

**VIP-35**

**3**

**MODEL VII  
SOUNDHEAD**

**BALLANTYNE OF OMAHA, INC.**

**A SUBSIDIARY OF CANRAD-HANOVIA, INC.**

**1712 Jackson Street**

**Omaha, Nebraska 68102**

**402-342-4444**

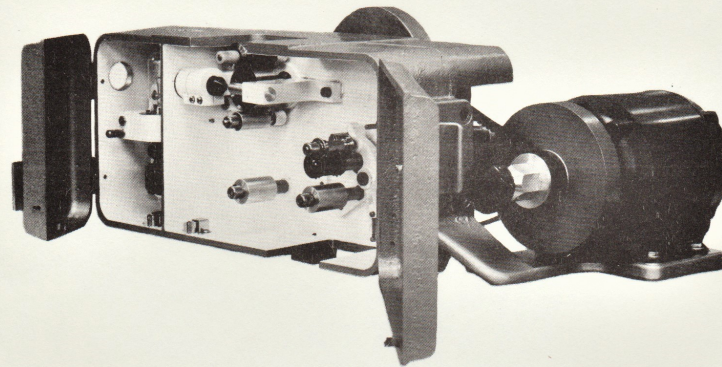
**BALLANTYNE  
MODEL VII SOUNDHEAD**

# *Ballantyne*

## MODEL VII

### **SOUNDHEAD**

THE FINEST SOUNDHEAD MANUFACTURED  
DESIGNED FOR THE 70'S & 80'S



- ROOMY • EASY TO SERVICE • EASY TO THREAD • TIGHT LOOP ELIMINATES WOW • NO GEAR BOX • NEVER NEEDS OILING • MADE TO RECEIVE AUTOMATION
- EQUIPPED WITH SOLAR CELL OR PHOTO ELECTRIC CELL SPECIFY • DOUBLE ACTING OIL DAMPENER • THE ONLY SOUNDHEAD WITH A PRE-FOCUSED OPTIC
- SIMPLIFIED MOUNTING TO ANY PROJECTOR • NO DRIVE GEARS TO ALIGN
- WILL BELT DRIVE ANY AMERICAN MADE PROJECTOR

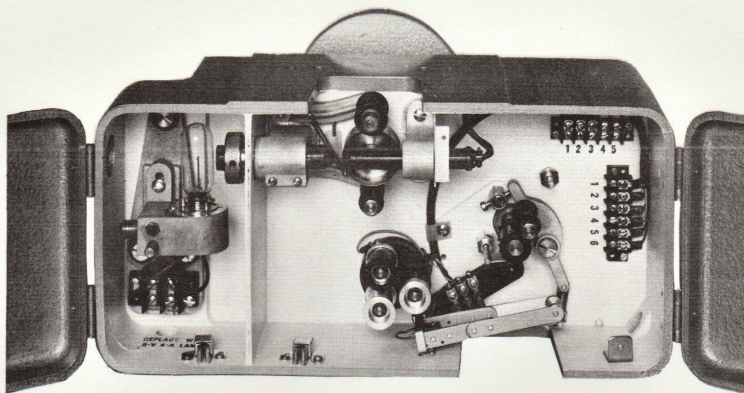
AVAILABLE FOR 50 AS WELL AS 60 CYCLE  
WHEN ORDERING - SPECIFY MAKE AND MODEL PROJECTOR - MAKE AND MODEL PEDESTAL

# *Ballantyne*

## MODEL VII

# SOUNDHEAD

THE FINEST SOUNDHEAD MANUFACTURED  
DESIGNED FOR THE 70'S & 80'S  
EQUIPPED TO CONTROL AUTOMATION

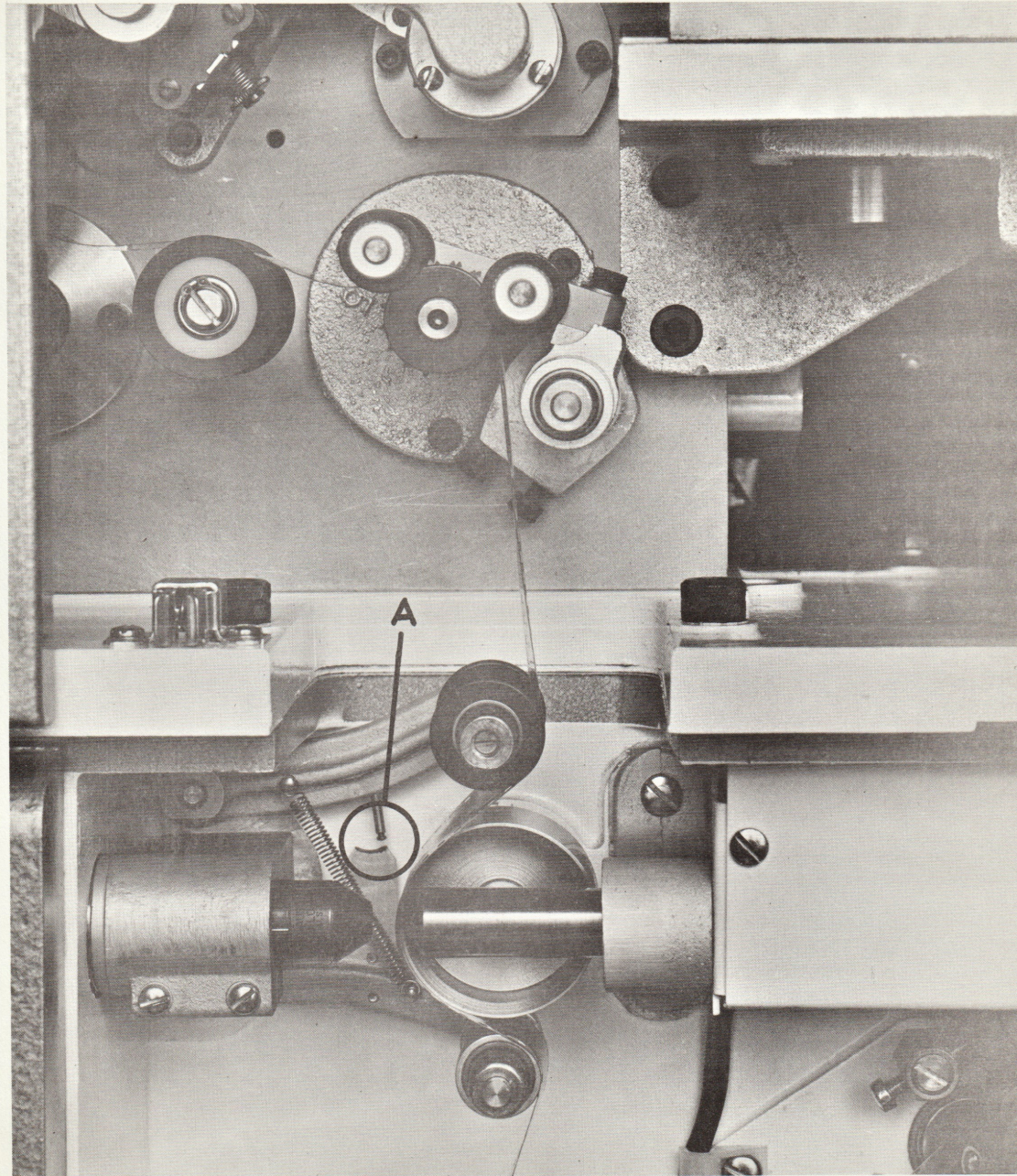


- HAS TWO CIRCUIT SENSOR PROVIDING FULL PROGRAM CONTROL OF AUTOMATED SYSTEMS • RUN OUT SWITCH DESIGNED TO MONITOR BOTH SIDES OF THE FILM SIMULTANIOUSLY • EQUIPPED WITH SOLAR CELL OR PHOTO ELECTRIC CELL • MOUNTINGS DIRECTLY INTERCHANGEABLE

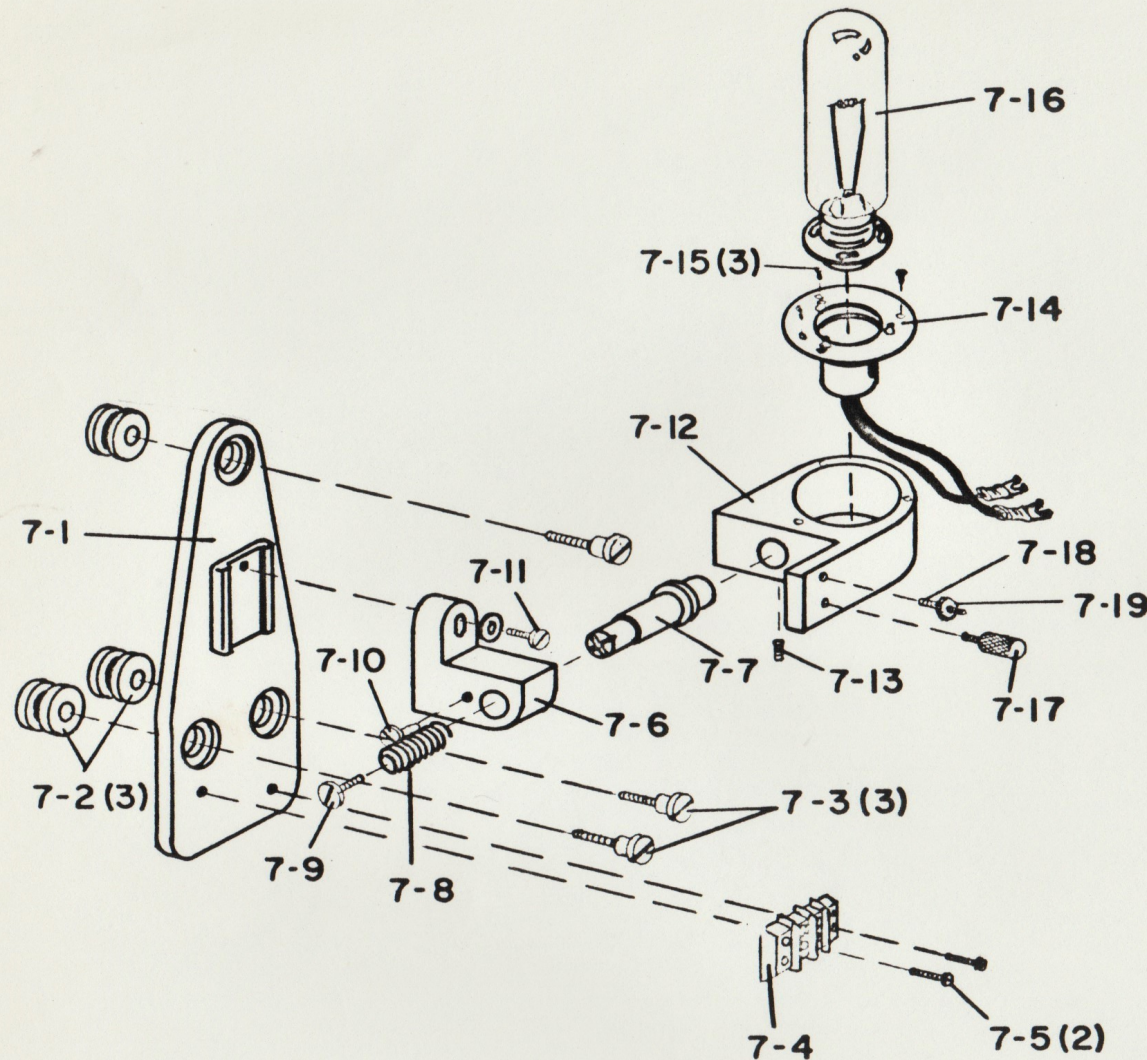
WHEN ORDERING - SPECIFY MAKE & MODEL PROJECTOR - MAKE & MODEL PEDESTAL & PICK-UP DEVICE DESIRED.

