



When the show must go on.

XENON PROJECTORS

EX-3000N

**STEP BY STEP TROUBLESHOOTING MANUAL for
THE XENON LAMP, STARTER & RECTIFIER CIRCUITS**

MAY. 1984

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INTRODUCTION

1. This manual describes the starter and rectifier circuits of EX-3000N.
2. The projector's mechanical descriptions, amplifier descriptions can be referred to those of NST/NT service manual, as they are quite similar and identical.
3. **CAUTION!** Care must be excercized to avoid an electrical shock while servicing the projector.

224-1: XENON LAMP

1-1 : DESCRIPTION

The xenon lamp is mounted horizontally in the mirror housing.

The cathode end (—) is seated in the lamp socket through the center hole of the mirror, and the anode end (+) is provided with the bladed wire and is connected to the anode terminal in front of the mirror.

The lamp and mirror position are adjustable to achieve precise focus of the light through the aperture.

The mirror is aligned from the factory and should not be moved, unless it has been replaced or the mirror housing has been removed. For the adjustment of the mirror position and alignment, see 2-1.

For the lamp position and alignment adjustment, see 1-3.

CAUTION (1) :

The xenon lamp is under extreme pressure and will explode if handled carelessly. It is suggested to wear protective clothing and a face shield while handling the lamp. NEVER attempt to hold the lamp while it is hot. NEVER touch the quartz glass of the xenon lamp, for finger-prints on the glass may lead to early lamp failure and/or picture degradation, and may cause a change in the expansion rate of the glass with temperature which may result in the explosion of the lamp. Therefore, protect the lamp with a cloth or handle it by the metal leads only.

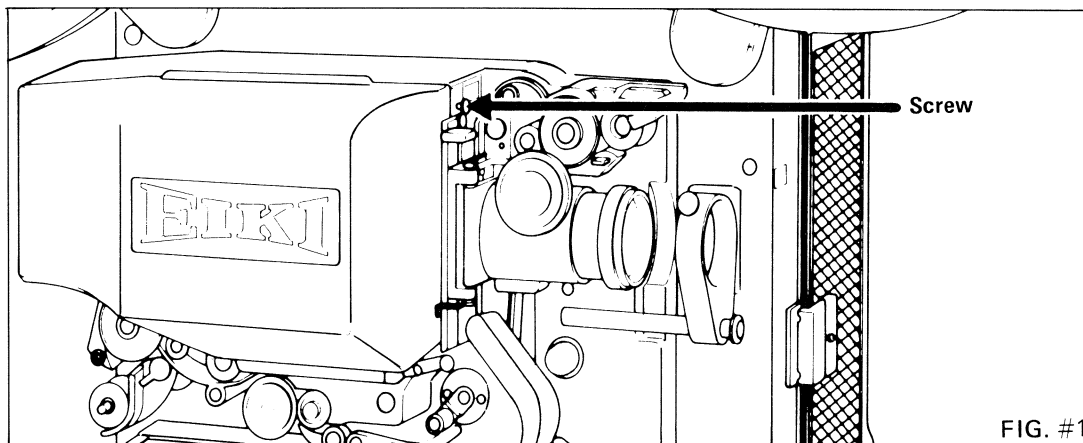
CAUTION (2) :

The xenon lamp is extremely bright and emit light in the ultra-violet spectrum. Do not attempt to look directly at an operating lamp with unprotected eyes. Lamps which are cloudy, or difficult to strike, or exhibiting erratic lightoutput, are more susceptible to explosive failure and should be replaced.

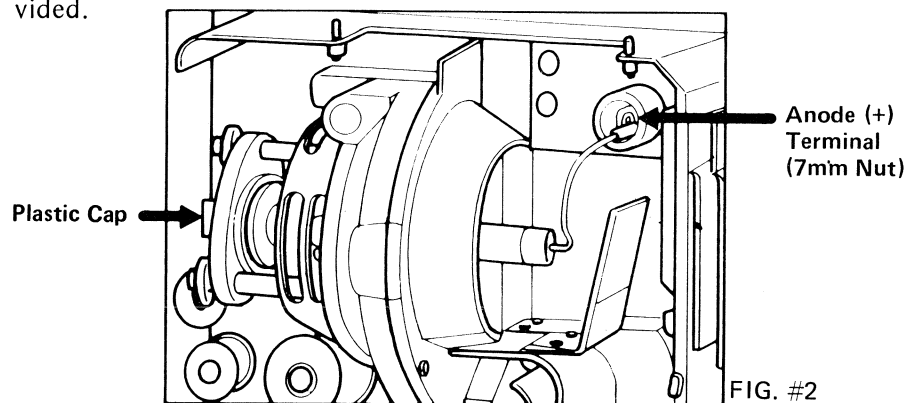
1-2 : LAMP REPLACEMENT

DISCONNECT POWER CORD

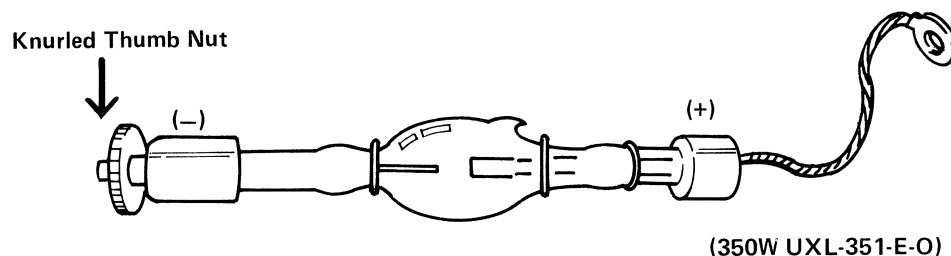
1. Loosen lamp house LOCK screw.



2. Open the lamp house cover by pulling from the top edge.
3. Remove the 7mm nut from the anode (+) terminal as shown using the nut driver provided.



4. Unscrew the plastic cap from the cathode mounting terminal.
5. Carefully remove the lamp from the projector.
6. Carefully remove the NEW lamp from the lamp carton.
7. Holding the lamp by the metal ends, remove the knurled thumb nut from the cathode (—) end.



7. With the fingers on the metal anode (+) end of the lamp, insert the cathode (−) end into the center of the parabolic mirror.
8. The threaded cathode (−) end should now extend through the center hole of the mirror.
9. Rotate the lamp until the filler tube points up the top.
10. The cathode (−) end should now be seated in the lamp socket behind the mirror, and screw the knurled thumb nut halfway just to hold the lamp.
11. Locate the lug on the braided anode (+) lead wire and secure it to the anode terminal using the 7mm nut previously removed, and with the nut driver provided.
12. Position the braided anode lead wire so that it forms a loop to the terminal, away from the metal parts within the lamp house.
13. Now screw the knurled thumb nut and secure the lamp.
14. Should the lamp glass have been touched accidentally, clean the touched area with the alcohol moistened towel.

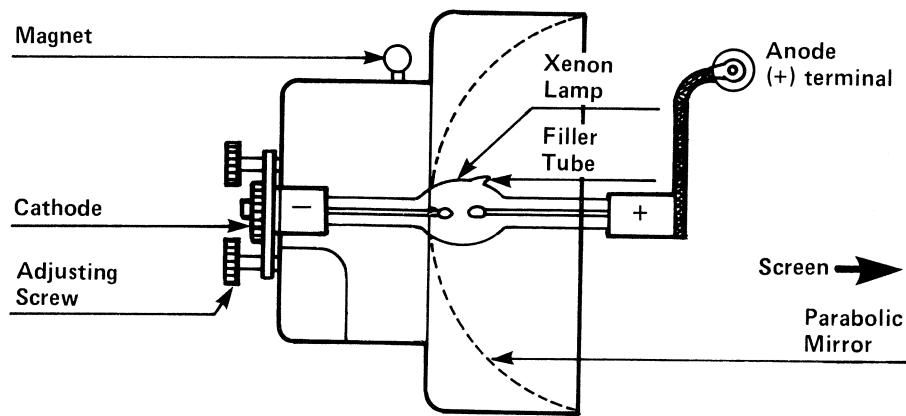


FIG. =4

1-3 : XENON LAMP ADJUSTMENT

The position of the xenon lamp in the mirror is critical for the maximum screen illumination. The three adjustment screws behind the lamp socket allow it to be positioned up & down and in & out from the mirror.

1. Position the projector for a screen image of at least 1M (3 feet) wide.
2. Without a film in the aperture, turn on the projector's Main Power Switch. Switch the Lamp Intensity Switch to "FULL" position. Turn on the lamp by rotating the function rotary switch.
3. Loosen the lamp house lock screw, and open the lamp house cover.
4. Open the film gate by swinging the lens holder out of the way.
5. Observe the dark center on the screen. Adjust the 3 adjusting screws until the "boiling" appearance surrounding the dark center is in its best focus and evenly distributed around the center. The dark spot should be in the center and the distance A-A is approximately equal to the distance A-B. (FIG. #5) (FIG. #6)

Note : When turning the 3 adjustment screws, don't attempt to turn them all. Try one by one, and like a little in the clockwise direction and a little less in the counter-clockwise direction always observing the move of the dark center and the "boiling", so that these will appear as described above.

6. Close the film gate by swinging the lens holder back in the position. Now examine the screen for severe hot spot, which can damage the lens. If such severe hot spot should be observed, that would indicate the procedure 5 is not completed yet.
7. If the illumination on the screen is brighter in some areas, it is necessary to make minor touch-up adjustments by 3 adjusting screws until the even illumination is obtained. The center of the screen should not be more than 50% brighter than the darkest corner for the proper screen illumination.

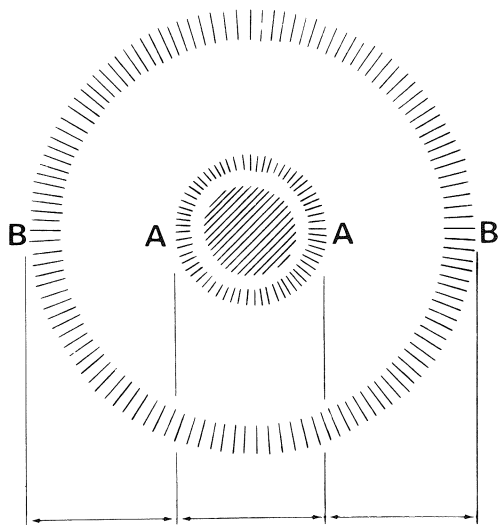


FIG. #5

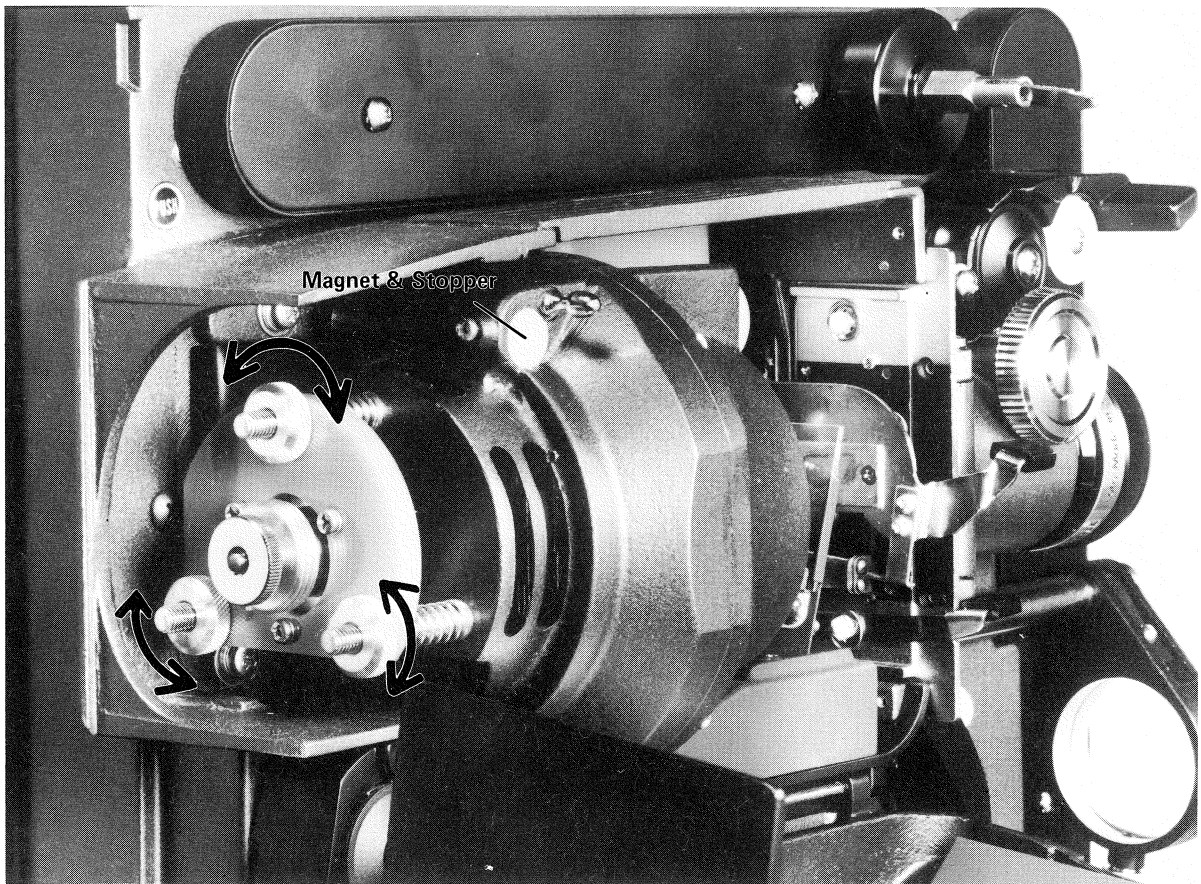


FIG. #6

- 3 Adjustment Screw Knobs

Turn one by one, and little by little.

(Turn a little in the clockwise direction and a little less in the counter-clockwise direction always observing the move of the dark center and of the “boiling” spot.)

1-4 : XENON LAMP ARC ALIGNMENT

A. Description:

The xenon lamp is a high-pressure lamp with two electrodes, the anode (+) and the cathode (−), which are aligned opposite each other. The anode is the larger element in order to dissipate the heat. The arc is discharged from the cathode to the anode and must be straight and direct.

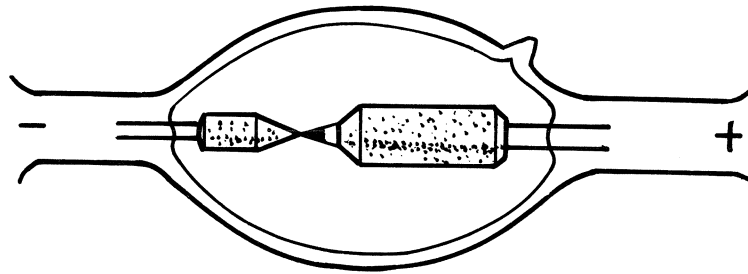


FIG. #7

The lamps which flare or curve the arc indicate worn or defective lamps and should be replaced. Lamps in this condition are more susceptible to explosion and should not be operated in this condition.

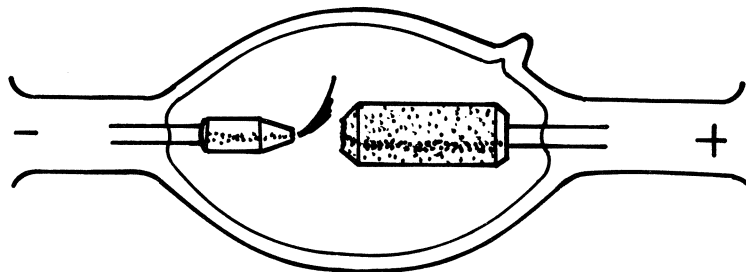


FIG. #8

CAUTION : Do not look directly at the lamp with unprotected eyes. A dark welders helmet may be used to observe the arc.

B. Adjustment:

To stabilize and to straighten the arc discharge, a magnet is provided.

Note : EX-3000N S/R No. 1101-1798 used 2 magnets, and after S/R No. 1799 only 1 magnet is used, which has been found with better result. (FIG. #9)

For the earlier projectors, it is possible to change to 1 magnet by employing a dummy spacer (210-32041). (FIG. #10)

CAUTION : IMPORTANT! Do not reverse the polarity of magnet.

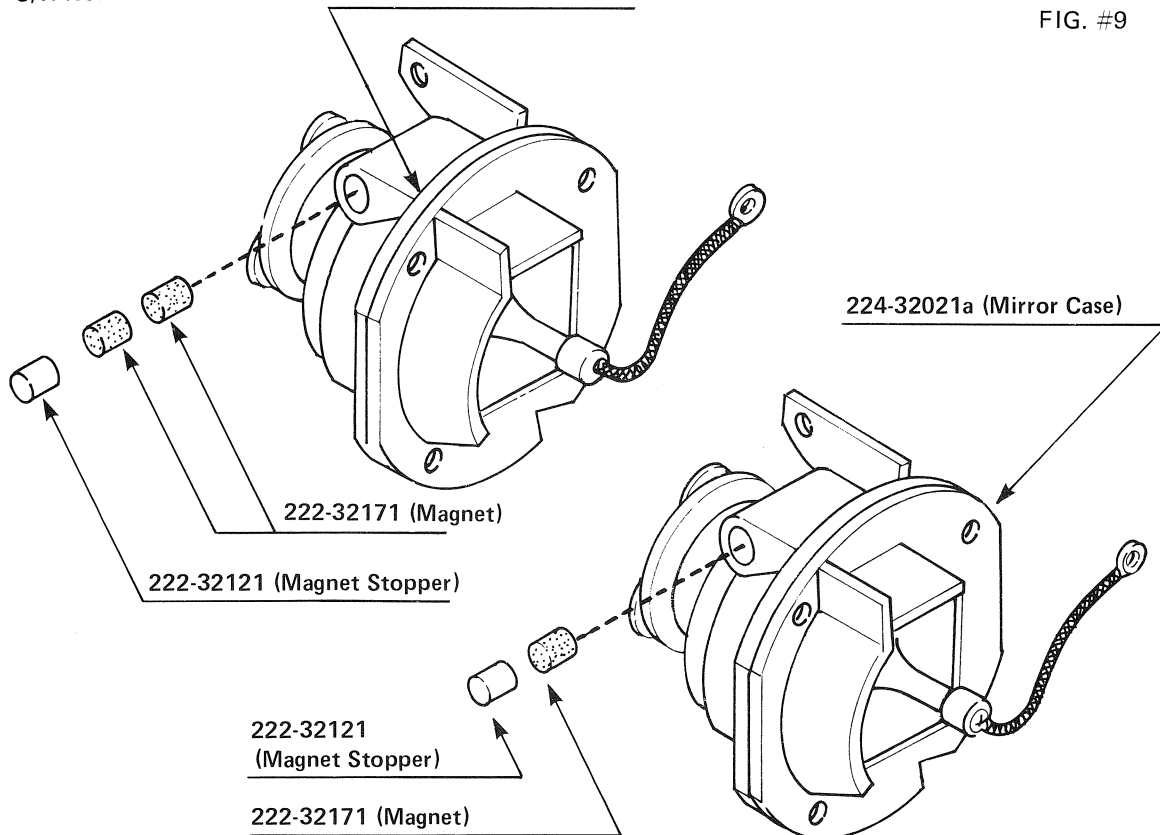
When no magnet in the position or when the polarity is wrong, the arc would flare as shown in FIG. #8.

If the correct arc discharge cannot be obtained, the lamp may be defective or the projector's angle of tilt is beyond compensation. Maximum recommended angle is 15° off horizontal.

S/R No. 1101-1798

224-32021 (Mirror Case)

FIG. #9



S/R No. 1799 & Up

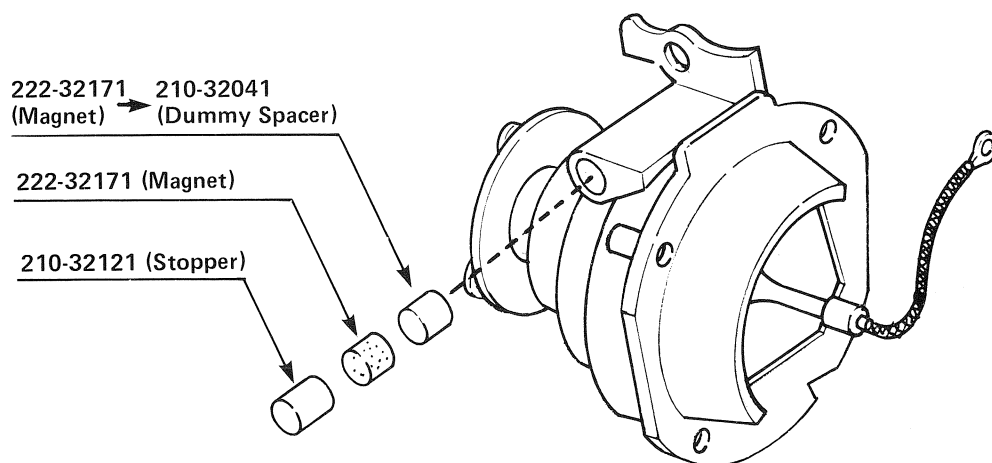


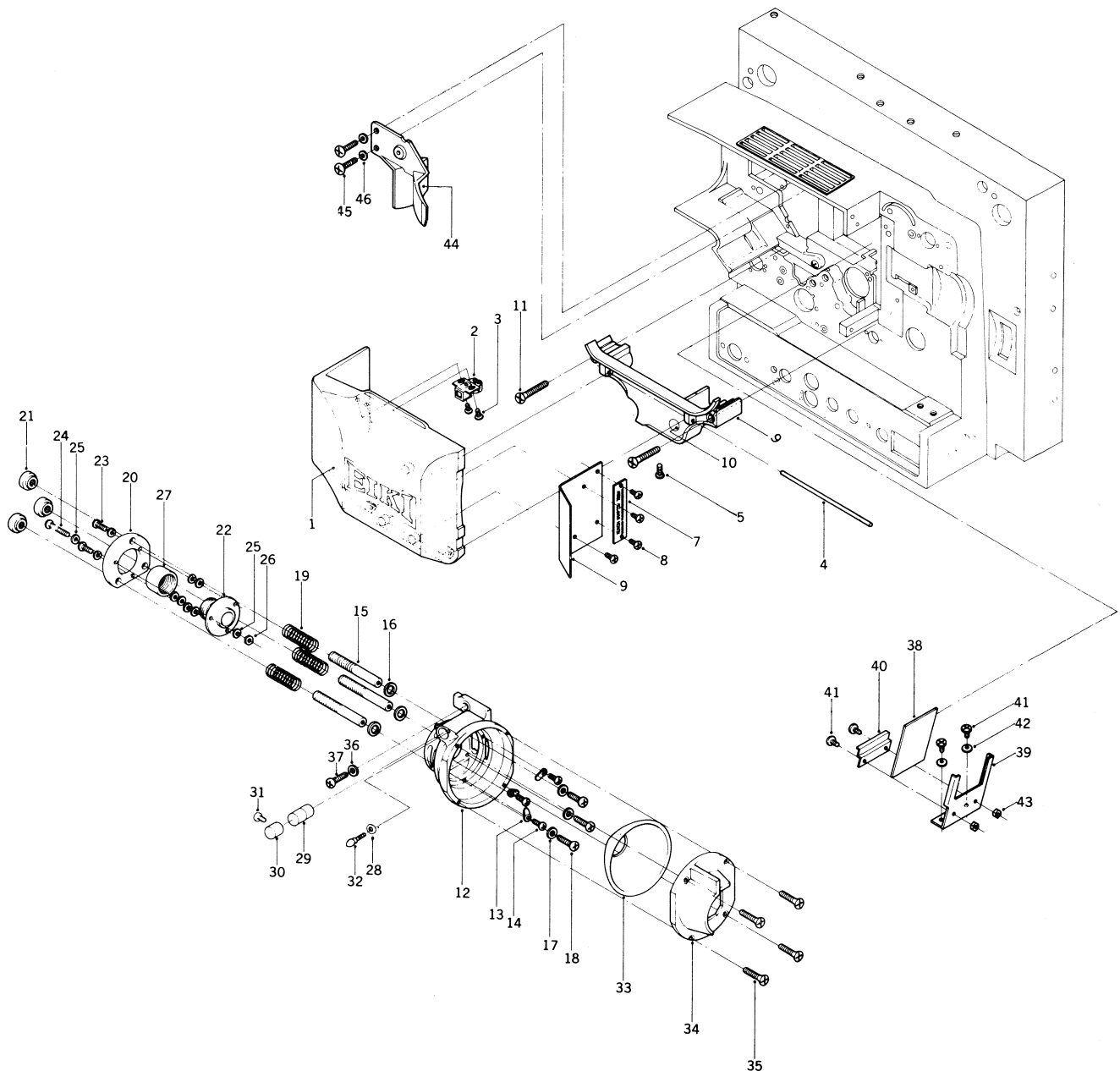
FIG. #10

To replace the rear magnet with the 210-32041 Dummy Spacer. (FIG. #10)

224-2-MIRROR REPLACEMENT AND ALIGNMENT

2-1 : MIRROR REPLACEMENT

1. Loosen the lamp house lock screw, and open the lamp house cover.
2. Remove the lamp. (See the lamp replacement section 1-2.)
3. Loosen the 2 mounting screws (37) of the mirror case (12) and remove the mirror case from the projector.
4. Loosen the 4 screws (35) of the mirror case cover (34).
5. The mirror may now be removed. Replace the mirror. Re-installation of the mirror can be done by reversing the above procedures.
6. Re-mount the lamp.
7. Align the lamp for the best illumination as described in the section 1-3.



