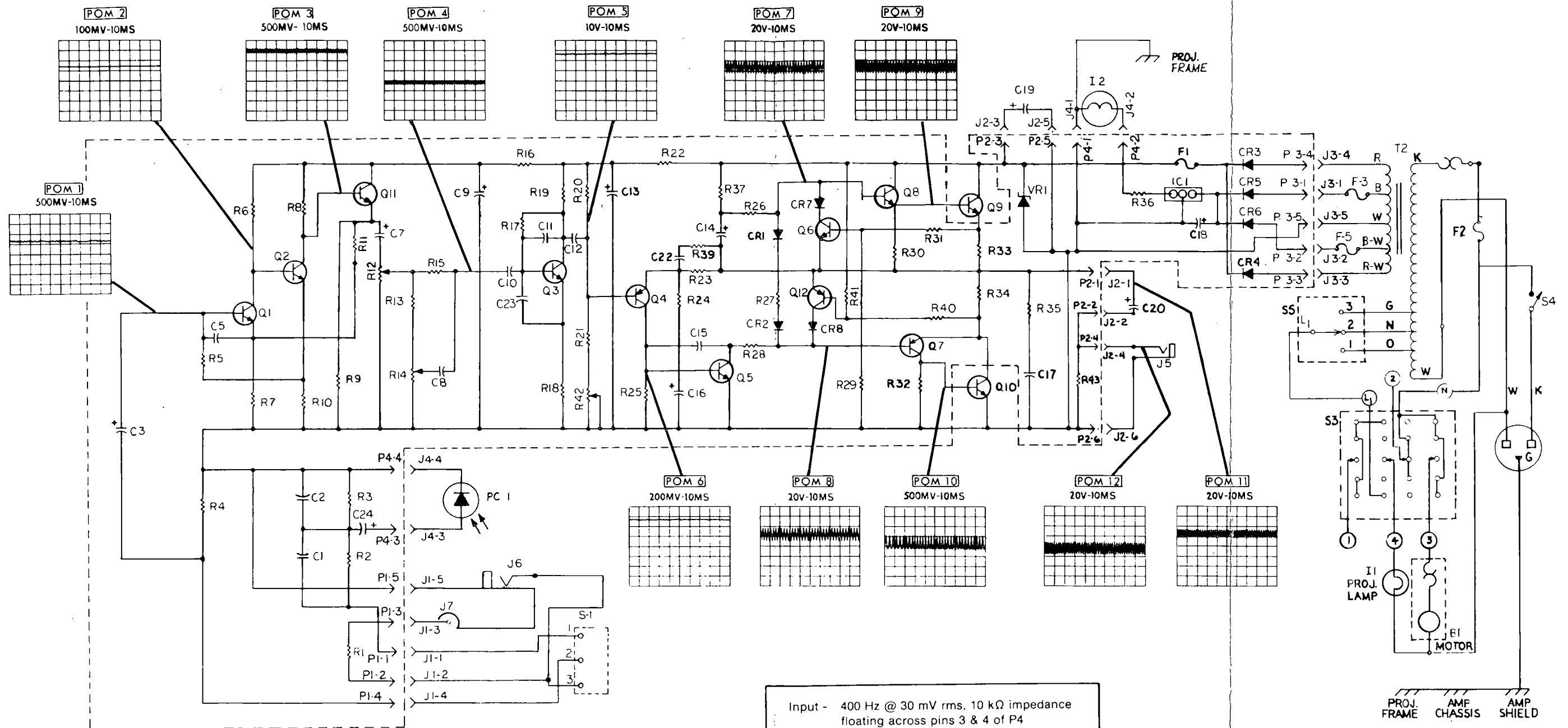