FOR PROPER DAMPENING ACTION

Tension the film around scanning drum from sprocket to sprocket  
until point of pin rides at level of arc on pointer plate (A)

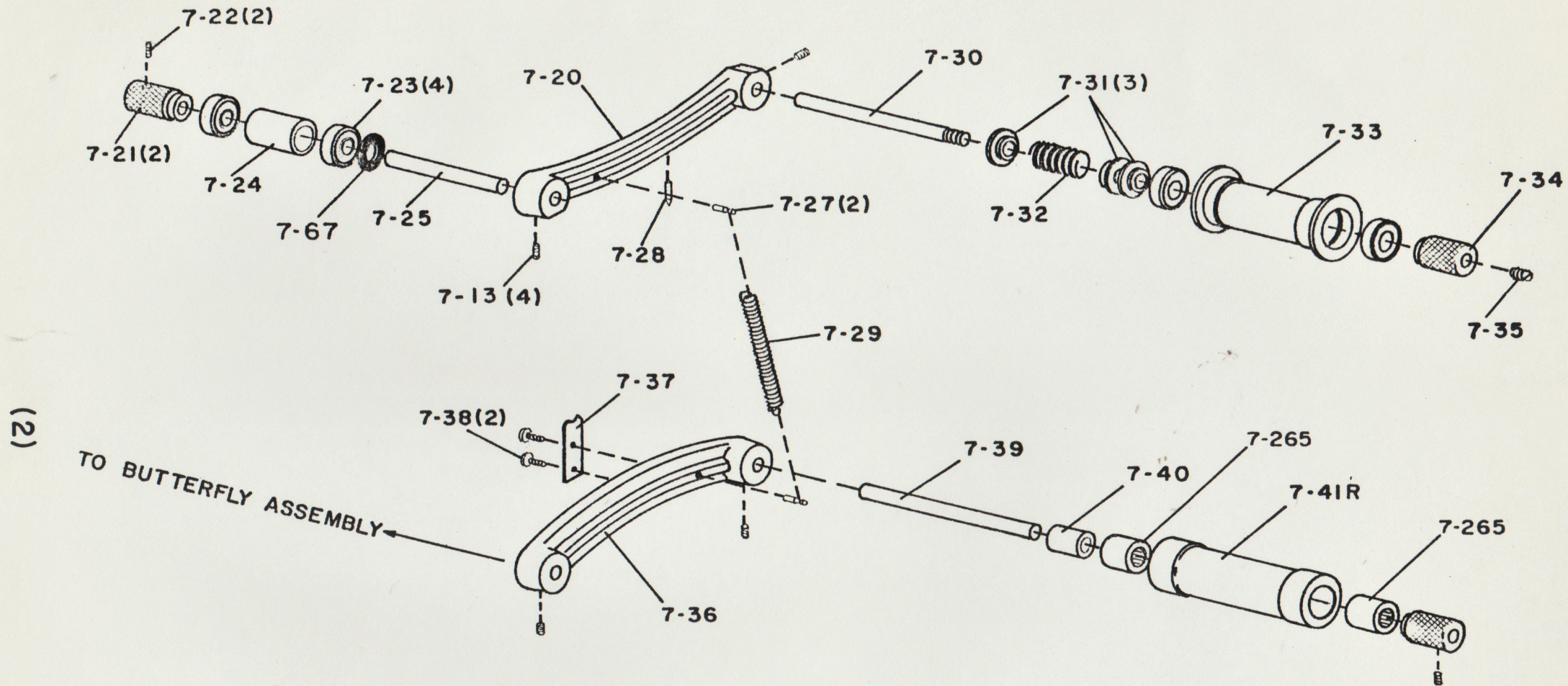


# EXCITER LAMP MOUNTING BRACKET



- 7-1 Exciter Dampening Plate
- 7-2 Rubber Gromet for Dampening Plate
- 7-3 Exciter Lamp Shoulder Screw
- 7-4 2 Terminal-Terminal Block
- 7-5 Terminal Mounting Screw
- 7-6 Exciter Bracket
- 7-7 Exciter Lamp Pivot Shaft
- 7-8 Spring for Pivot Shaft
- 7-9 Pivot Shaft Fastening Screw
- 7-10 Spring Fastening Screw
- 7-11 Exciter Bracket Mounting Screw
- 7-12 Exciter Mounting Cap
- 7-13 Exciter Mounting Cap Set Screw
- 7-14 Exciter Lamp Socket & Pigtails
- 7-15 Socket Mounting Screw
- 7-16 Exciter Lamp (Specify Voltage & Amp)
- 7-17 Exciter Lamp Tip-Out Handle
- 7-18 Mounting Cup Stop Set Screw
- 7-19 Stop Set Screw Locking Nut

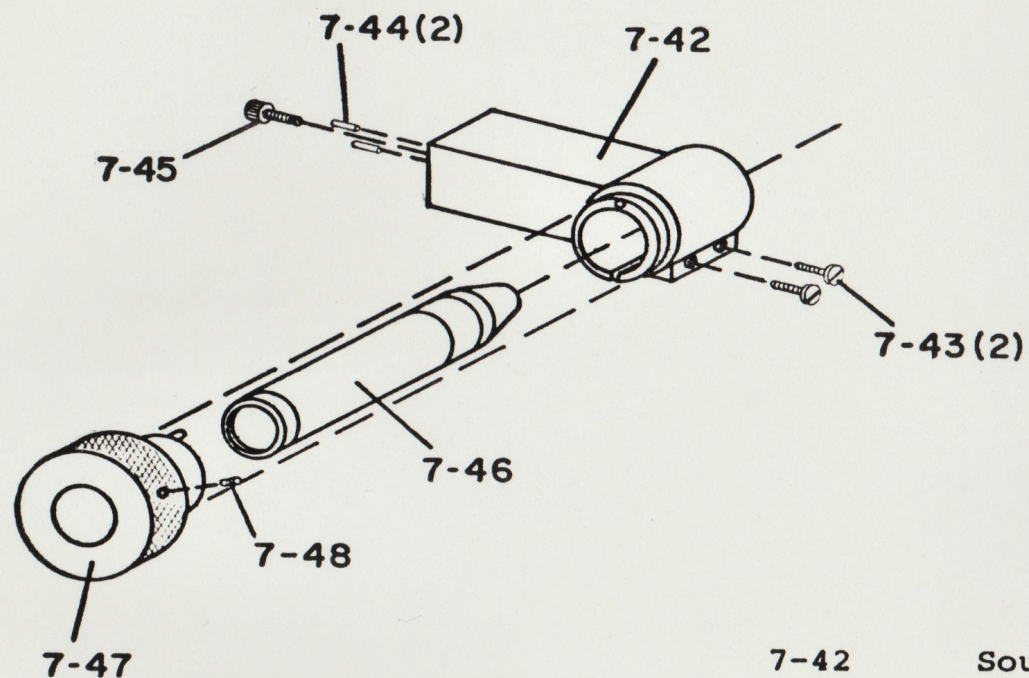
# DAMPENER ARMS



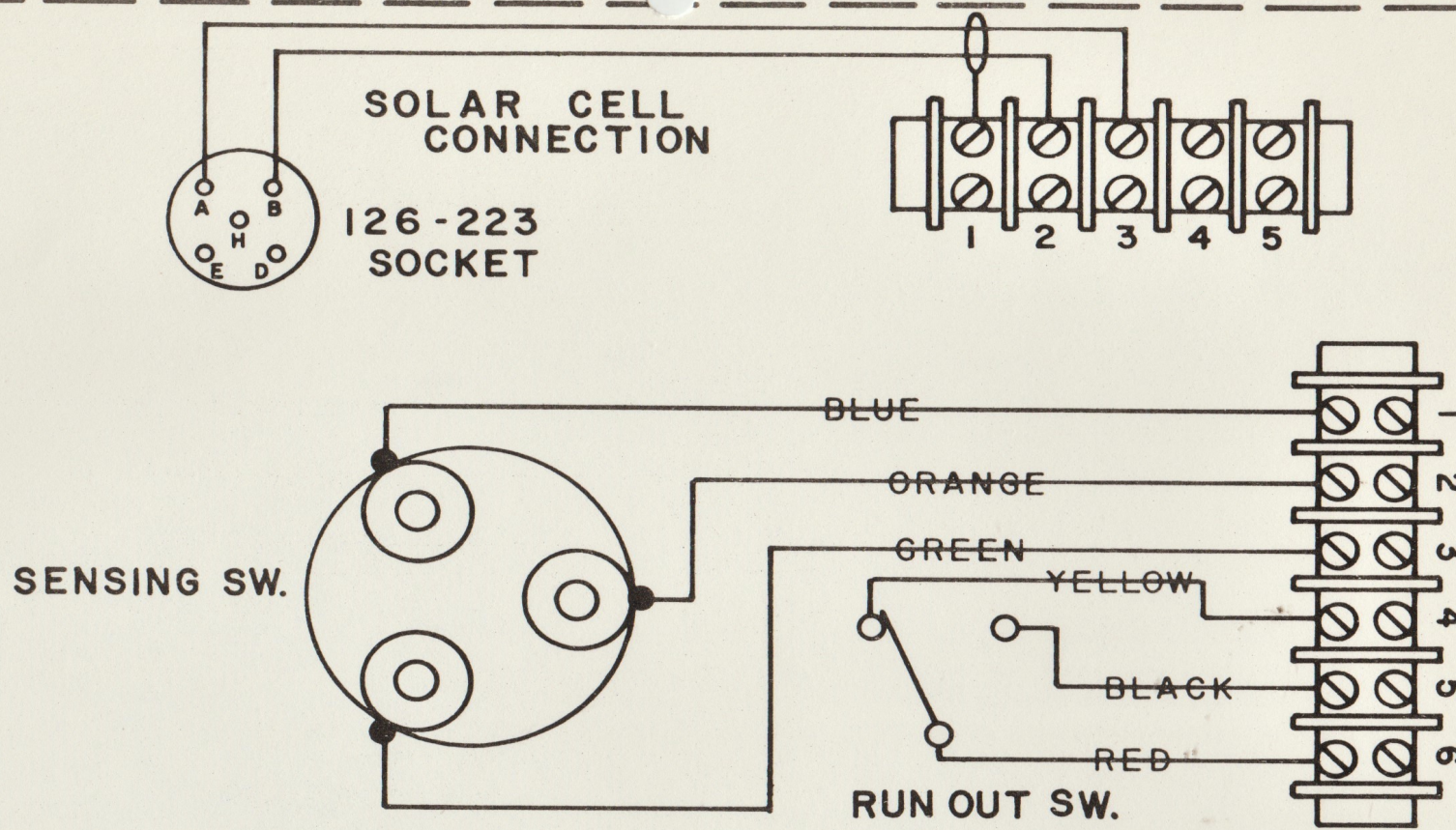
- 7-20 DAMPENER ARM (UPPER)
- 7-21 KNURLED COLLAR
- 7-22 SET SCREW
- 7-265 BEARING
- 7-24 SPACER FOR UPPER DAMPENER ARM BEARING
- 7-67 FIBRE WASHER
- 7-25 UPPER DAMPENER ARM SHAFT
- 7-13 SET SCREW
- 7-27 DAMPENER ARM SPRING PIN
- 7-28 UPPER DAMPENER SHAFT POINTER PIN
- 7-29 DAMPENER SPRING
- 7-30 UPPER DAMPENER ARM PIN THREADED

- 7-31 BUSHING FOR DAMPENER ROLLER
- 7-32 BUSHING SPRING
- 7-33 UPPER FLANGE FILM ROLLER
- 7-34 KNURLED COLLAR
- 7-35 ADJUSTMENT SET SCREW
- 7-36 DAMPENER ARM (LOWER)
- 7-37 POINTER PLATE
- 7-38 POINTER PLATE FASTENING SCREW
- 7-39 LOWER DAMPENER ARM SHAFT
- 7-40 SPACER FOR PAD ROLLER
- 7-41R PAD ROLLER

# OPTICAL LENS ASSEMBLY



7-42	Sound Lens Mount
7-43	Lens Mount Expansion Screw
7-44	Lens Mount Dowel Pin
7-45	Lens Mount Mounting Screw
7-46	Optical Lens
7-47	Lens Focus Ring
7-48	Lens Focus Ring Set Screw



**BALLANTYNE** OF OMAHA, INC.

TELEPHONE 342-4444

1712 JACKSON STREET

OMAHA, NEBRASKA

## MODEL VII WIRING DIAGRAM

SCALE

DRAWING NO.