2-2 : MIRROR ALIGNMENT

1. If proper illumination cannot be achieved after replacing the mirror, minor adjustment will be necessary to optimize the illumination.
2. Loosen the 2 mounting screws (37) by one rotation only (or two rotations until the mirror case is slightly movable.)
3. Slightly move the mirror case, back and forth, up and down, observing the screen illumination, until the best position is found.
4. Once proper alignment has been achieved, the center screen illumination should be maximum and be evenly distributed.
5. Tighten the 2 mounting screws (37).

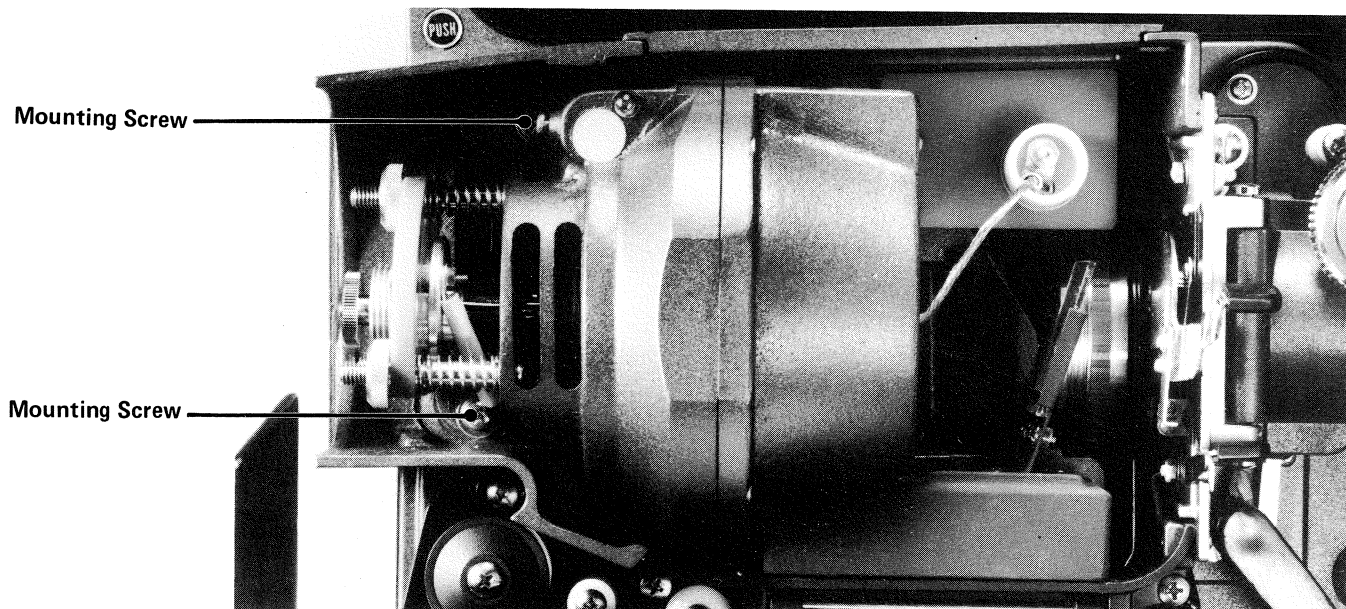


FIG. #12

Main Pars of Rectifier Circuit

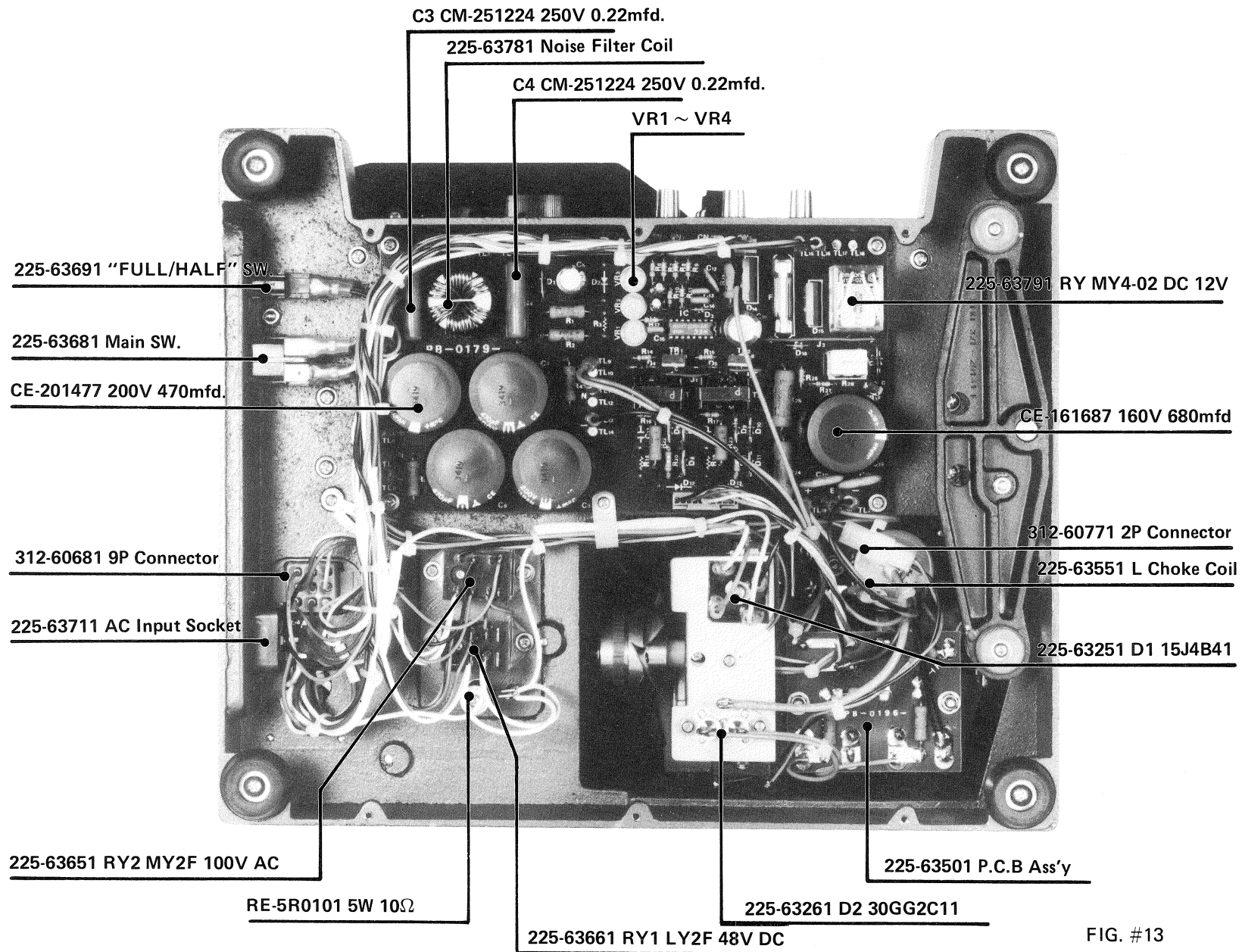


FIG. #13

224-3-XENON LAMP STARTER AND RECTIFIER CIRCUITS

3-1 : DESCRIPTION

EX-3000N uses the latest technology in a light weight, efficient pulse-width modulated power supply for the maximum illumination of its 350W xenon lamp. The switching regulator (P.W.M. viz. Pulse-Width Modulated) technique makes maximum efficiency of high frequency transformers, thus reducing the size and weight, while developing a highly regulated D.C. lamp operating current.

The starter circuit as well employs the latest technology in high frequency oscillating circuit consisting of a thydax high voltage pulse transformer.

A. Rectifier Block Diagram Function:

1. Input circuit:
This circuit consists of AC line input, fuse, main power switch, voltage selector, transformer, and RF line filter.
2. Rectifier and Filter:
This circuit directly rectifies and smoothes the AC input current, and consists of 100/200 voltage selector switch, RY-1 surge current protection relay, bridge D-1 and filter capacitors, providing the initial AC to DC conversion.
3. P.W.M. DC to AC converter:
This is the heart of the power supply, and consists of (TR-1) ~ (TR-2) switching transistors 2SC2650, which are driven by the P.W.M. regulator circuit.
And these transistors 2SC2650 switch the DC voltage provided through the rectifier and filter circuit, and form about 250 ~ 350V peak to peak 20KHz AC current.
4. P.W.M. Regulator:
This circuit compares the lamp current from sensing resistor R-5 against the constant voltage source in IC (μ PC 1042C). The IC adjusts the pulse range to transistors TR-1 and TR-2 (2SA965) which in turn drive the DC to AC converter circuit, ultimately resulting in a constant lamp circuit.
5. High Frequency Rectifier and Filter:
This circuit consists of high frequency ferrite transformer, rectifier, and reactor converting the 250 ~ 350V 20KHz pulse to approximately 40 to 60V DC.
6. Current Sensing Resistor:
The voltage developed across R-5 in series with the lamp is the control feedback voltage supplied to the P.W.M. regulator circuit.
7. Starting Boost Voltage:
Bridge rectifier D-15 supplies a boost voltage adding to the rectifier running voltage approximately 60V DC to provide the lamp with about 110V open circuit prior to starting. Once the lamp has started, this circuit is switched out by relay RY.
8. High Voltage Starter Circuit:
When the lamp's open circuit voltage exceeds approximately 80V, the high voltage starter board generates the 25 ~ 30KV striking pulse. When the lamp begins to draw current, the open circuit voltage drops below the 70V and the starter stops activating.

B. Starter Description:

100V DC is supplied to the starter terminal TL01 and TL02 on the starter P.C. Board. When C-02 is charged to approximately 100V DC, the thydax fires and discharges C-02 through the primary winding of T-01. The secondary winding of T-01 develops high voltage and charges C-03. When C-03 is charged, it discharges across the spark gap, and the resonant circuit of the primary winding of T-2, resulting in 25 ~ 30KV discharge of the secondary of T-2 across the xenon lamp electrodes, ionizing the gas.

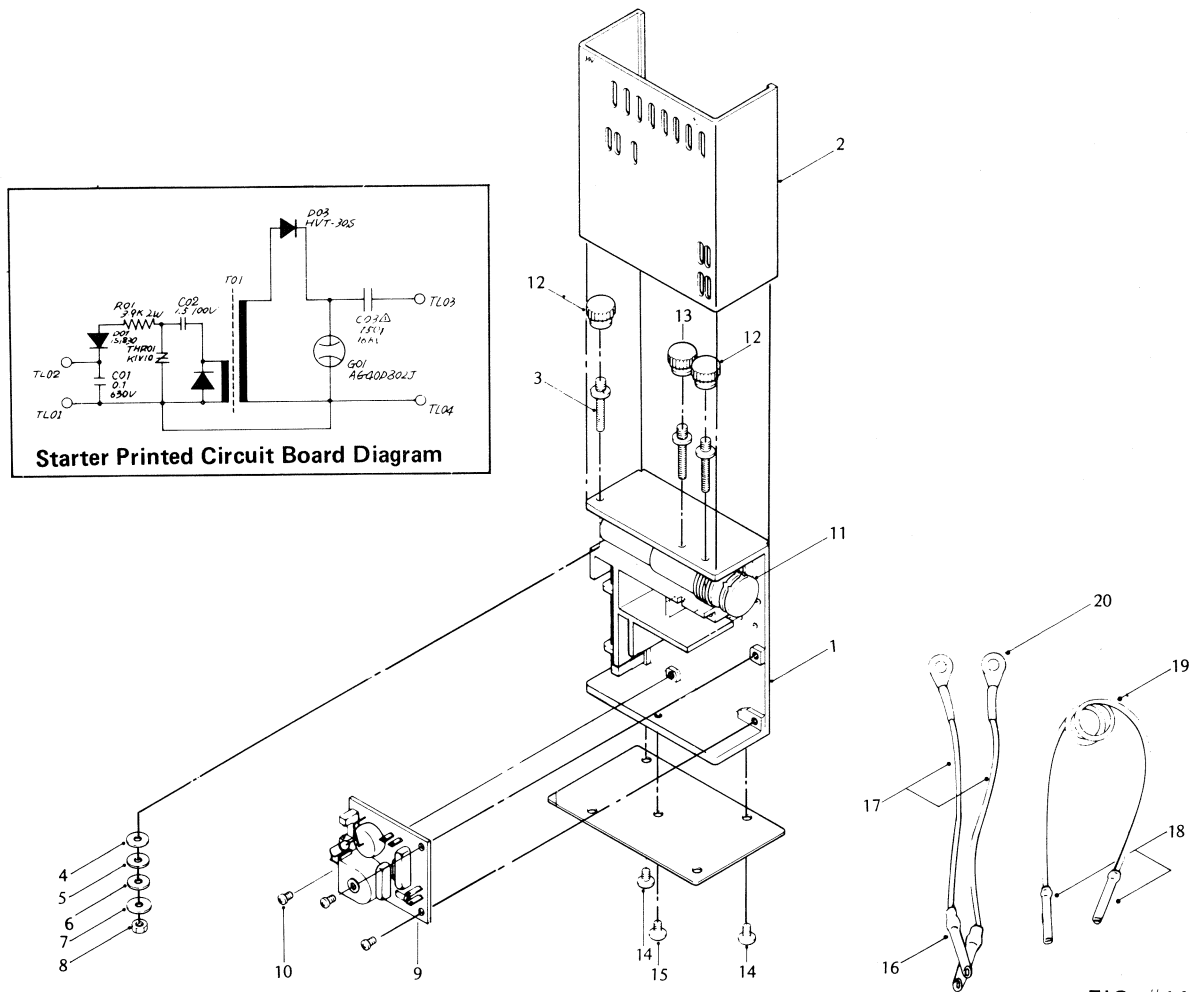
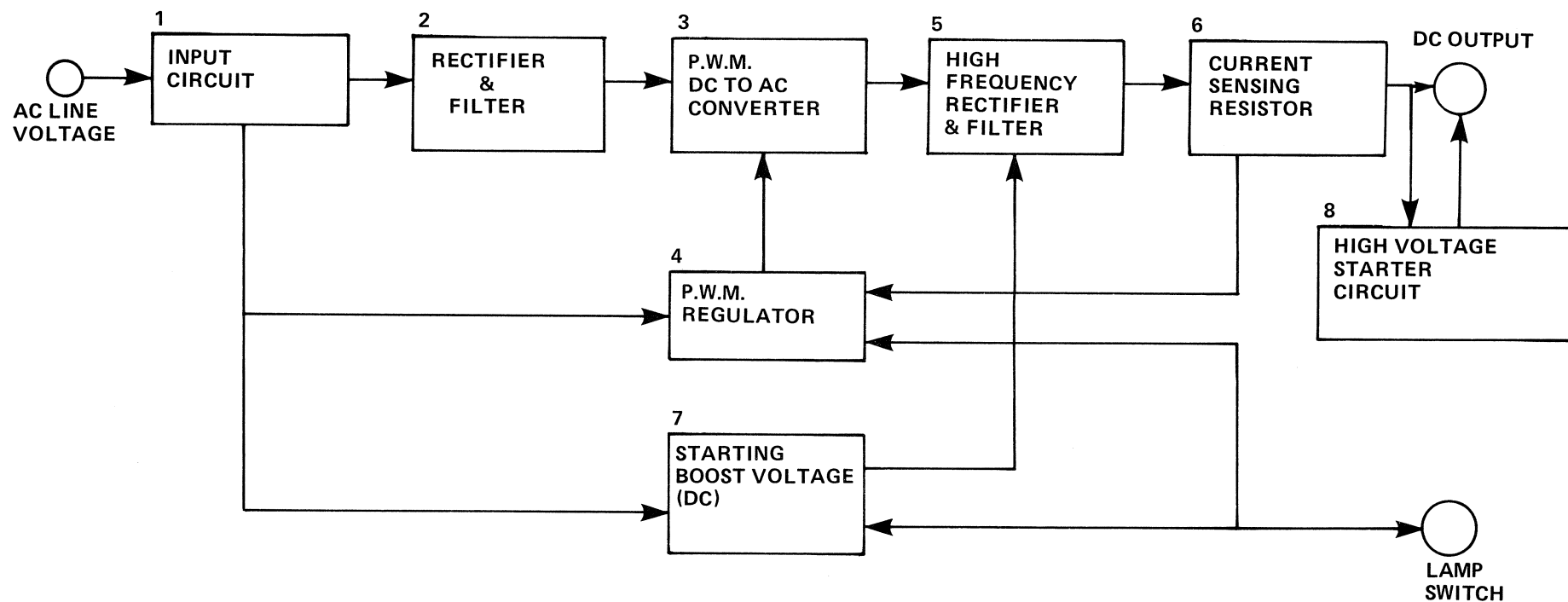


FIG. #14

INDEX NO	PART NO	DESCRIPTION	QTY.	INDEX NO	PART NO	DESCRIPTION	QTY.
*	225-62401	Starter Assy Complete	1				
1	222-62051	Starter Box	1				
2	222-62141	Starter Box Cover	1				
3	210-62421	Terminal	3				
4	210-62431	Washer	3				
5	210-62451	Lock Washer	3				
6	210-62441	Washer	3				
7	WC-40	Lock Washer	3				
8	NA-40	Nut	3				
9	225-62201	Starter Printed Circuit Board Assy	1				
*	225-62181	Starter Printed Circuit Only	1				
*	CM-631104	C01 Capacitor 630V 0.1 MFD	1				
*	CM-101155	C02 Capacitor 100V 1.5 MFD	1				
*	CC-163751	C03 Capacitor 16KV 750 PFD	1				
*	225-62251	D01, 2 Silicon Diode 1000V 1A	2				
*	225-62261	D03 Silicon Diode 18KV 15 MA	1				
*	225-62391	G01 Spark Gap	1				
*	RW-2R0392	R01 Resistor 2W.3.9K Ohm	1				
*	225-62311	T01 Transformer	1				
*	225-62271	THR01 Silistor	1				
10	XP-3006S	Screw	3				
11	222-62321	Tesla Coil	1				
12	222-62531	Terminal Nut (Red)	2				
13	222-62541	Terminal Nut (Black)	1				
14	XF-4008S	Screw (for starter unit)	2				
15	XP-4008S	Screw (for starter unit)	1				
16	225-62711	TL01, 02 Terminal	2				
17	225-62721	Wire	2				
18	225-62731	TL03, 04 Terminal	2				
19	225-62741	Wire	1				
20	L-12530	Lug (for above)	2				

BLOCK DIAGRAM OF EX-3000N RECTIFIER



3-2 : RECTIFIER TROUBLE SHOOTING CHART

<u>SYMPTOM</u>	<u>CHECK POINTS & REMEDY</u>
1. Main Fuse 10A Blows when AC Main Switch is turned ON.	a) Check for defective (D1) (15J4B41). b) Check for defective (short-circuited) C6-C9 (200V 470mfd.). c) Check for defective (short-circuited) (TR1) (TR2) (2SC2650). In the event of defective transistors, check for defective R20-R22, D6-D11, and TR1, TR2 (2SA965), too.
2. Starter does not Activate when Lamp Switch is turned ON.	**Measure the output voltage with DC volt meter. a) If over 120V, starter is defective. b) If 0V, the inverter circuit is damaged. Check for defective (TR1) (TR2) and R20-R22, and D6-D11. c) If between 40-60V, the starting boost voltage circuit is not activating. In this case, c-1 : Check if RY1 (LY2F DC 48V) and RY2 (MY2F AC 100V) are activating correctly. c-1-1 : If RY1 is not activating correctly, check for defective D1 (IS1888) or C5 (50V 220mfd.). c-1-2 : If RY2 is not activating correctly, check the supply voltage to the relay coil. When AC 100V is supplied, relay is defective. Replace. When AC 100V is not supplied, check for any disconnection of wirings. c-2 : Check Fuse 1A MF60-NR1 on the P.C. Board PB-0179-A. c-2-1 : If Fuse is blown, check for defective D15 (RB-154) c-3 : Observe and check R28 (5W 150 ohm) (Cement Resistor with fuse function) on P.C. Board PB-0179-A. If fuse is blown, replace. If not blown, and if fuse should appear OK, check soldering or re-solder fuse, and check the followings; The supply voltage to the lamp is normally $22 \pm 2V$ when lamp is ON. c-3-1 : When it is over 24V, lamp may be ON continuously for too long hours. Also check if the Arc Magnet (222-32171) is a correct one and is positioned correctly. c-3-2 : When the correct supply voltage $22 \pm 2V$ is supplied, check for defective TR3 (2SC2235), and D16 (05Z5.1L).

SYMPTOM

CHECK POINTS & REMEDY

- | | |
|--|---|
| 3. Starter activates, but No High Voltage is supplied to Lamp. | a) Check for poor insulation in the Starter Output High Voltage circuit.
b) Check for slow leak of xenon gas with the lamp |
| 4. Starter activates. High Voltage is supplied to the Lamp. But Lamp does not ignite. | a) Check for disconnection of circuits and wirings, poor contacts near the lamp.
b) Lamp is defective. |
| 5. Starter activates. High Voltage is supplied to the Lamp. The Lamp ignites, but does not stay ON. | a) Check for the lower AC supply voltage than rated. (Say more than 10% less than the rated voltage)
b) Lamp is defective.
c) Check for an incorrect arc discharge of xenon lamp due to the failure of the arc magnet and its position.
d) Check IC (μ PC 1042C), and the circuit near IC. (Refer to section 7.) |
| 6. The Lamp strikes and works OK for some time, but turns OFF by itself in the middle of projection. | a) If the lamp should be able to strike again in 2-3 seconds;
a-1 : Lamp is defective.
a-2 : If the lamp should turn off in the middle of projection in the "HALF" position, measure the lamp current in "HALF" position.
It is normally 10A. If the current should be much lower than 10A, adjust VR4 (22K ohm). (Turn in the clockwise direction increases the current.)
b) If the lamp should be able to strike again in 2-5 minutes, it would indicate that the S4 Thermal Switch (OHD60B) has activated.
Check for the insufficient cooling system. |

7. Checking and Adjusting IC (μ PC 1042C) Circuits

- Disconnect the connector "CN6".
- Connect the oscilloscope between the pin #10-#8 of IC (μ PC 1042C) and observe the wave.

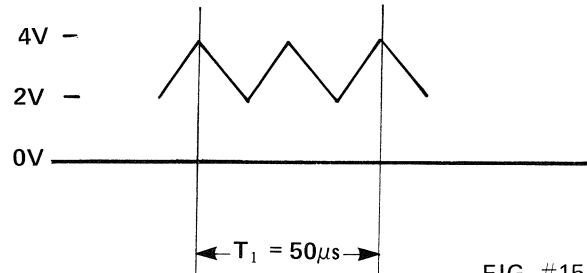


FIG. #15

- Turn VR2 to its Maximum in the counter-clockwise direction.
- Re-connect the connector "CN6". Disconnect at the starter terminals the Red & Black lead wires coming from the rectifier circuit.
- Connect the oscilloscope between collector & emitter of (TR1) (2SC 2650). (Oscilloscope setting range: $10\mu\text{s}/\text{div}$, $100\text{V}/\text{div}$)
- Turn VR2 little by little in the clockwise direction and adjust at $T_2 = 20\mu\text{s}$.
CAUTION, IMPORTANT: Incorrect setting such as $T_2 = 22\mu\text{s}$ will damage transistor.

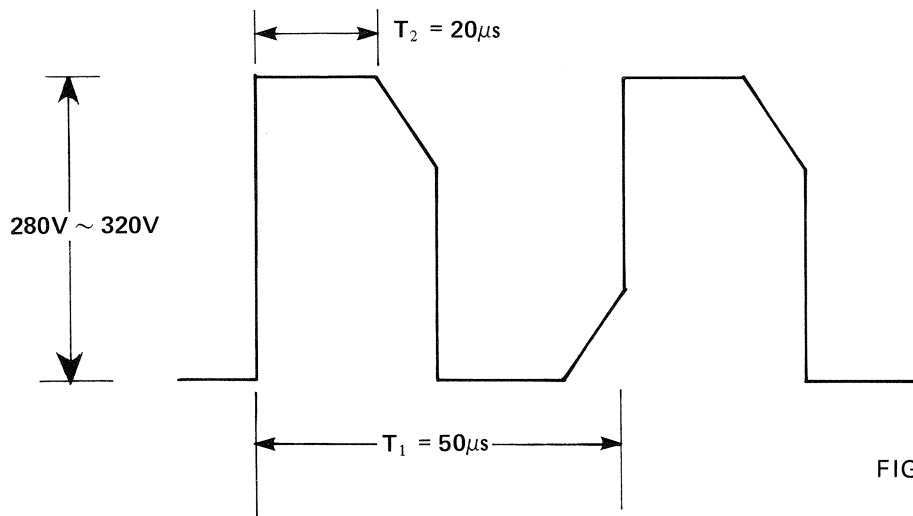


FIG. #16

- Turn VR3, VR4 to their maximum in the counter-clockwise direction.
- Re-connect the Red & Black lead wires to the starter terminals, and connect the DC ammeter (full scale 20-30A) in series to the cathode (–) terminal.
- "FULL/HALF" selection switch should be set in "FULL".
- Turn on the lamp switch and rotate VR3 little by little in the clockwise direction, and adjust the lamp current at $16 \pm 0.5\text{A}$.
- Set the switch in "HALF".
- Turn VR4 little by little in the clockwise direction and adjust the lamp current at $10 \pm 0.5\text{A}$.

224-4: UNIVERSAL VOLTAGE SELECTION

DESCRIPTION : EX-3000N projector is provided with the universal voltage transformer, and an operating voltage can be selected from 100V AC to 240V AC.

Note : An operating voltage of EX-3000N, however, is already pre-set at the factory and the projectors of an appropriate voltage are shipped according to the requirement and to the destination.