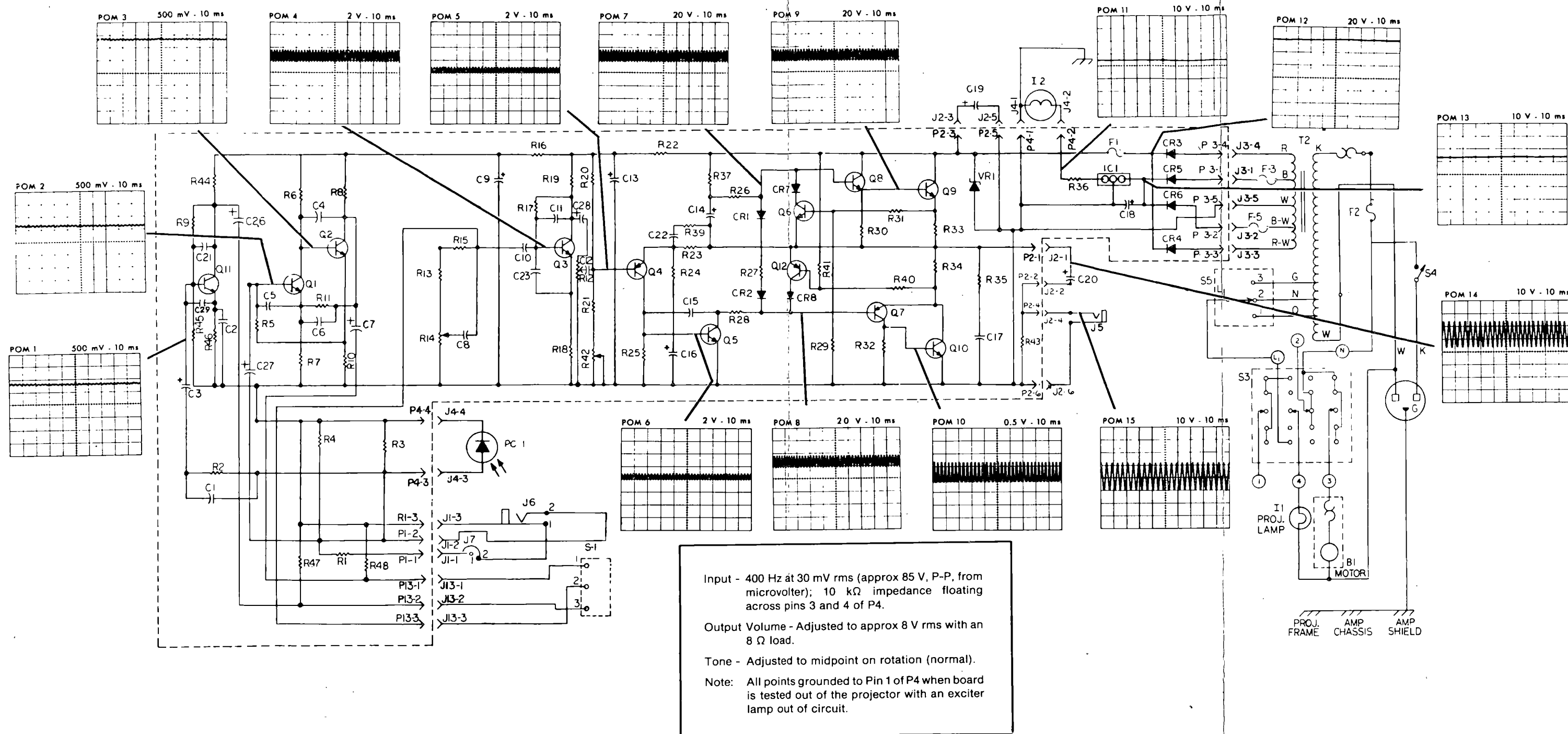
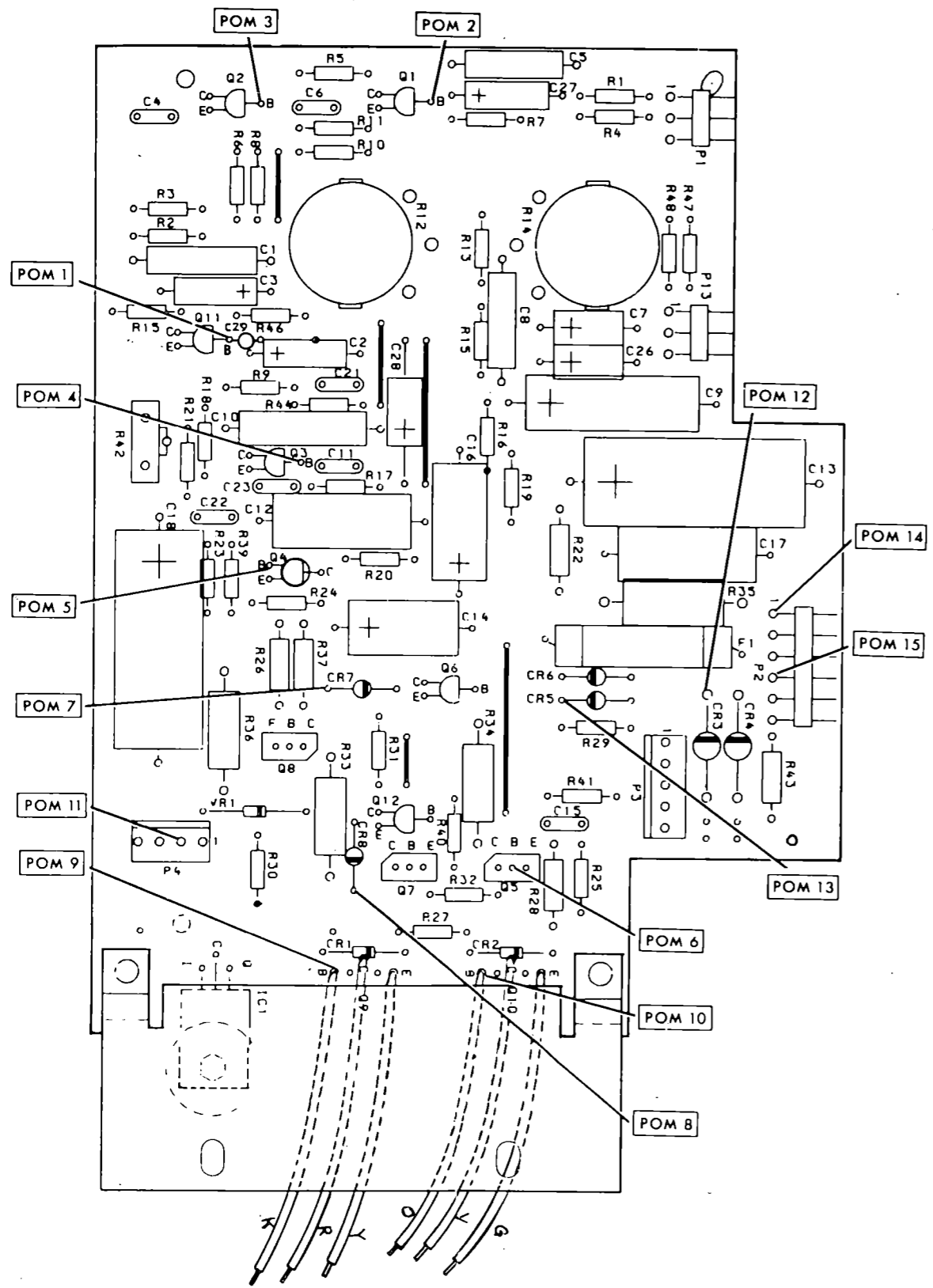


FIGURE 54a Used in Serial No. BO4731 and up.