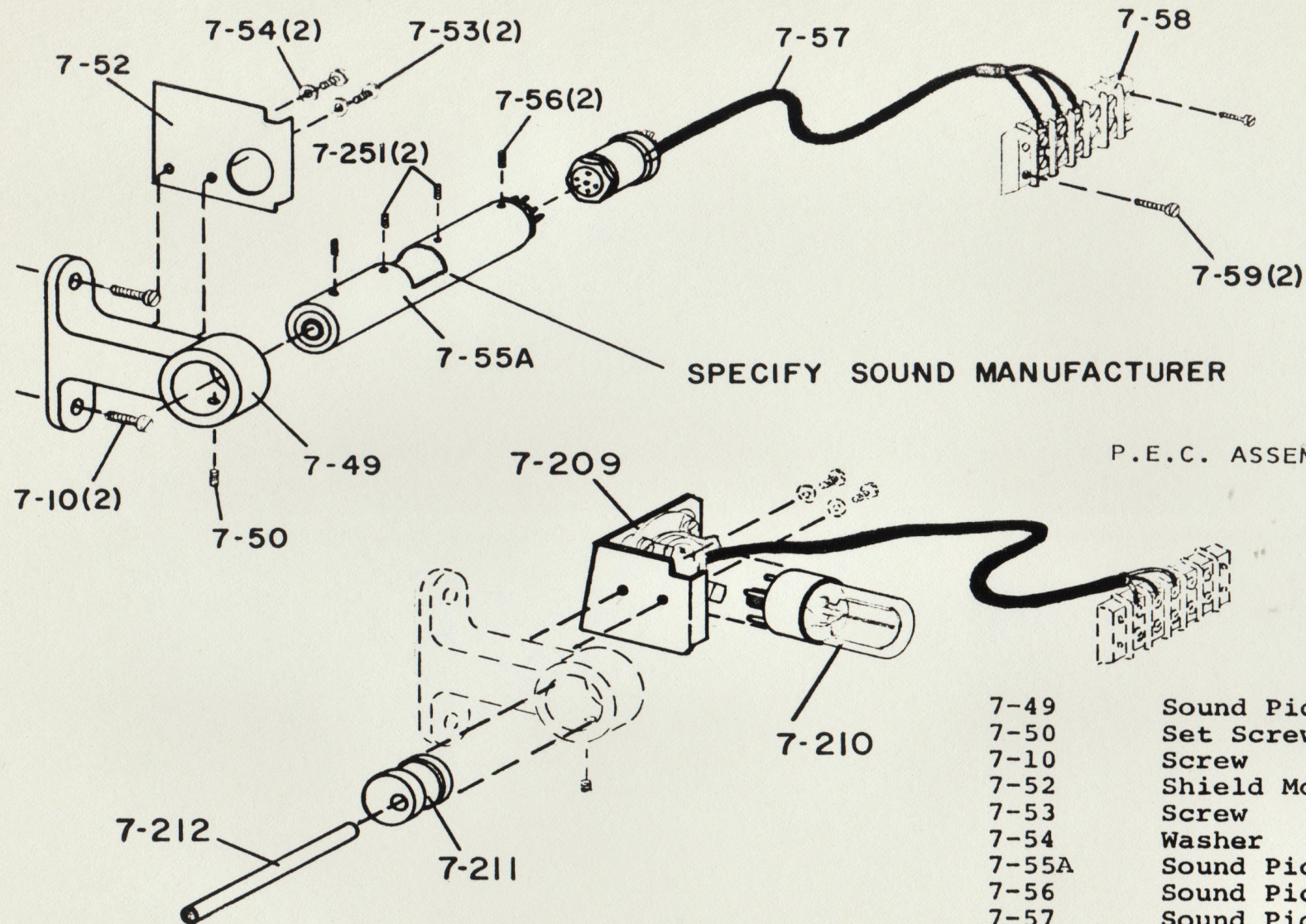
DRAWN BY

DATE 1/24/72

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REVISED

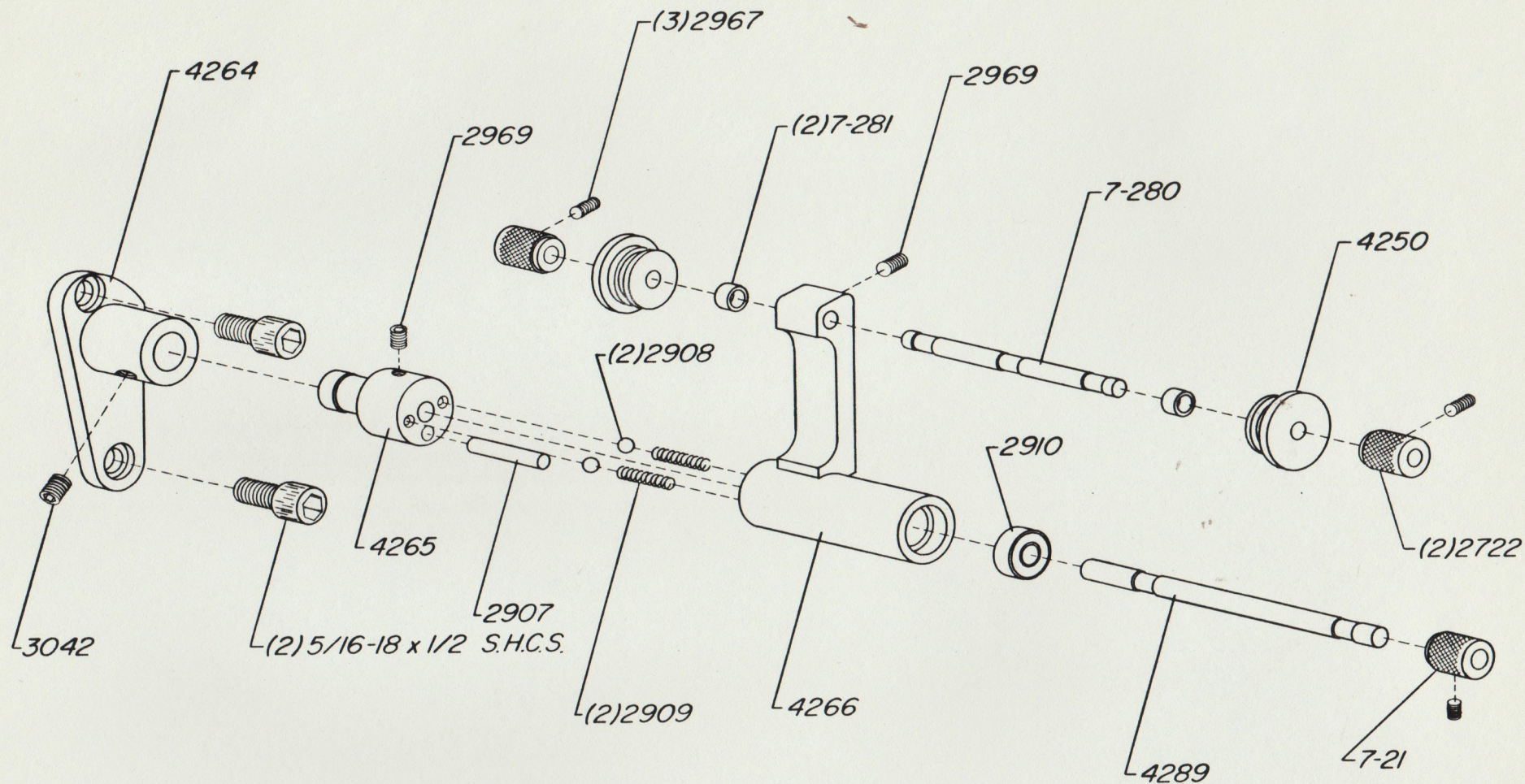
# SOUND PICK-UP ASSEMBLY



SPECIFY SOUND MANUFACTURER

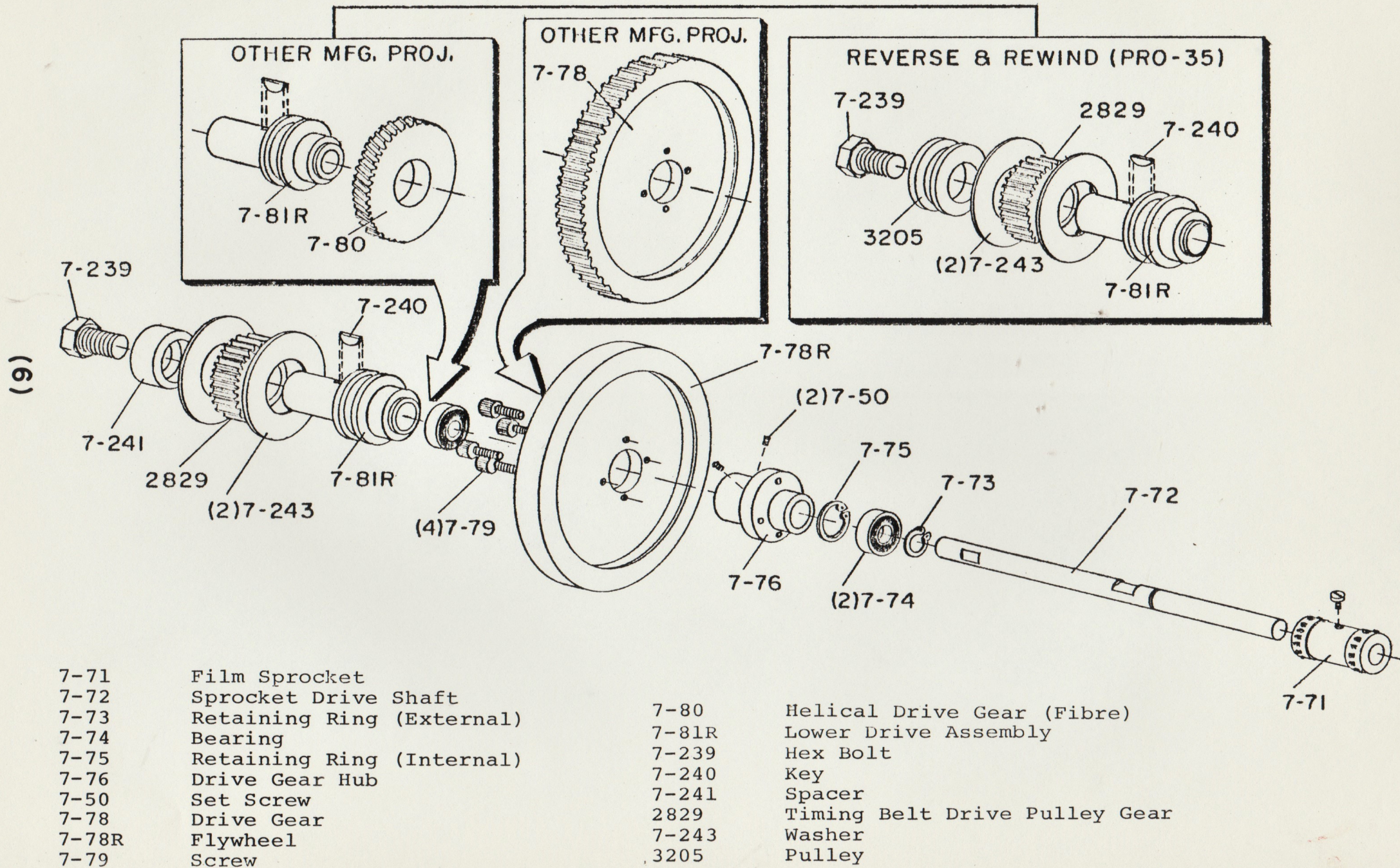
P.E.C. ASSEMBLY

- |       |                                 |
|-------|---------------------------------|
| 7-49  | Sound Pick-Up Mount             |
| 7-50  | Set Screw                       |
| 7-10  | Screw                           |
| 7-52  | Shield Mounting Bracket         |
| 7-53  | Screw                           |
| 7-54  | Washer                          |
| 7-55A | Sound Pick-Up Solar Cell        |
| 7-56  | Sound Pick-Up Tube Set Screw    |
| 7-57  | Sound Pick-Up Cable Assembly    |
| 7-58  | 5 Terminal-Terminal Block       |
| 7-59  | Terminal Mounting Screw         |
| 7-209 | P.E.C. Cushion Mount (Complete) |
| 7-210 | 930 P.E.C.                      |
| 7-211 | Light Tube Angle Bushing        |
| 7-212 | Light Tube                      |
| 7-251 | Set Screw                       |