When an operating voltage has to be changed,

- (1) To select the most appropriate voltage, the rear cover, by first loosening the two lock screws and opening the latch. (FIG. #17)

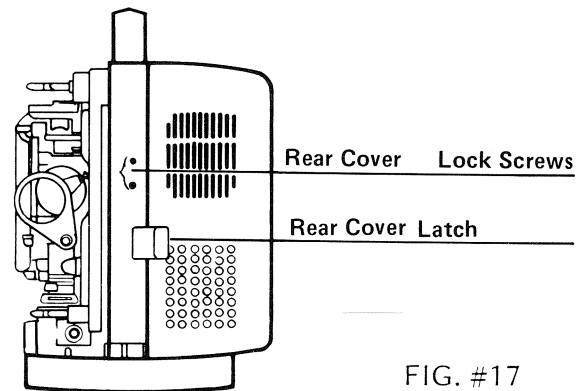


FIG. #17

- (2) Locate the voltage selector bracket. Select the proper voltage range "100/120V" or "220/240V" by plugging the 2 pin nylon connector.
- (3) Pull out the voltage selector 3 pin plug, and re-plug so that the desired voltage is shown in the small notch of the plug. (FIG. #18)

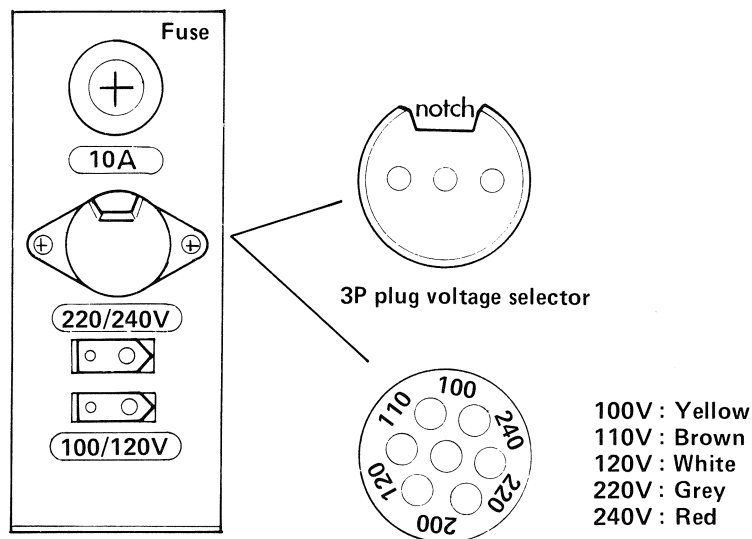


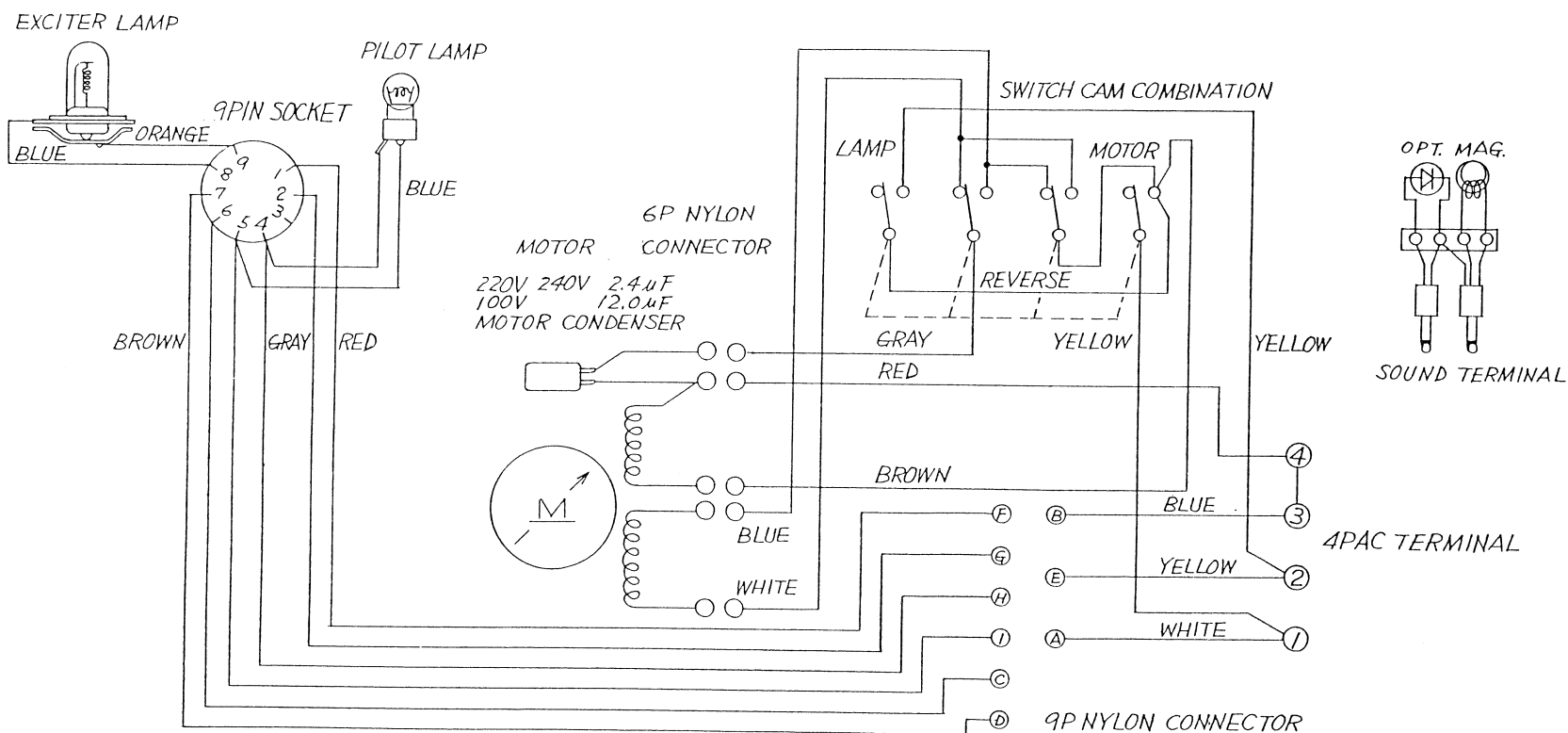
FIG. #18

処 理 加 工			図 面 訂 正 欄		
符号	年月日		訂 正 要 領	担当	

EX-3000N
EX-2000N
EX-2000A

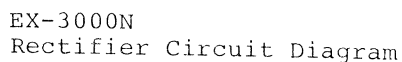
ELECTRIC CIRCUIT DIAGRAM

(PROJECTOR HEAD MACHINE)

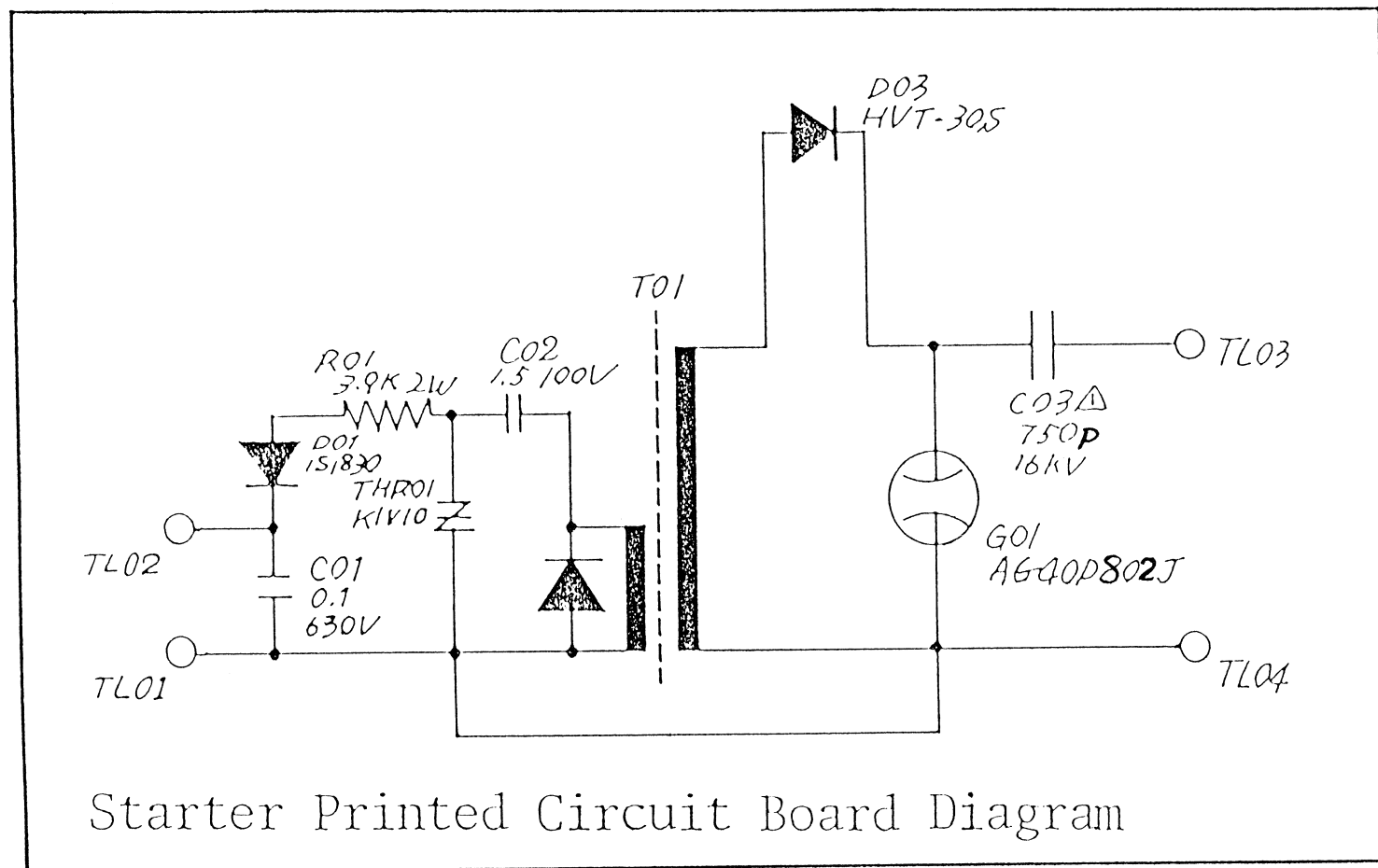


21. June 1977
1. Jan. 1983

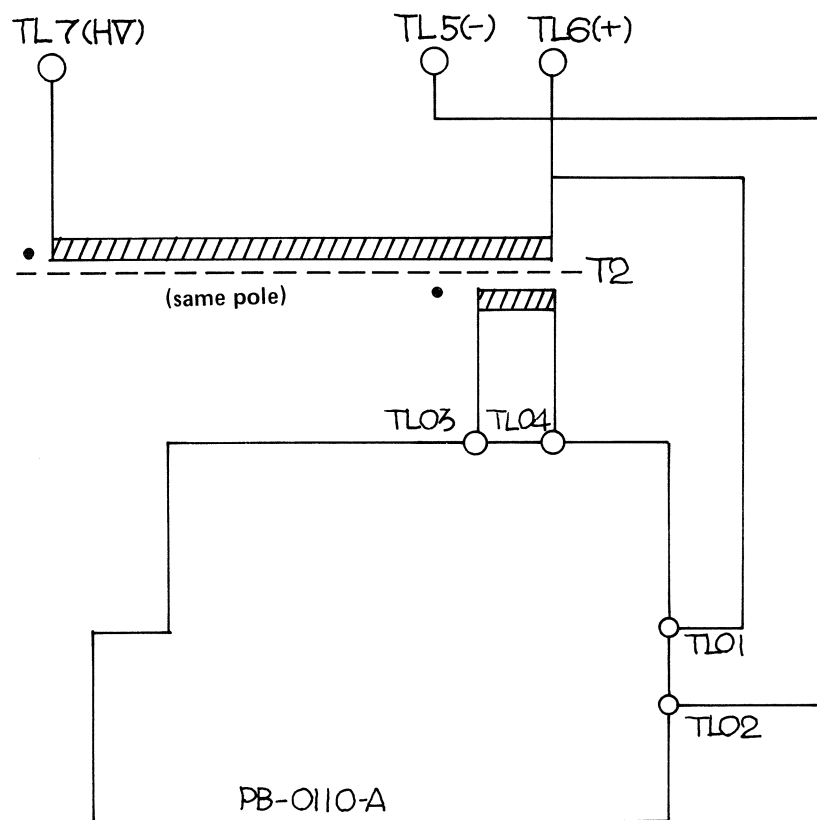
映機工業株式会社			承認 設計 製図			本体配線図		
作図	52年6月21日	尺 寸	度	名	Y.R.	品 名	EX-3000N, EX-2000A, N	CIRCUIT DIAGRAM
材 質	台当機別	単 重 量	g	部 番	EX-3000N EX-2000A, N	部 番	222-60251	



映機工業株式会社				承認	設計	製圖	品名	BALLAST CIRCUIT DIAGRAM
作図	58年 4月 24日	大換	1					
材	質	在庫場所	庫重量	kg	製此材料	EX-3000M	部番	225-63011



STARTER CIRCUIT BLOCK DIAGRAM



Note: T2 Tesla Coil should be of the same pole, VIZ. the coil winding direction should be same.



16MM SOUND PROJECTORS

MODEL
3000N
SERIES

REPLACEMENT PARTS LIST

COVERING S/N 1501 and up
CAT. 4513 REVISION DATE: AUG 1982

EIKI INDUSTRIAL CO., LTD.
C.P.O. BOX 1229 OSAKA JAPAN
Tel: (06) 311-9475

EIKI INTERNATIONAL INC.
27882 Camino Capistrano
Laguna Niguel, California 92677
Tel: 714/831-2511 • Telex: 685-638

NOTE

To the user of this parts list:

The following is an explanation of the EIKI part numbering system. Understanding the system used will help you stock and expedite parts orders promptly and correctly.

1. PREFIX CODE:

Describes model that the part was originally designed for.

ST – ST/M Series

210 – EX-300SL

222 – EX-2000A

224 – EX-2000N

225 – EX-3000N

312 – RST/RT/RM Series

313 – DOMESTIC MODEL

314 – NST/NT Series

320 – SL Series

321 – SL II Series

2. PART NUMBER:

*	225	–	1	1	0	0	1
	Model		Main Assy.		Part No.		Revision No.

Revision No.

1 to 2, 3, 4, etc. Non-Interchangeable Revision

1 to 1a, 1b, etc. Interchangeable Revision

* ASTERISK indicates parts associated with the above assembly.

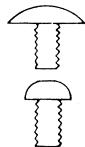
3. SCREWS: “ISO” Standard

X T	3	0	1	0	S (K*)
Head Style	Diameter (3.0mm)	Length (10mm)	Indicates “ISO” No “S” indicates JIS		

X = Philips

T = Truss

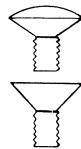
P = Pan



O = Oval Countersunk

F = Flat

* = Black Color



4. WASHERS:

W A	–	3	0	S
Style		Diameter (3.0mm)	Indicates “ISO” No “S” indicates JIS	

WA = Flat washer

WC = Lock Washer

WE = Star Washer External

ER = “E” Ring

WD = Internal Star Washer

5. FIBER WASHERS:

G 1	–	0	3	0	0	7	2
Thickness (.1mm)			I.D. (3mm)		O.D. (7.2mm)		

6. NUTS:

N A	–	3	0	S
Style		Diameter (3.0mm)	“ISO” No “S” indicates JIS	

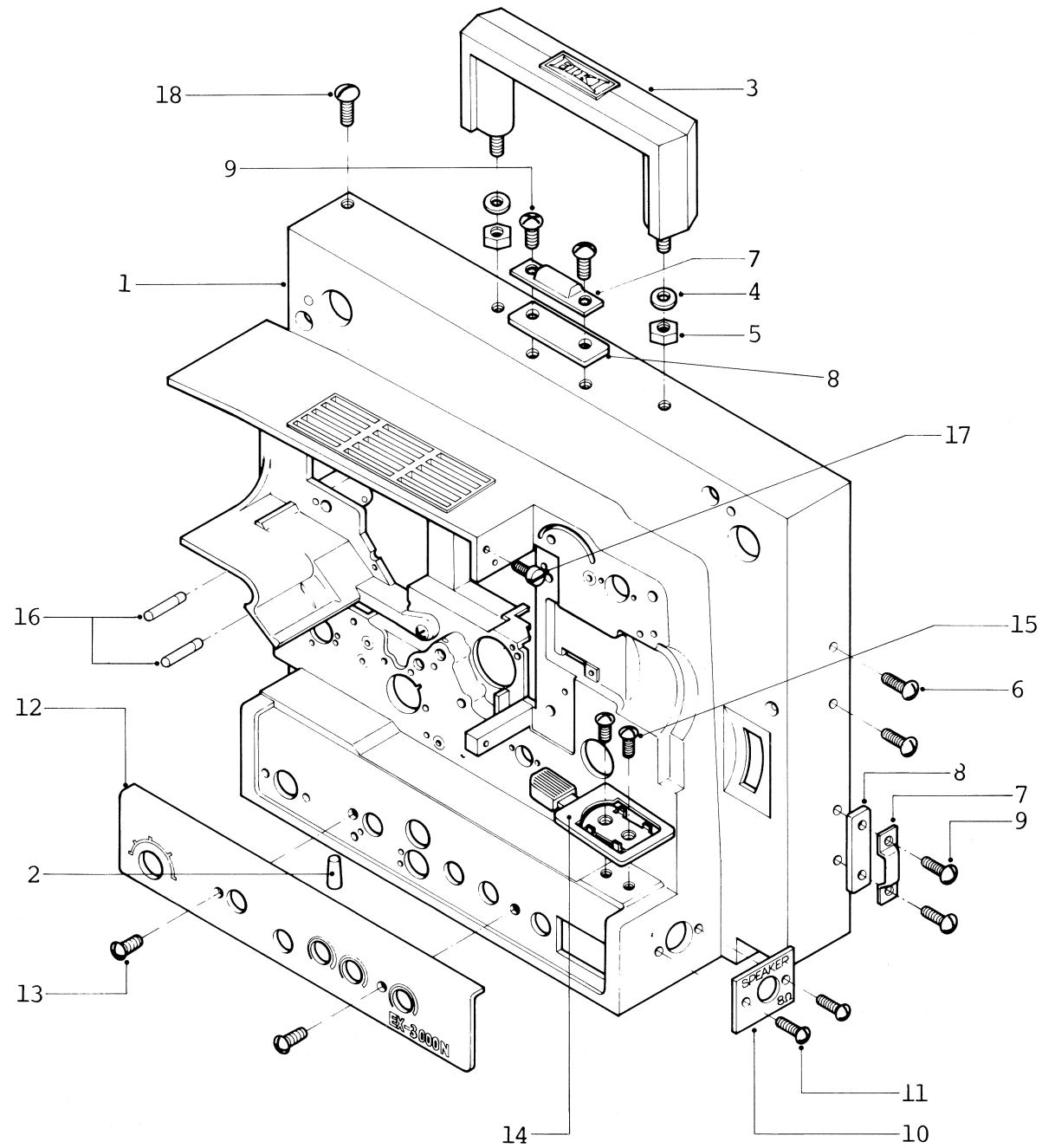
NA = Thick

NB = Thin

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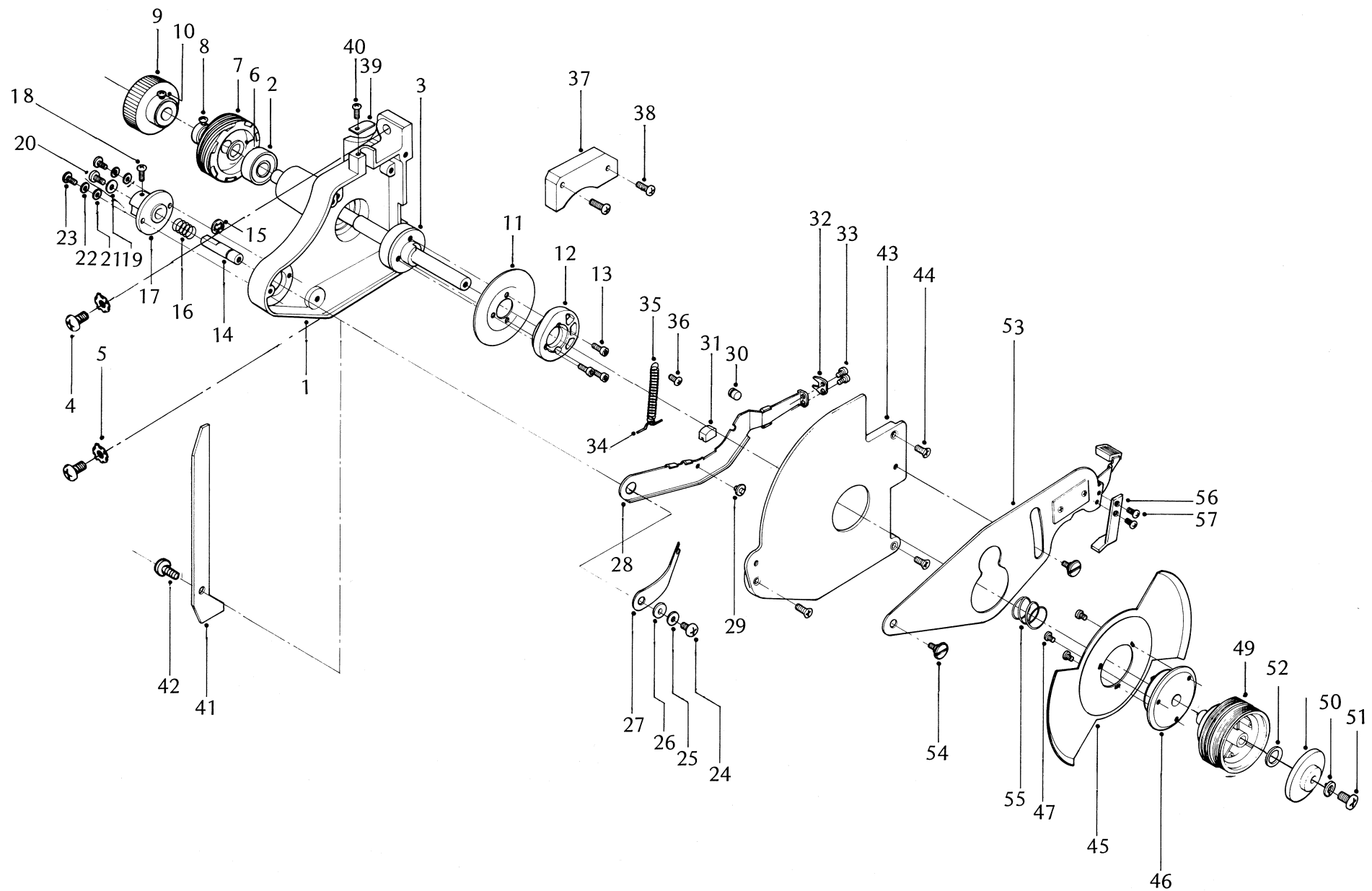
10-0 MAIN FRAME CASTING



10-0 MAIN FRAME CASTING

INDEX NO	PART NO	DESCRIPTION	QTY.
1	225-10101	Main Frame Casting Assy.	1
2	*312-10511	Tapered Knock Pin	1
3	312-10102	Handle	1
4	W E-50	Lock Washer	2
5	N A-50S	Nut	2
6	X P-3008S	Lock Screw (Rear Cover)	2
7	S T-10041	Female Latch	2
8	312-10051	Latch Plate	2
9	X T-3008S	Screw (for ST-10041)	4
10	S T-10071	Speaker Plate	1
11	X T-2305	Screw (for above)	2
12	225-10082	Control Panel -1 type	1
	*225-10092	Control Panel -2 type	(1)
13	X T-2305	Screw (for above)	2
14	314-10201	Film Trimmer	1
15	X F-2305	Screw	2
16	S T-10181	Stop Pin	2
17	312-32421	Lamp House Locking Screw	1
	*X T-3008S	Lamp House Locking Screw (USA. CANADA)	(1)
18	312-22191	Rear Cover Hinge Screw	1