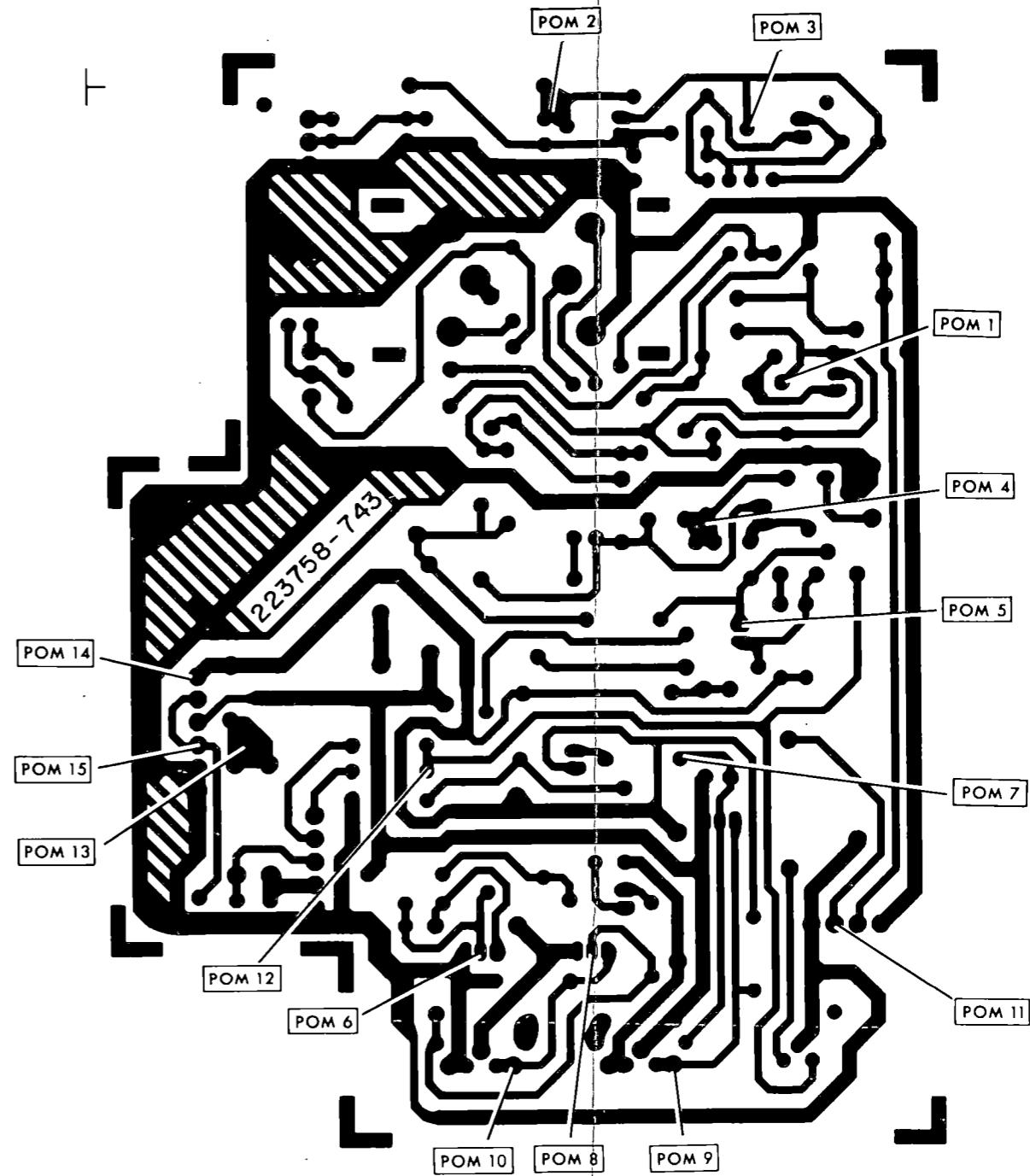


(A) 5/79 FIGURE 54b Projector Circuit Diagram for KODAK PAGEANT 250S Sound Projector.

• Included in CIRCUIT DIAGRAM PACKAGE 789414.  
Use for projectors with serial number followed by A.



POM=Point of measurement



POM=Point of measurement