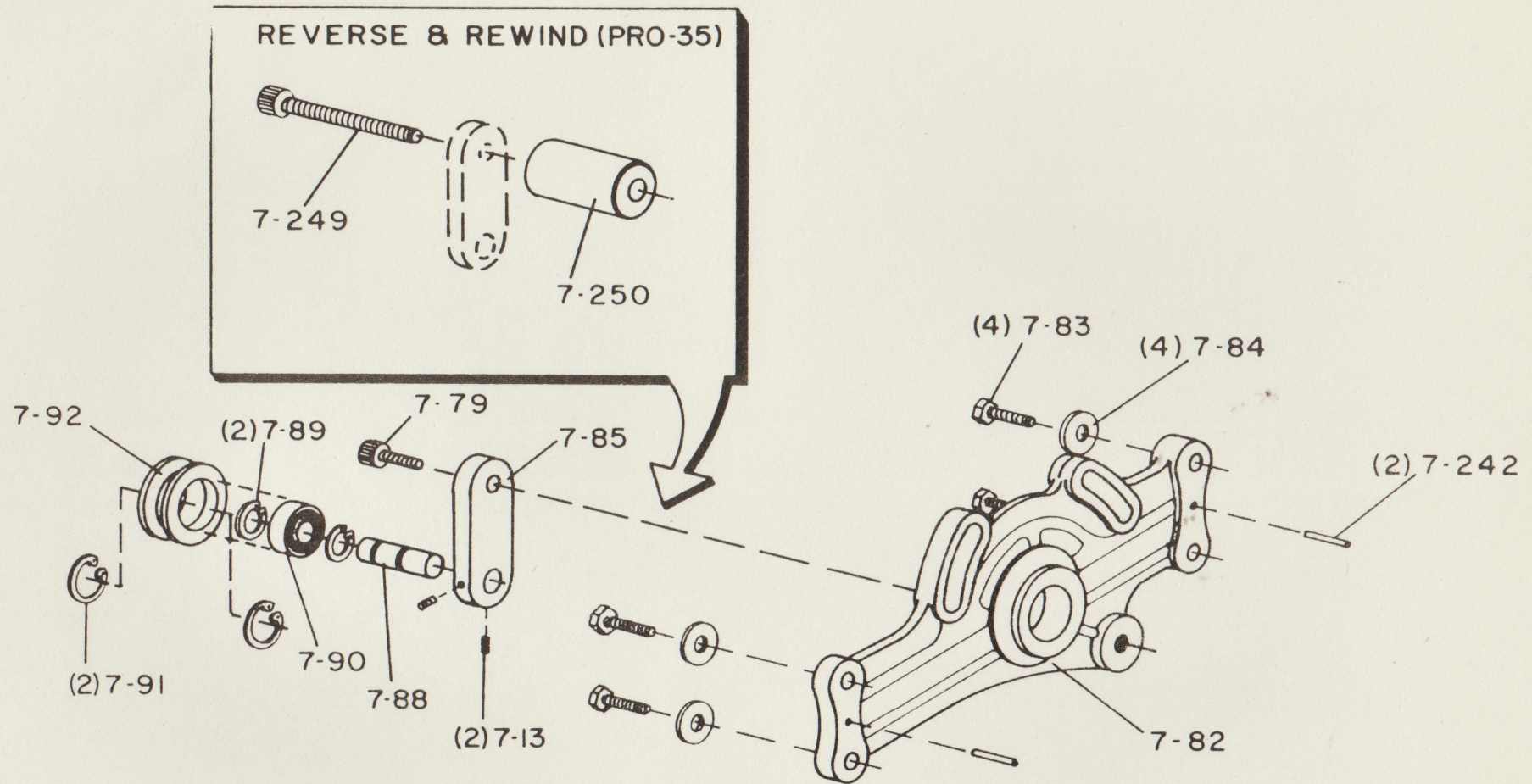


**P8163**  
**35mm MODEL VII PAD ROLLER ASSEMBLY**

# DRIVE SHAFT & SPROCKET ASSEMBLY



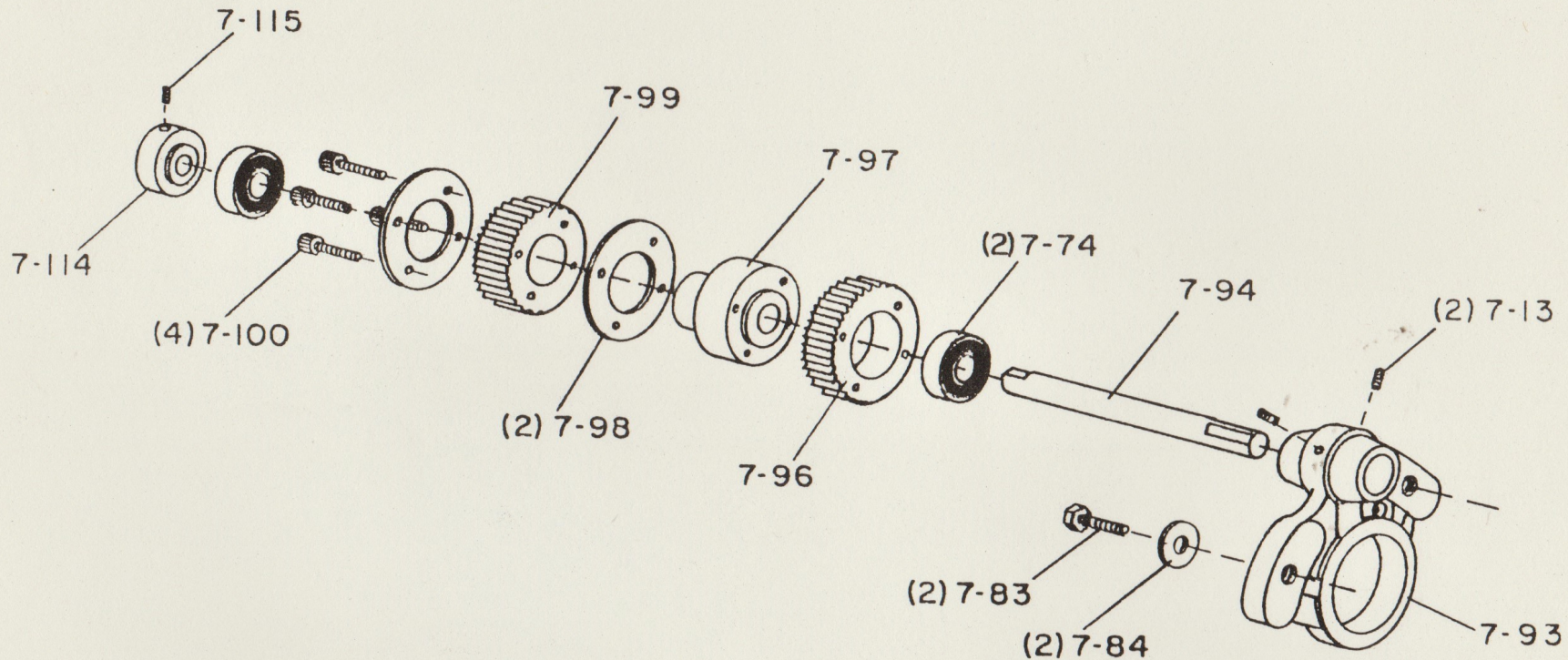
# DRIVE MOUNTING BRACKET



7-82 Drive Mounting Bracket  
 7-83 Bracket & Upper Idler Assembly Bolt  
 7-84 Bracket & Upper Idler Assembly Washer  
 7-85 V-Belt Idler Bracket  
 7-13 Set Screw  
 7-79 Screw  
 7-88 Pin for V-Belt Idler Bracket

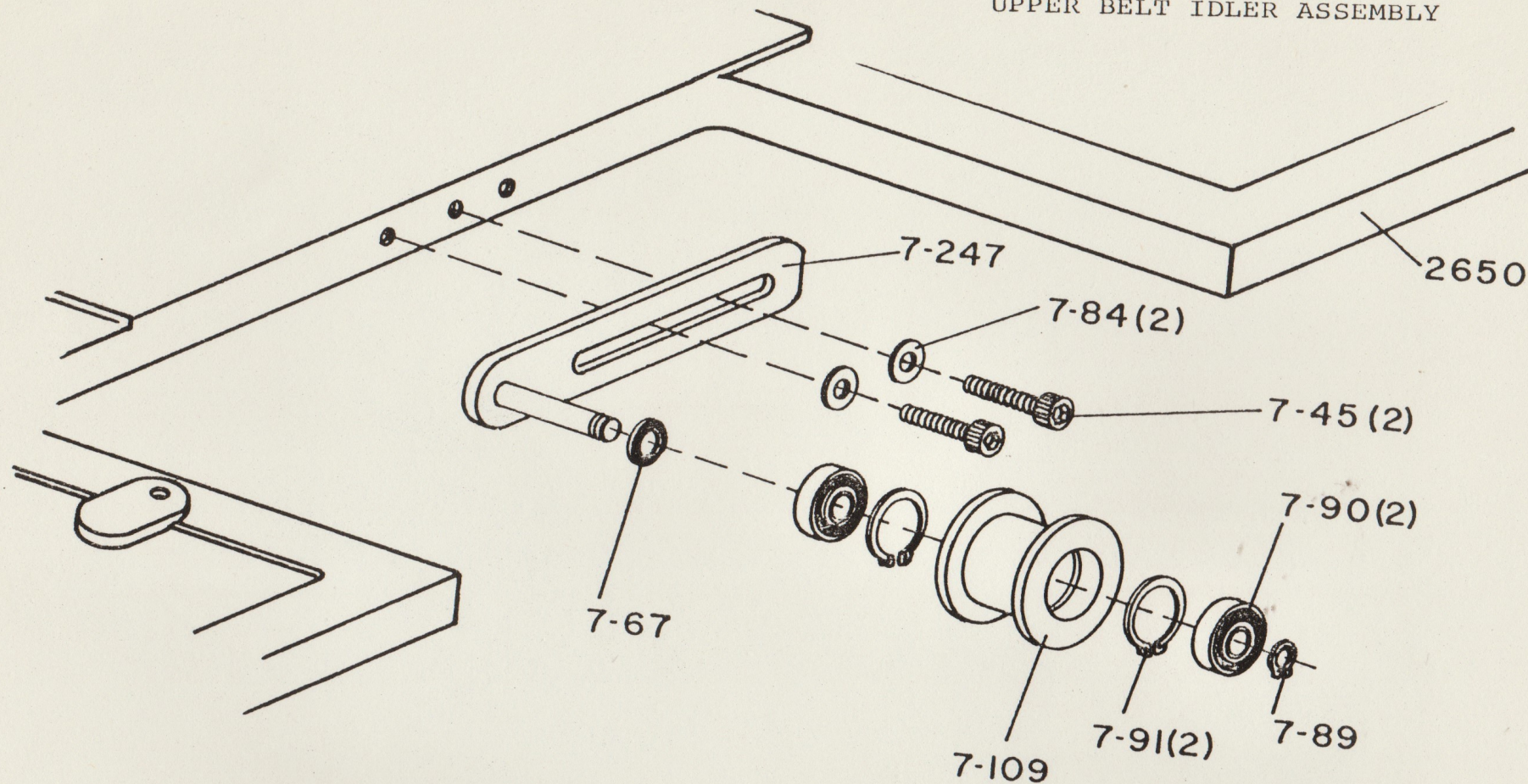
7-89 Retaining Ring (External)  
 7-90 Bearing  
 7-91 Retaining Ring (Internal)  
 7-92 Sheave Idler Pulley  
 7-249 Screw  
 7-250 Spacer  
 7-242 Roll Pin

# IDLER WITH DRIVE ASSEMBLY (OTHER MFG.)



7-93	Upper Belt Idler
7-13	Set Screw
7-83	Hex Bolt
7-84	Washer
7-94	Upper Belt Idler Shaft
7-74	Bearing
7-96	Helical Drive Gear (Steel)
7-97	Upper Drive Spacer
7-98	Washer for Timing Belt Drive Pulley
7-99	Timing Belt Drive Pulley
7-100	Fastening Screw
7-114	Drum Shaft Collar
7-115	Set Screw

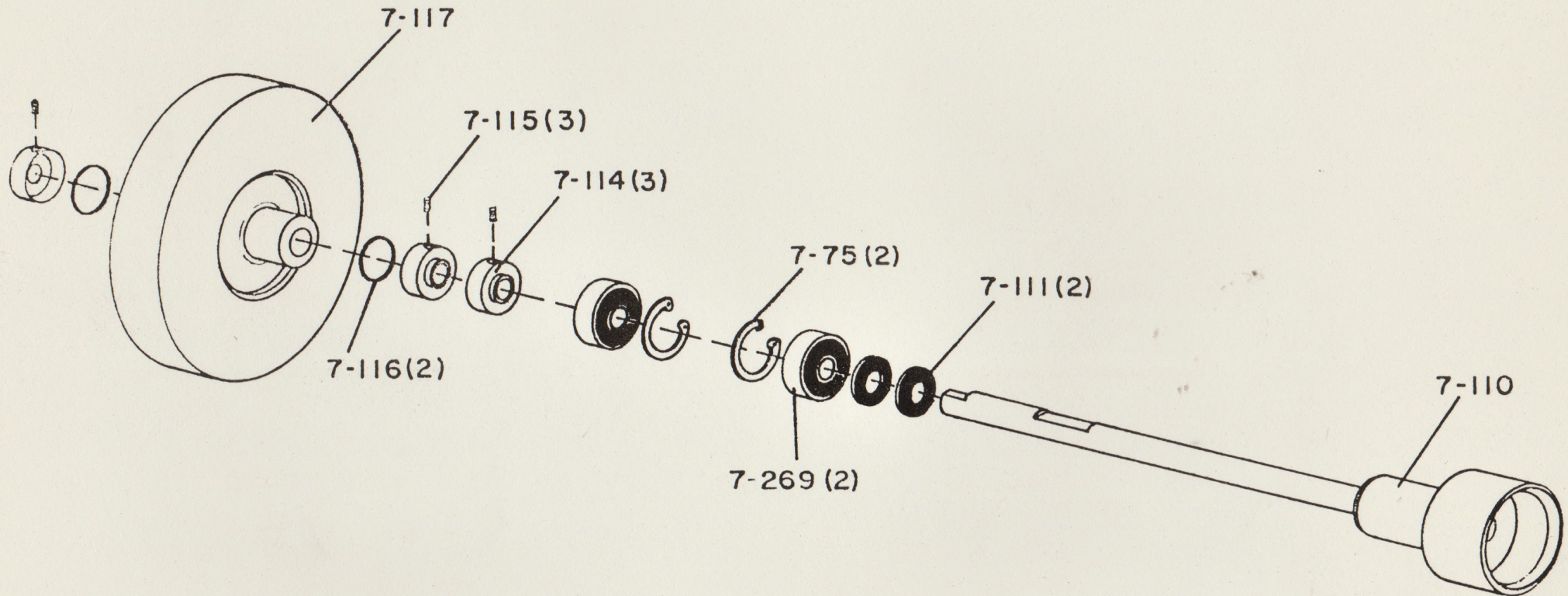
# UPPER BELT IDLER ASSEMBLY



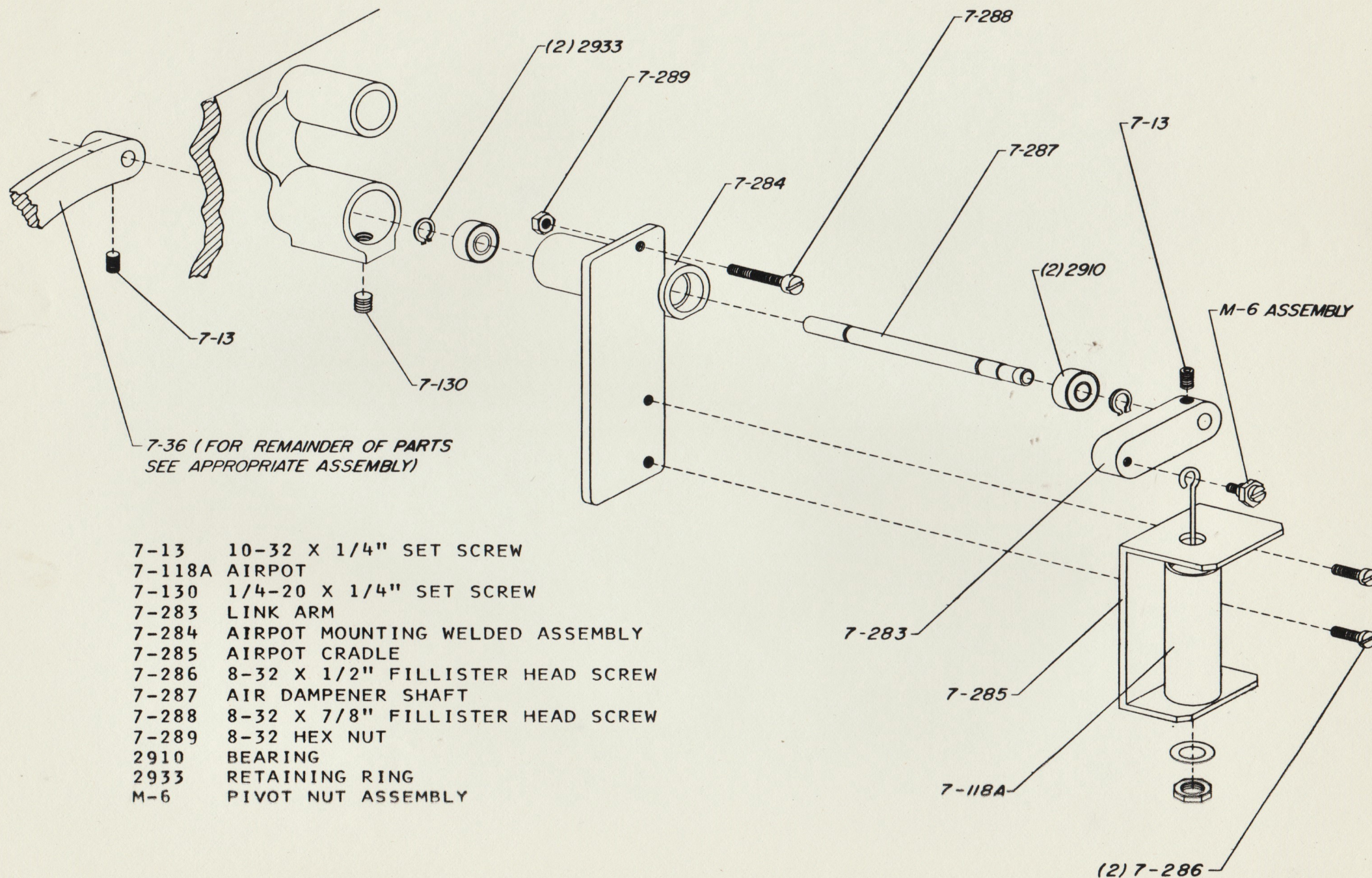
- 7-89 Retaining Ring (External)
- 7-90 Bearing
- 7-91 Retaining Ring (Internal)
- 7-109 XL-Drive Belt Idler Pulley
- 2650 Bottom Plate (PRO-35)
- 7-247 Belt Tightener Idler Arm
- 7-67 Fibre Washer
- 7-84 Washer
- 7-45 Screw