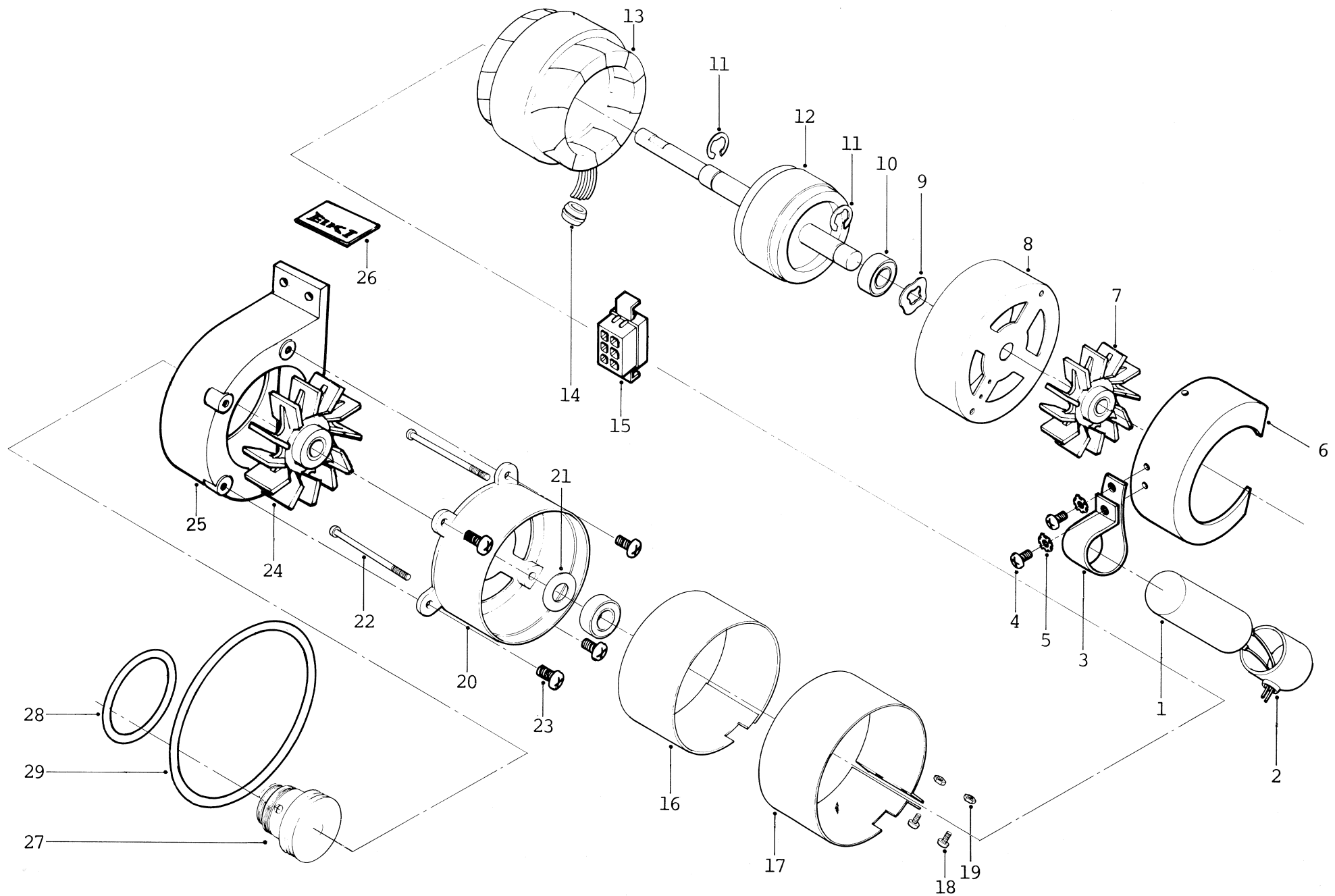
11-0 CAM TANK



11-0 CAM TANK

INDEX NO	PART NO	DESCRIPTION	QTY.	INDEX NO	PART NO	DESCRIPTION	QTY.
*	225-11001	CAM TANK MODULE, 2 BLADE (Includes Items 1 thru 54)	1	30	*312-11181	Sliding Pin	1
				31	*312-11641	Cam Follower	1
				32	*312-11191	Claw	1
1	313-11031	Cam Housing	1	33	*S T-11451	Screw (for above)	2
2	O B-608ZZ	Ball Bearing	1	34	312-11551	Spring Hook	1
3	314-11601	Cam Shaft and Bearing Assy.	1	35	312-11161	Spring	1
4	X P-5015S	Screw	2	36	X P-3005S	Screw (for above)	1
5	W E-50	Washer	2	37	312-11661	Felt	1
6	G I-080120	Fibre Washer	1	38	X F-3012S	Screw (for above)	2
7	312-11501	Worm Gear Assy.	1	39	312-11671	Oil Hole Cover	1
8	*312-17381	Set Screw (for above)	2	40	X P-3006S	Screw (for above)	1
9	320-11701	Inching Knob Assy.	1	41	S T-11061	Control Bar	1
10	*X P-3005S	Screw (for above)	1	42	312-11071	Screw	1
11	312-11121	Cam Plate	1	43	320-11241	Cover Plate	1
12	312-11131	Cam	1	44	X O-3010S	Screw (for above)	3
13	312-11421	Set Screw	3	45	312-11291	2 Blade Shutter	1
*	313-11991	Fulcrum Control Assy. (14 thru 20)	1	*	312-11311	3 Blade Shutter	(1)
14	*312-11051	Fulcrum Pin	1	46	S T-11281	Hub	1
15	*E R-50	"E" Ring (for above)	1	47	X T-2304	Screw	3
16	*312-11571	Spring	1	48	224-11101	Shutter Pulley 50/60Hz.	1
17	*313-11041	Fulcrum Collar	1	*	224-11201	Shutter Pulley 60Hz.	(1)
18	*X P-3508	Screw (for above)	1	*	224-11301	Shutter Pulley 50Hz.	(1)
19	*S T-11231	Washer	1	49	S T-11351	Plate Washer	1
20	*X T-3510	Screw	1	50	W C-40	Washer	1
21	W A-30	Washer	2	51	X T-4014S	Screw	1
22	W C-30	Lock Washer	2	52	312-11321	Adjusting Washer	1
23	X P-3008S	Screw	2	53	222-11301	Still Picture Lever	1
24	X T-3505	Screw	1	54	312-11271	Screw	2
25	S T-11231	Washer	1	55	312-11141	Clutch Spring	1
26	312-11681	Rulon Washer	1	56	222-11021	Hook	1
27	312-11221	Plate Spring	1	57	X P-2303	Screw	2
*	314-11201	Claw Lever Assy. (28 thru 33)	1				
28	*314-11981	Claw Lever (Includes Rulon (ape)	1				
29	*312-11411	Support Pin	1				

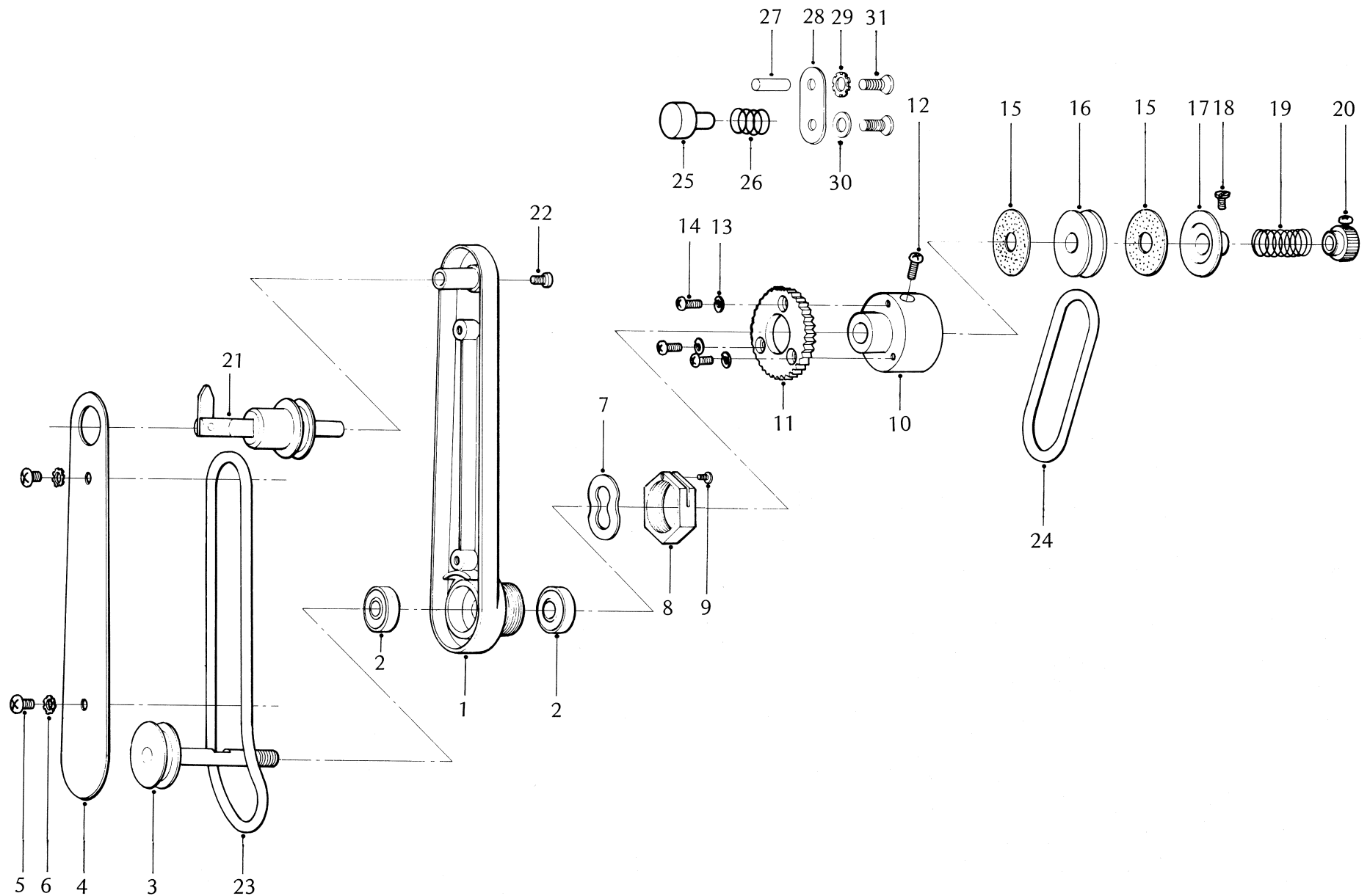
12-0 MOTOR



12-0 MOTOR

INDEX NO	PART NO	DESCRIPTION	QTY.	INDEX NO	PART NO	DESCRIPTION	QTY.
*	224-12301	MOTOR/FAN MODULE 120V (The above includes Items 1 thru 29)	1	*	X P-3512	Screw (for above)	1
*	224-12931	Motor Assy.	1	28	321-12181	Motor Belt (3V)	1
1	320-12021	Capacitor 8 MFD, 120V	1	29	224-12181	Fan Belt (3V)	1
2	320-12111	Shield Cap	1				
3	320-12041	Mounting Bracket	1			MOUNTING HARDWARE	
4	X P-3005S	Screw	2	*	X P-5015S	Screw	3
5	W E-30	Washer	2	*	W C-50	Lock Washer	3
6	224-12011	Fan Cover	1				
*	X T-3008S	Screw	2				
7	222-12901	Fan Assy.	1				
*	X P-3508	Screw	2				
8	224-12211	Case Cover	1				
9	320-12321	Spring Washer	1				
10	O B-6200ZZ	Ball Bearing	2				
11	320-12331	"C" Ring	3				
12	224-12702	Rotor Assy.	1				
13	320-12972	Stator & Coil Assy. 120V	1				
14	320-12251	Bushing	1				
15	312-12371	6 Pin Nylon Plug (Male)	1				
*	312-60621	Male Pin (for above)	1 per wire				
16	224-12241	Inner Shield Cover	1				
17	224-12091	Outer Shield Cover	1				
18	X P-3015S	Screw	2				
19	N A-30S	Nut	2				
20	320-12061	Case	1				
21	312-12331	Spacer Washer (Use as needed)	0				
22	X F-4070S	Screw	2				
23	X T-4010S	Screw	4				
24	222-12601	Fan Assy. (100mm dia.)	1				
*	X P-3510	Screw (for above)	2				
25	224-12141	Fan Housing (Metal)	1				
26	224-12481	Rating Plate 120V	1				
27	225-12201	Motor Pulley Assy. 50/60Hz	1				
*	225-12401	Motor Pulley Assy. 220V 50S	(1)				
*	225-12501	Motor Pulley Assy. 240V 50S	(1)				

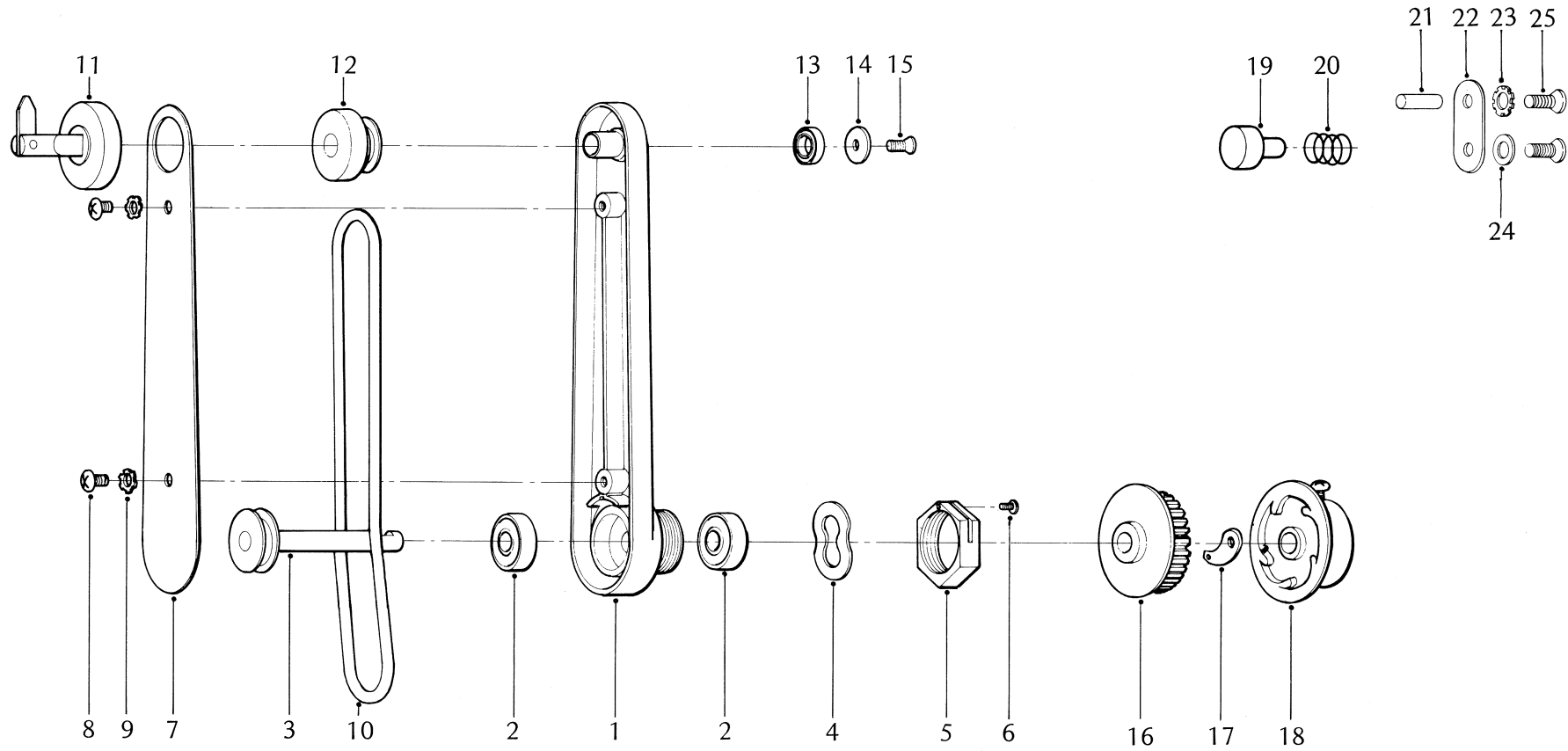
13-0 SUPPLY ARM



13-0 SUPPLY ARM

INDEX NO	PART NO	DESCRIPTION	QTY.				
*	313-13001	Supply Arm Assy.	1	27	312-13211	Locking Pin	1
*	313-13701	Inner Half Arm Assy.	1	28	S T-13191	Bracket	1
1	*313-13301	Inner Half Arm	1	29	W E-30	Washer	1
2	*O B-626	Ball Bearing	2	30	W C-30	Washer	1
				31	X P-3006S	Screw	2
3	312-13101	Drive Pulley	1				
4	313-13011	Arm Plate	1				
5	X T-3505	Screw	2				
6	W E-35	Washer	2				
7	S T-13051	Spring Washer	1				
8	S T-13401	Nut Assy.	1				
9	*S T-13221	Screw (for above)	1				
*	312-13401	Drive Gear Assy.	1				
10	*312-13251	Mounting Bracket	1				
11	*S T-19051	Rewind Gear	1				
12	*X P-3510	Screw	1				
13	*W C-30	Washer	3				
14	*X P-3008S	Screw	3				
15	312-13261	Clutch Plate	2				
16	312-13291	Reverse Pulley	1				
17	312-13281	Rewind Sleeve Plate	1				
18	312-13331	Set Screw (for above)	1				
19	312-13321	Reverse Spring	1				
20	312-13501	Knurled Nut Assy.	1				
21	S T-13201	Supply Spindle Assy.	1				
22	X T-3505	Screw	1				
23	S T-13151	Arm Belt	1				
24	312-12181	Reverse Belt	1				
25	314-13101	Arm Lock Pin Assy.	1				
26	S T-13181	Spring	1				

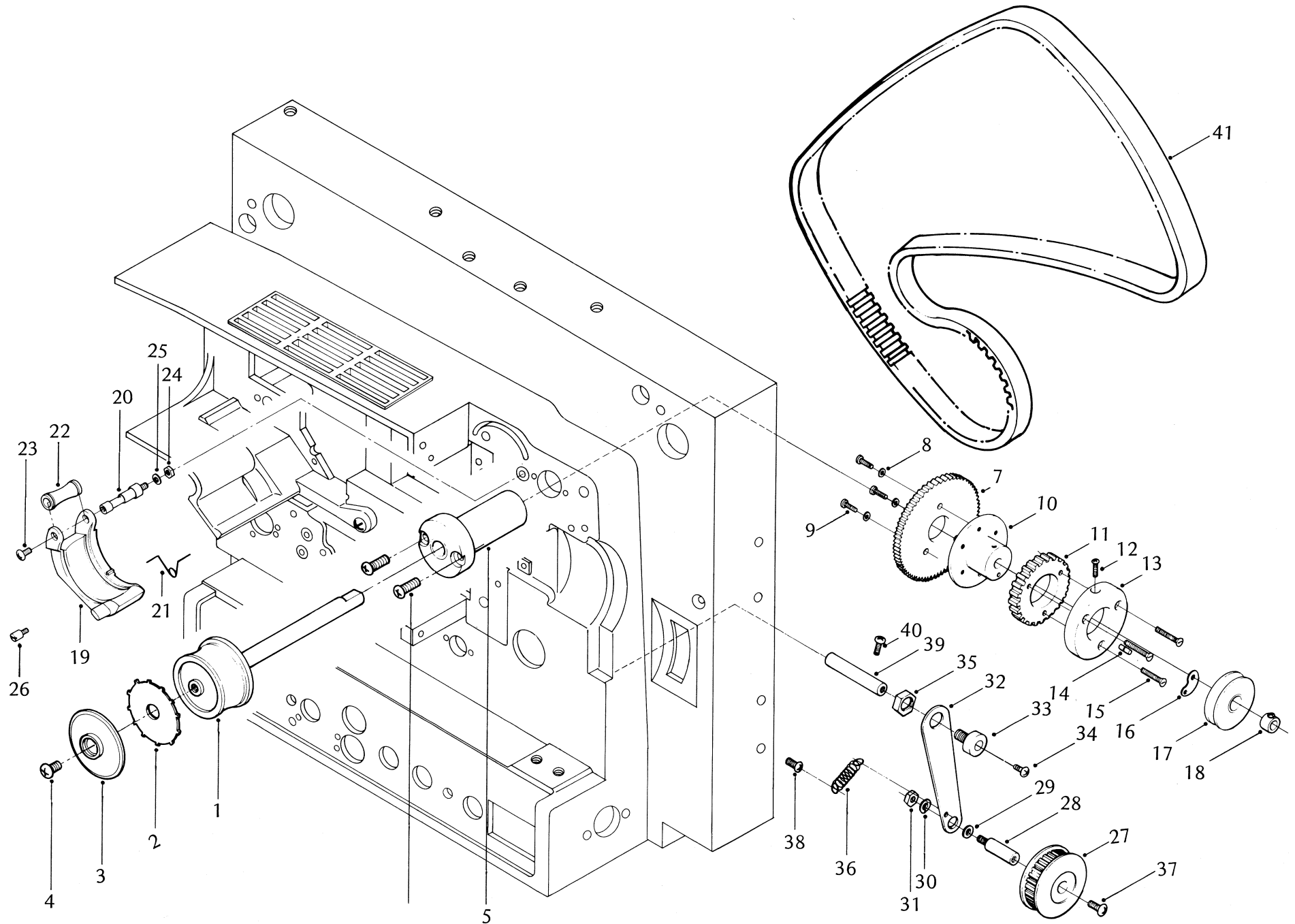
14-0 TAKE-UP ARM



14-0 TAKE-UP ARM

INDEX NO	PART NO	DESCRIPTION	QTY.				
*	224-14001	Take-up Arm Assy.	1	21	312-13211	Locking Pin	1
*	224-14301	Inner Half Arm Assy.	1	22	312-13191	Bracket	1
1	*224-14401	Inner Half Arm	1	23	W E-30	Washer	1
2	*O B-626	Ball Bearing (for above)	2	24	W C-30	Washer	1
3	314-14101	Drive Pulley	1	25	X P-3006S	Screw	2
4	S T-13051	Spring Washer	1				
5	S T-13401	Nut Assy.	1				
6	*S T-13221	Screw (for above)	1				
7	313-14011	Arm Plate	1				
8	X T-3505	Screw	2				
9	W E-35	Washer	2				
10	S T-13151	Arm Belt	1				
11	312-14202	Take-up Spindle Assy.	1				
12	314-14131	Take-up Pulley	1				
13	O B-686	Ball Bearing	1				
14	312-14151	Bearing Cover	1				
15	X F-3508	Screw	1				
16	320-14501	Drive Gear	1				
17	S T-14071	Clutch Cam	1				
18	320-14401	Clutch Cover Assy.	1				
*	X P-3510	Screw (for above)					
19	314-13101	Arm Lock Pin Assy.	1				
20	S T-13181	Spring	1				

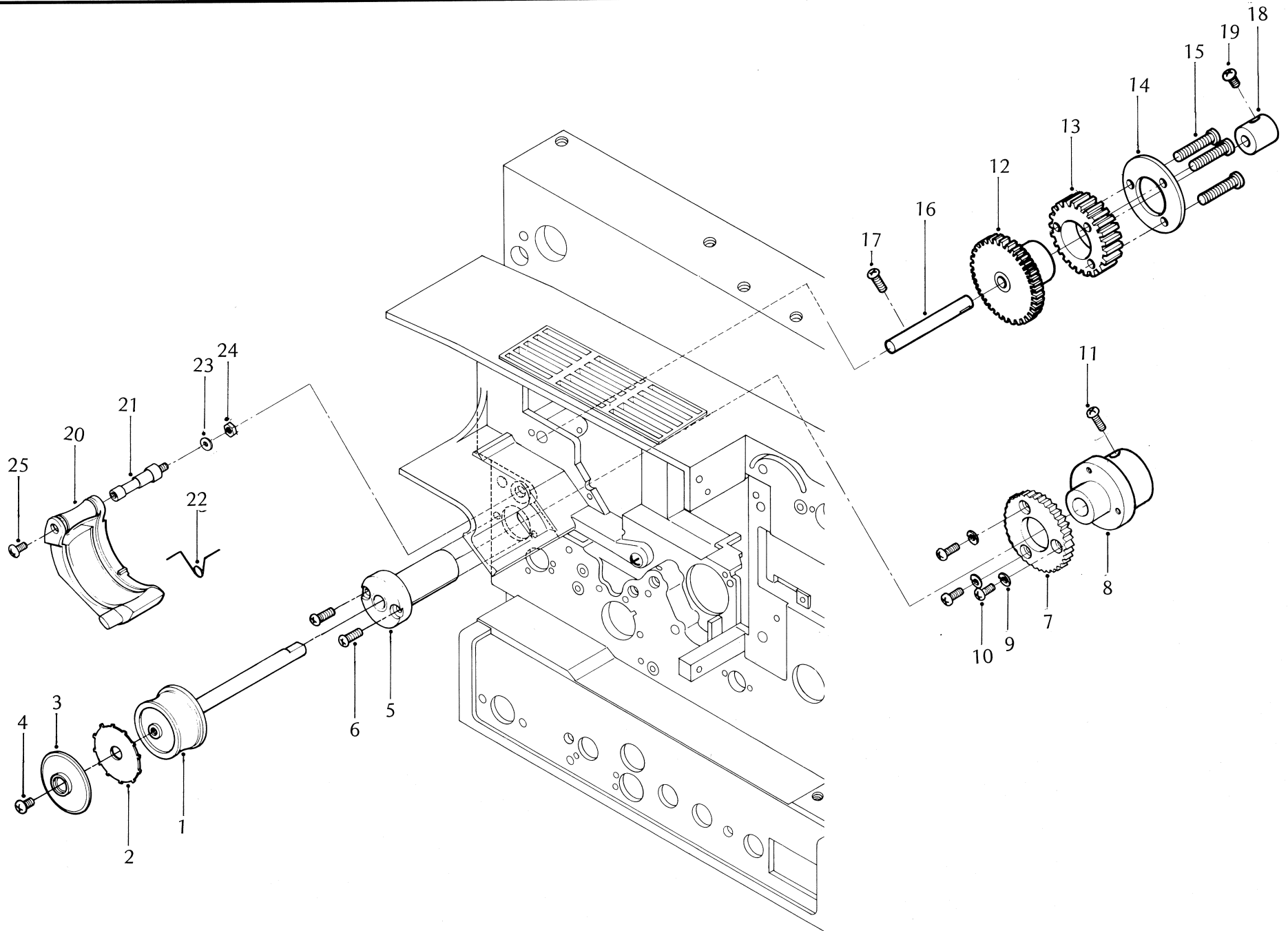
15-0 #1 SPROCKET & GEAR



15-0 #1 SPROCKET & GEAR

INDEX NO	PART NO	DESCRIPTION	QTY.	INDEX NO	PART NO	DESCRIPTION	QTY.
*	314-15991	Sprocket Drum & Shaft Assy.	1	32	*312-15241	Tension Arm	1
1	*312-15101	Sprocket Drum & Shaft	1	33	*S T-15261	Bushing	1
2	*S T-15021	Sprocket Plate	1	34	*X T-3506	Screw	1
3	*320-15011	Cover Plate	1	35	*S T-15281	Nut	1
4	*X T-4008S	Screw	1	36	*S T-15251	Tension Spring	1
5	313-15301	Hub	1	37	*X T-3506	Screw	1
6	X P-3010S	Screw	2	38	X P-4012S	Screw	1
*	312-15401	Drive Gear Assy.	1	39	S T-15291	Shaft	1
7	*S T-15071	Fibre Gear	1	40	X P-3508	Screw	1
8	*W A-30	Washer	3	41	312-15211	Main Drive Belt	1
9	*X T-3010S	Screw	3				
10	*312-15081	Gear Flange	1				
11	*S T-15091	Drive Gear	1				
12	*X P-3510	Screw	1				
13	*S T-15111	Spacer	1				
14	*S T-14051	Clutch Pin	1				
15	*X F-3024S	Screw	3				
16	S T-14071	Clutch Cam	1				
17	312-15501	Clutch Cover Pulley	1				
18	312-15901	Set Collar with Screw	1				
19	312-15152	Sprocket Shoe	1				
20	312-15171	Shoe Shaft	1				
21	312-15181	Shoe Spring	1				
22	S T-15191	Shoe Roller	1				
23	X T-3505	Screw	1				
24	N A-35	Nut	1				
25	W C-35	Washer	1				
26	S T-15311	Shoe Stopper	1				
*	314-15701	Tension Gear Assy.	1				
27	*314-15601	Tension Gear Assy.	1				
28	*314-15231	Pin	1				
29	*W A-40	Washer	1				
30	*W C-40	Washer	1				
31	*N A-40S	Nut	1				

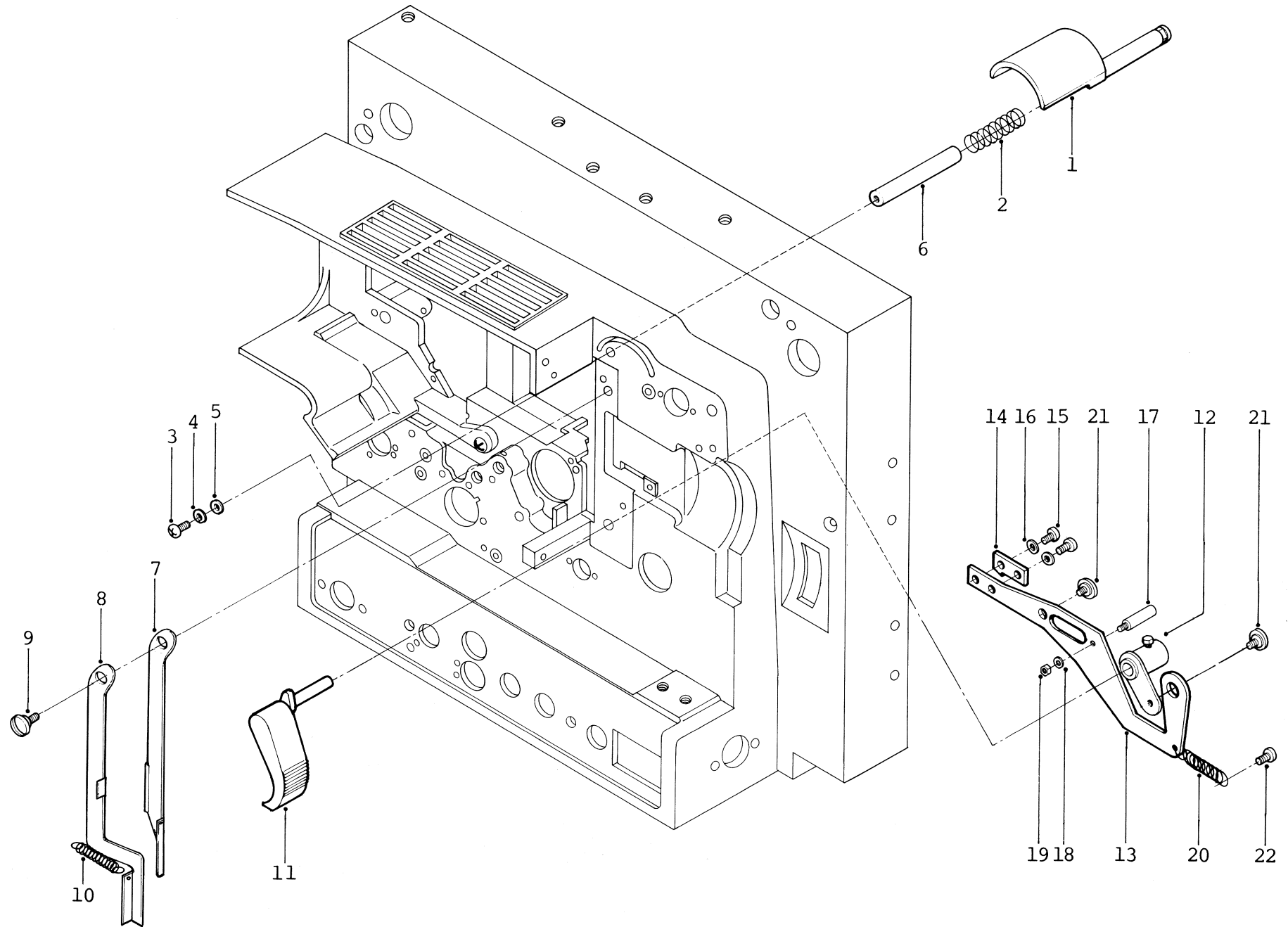
16-0 # 2 SPROCKET & GEAR



16-0 # 2 SPROCKET & GEAR

INDEX NO	PART NO	DESCRIPTION	QTY.
*	314-16401	Sprocket Drum & Shaft Assy.	1
1	*320-15102	Sprocket Drum & Shaft	1
2	*S T-15021	Sprocket Plate	1
3	*320-15011	Cover Plate	1
4	*X T-4008S	Screw	1
5	313-15301	Hub	1
6	X P-3010S	Screw	2
*	222-16401	Sprocket Gear Assy.	1
7	*222-16011	Sprocket Gear	1
8	*222-16021	Sprocket Frange	1
9	*W A-30	Washer	3
10	*X T-3010S	Screw	3
11	*X P-3510	Screw	1
*	222-16201	Sprocket Interlocking Gear Assy.	1
12	*222-16501	Sprocket Interlocking Gear with Bush	1
13	*S T-15091	Drive Gear	1
14	*S T-16061	Sprocket Gear Washer	1
15	*X P-3018S	Screw	3
16	222-16061	Interlocking Gear Shaft	1
17	X P-3506	Screw	1
*	312-15901	Set Collar Assy.	1
18	*S T-15141	Set Collar	1
19	*S T-3505	Screw	1
20	224-16301	Sprocket Shoe Assy.	1
21	312-15171	Shoe Shaft	1
22	312-15181	Shoe Spring	1
23	WA-35	Washer	1
24	NA-35	Nut	1
25	X T-3505	Screw	1

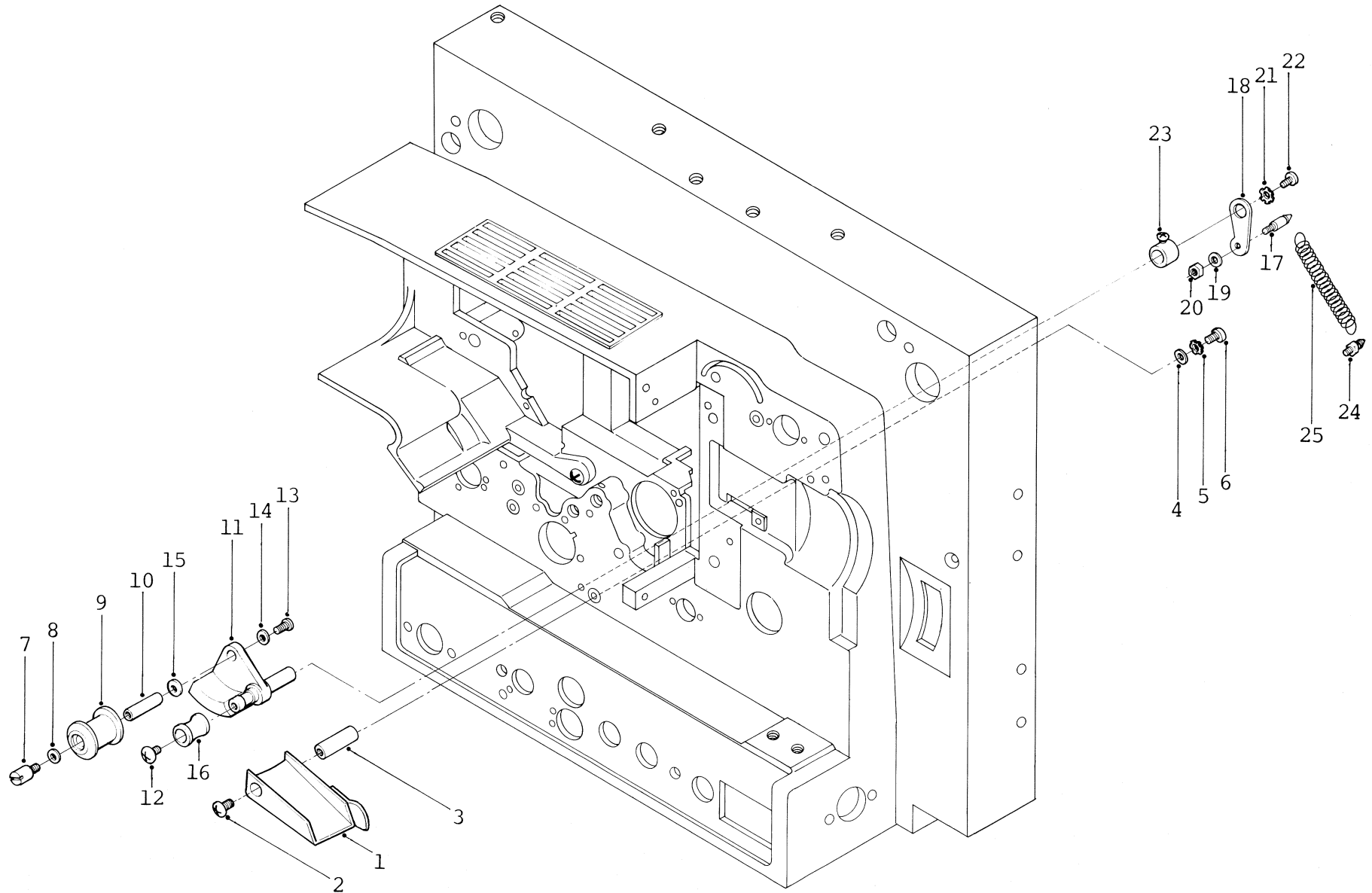
17-0 FILM GUIDE



17-0 FILM GUIDE

INDEX NO	PART NO	DESCRIPTION	QTY.
1	312-17101	#1 Film Guide Assy.	1
*	*X T-4010S	Screw	1
*	*N B-40S	Nut	1
2	S T-17021	Spring	1
3	X P-3510	Screw	1
4	W C-35	Washer	1
5	W A-35	Washer	1
6	S T-17011	Shaft	1
7	314-17011	Plate	1
8	314-17021	Plate	1
9	314-17031	Screw	1
10	314-17051	Spring	1
11	314-17801	#2 Film Guide Assy.	1
12	312-17901	Cam Bracket Assy.	1
*	*312-17381	Screw (for above)	1
*	222-17971	Interlocking Bracket Assy.	1
13	*222-17091	Bracket	1
14	*222-17081	Interlocking Hook	1
15	*X P-3005S	Screw	2
16	*W C-30	Washer	2
17	312-17391	Pin	1
18	W C-40	Washer	1
19	N B-40S	Nut	1
20	S T-17111	Spring	1
21	312-17081	Screw	2
22	X P-3508	Screw	1

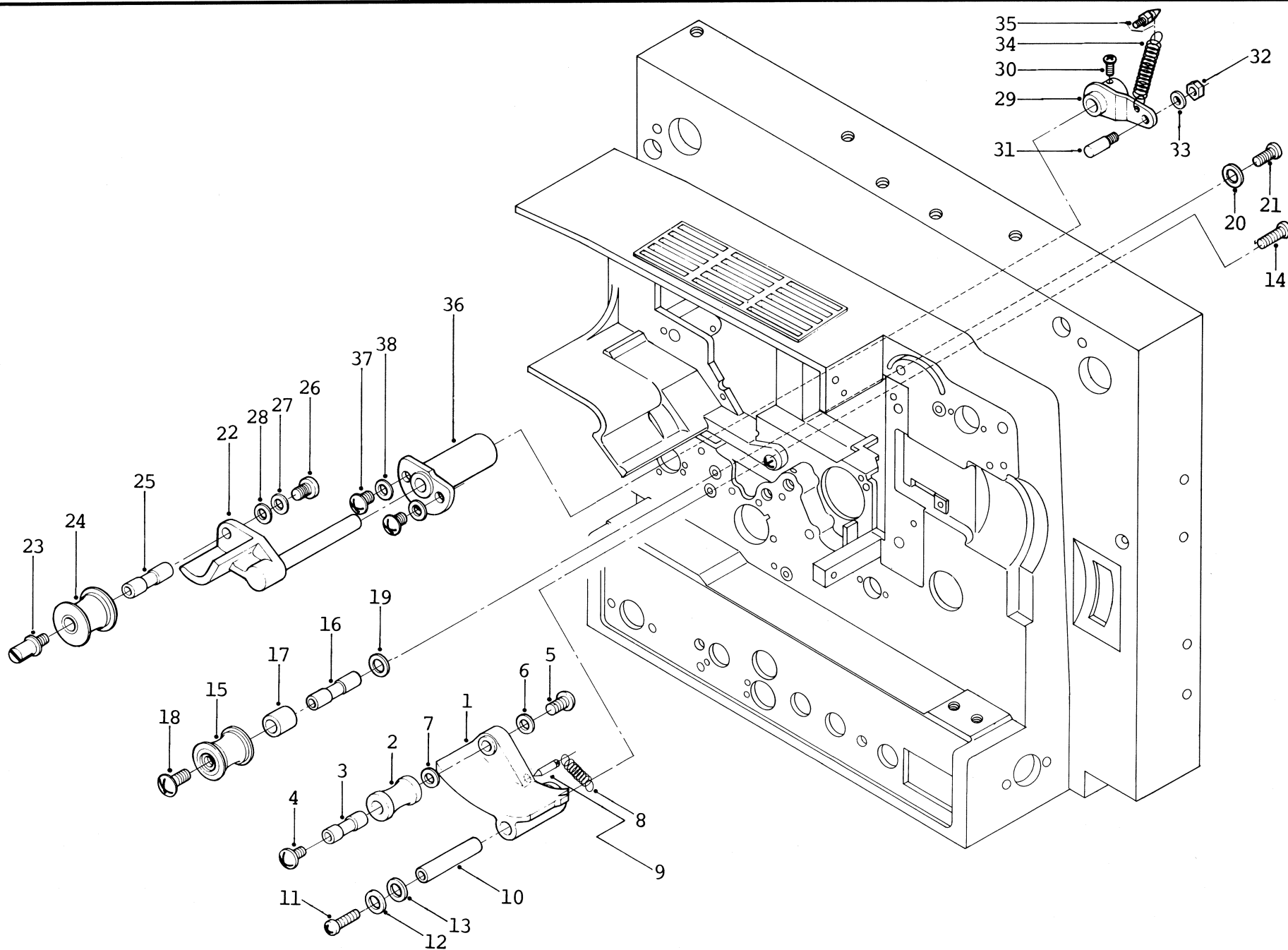
17-1 FILM GUIDE



17-1 FILM GUIDE

INDEX NO	PART NO	DESCRIPTION	QTY.
1	312-17121	#3 Film Guide	1
2	X T-3505	Screw	1
3	S T-17131	Pin	1
4	WA-35	Washer	1
5	W E-35	Washer	1
6	X P-3510	Screw	1
*	312-17401	Rubber Guide Roller & Bracket Assy.	1
7	*S T-17141	Slotted Pin	1
8	*WA-30	Washer	1
9	*321-17411	Roller	1
10	*S T-17161	Pin	1
11	*312-17991	Bracket Assy.	1
12	*X T-3505	Screw	1
13	*X P-3510	Screw	1
14	*W C-35	Washer	1
15	*WA-35	Washer	1
16	*S T-17191	Guide Roller	1
*	312-17911	Rubber Guide Roller Tension Bracket Assy.	1
17	*312-17361	Pin only	1
18	*S T-17351	Arm only	1
19	*W C-30	Washer	1
20	*N A-30S	Nut	1
21	W E-40	Washer	1
22	X T-4008S	Screw	1
23	312-17891	Set Collar	1
*	X P-3505	Screw	1
24	312-10171	Screw	1
25	S T-17371	Spring	1

17-2 FILM GUIDE

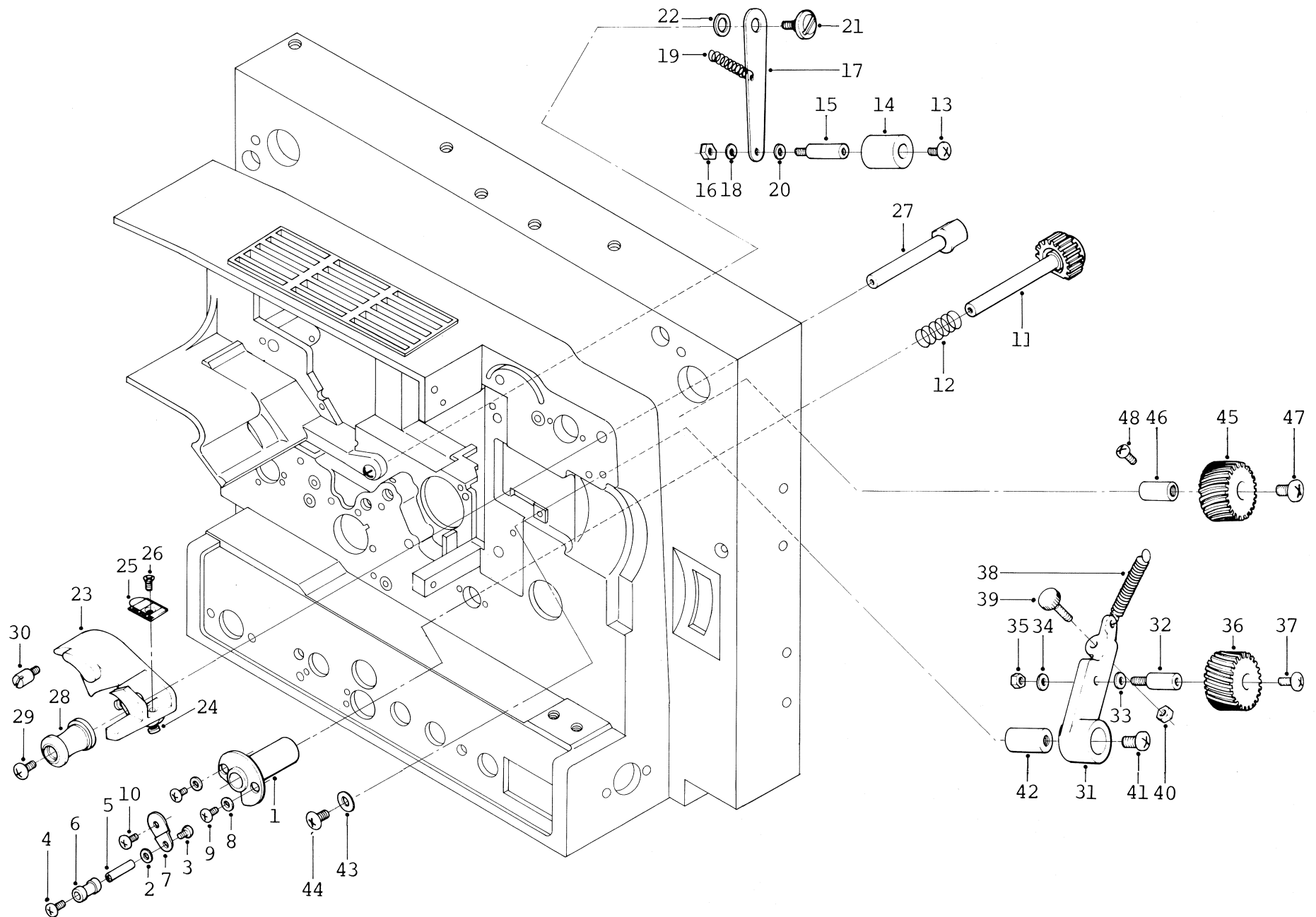


17-2 FILM GUIDE

INDEX NO	PART NO	DESCRIPTION	QTY.	INDEX NO	PART NO	DESCRIPTION	QTY.
*	222-17503	Tension Guide & Roller Assy.	1	35	312-10161	Spring Anchor Screw	1
1	*222-17212	Tension Guide Bracket	1	36	224-17061	Last Roller Bracket	1
2	*S T-17191	Guide Roller	1	37	X T-3008S	Screw	2
3	*222-17071	Shaft	1	38	WA-30	Washer	1
4	*X T-3505	Screw	1				
5	*X P-3510	Screw	1				
6	*W E-35	Washer	1				
7	*WA-35	Washer	2				
8	*314-17051	Spring	1				
9	*224-10181	Pin	1				
10	S T-17221	Pin	1				
11	X P-3512	Screw	1				
12	W E-35	Washer	1				
13	WA-35	Washer	1				
14	X T-3505	Screw	1				
*	*S T-17701	Guide Roller Assy.	1				
15	*S T-17311	Guide Roller	1				
16	*S T-17331	Roller Shaft	1				
17	*S T-17321	Spacer	1				
18	*X T-3505	Screw	1				
19	*WA-35	Washer	1				
20	*W E-35	Screw	1				
21	*X P-3510	Screw	1				
*	222-17101	Last Roller Assy.	1				
22	*222-17301	Last Roller Arm	1				
23	*S T-17141	Roller Knob	1				
24	*S T-17231	Tension Roller	1				
25	*S T-17161	Shaft	1				
26	*X P-3510	Screw	1				
27	*W E-35	Washer	1				
28	*WA-35	Washer	1				
29	222-17401	Plate Spring Assy.	1				
30	*X P-3005S	Screw (for above)	1				
31	*S T-17431	Pin	1				
32	*N A-35	Nut	1				
33	*W C-35	Washer	1				
34	*222-17051	Spring	1				

18-0 LOOP RESTORER (1-22)

19-0 REWIND CONTROL (23-48)



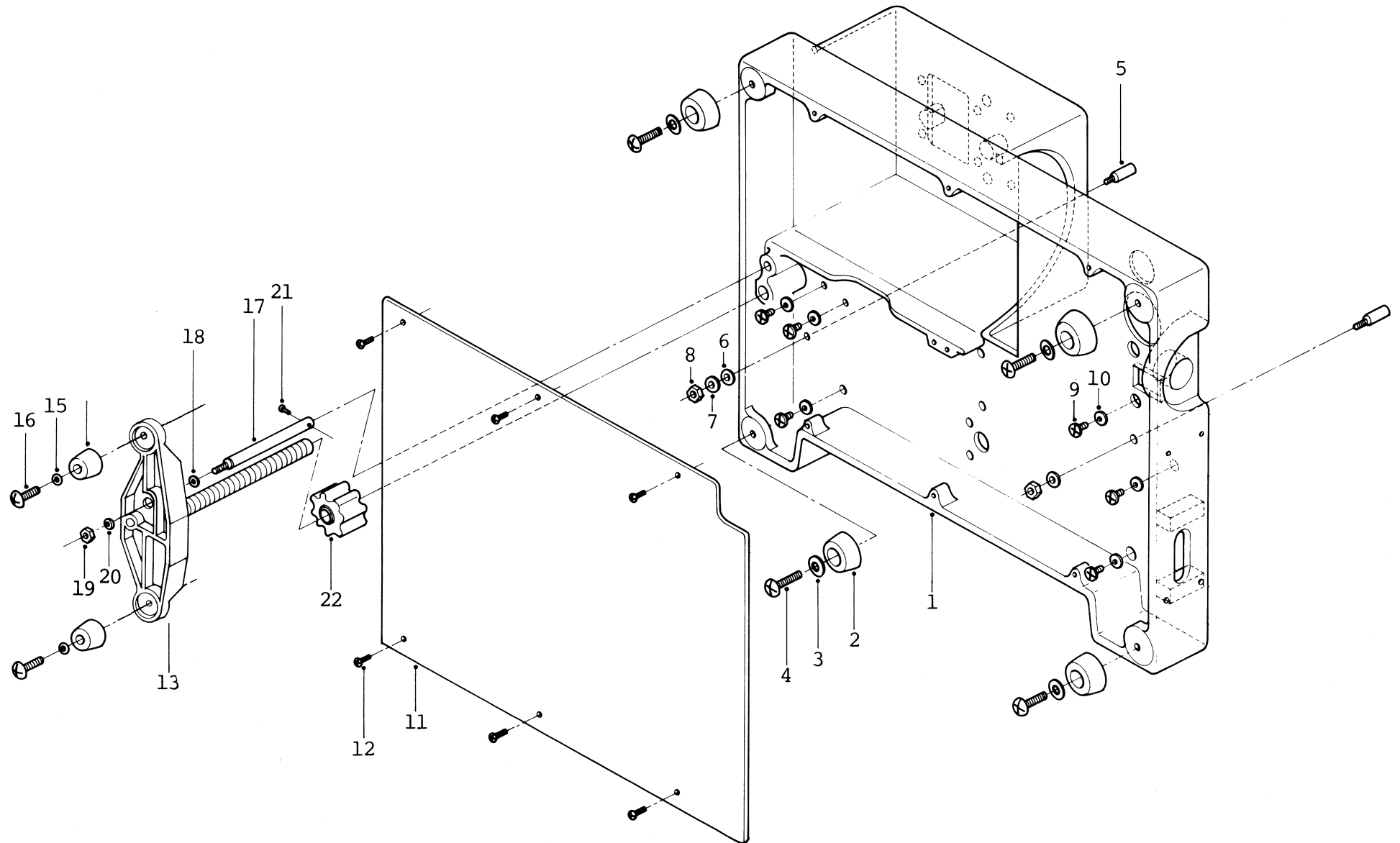
18-0 LOOP RESTORER

INDEX NO	PART NO	DESCRIPTION	QTY.
1	313-18081	Hub only	1
2	WA-30	Washer	1
3	X T-3008S	Screw	1
4	X T-3005S	Screw	1
5	312-18011	Pin	1
6	S T-18021	Sensing Roller	1
7	312-18031	Bracket	1
8	WA-30	Washer	2
9	X T-3008S	Screw	2
10	X T-3505	Screw	1
11	312-18401	Gear & Shaft Assy.	1
12	S T-18061	Spring	1
*	312-18101	Safety Arm Assy.	1
13	*X T-3505	Screw	1
14	*S T-18091	Roller	1
15	*312-18111	Pin	1
16	*N B-40S	Nut	1
17	*S T-18121	Arm	1
18	*WC-40	Washer	1
19	*S T-18141	Tension Spring	1
20	*WA-40	Washer	1
21	312-11071	Screw	1
22	S T-20041	Washer	1
*	312-19401	Rewind Control Lever Assy.	1
23	*312-19231	Rewind Control	1
24	*X P-3506	Screw	2
25	*312-19241	Film Channel Plate	1
26	*X F-2305	Screw	1
27	*312-19031	Shaft	1
28	*S T-19011	Guide Roller	1
29	*X T-3505	Screw	1
30	S T-19141	Stop Pin	1
*	313-19101	Rewind Bracket Assy.	1
31	*313-19121	Bracket	1
32	*312-19091	Pin	1