# SCANNING DRUM ASSEMBLY

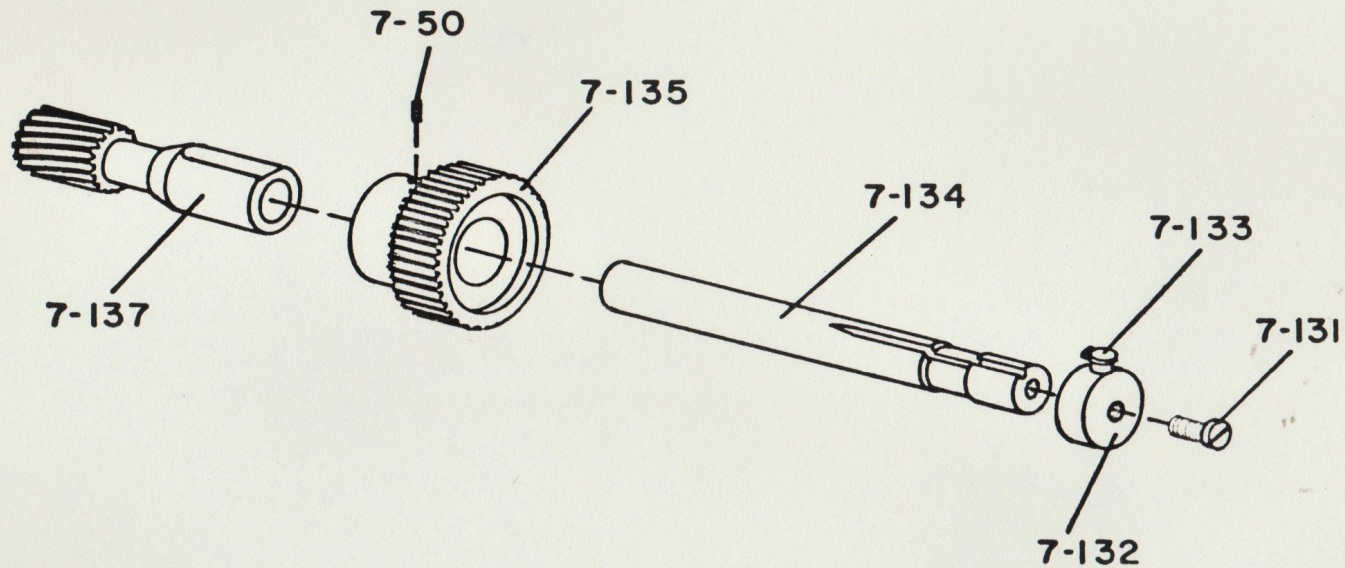
(6)



7-110	SCANNING DRUM & SHAFT
7-269	BEARING
7-111	FIBRE WASHER
7-75	RETAINING RING (INTERNAL)
7-114	DRUM SHAFT COLLAR
7-115	DRUM SHAFT COLLAR SET SCREW
7-116	"O" RING FOR FILTER FLYWHEEL
7-117	FILTER FLYWHEEL

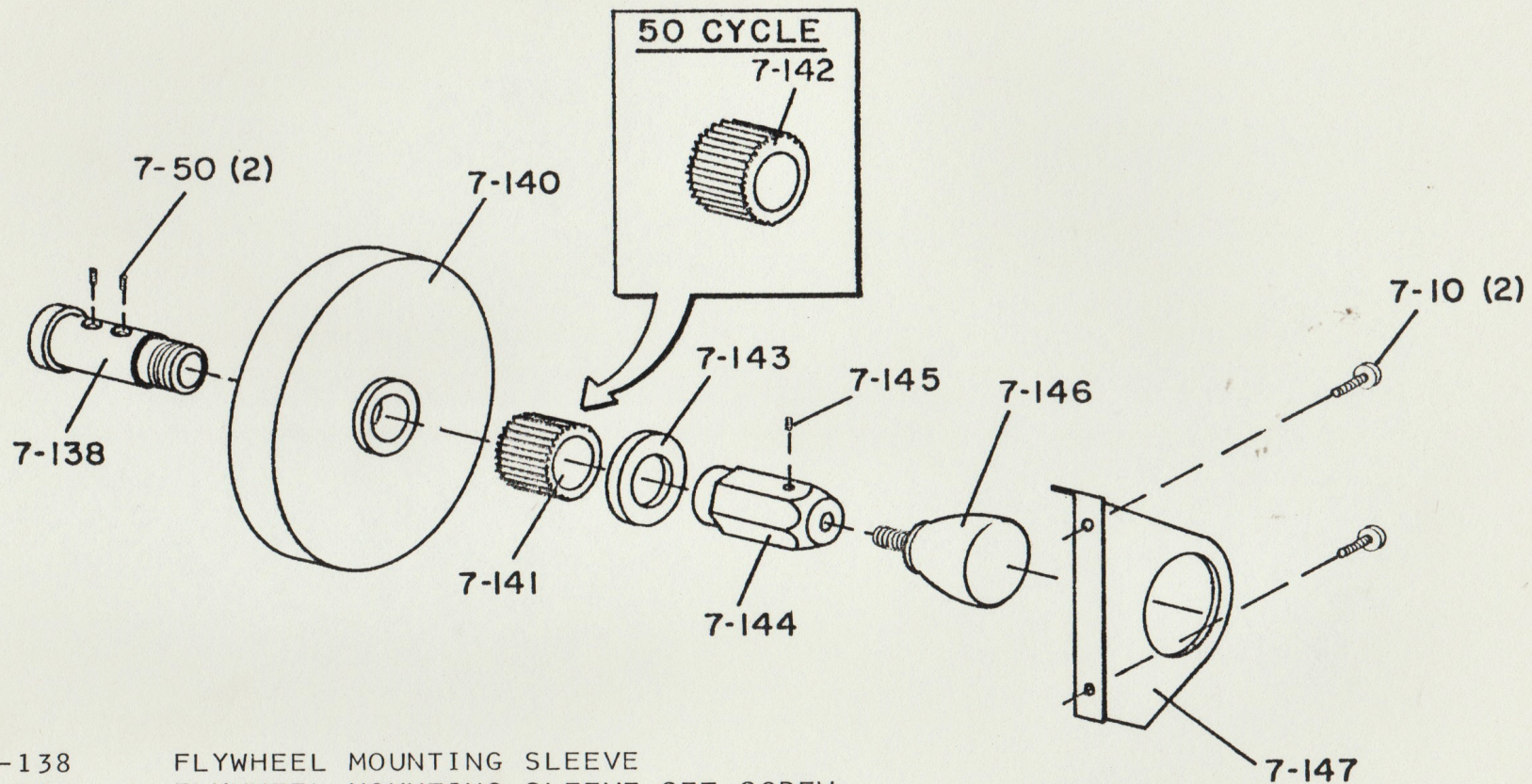


**DRIVE PINION ASSEMBLY**  
(FOR BALLANTYNE BW-ALL SIMPLEX EXCEPT XL)



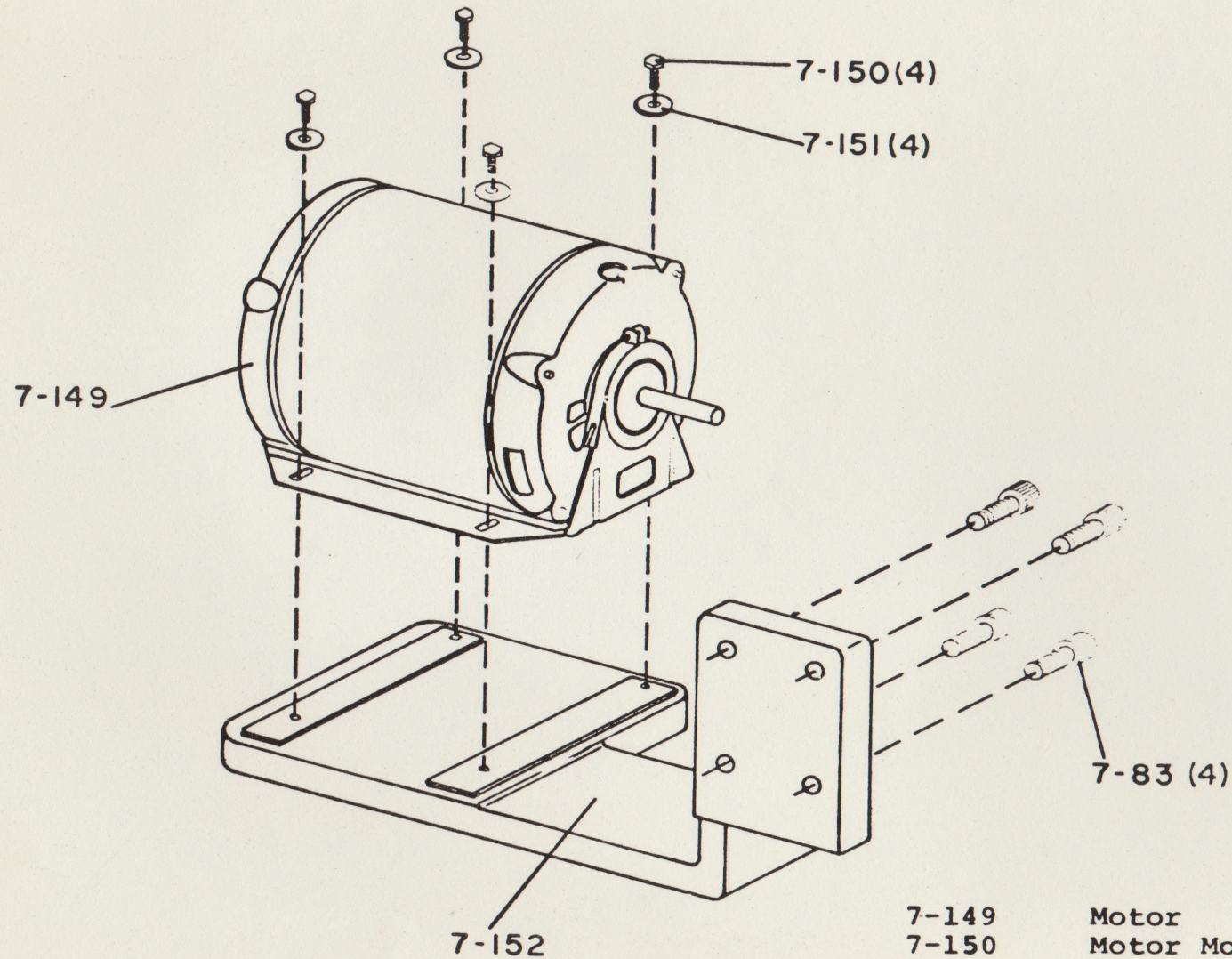
7-131	Drive Attachment Shaft Oiler Washer Screw
7-132	Drive Attachment Shaft Oiler Washer
7-133	Drive Attachment Shaft Oiler Tube
7-134	Drive Attachment Shaft
7-135	Timing Belt Drive Gear - Simplex
7-50	Set Screw
7-137	Projector Drive Pinion

# MOTOR FLYWHEEL & INCHING KNOB ASSEMBLY



- 7-138 FLYWHEEL MOUNTING SLEEVE
- 7-50 FLYWHEEL MOUNTING SLEEVE SET SCREW
- 7-140 MOTOR FLYWHEEL
- 7-141 TIMING BELT MOTOR PULLEY - 60 CYCLE
- 7-142 TIMING BELT MOTOR PULLEY - 50 CYCLE
- 7-143 KNOB PLATE
- 7-144 KNOB HEX SECTION
- 7-145 HEX SECTION SET SCREW
- 7-146 INCHING KNOB
- 7-147 MOTOR BELT GUARD
- 7-10 SCREW