19-0 REWIND CONTROL

INDEX NO	PART NO	DESCRIPTION	QTY.
33	*WA-40	Washer	1
34	*WC-40	Washer	1
35	*N A-40S	Nut	1
36	*312-19161	Lower Gear	1
37	*X T-3505	Screw	1
38	*312-19251	Tension Spring	1
39	*312-19111	Cap Screw	1
40	*N B-40S	Nut	1
41	X T-4005S	Screw	1
42	312-19131	Pin	1
43	WA-40	Washer	1
44	X O-4010S	Screw	1
45	312-19171	Upper Gear	1
46	312-19261	Shaft	1
47	X T-3505	Screw	1
48	X P-3508	Screw	1

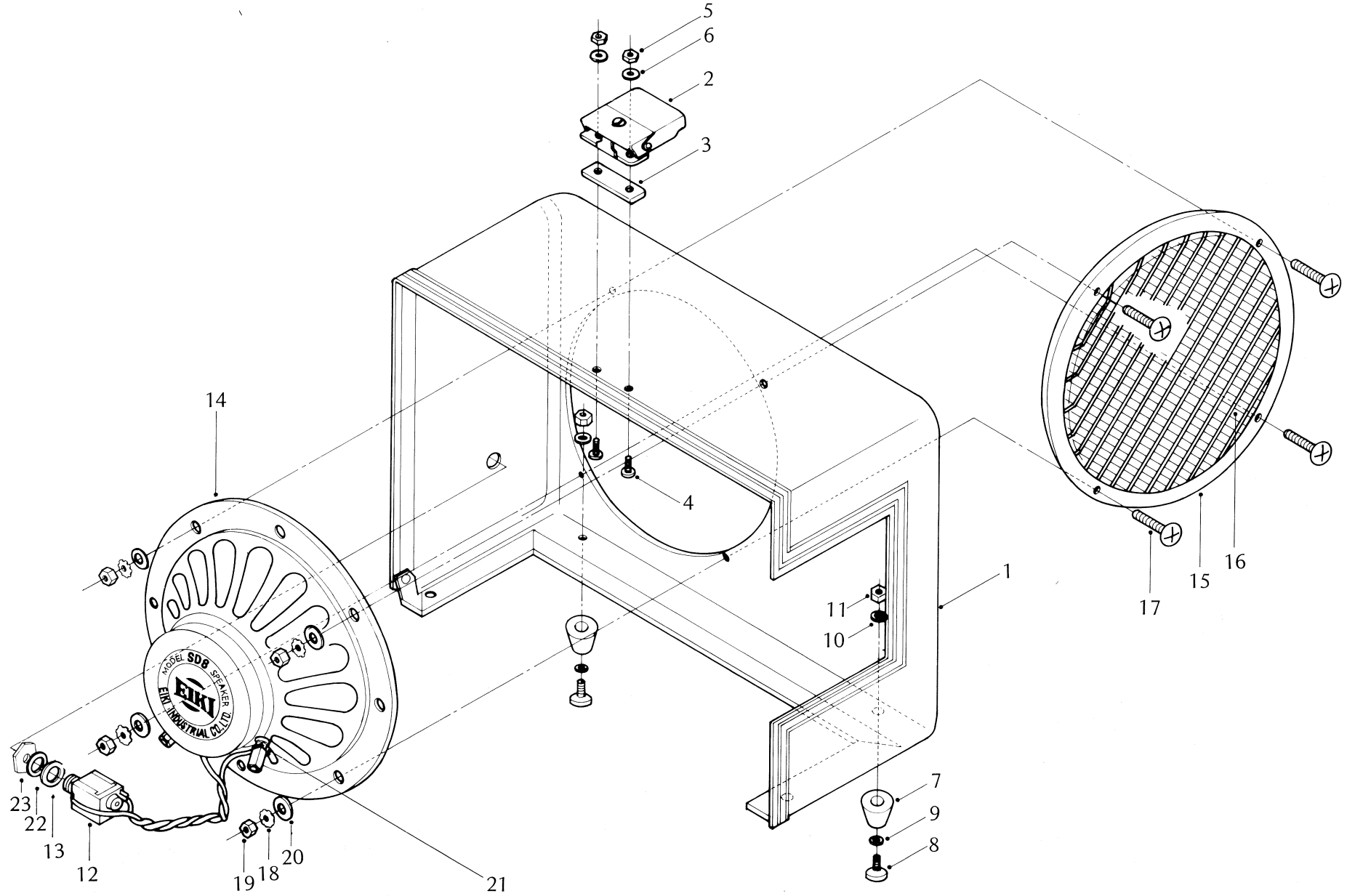
20-0 BASE CASTING&ELEVATOR FOOT



20-0 BASE CASTING & ELEVATOR FOOT

INDEX NO	PART NO	DESCRIPTION	QTY.
1	225-20011	Base	1
2	222-20041	Rubber Foot	4
3	222-20051	Washer	4
4	X T-4015S	Screw	4
5	312-20031	Guide Pin	2
6	S T-20041	Washer	2
7	W C-40	Washer	2
8	N A-40S	Nut	2
9	X T-4010S	Screw	6
10	W C-40	Washer	6
11	224-20031	Plate	1
12	X T-3506	Screw	6
*	W C-35	Washer	6
*	224-20301	Elevator Foot Assy.	1
13	*224-20401	Elevator Foot	1
14	*321-20141	Rubber Foot	2
15	*W A-35	Washer	2
16	*X P-3510	Screw	2
17	*312-20141	Elevator Guide Shaft	1
18	*W A-40	Washer	1
19	*N A-40S	Nut	1
20	*W C-40	Washer	1
21	*X P-3006S	Screw	1
22	312-20061	Elevator Knob	1

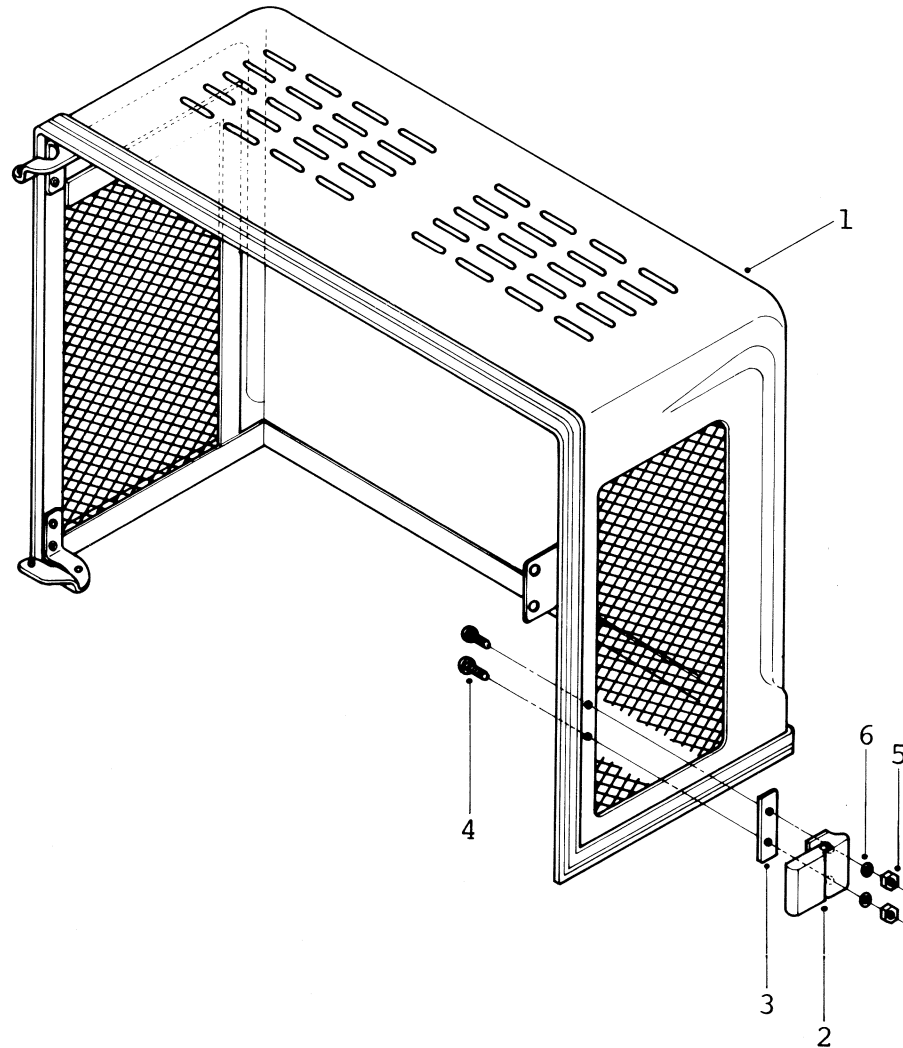
21-0 FRONT COVER



21-0 FRONT COVER

INDEX NO	PART NO	DESCRIPTION	QTY.
*	224-21201	Front Cover Assy.	1
1	224-21031	Front Cover	1
2	S T-10031	Latch (Male)	1
3	312-21021	Latch Fitting Plate	1
4	X T-3010S	Screw	2
5	N A-30S	Nut	2
6	WA-30	Washer	2
7	S T-21041	Rubber Foot	2
8	X P-3012S	Screw	2
9	WA-30	Washer	2
10	WC-30	Washer	2
11	N A-30S	Nut	2
12	S T-21051	Speaker Jack	1
13	G I-090150	Speaker Jack Fibre	2
14	312-21701	8" Speaker	1
15	S T-21111	8" Support Ring	1
16	S T-21121	Grill Cloth	1
17	X O-4025S	Screw	4
18	WE-40	Washer	4
19	N A-40S	Nut	4
20	WA-40	Washer	4
21	S T-21131	Lug E4	2
22	S T-21211	Speaker Jack Washer	1
23	S T-21221	Speaker Jack Nut	1

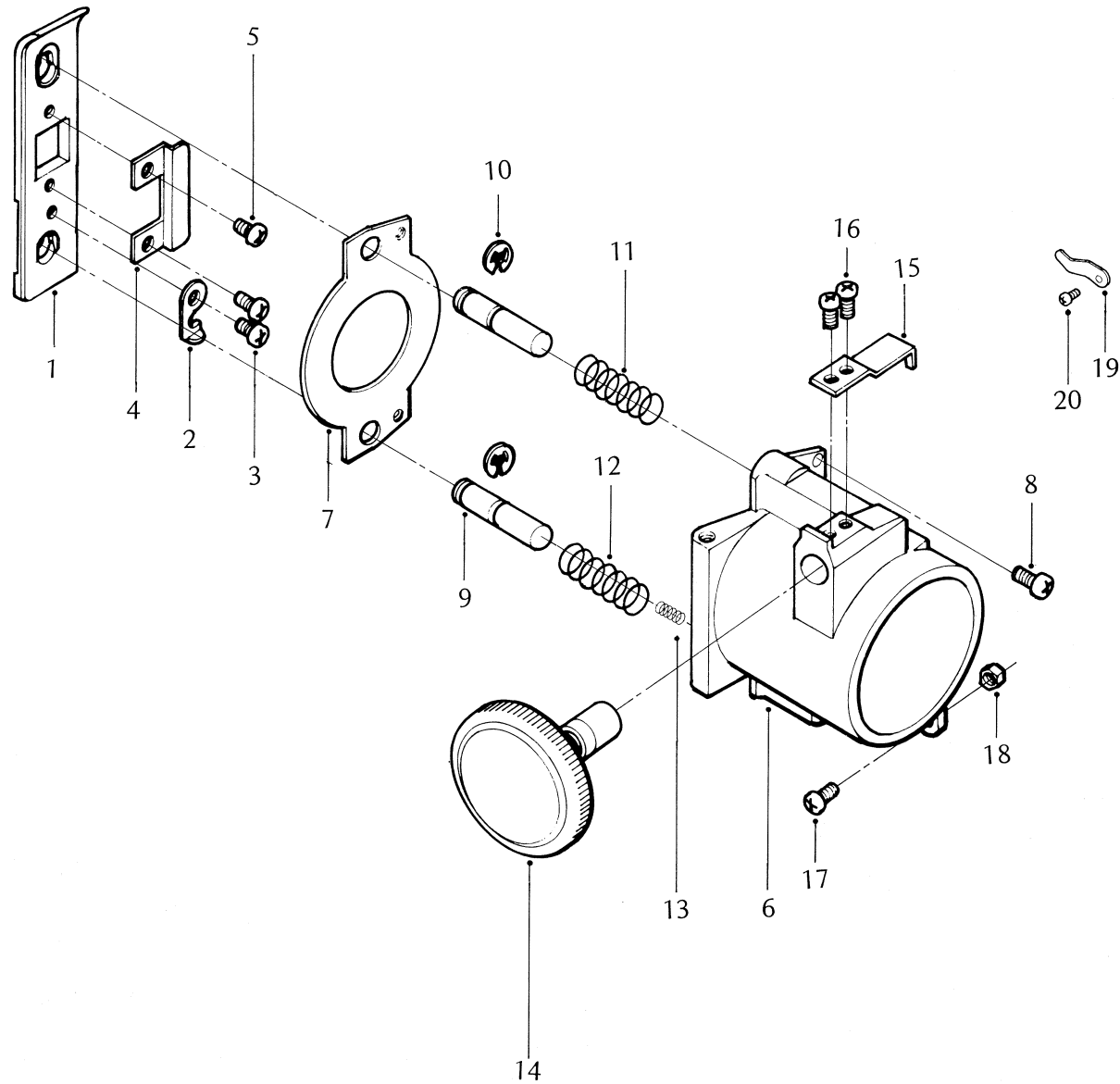
22-0 REAR COVER



22-0 REAR COVER

INDEX NO	PART NO	DESCRIPTION	QTY.
1	224-22201	Rear Cover Assy.	1
2	S T-10031	Latch (Male)	1
3	312-21021	Latch Fitting Plate	1
4	X T-3010S	Screw	2
5	N A-30S	Nut	2
6	W C-30	Washer	1

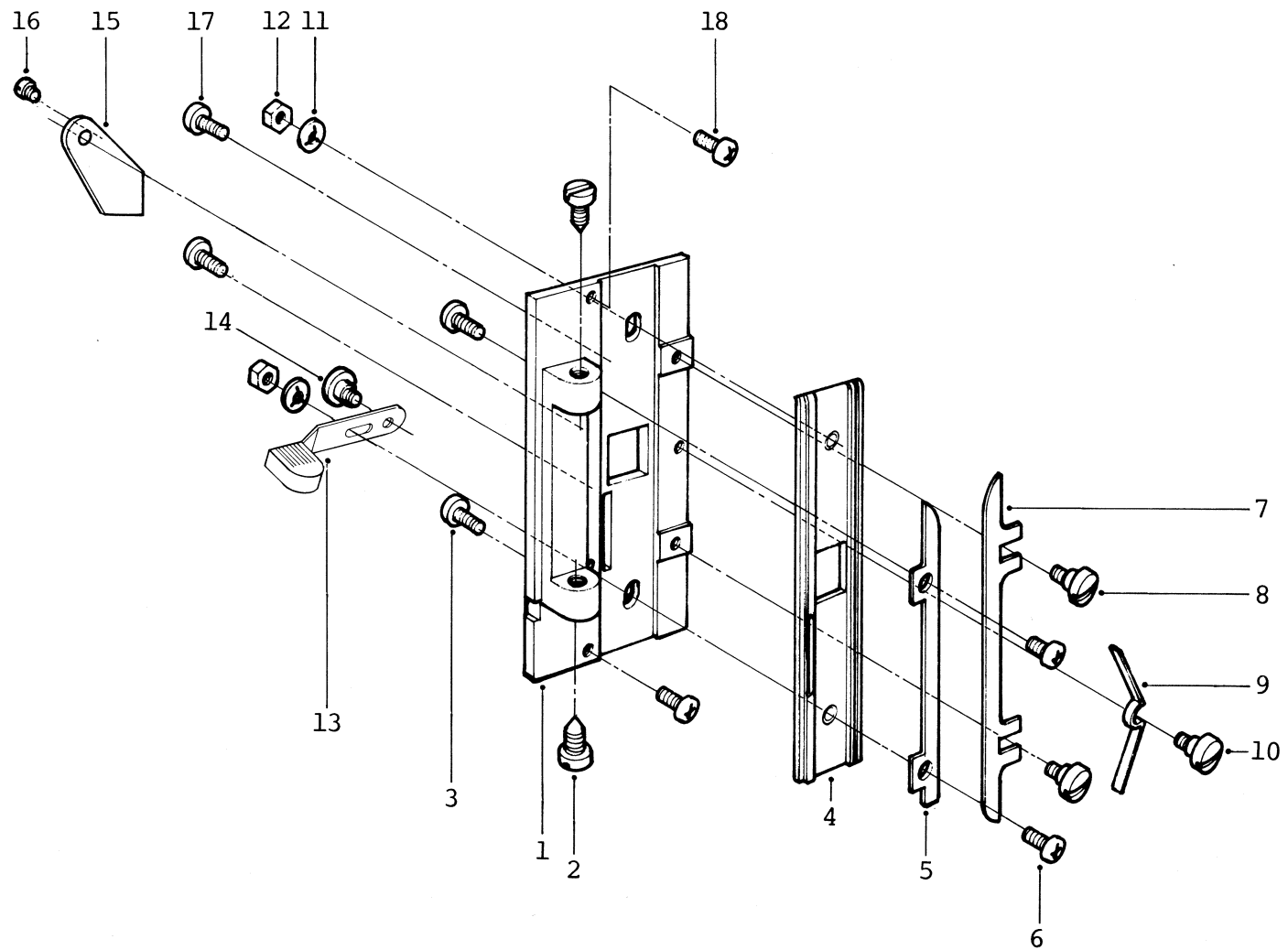
30-0 LENS HOLDER



30-0 LENS HOLDER

INDEX NO	PART NO	DESCRIPTION	QTY.
*	314-30001	Lens Holder Assy. (Includes Items 1 thru 17)	1
*	314-30101	Film Shoe Assy. (Includes Items 1 thru 5)	1
1	314-30031	Film Shoe only	1
2	S T-30011	Shoe Lock	1
3	S T-30021	Screw (for above)	1
4	314-30411	Plate	1
5	X P-2303	Screw (for above)	2
*	314-30201	Lens Holder Assy. (Includes Items 6 thru 17)	1
6	313-30501	Lens Holder only	1
7	312-30041	Retaining Plate	1
8	X T-2306	Screw (for above)	2
9	314-30051	Shoe Pin	2
10	E R-30	"E" Ring	2
11	S T-30061	Upper Spring	1
12	S T-30071	Lower Spring	1
13	314-30421	Lens Holder Spring	1
14	314-30401	Focus Knob Assy.	1
15	312-30211	Snap Spring	1
16	X P-2305	Screw (for above)	2
17	X P-3508	Screw	1
18	N A-35	Nut	1
19	314-30131	Snap Spring	1
20	X P-3005S	Screw	1

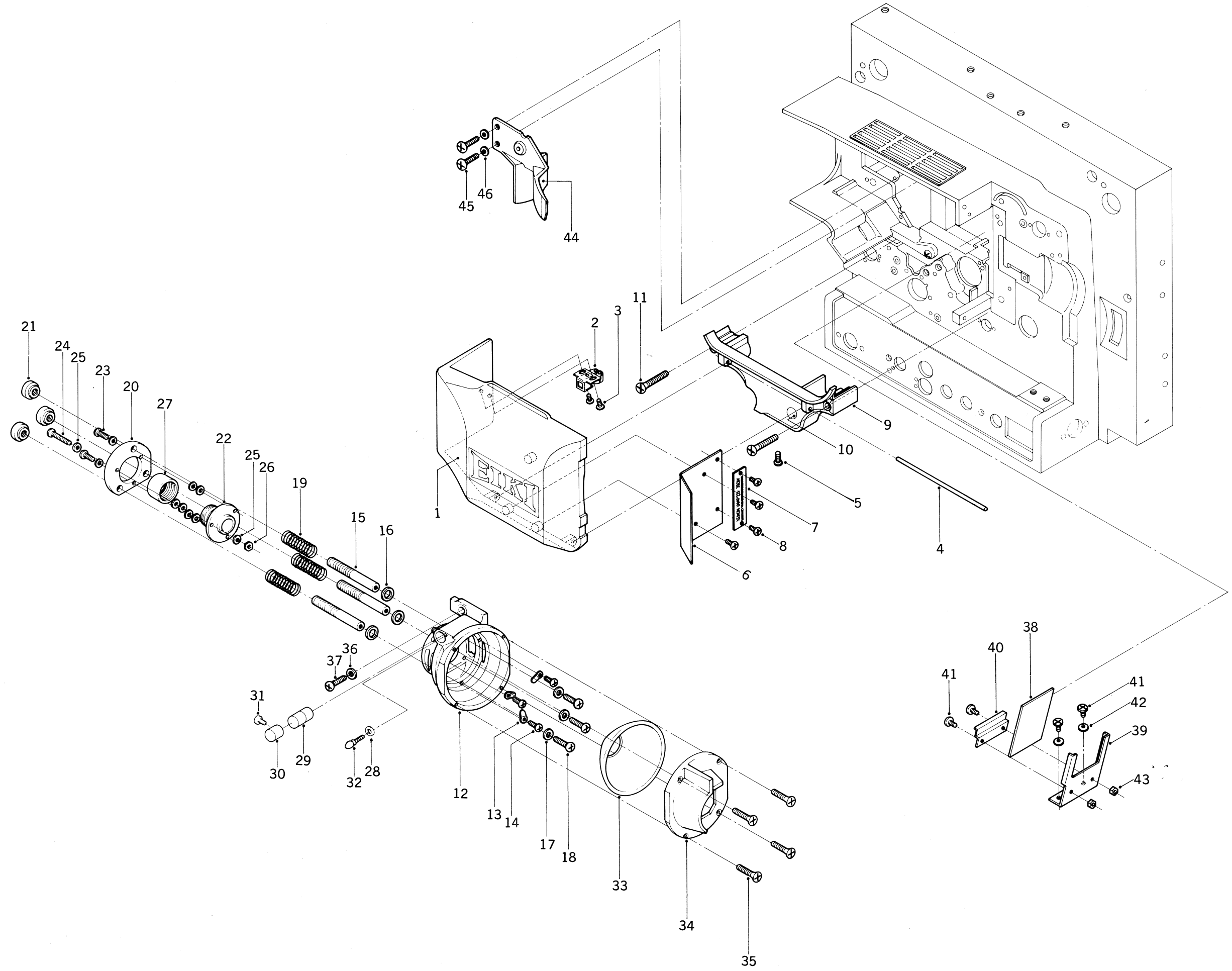
31-0 GATE



31-0 GATE

INDEX NO	PART NO	DESCRIPTION	QTY.
*	224-31001	Film Gate Assy. (Includes Items 1 thru 17)	1
1	224-31091	Gate Plate	1
2	312-31081	Screw	2
3	X P-2305	Screw	2
4	312-31101	Film Gate	1
5	S T-31071	Outer Guide Rail	1
6	X T-3006S	Screw (for above)	2
7	314-31111	Inner Guide Rail	1
8	312-31061	Screw (for above)	2
9	S T-31121	Side Pressure Spring	1
10	S T-31131	Screw (for above)	1
11	312-31051	Spring	2
12	N B-30S	Nut	2
13	314-31201	Framing Lever	1
14	S T-30021	Screw (for above)	1
15	222-31101	Shutter Plate Assy.	1
16	S T-30021	Screw (for above)	2
17	X P-2303	Screw	2
	MOUNTING HARDWARE		
18	X P-3008S	Screw	2

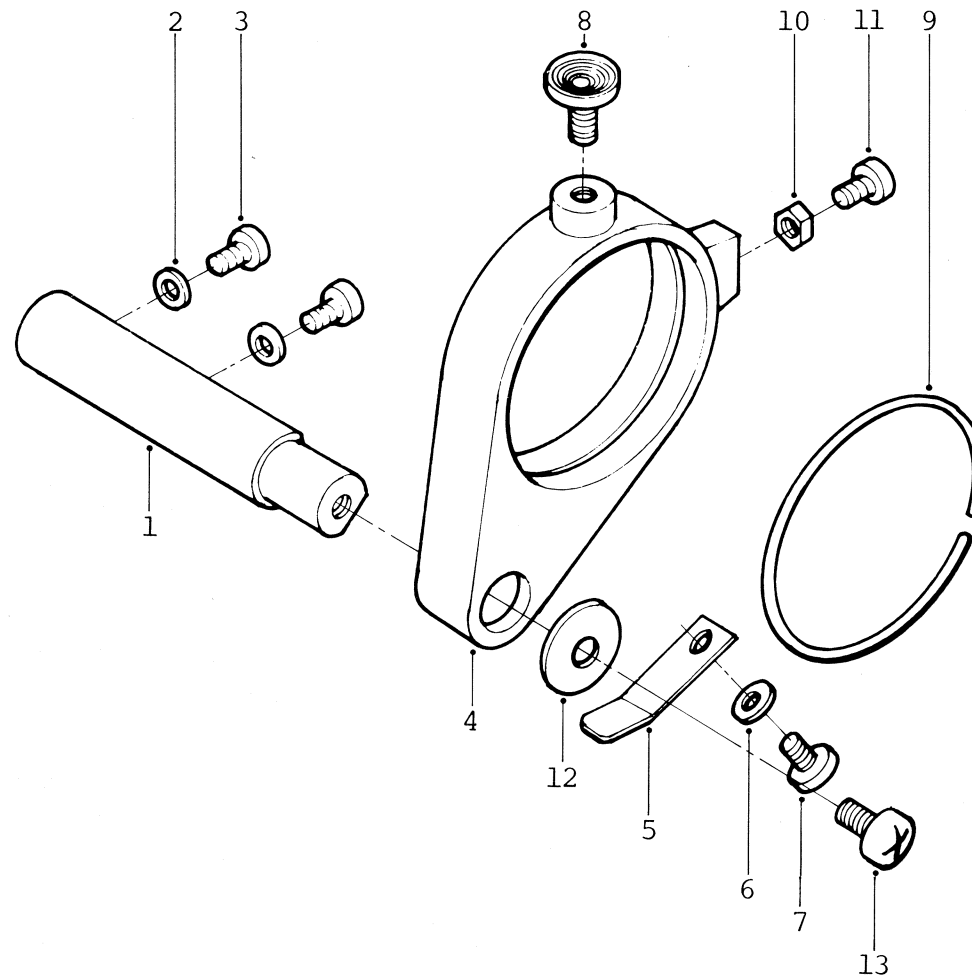
32-0 LAMP HOUSE & MIRROR



32-0 LAMP HOUSE & MIRROR

INDEX NO	PART NO	DESCRIPTION	QTY.	INDEX NO	PART NO	DESCRIPTION	QTY.
1	224-32101	Lamp House Cover	1	35	X O-3016S	Screw	4
2	S T-32061	Female Latch	1	36	W C-50	Washer	2
3	X T-2304	Screw	2	37	X P-5016S	Screw	2
4	312-32271	Cover Fulcrum Shaft	1	38	222-32131	Hot Mirror	1
5	X P-2306	Screw	1	39	222-32051	Hot Mirror Bracket	1
6	222-32231	Lamp House Anti-heat Plate	1	40	222-32061	Hot Mirror Support	1
7	222-32261	Name Plate "22V 350W"	1	41	X T-3005S	Screw	4
8	X P-2304	Screw	4	42	W C-30	Washer	4
*	224-32201	Lamp House Film Guide Assy.	1	43	N A-30S	Nut	2
9	*224-32111	Lamp House Film Guide	1	44	224-32071	Guide	1
10	*312-32431	Plastic Lens	1	45	X P-3506	Screw	2
11	X O-4035S	Screw	2	46	W C-35	Washer	2
12	224-32021	Mirror Case	1				
13	222-32141	Mirror Holding Spring	3				
14	X P-3005S	Screw	3				
15	222-32221	Lamp Adjusting Screw	3				
16	W A-35	Washer	3				
17	W C-35	Washer	3				
18	X P-3508	Screw	3				
19	222-32151	Lamp Adjusting Spring	3				
20	222-32041	Lamp Holding Plate	1				
21	222-32191	Lamp Adjusting Knob	3				
22	222-32341	Lamp Socket	1				
23	X P-3010S	Screw	2				
24	X P-3015S	Screw	1				
25	W C-30	Washer	4				
26	N A-30S	Nut	1				
27	222-32161	Lamp Socket Cap	1				
28	W A-30	Washer	1				
29	222-32171	Magnet	2				
30	222-32121	Magnet Bracket	1				
31	X P-3006S	Screw	1				
32	222-32081	Hook	1				
33	222-32181	Mirror	1				
34	224-32011	Mirror Case Cover	1				

33-0 ANAMORPHIC LENS HOLDER

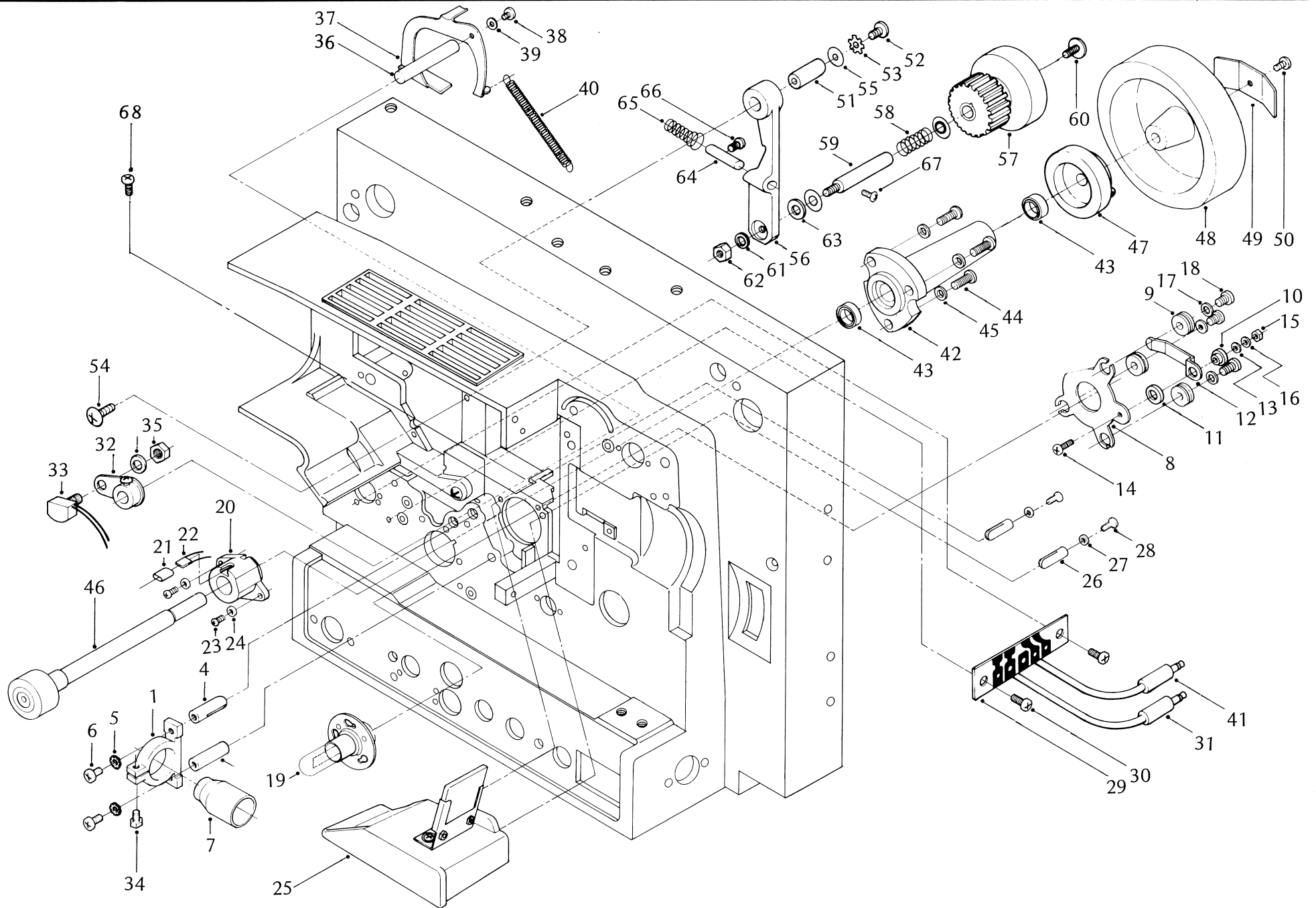


33-0 ANAMORPHIC LENS HOLDER

INDEX NO	PART NO	DESCRIPTION	QTY.
*	313-33001	Anamorphic Lens Holder Assy.#5427 (Includes Items 1 thru 13)	1
1	312-33011	Reception Bracket Guide Bar	1
2	W C-40	Washer	2
3	X T-4008S	Screw	2
*	313-33101	Anamorphic Lens Holder Sub-Assy. (Includes Items 4 thru 13)	1
4	313-33041	Anamorphic Lens Holder only	1
5	S T-33021	Snap Spring	1
6	W C-30	Washer	1
7	S T-11391	Screw	1
8	312-33051	Adjusting Screw	1
9	S T-33061	Retaining Ring	1
10	N B-30S	Nut	1
11	X P-3010S	Screw	1
12	S T-20041	Washer	1
13	X T-4008S	Screw	1

40-0 SOUND PICK-UP

41-0 SOUND DRUM

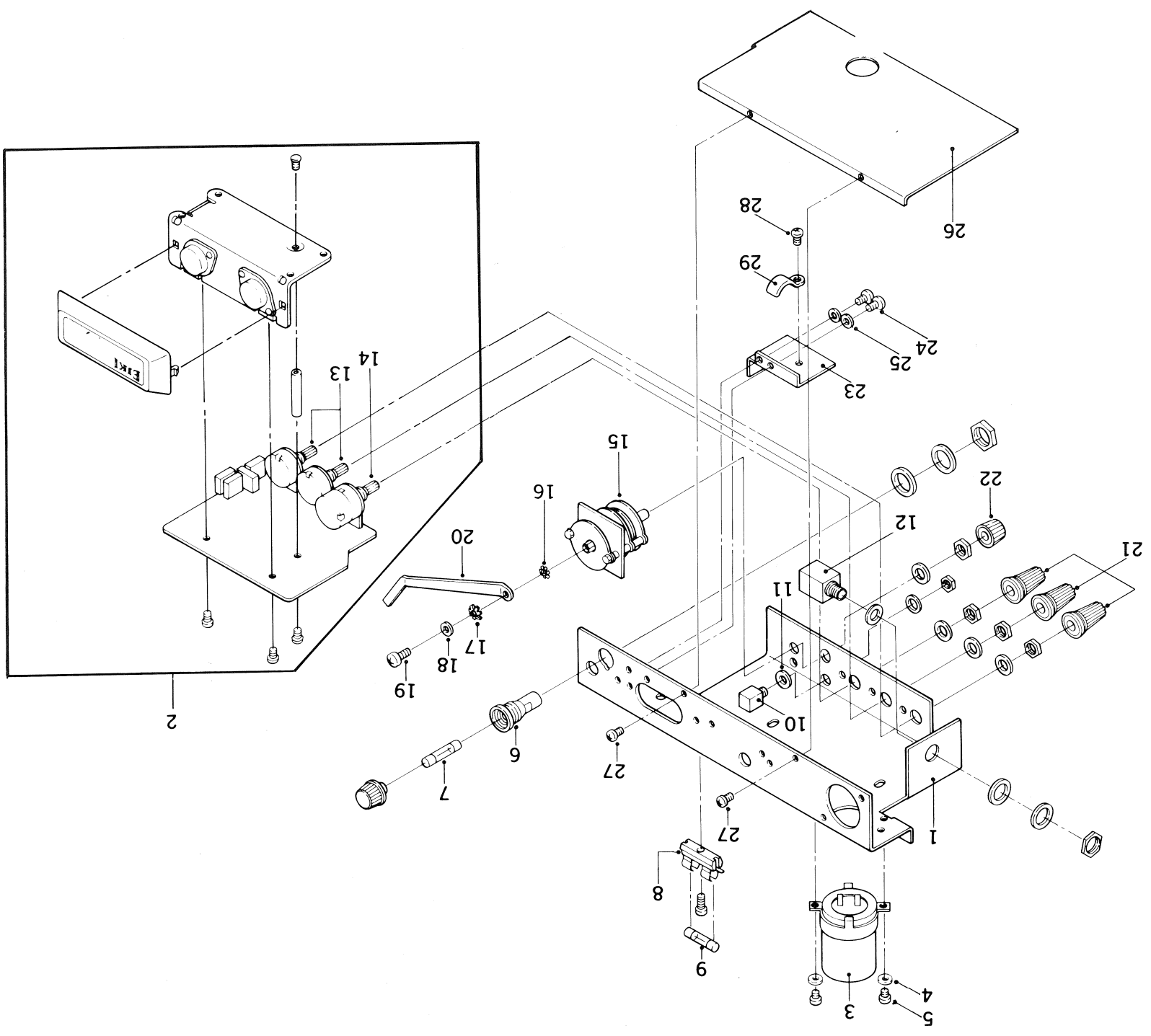


40-0 SOUND PICK-UP (1-41)

INDEX NO	PART NO	DESCRIPTION	QTY.
*	313-40101	Sound Lens Holder Assy.	1
1	*313-40011	Sound Lens Holder only	1
2	*S T-40311	Screw	1
3	*312-40021	Pin	1
4	*312-40031	Pin	1
5	*W E-30	Washer	2
6	*X P-3008S	Screw	2
7	S T-40201	Sound Lens Assy.	1
*	312-40601	Exciter Lamp Socket Assy.	1
8	*312-40401	Exciter Lamp Socket only	1
9	*S T-40141	Rubber Grommet	3
10	*S T-40151	Insulating Washer (Male)	1
11	*S T-40161	Insulating Washer (Female)	1
12	*S T-40171	Lug	1
13	*W A-30	Washer	1
14	*X T-3012S	Screw	1
15	*N A-30S	Nut	1
16	*W C-30	Washer	1
17	W A-30	Washer	1
18	X T-3010S	Screw	1
19	S T-40111	Exciter Lamp 4V 0.75A (BRK)#5104	1
*	312-40801	Solar Cell Case Assy.	1
20	*S T-41021	Solar Cell Case	1
21	*S T-40491	Solar Cell Support	1
22	*S T-40181	Solar Cell	1
23	X P-2306	Screw	2
24	W C-23	Washer	2
25	222-40011	Exciter Lamp Cover	1
26	312-40031	Pin	2
27	W A-30	Washer	2
28	X O-3008S	Screw	2
29	S T-40261	Terminal Board	1
30	X P-3006S	Screw	2
31	S T-22051	OPT Input Plug	1
*	312-40701	Magnetic Head Assy. (-2 type)	1
32	*312-40501	Magnetic Head Mounting Bracket Assy.	1

41-0 SOUND DRUM (42-66)

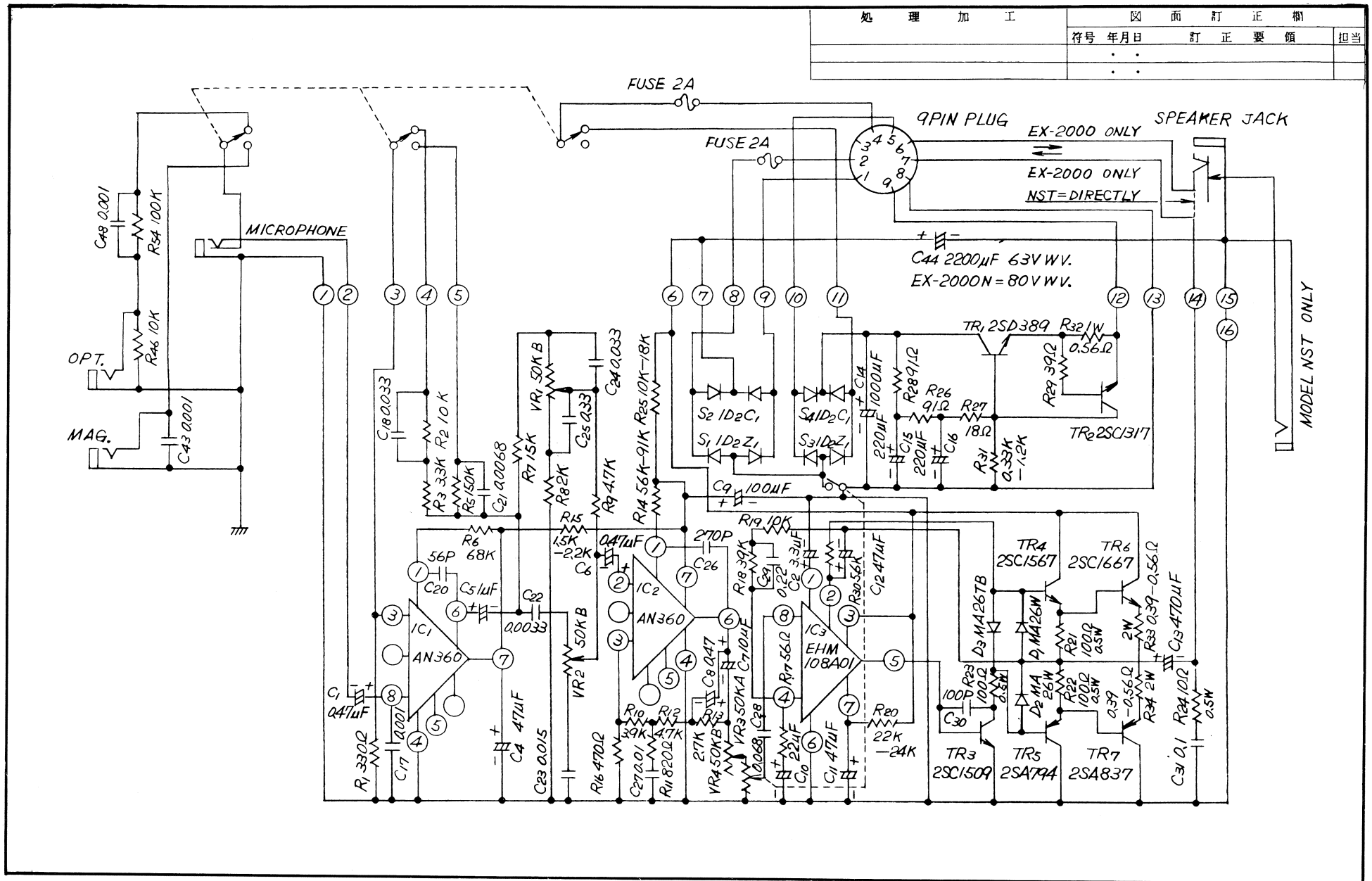
INDEX NO	PART NO	DESCRIPTION	QTY.
33	*312-40191	Magnetic Head only	1
34	*W C-30	Washer	1
35	*N B-30S	Nut	1
*	312-40201	MAG-OPT Change Lever Bracket	1
36	*S T-40232	Lever Shaft	1
37	*S T-40241	Lever Bracket only	1
38	*X T-3505	Screw	1
39	*W E-35	Washer	1
40	S T-40251	Spring	1
41	S T-40281	MAG Input Plug	1
*	312-41401	Hub Casting Assy. with Bearing	1
42	*313-41031	Hub Casting only	1
43	*O B-608Z	Ball Bearing	2
44	X P-3510	Screw	3
45	W C-35	Washer	3
46	312-41011	Sound Drum	1
47	312-41301	Set Collar Assy. with Screw	1
48	312-41051	Flywheel	1
49	S T-41061	Plate Spring	1
50	X T-4008S	Screw	1
51	312-41151	Fulcrum Pin	1
52	X T-4012S	Screw	1
53	W E-40	Washer	1
54	X T-4005S	Screw	1
*	W A-40	Washer	1
55	224-41101	Reverse Rubber Roller & Bracket	1
56	*224-41131	Reverse Bracket only	1
57	*312-41201	Reverse Rubber Roller Assy.	1
58	*S T-41111	Spring	1
59	*312-41122	Shaft	1
60	*X T-3505	Screw	1
61	*W E-40	Washer	1
	*N A-40S	Nut	1
63	*W A-40	Washer	1
64	S T-41161	Pin	1
65	S T-30061	Spring	1
66	X P-3006S	Screw	1
67	222-41111	Stopper Pin	1
68	X P-4006S	Screw	1



50-0 AMPLIFIER

INDEX NO	PART NO	DESCRIPTION	QTY.	INDEX NO	PART NO	DESCRIPTION	QTY.
*	224-50501	Amplifier module -0, -1 type	1 only	23	312-50121	Shield Plate	1
*	224-50701	Amplifier module -2 type	1 only	24	X P-3005S	Screw	2
				25	WC-30	Washer	2
1	222-50111	Amplifier Chassis Only	1	*	S T-50131	OPT Input Jack	1
2	224-51101	Printed Circuit Board Assy.	1 only	*	S T-50151	MAG Input Jack	1
3	C E-800228	Capacitor 80V 2200 MFD	1	26	222-50121	Shield Plate	1
4	WA-30	Lock Washer	2	*	222-50131	Insulating Paper	1
5	X P-3005S	Screw	2	27	X T-2306S	Screw	2
6	S T-50061	Fuse Holder (includes Nut, Metal & Ceramic Washer)	1	28	X P-3006S	Screw	1
7	FO2-6030	Fuse 2AMP ϕ 6 x 30	1 only	29	S T-60361	Cord Clip	1
8	312-50561	Fuse Holder	1	*	312-50741	Miniature Fuse Holder (European type only)	1
9	FO2-5020	Fuse 2AMP ϕ 5 x 20	1 only				
*	312-50581	Plate "Fuse 2AT"	2				
10	312-50641	Phono Jack ϕ 3.5 (includes Metal washer & Nut)	1				
11	312-50211	Insulating Bushing ϕ 3.5	3				
*	G 2-060120	Fibre Washer	3				
12	S T-50321	Aux. Output Jack (includes Metal Washer & Nut)	1				
*	312-50221	Insulating Bushing ϕ 6	1				
*	G 2-090150	Fibre Washer	1				
13	312-52061	Volume 50K Ohm B	2				
14	312-52041	Volume 50K Ohm A	1				
15	S T-50241	OPT-MAG Selection Switch 262	1				
16	WD-30	Washer	1				
17	WE-30	Washer	1				
18	WC-30	Washer	1				
19	X P-3008S	Screw	1				
20	S T-50251	OPT-MAG Change Lever	1				
21	321-50281	Control Knob	3				
22	S T-50291	OPT-MAG Selection Knob	1				
*	S T-50111	MT 9 pin Plug	1				

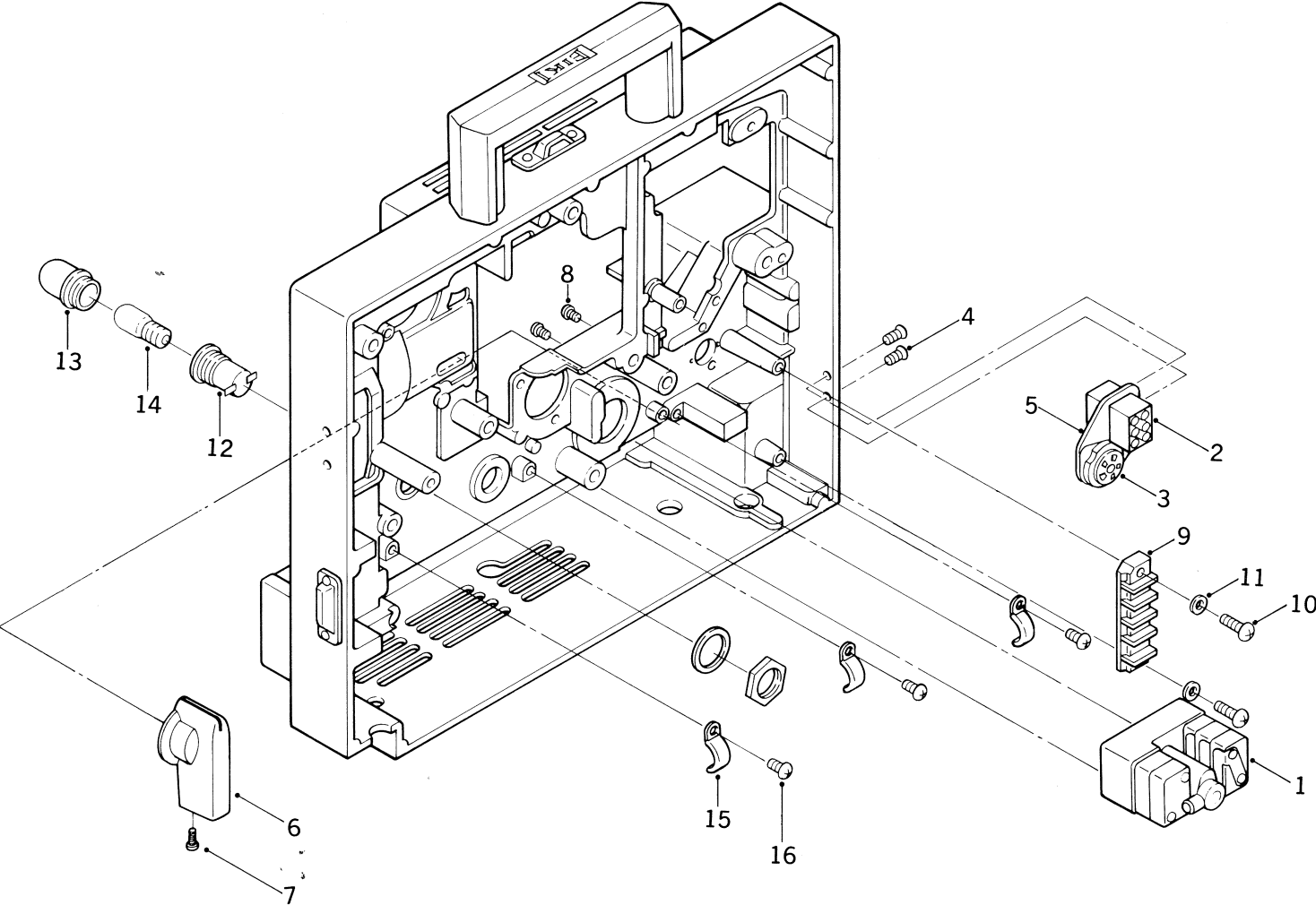
50-1 AMPLIFIER P.C. BOARD (EIKIAMPLIFIER) AMPLIFIER CIRCUIT DIAGRAM (EX-3000N)