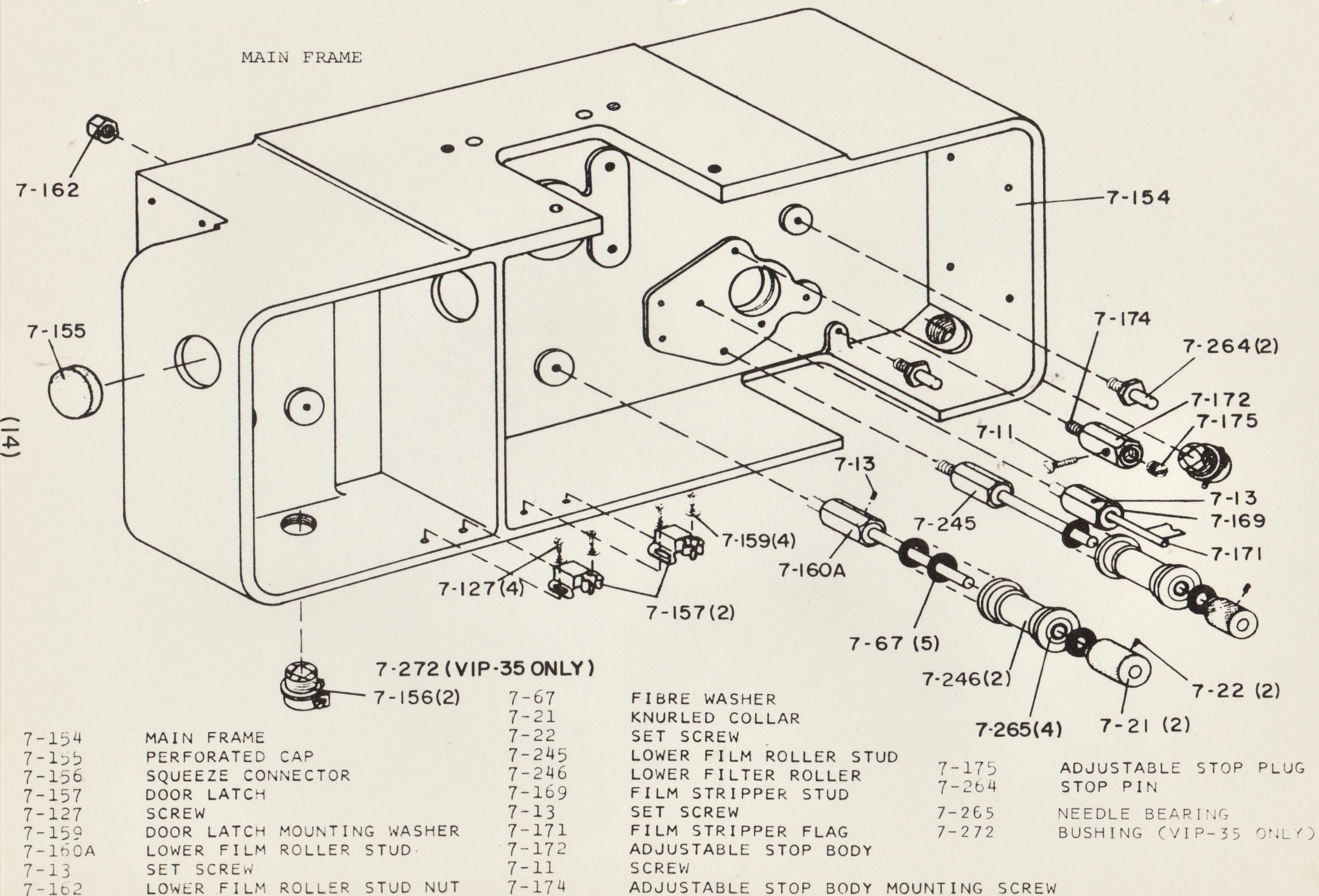
# MOTOR MOUNTING BRACKET



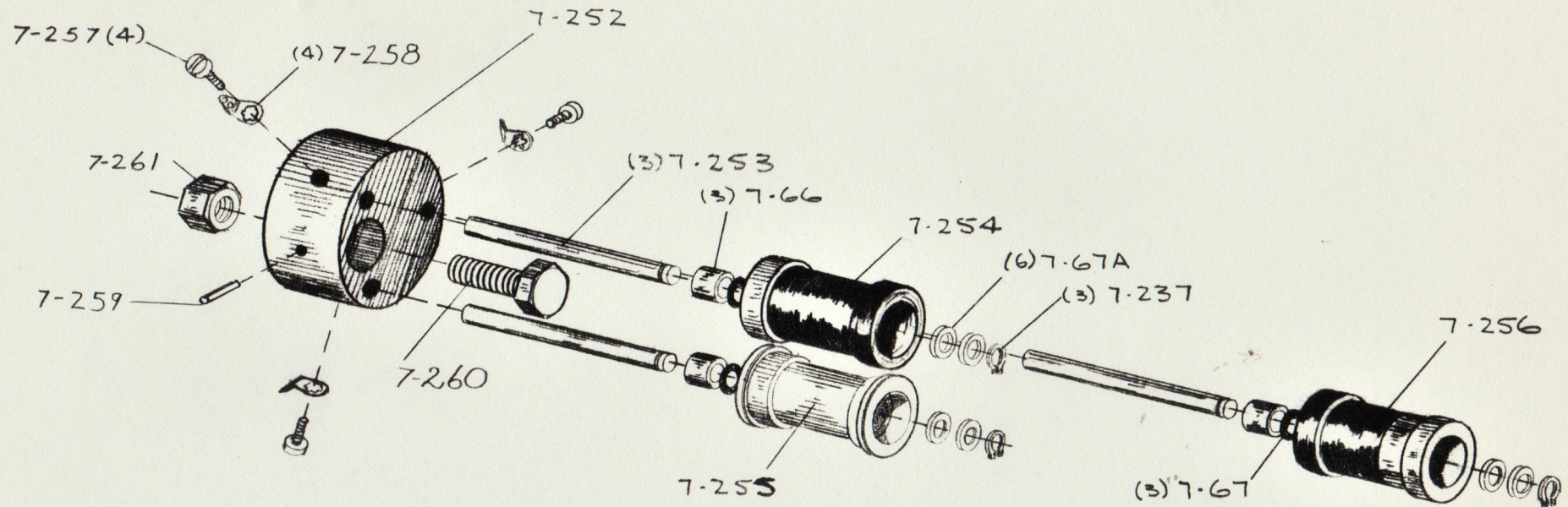
- |       |                       |
|-------|-----------------------|
| 7-149 | Motor                 |
| 7-150 | Motor Mounting Bolt   |
| 7-151 | Motor Mounting Washer |
| 7-152 | Motor Mounting Arm    |
| 7-83  | Bolt                  |

# MAIN FRAME

(14)



# 7-252A SENSING SWITCH ASSEMBLY (COMPLETE)



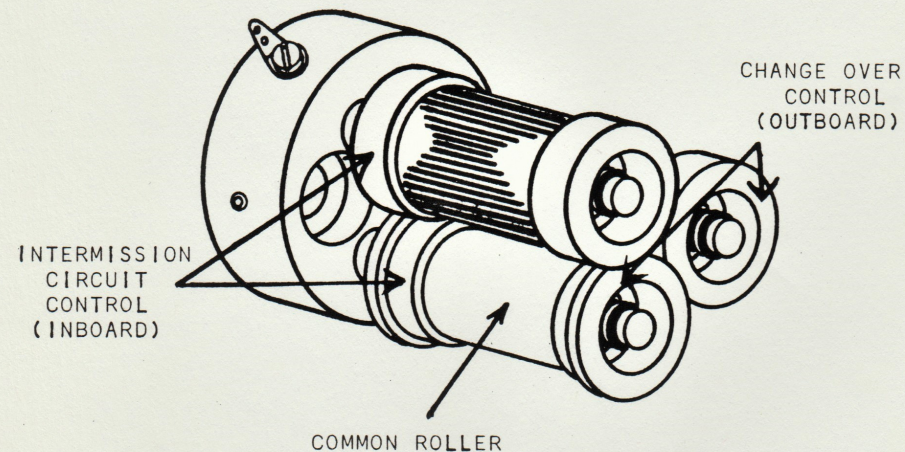
- 7-66 SPACER
- 7-67 FIBRE WASHER
- 7-67A FIBRE WASHER
- 7-237 RETAINING RING
- 7-252 SWITCH BODY
- 7-253 SENSING ROLLER SHAFT
- 7-254 UPPER SENSING ROLLER
- 7-255 LOWER SENSING ROLLER
- 7-256 FORWARD SENSING ROLLER
- 7-257 6-32 X 1/2" BIND HD. SCREW
- 7-258 TERMINAL
- 7-259 3/32" X 9/16" ROLL PIN
- 7-260 3/8-16 X 1-1/2" HEX HEAD BOLT
- 7-261 3/8-16 HEX NUT

BALLANTYNE 7-252 A

SENSING SWITCH ASSEMBLY

The above assembly has been designed to serve as a sensing device, to initiate input signals, to the automation panel for proper show control. Basically the switch consists of a mounting block and three rollers. One roller is electrical common. The second and third rollers are composition with metal rings. The common roller with the respective ring, when shorted by a piece of sensing tape, forms a switch and provides the impulse signal. These two circuits give us the capability of intermission as well as normal control functions. Electrically the circuit is completed from the rollers through needle bearings which should NOT be oiled.

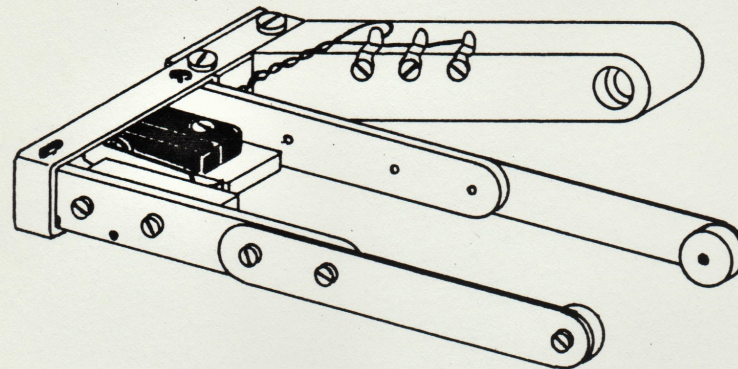
The sensing switch was designed to physically fit into the tight film loop operation of the Ballantyne Model VII Soundhead.

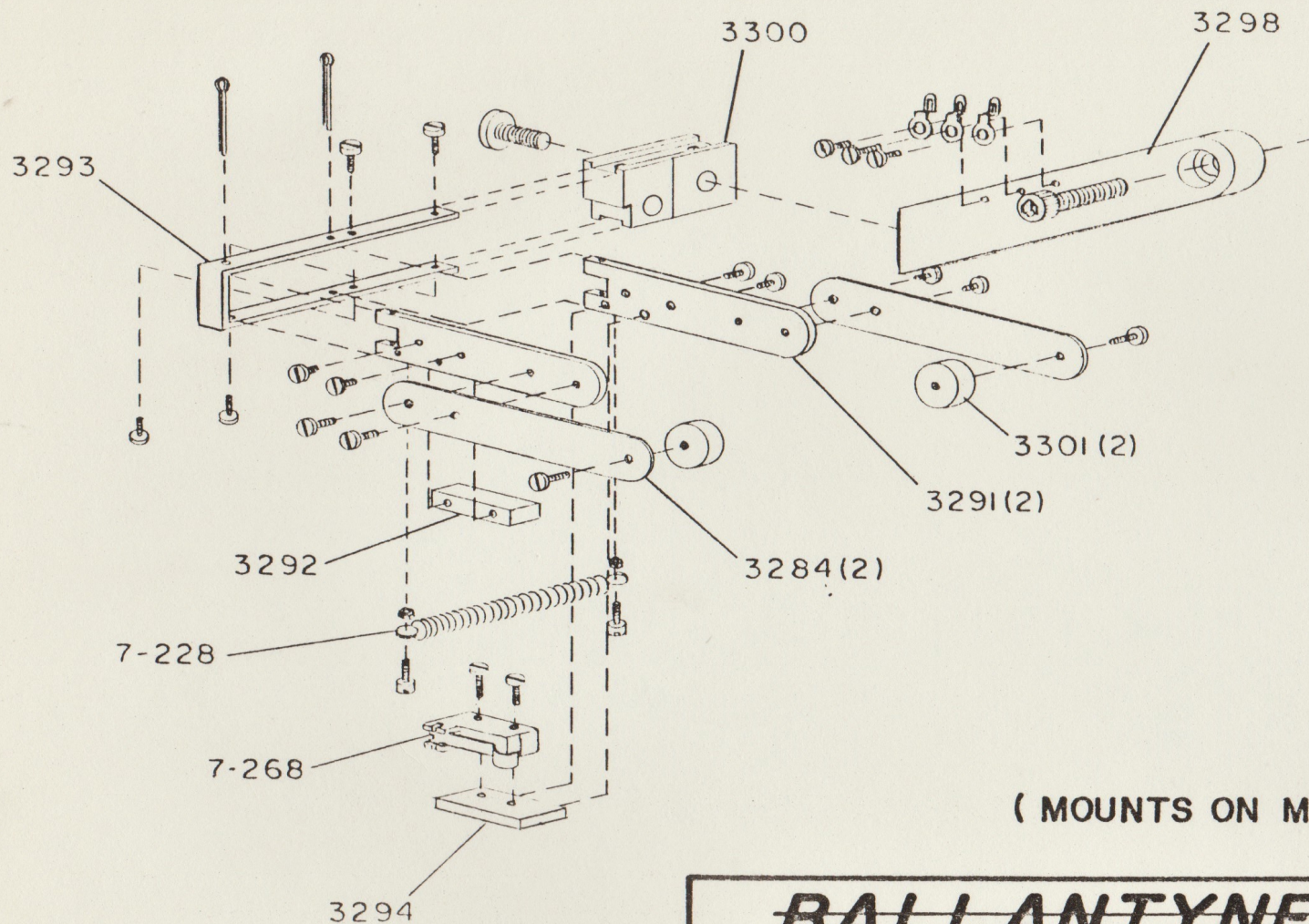


BALLANTYNE 7-3298 A

RUNOUT/FAILSAFE SWITCH

Ballantyne has developed the above switch for use with the Model VII Soundhead. It is mounted below the soundhead sprocket and so positioned to sense the film at the film exit slot. The switch design is that of a U-shape with pivoted side arms. A micro-switch is mounted at the base of the U in such a manner that any inward movement of either arm from the normal position of standard film width will cause the circuit to function and shut the system off. Sensing of both sides of the film gives double protection against film stripping or other defects affecting system operation and film damage. The micro-switch is single pole double throw. It can be used in either normally open or normally closed applications. In Ballantyne Systems, the circuit is normally open when film is threaded through the switch. This failsafe is mounted below bottom soundhead sprocket.





( MOUNTS ON MODEL VII SOUNDHEAD )

**BALLANTYNE** OF OMAHA, INC.

TELEPHONE 342-4444

1712 JACKSON STREET

OMAHA, NEBRASKA

**7-3298 LOWER RUN-OUT SWITCH ASSEMBLY**

SCALE

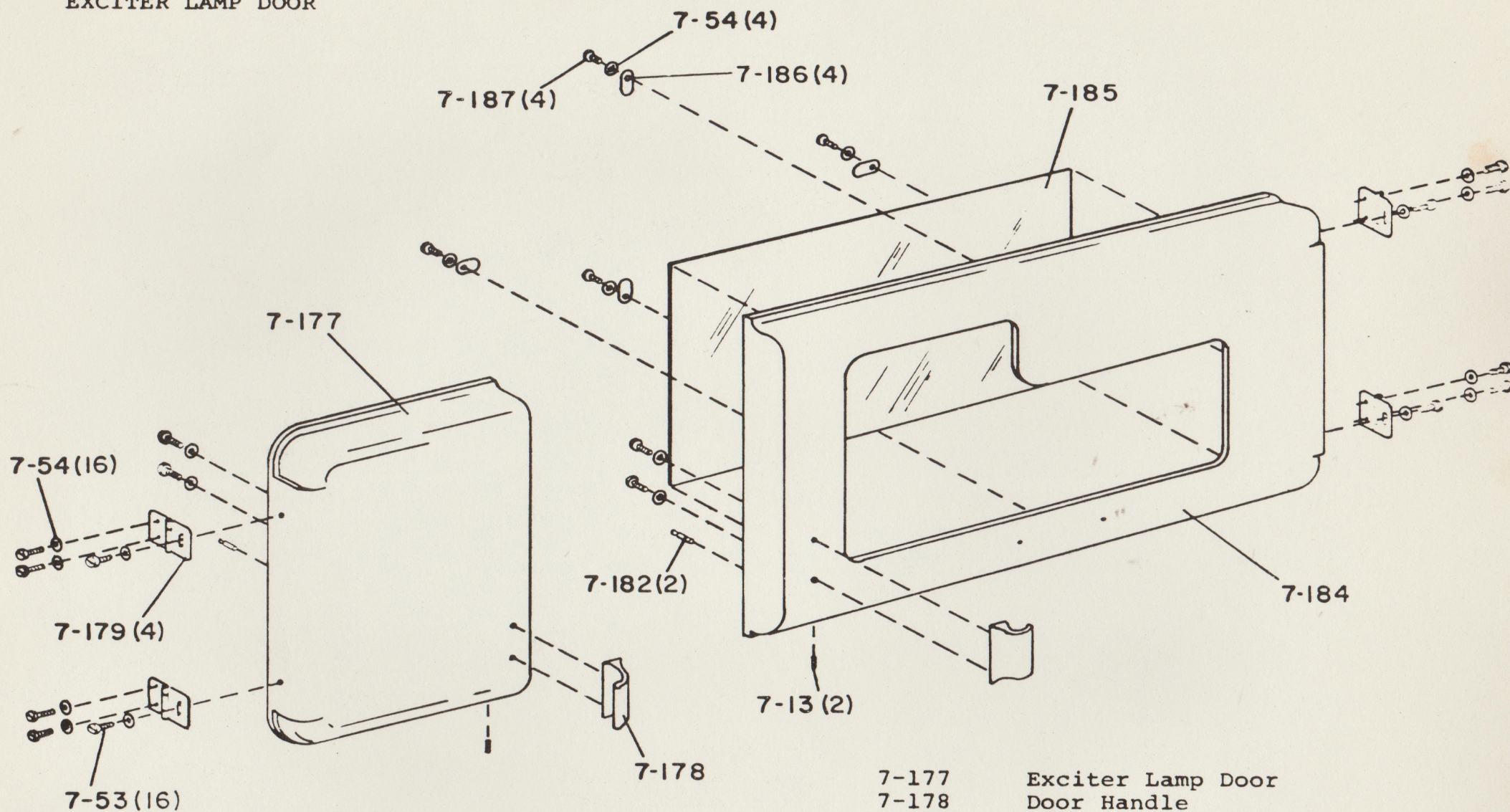
DRAWING NO.

DRAWN BY L.W.P.

DATE 11/8/72

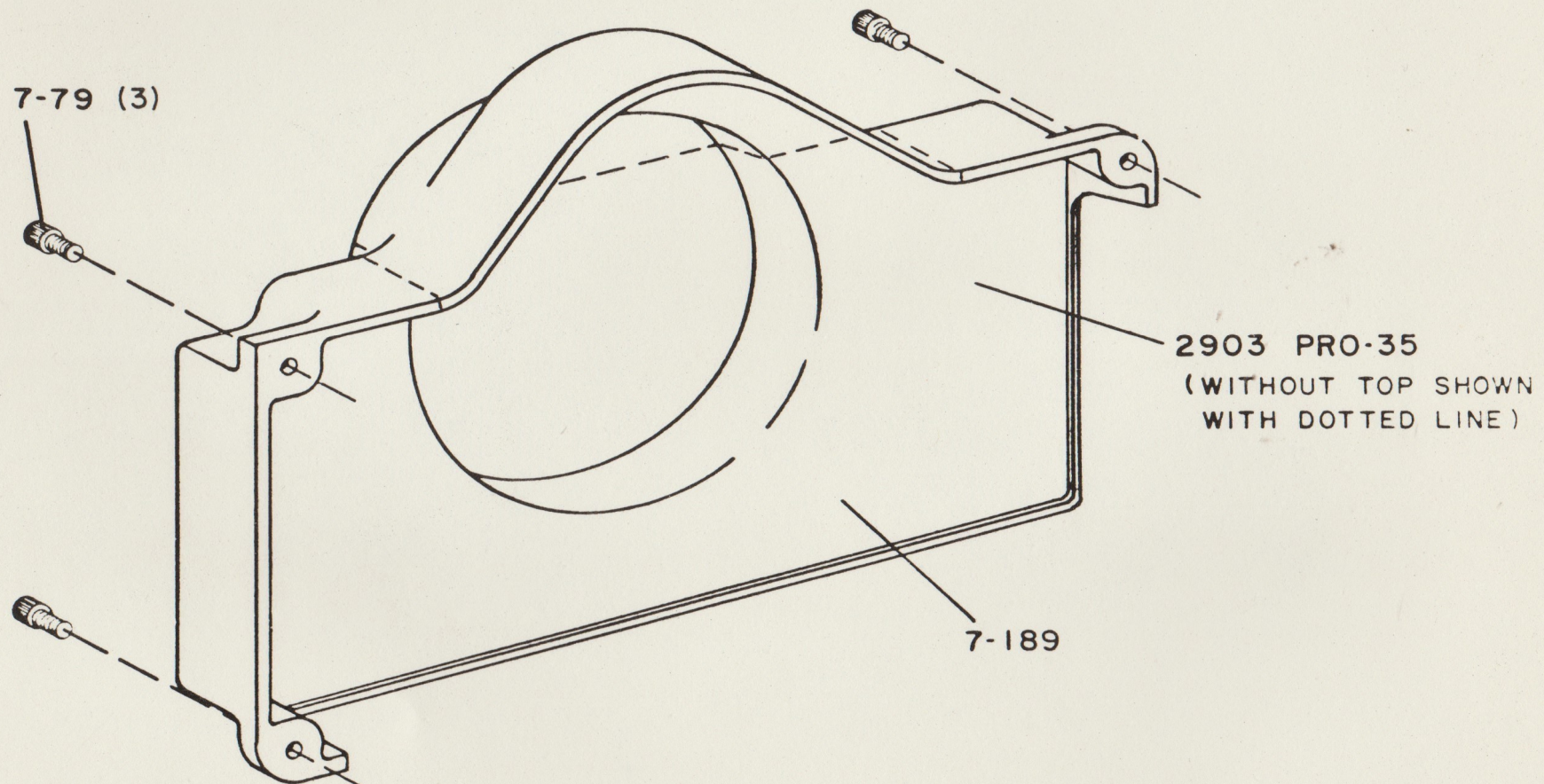
REVISED

# EXCITER LAMP DOOR



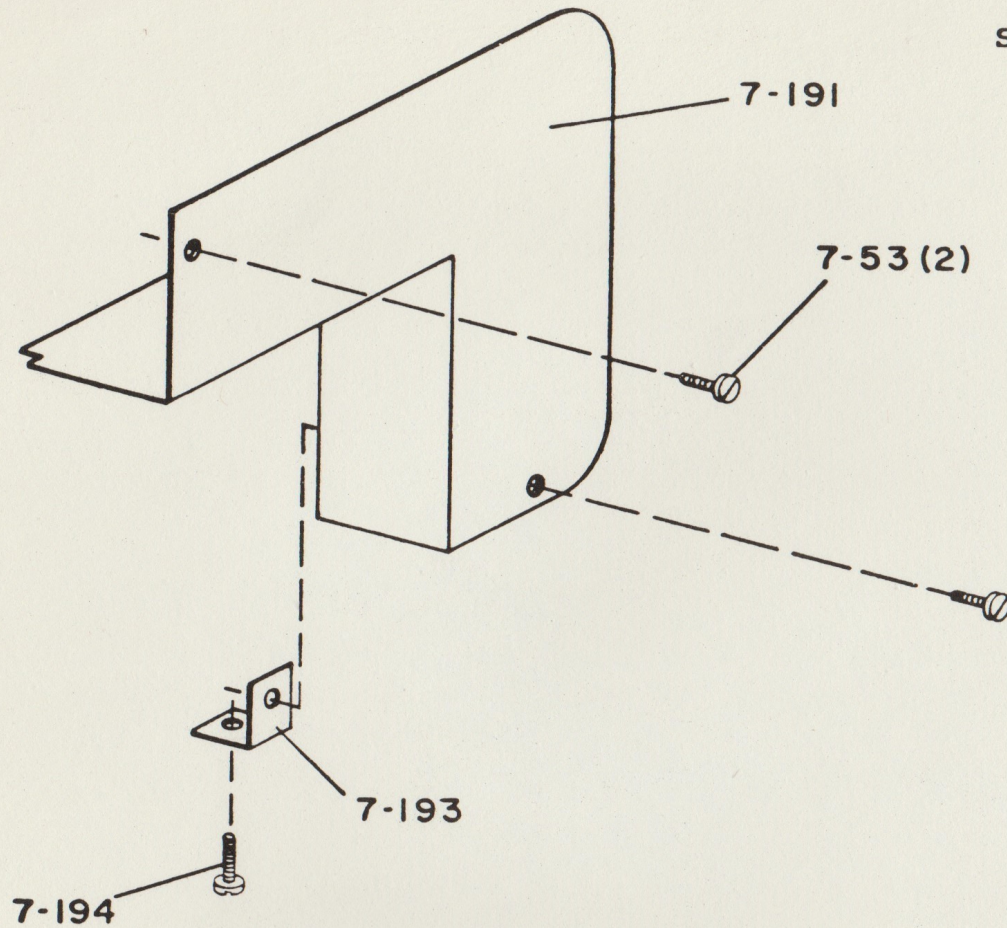
7-177	Exciter Lamp Door
7-178	Door Handle
7-179	Door Hinge
7-53	Screw
7-54	Washer
7-182	Door Latch Pin
7-13	Set Screw
7-184	Door
7-185	Glass
7-186	Door Glass Clip
7-187	Door Glass Clip Fastening Screw
7-54	Washer

# BACK COVER

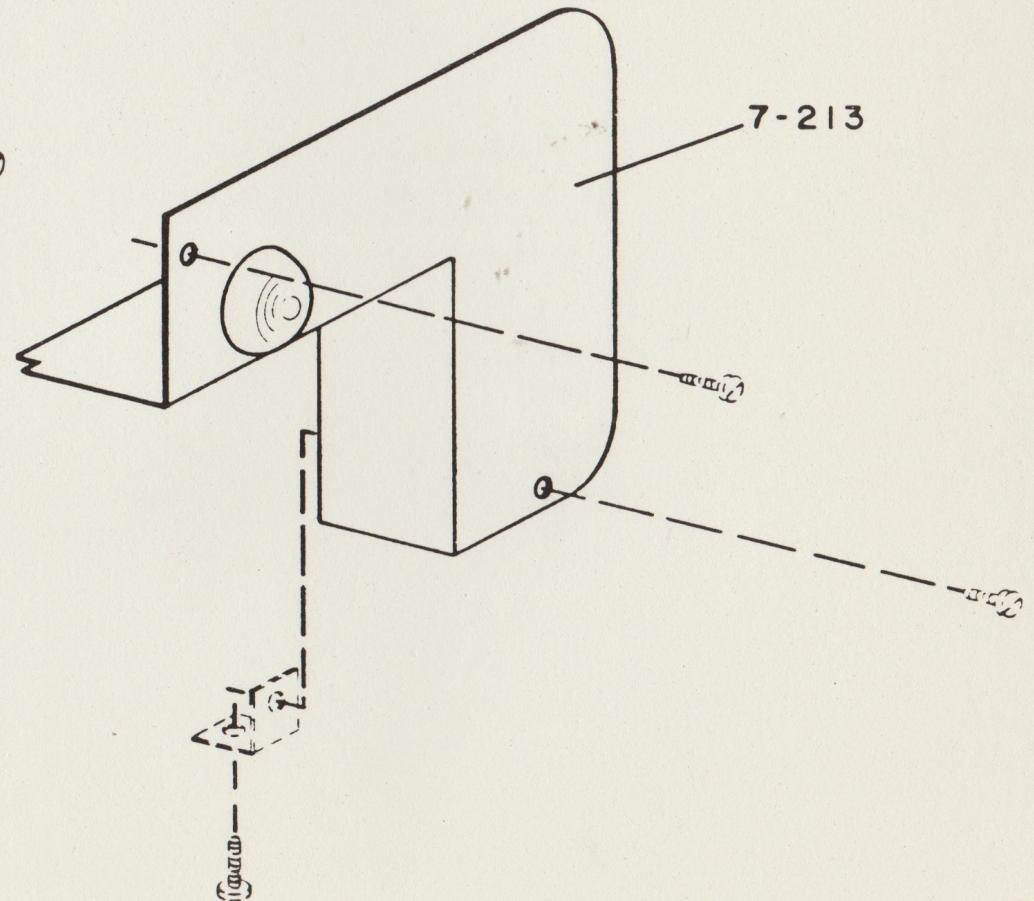


- |       |                       |
|-------|-----------------------|
| 7-189 | Back Cover            |
| 7-79  | Bolt                  |
| 7-215 | Back Cover (Brenkert) |

# SOLAR OR OPTIC SHIELD

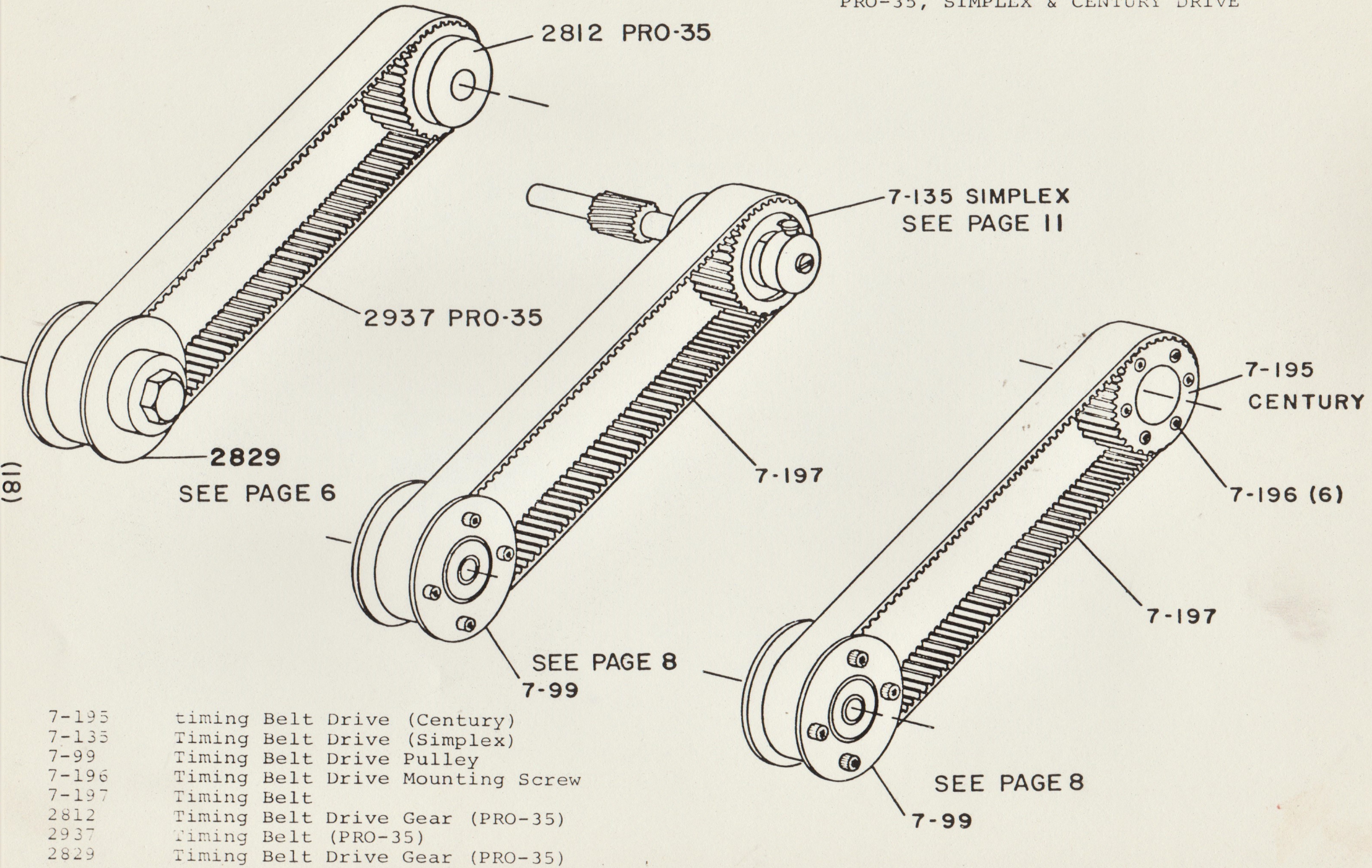


# P.E.C. SHIELD

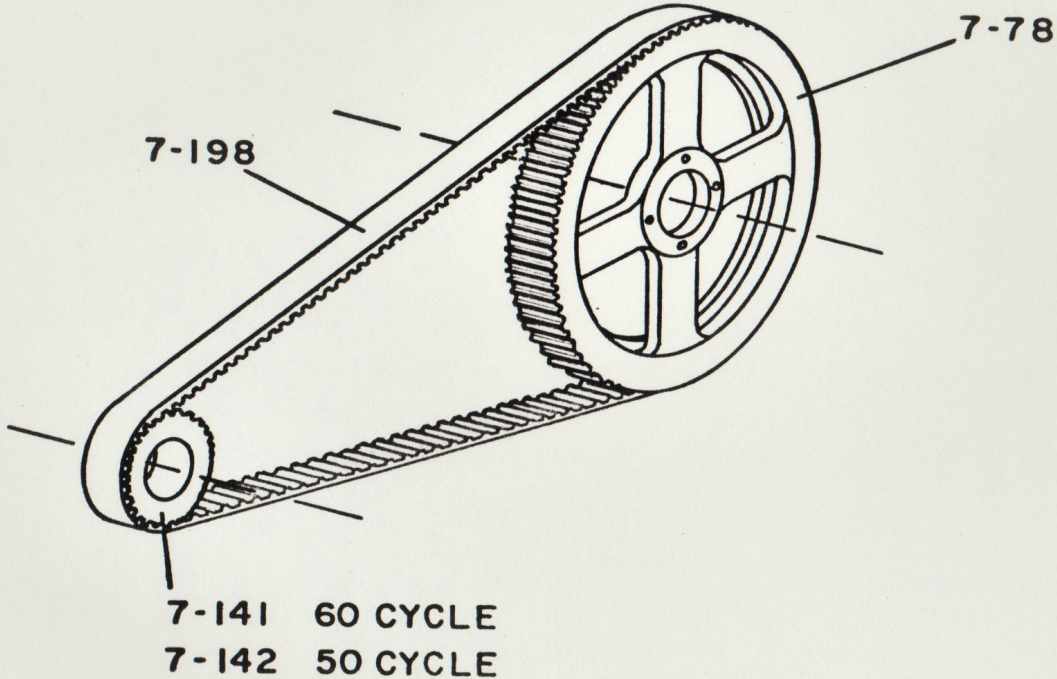


- 7-191 Solar or Optic Shield
- 7-53 Screw
- 7-193 Shield Mounting Bracket to Frame
- 7-194 Shield Mounting Bracket Screw
- 7-213 P.E.C. Shield

PRO-35, SIMPLEX & CENTURY DRIVE

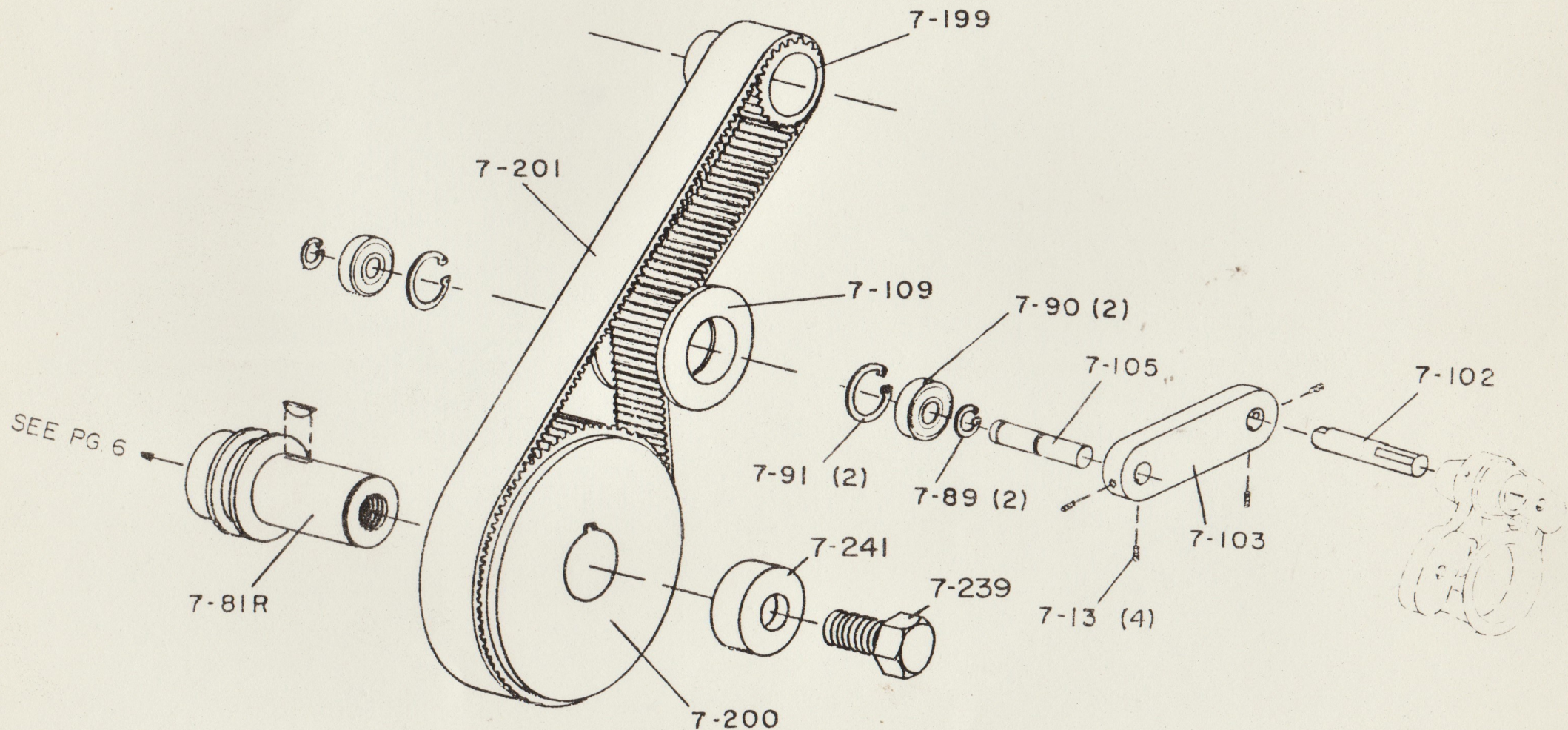


MOTOR & SOUNDHEAD DRIVES



7-78	Drive Gear
7-141	Timing Belt Motor Pulley - 60 Cycle
7-142	Timing Belt Motor Pulley - 50 Cycle
7-198	Timing Belt

# DRIVE ASSEMBLY (XL ONLY)



7-89 Retaining Ring  
 7-90 Bearing  
 7-91 Retaining Ring  
 7-102 Idler Arm Mounting Pin  
 7-103 Idler Arm  
 7-105 Idler Arm Pin

7-199 Proj. Timing Belt Drive Pulley  
 7-109 Drive Belt Idler Pulley  
 7-200 Timing Belt Pulley  
 7-201 Timing Belt  
 7-81R Lower Drive Assembly  
 7-241 Spacer  
 7-239 Hex Bolt