50-1 AMPLIFIER P.C. BOARD

INDEX NO	PART NO	DESCRIPTION	QTY.	INDEX NO	PART NO	DESCRIPTION	QTY.
I C-1	312-52521	IC AN360		R-1	R A-R25331	Resistor 1/4W 330 Ohm	
I C-2	312-52521	IC AN360		R-2	R A-R25103	" 1/4W 10K Ohm	
I C-3	312-52121	IC EHM 108A01		R-3	R A-R25332	" 1/4W 3.3K Ohm	
T R-1	2SD-389	Transistor 2SD-389		R-5	R A-R25154	" 1/4W 150K Ohm	
T R-2	2SC-1317	" 2SC-1317		R-6	R A-R25683	" 1/4W 68K Ohm	
T R-3	2SC-1509	" 2SC-1509		R-7	R A-R25153	Resistor 1/4W 15K Ohm	
T R-4	2SC-1567	" 2SC-1567		R-8	R A-R25202	" 1/4W 2K Ohm	
T R-5	2SA-794	" 2SA-794		R-9	R A-R25472	" 1/4W 4.7K Ohm	
T R-6	2SC-1667	" 2SC-1667		R-10	R A-R25392	" 1/4W 3.9K Ohm	
T R-7	2SA-837	" 2SA-837		R-11	R A-R25821	" 1/4W 820 Ohm	
				R-12	R A-R25472	" 1/4W 4.7K Ohm	
D-1	312-52131	Diode MA26W		R-13	R A-R25272	" 1/4W 2.7K Ohm	
D-2	312-52131	" MA26W		R-14	R A-R25563-913	" 1/4W	
D-3	312-52141	" MA26TB				56K-91K Ohm	
				R-15	R A-R25152-222	" 1/4W	
S-1	S T-51091	Diode ID2CI				15K-22K Ohm	
S-2	S T-51111	" ID2ZI		R-16	R A-R25471	" 1/4W 470 Ohm	
S-3	S T-51091	" ID2CI		R-17	R A-R25560	" 1/4W 56 Ohm	
S-4	S T-51111	" ID2ZI		R-18	R A-R25393	" 1/4W 39K Ohm	
				R-19	R A-R25103	" 1/4W 10K Ohm	
C-1	C E-500474	Capacitor 50V 0.47 MFD		R-20	R A-R25223-243	" 1/4W	
C-2	C E-630335	" 63V 3.3 MFD				22K-24K Ohm	
C-4	C E-160476	" 16V 47 MFD		R-21	R A-R50101	" 1/2W 100 Ohm	
C-5	C E-500105	" 50V 1 MFD		R-22	R A-R50101	" 1/2W 100 Ohm	
C-6	C E-500474	" 50V 0.47 MFD		R-23	R A-R50101	" 1/2W 100 Ohm	
C-7	C E-250106	" 25V 10 MFD		R-24	R A-R50100	" 1/2W 10 Ohm	
C-8	C E-500474	" 50V 0.47 MFD		R-25	R A-R25103-183	" 1/4W	
C-9	C E-250107	" 25V 100 MFD				10K-18K Ohm	
C-10	C E-500226	" 50V 22 MFD		R-26	R A-R25910	" 1/4W 91 Ohm	
C-11	C E-500476	" 50V 47 MFD		R-27	R A-R25180	" 1/4W 18 Ohm	
C-12	C E-500476	" 50V 47 MFD		R-28	R A-R25910	" 1/4W 91 Ohm	
C-13	C E-500477	" 50V 470 MFD		R-29	R A-R25390	" 1/4W 39 Ohm	
C-14	C E-160108	" 16V 1000 MFD		R-30	R A-R25562	" 1/4W 5.6K Ohm	
C-15	C E-160227	" 16V 220 MFD		R-31	R A-R25331-122	" 1/4W	
C-16	C E-160227	" 16V 220 MFD				0.33K-1.2K Ohm	
C-17	CM-500102	" 50V 0.001 MFD		R-32	RW-IROR56	" 1W 0.56 Ohm	
C-18	CM-500333	" 50V 0.033 MFD		R-33	RW-2ROR39-R56	" 2W	
C-20	C C-500560	" 50V 56 PFD				0.39-0.56 Ohm	
C-21	CM-500682	" 50V 0.0068 MFD		R-34	RW-2ROR39-R56	" 2W	
C-22	CM-500332	" 50V 0.0033 MFD				0.39-0.56 Ohm	
C-23	CM-500153	" 50V 0.015 MFD		R-35	R A-R25103	" 1/4W 10K Ohm	
C-24	CM-500333	" 50V 0.033 MFD		R-36	R A-R25104	" 1/4W 100K Ohm	
C-25	C E-500334	" 50V 0.33 MFD					
C-26	C C-500271	" 50V 270 PFD		F-1	F02-6030	Fuse 2AMP ϕ 6 x 30	
C-27	CM-500103	" 50V 0.01 MFD		F-2	F02-5020	Fuse 2AMP ϕ 5 x 20	
C-28	CM-500683	" 50V 0.068 MFD					
C-29	CM-500224	" 50V 0.22 MFD		V R-1	312-52061	Volume Control 50K Ohm B	
C-30	C C-500101	" 50V 100 PFD		V R-2	312-52061	Volume Control "	
C-31	CM-500104	" 50V 0.1 MFD		V R-3	312-52041	Volume Control	
C-32	CM-500102	" 50V 0.001 MFD				w/switch 50K Ohm A	
C-42	CM-500102	" 50V 0.001 MFD		V R-4	312-52261	Volume Control	
C-44	C E-800228	" 80V 2200 MFD					

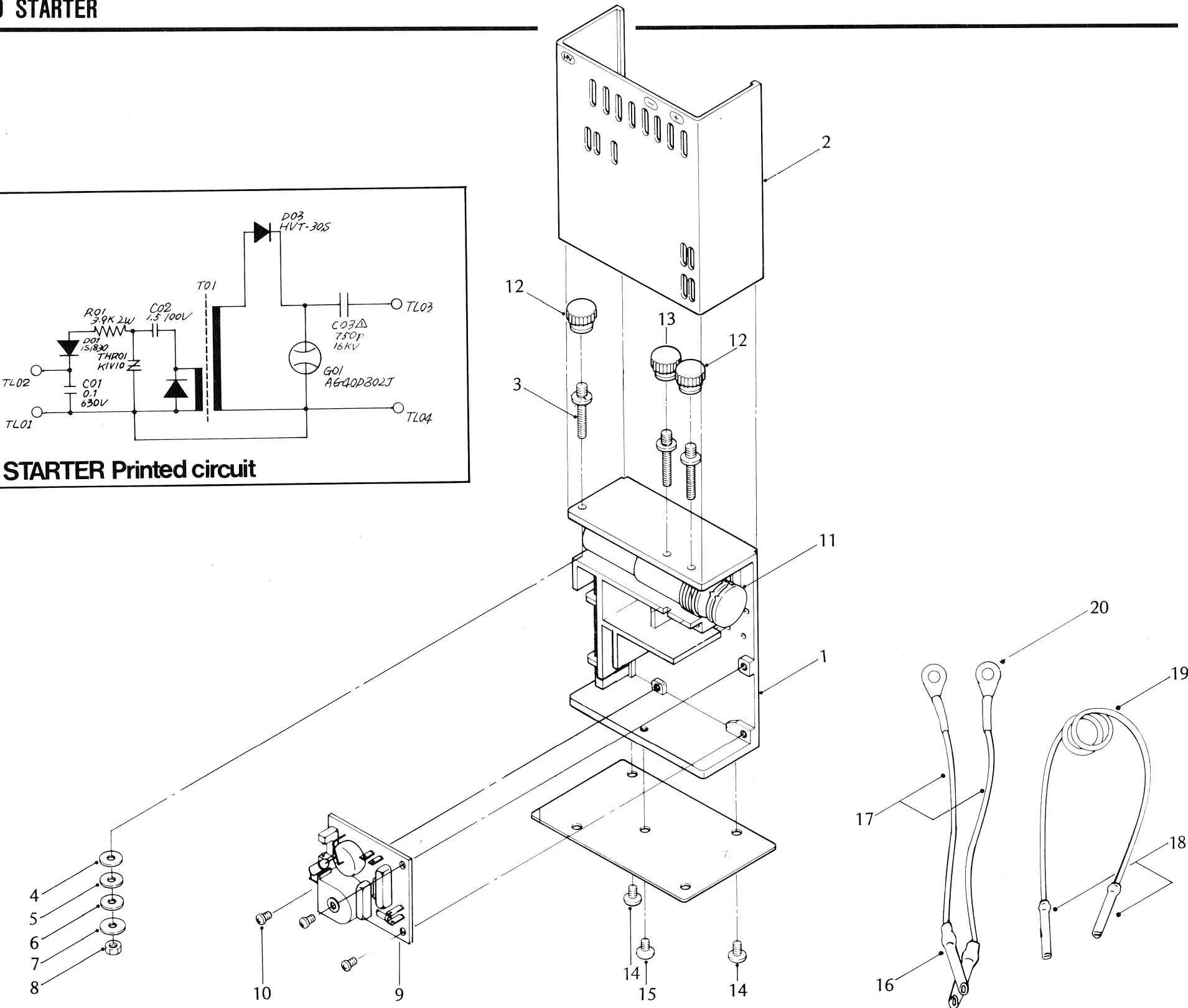
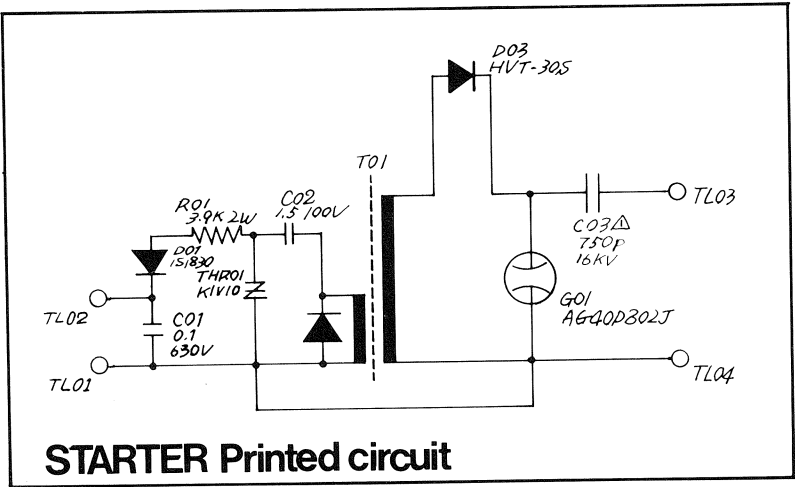
60-0 ELECTRIC PARTS



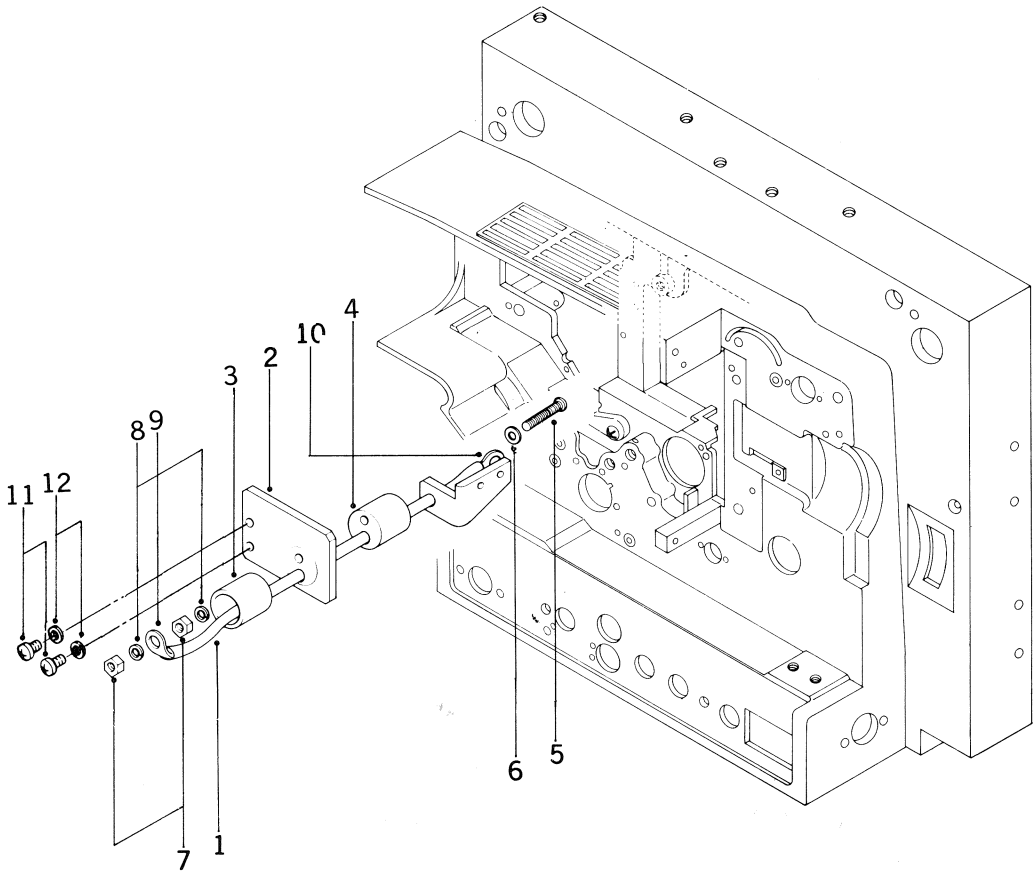
6Q-0 ELECTRIC PARTS

INDEX NO	PART NO	DESCRIPTION	QTY.	INDEX NO	PART NO	DESCRIPTION	QTY.
*	224-60101	Rotary Switch Assy. w/wires	1 only	12	S T-60111	Pilot Lamp Holder (includes Nut & Washer)	1
1	222-60501	Rotary Switch Assy.	1	13	S T-60521	Cap	1
*	222-60521	Switch Mounting Bracket	1	14	S T-60121	Pilot Lamp 12V	1
*	312-60542	Switch Cam	1	15	S T-60361	Cord Clip	3
*	312-60572	Switch Shaft	1	16	X T-3005S	Screw	3
*	X T-3014S	Screw	1	*	320-60311	Spark Killer AC 125V	1 only
*	S T-13231	Clicking Ball	1	*	320-60321	Spark Killer AC 250V	1 only
*	312-60561	Plate Spring	1				
*	WC-30	Lock Washer	2				
*	X P-3010S	Screw	2				
*	E R-40	E Ring	1				
*	312-60051	Micro Switch	5				
*	312-60531	Actuator	5				
*	WC-30	Lock Washer	4				
*	X P-3038S	Screw	2				
*	X P-3028S	Screw	2				
*	312-60061	Switch Cover "A" (SEMKO, SCAN, VDE, SAA)	1				
*	312-60071	Switch Cover "B" (SEMKO, SCAN, VDE, SAA)	1				
2	312-60691	6 Pin Nylon Connector (1991-6R) Female	1				
*	312-60631	Female Pin (for above)	1 per wire				
3	222-60081	9 Pin Socket MT Type	1				
4	X P-3006S	Screw (for above)	2				
5	312-60421	Mounting Bracket	1				
*	X P-3006S	Screw (for above)	2				
6	222-60611	Control Knob Assy.	1				
7	X P-3512	Screw	1				
8	X F-3008S	Screw	2				
9	S T-60041	AC Terminal Strip 4PD	1				
10	WA-30	Washer (for above)	2				
11	X P-3014S	Screw (for above)	2				

62-0 STARTER



62-1 HIGH VOLTAGE LEAD



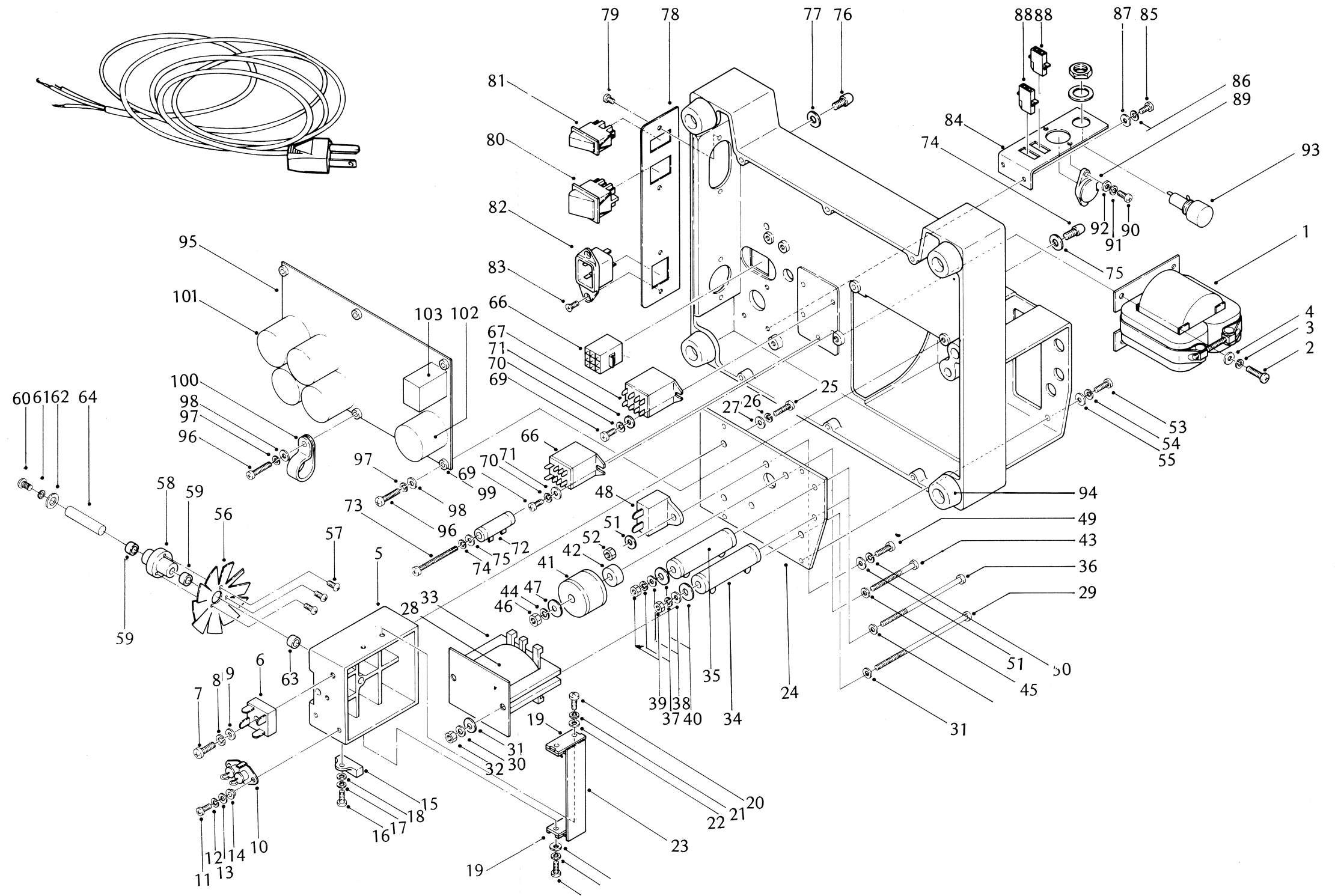
62-0 STARTER

INDEX NO	PART NO	DESCRIPTION	QTY.	INDEX NO	PART NO	DESCRIPTION	QTY.
*	225-62401	Starter Assy Complete	1				
1	222-62051	Starter Box	1				
2	222-62141	Starter Box Cover	1				
3	210-62421	Terminal	3				
4	210-62431	Washer	3				
5	210-62451	Lock Washer	3				
6	210-62441	Washer	3				
7	WC-40	Lock Washer	3				
8	NA-40	Nut	3				
9	225-62201	Starter Printed Circuit Board Assy	1				
*	225-62181	Starter Printed Circuit Only	1				
*	C M-631104	C01 Capacitor 630V 0.1 MFD	1				
*	C M-101155	C02 Capacitor 100V 1.5 MFD	1				
*	C C-163751	C03 Capacitor 16KV 750 PFD	1				
*	225-62251	D01, 2 Silicon Diode 1000V 1A	2				
*	225-62261	D03 Silicon Diode 18KV 15 MA	1				
*	225-62391	G01 Spark Gap	1				
*	RW-2R0392	R01 Resistor 2W. 3.9K Ohm	1				
*	225-62311	T01 Transformer	1				
*	225-62271	THR01 Silistor	1				
10	X P-3006S	Screw	3				
11	222-62321	Tesla Coil	1				
12	222-62531	Terminal Nut (Red)	2				
13	222-62541	Terminal Nut (Black)	1				
14	X F-4008S	Screw (for starter unit)	2				
15	X P-4008S	Screw (for starter unit)	1				
16	225-62711	TL01, 02 Terminal	2				
17	225-62721	Wire	2				
18	225-62731	TL03, 04 Terminal	2				
19	225-62741	Wire	1				
20	L -12530	Lug (for above)	2				

62-1 HIGH VOLTAGE LEAD

INDEX NO	PART NO	DESCRIPTION	QTY.	INDEX NO	PART NO	DESCRIPTION	QTY.
*	224-62201	High Voltage Lead Assy.	1	7	*222-62561	Nut (BRASS)	2
1	*222-62151	High Voltage Lead 40KV	1	8	*WC-40	Lock Washer	1
2	*224-62021	Plate	1	9	*L -20060	Lug	1
3	*222-62031	Terminal Cover	1	10	*L -20040	Lug	1
4	*222-62191	Terminal Cover	1	11	WA-40	Washer (for Plate)	2
5	*222-62551	Screw (BRASS)	1	12	X T-4015S	Screw (for Plate)	2
6	*WA-40	Washer	2				

63-0 RECTIFIER



63-0 RECTIFIER

INDEX NO	PART NO	DESCRIPTION	QTY.	INDEX NO	PART NO	DESCRIPTION	QTY.
*	225-63301	Rectifier Assy	1 only	56	222-63131	Fan	1
1	225-63081	Power Transformer	1 only	57	X T-2306S	Screw	3
2	X P-4012S	Screw	2	58	225-63111	Fan Pulley	1
3	WC-40	Lock Washer	2	59	O B-626ZZ	Bearing	2
4	WA-40	Washer	2	60	X T-3508S	Screw	1
*	225-63201	Fin Assy	1	61	WC-35	Lock Washer	1
5	225-63581	Fin	1	62	222-63571	Washer	1
6	225-63251	D1 Diode 15J 4B41	1	63	222-63041	Spacer	1
7	X P-4020S	Screw	1	64	222-63031	Fan Shaft	1
8	WC-40	Lock Washer	1	65	X P-3508S	Screw	1
9	WA-40	Washer	1	66	312-60681	Nylon Connector 9P (Female)	1
10	225-63261	D2 Diode 30GG2C11	1	*	312-60631	Connector Female Pin	9
11	X P-3008S	Screw	2	67	225-63651	RY2 Relay MY2F 100V AC	1
12	WC-30	Lock Washer	2	68	225-63661	RY1 Relay LY2F 48V DC	1
13	WA-30	Washer	2	69	X P-3008S	Screw	4
14	225-63311	Bushing	2	70	WC-30	Lock Washer	4
15	225-63321	S4 Thermal Switch OHD60B	2	71	WA-30	Washer	4
16	X P-3008S	Screw	1	72	R E-5R0101	R1 Resistor 5W 10 Ohm	1
17	WC-30	Lock Washer	1	73	X P-3045S	Screw	1
18	WA-30	Washer	1	74	WC-30	Lock Washer	1
19	2SC-2650	TR1, 2 Transistor 2SC2650	2	75	225-63671	Washer 3 x 10 — 1t	1
20	X P-3012S	Screw	4	76	312-20031	Cover Stop Pin	2
21	WC-30	Lock Washer	4	77	S T-20041	Washer	2
22	WA-30	Washer	4	78	225-20021	Rating Plate	1
23	225-63801	Printed Circuit Board Assy	1	79	X P-2304	Screw	2
*	225-63811	Printed Circuit Board Only PB-0208	1	80	225-63681	Main Switch	1
*	C C-500104	C5, 6 Capacitor 50V 0.1 MFD	2	81	225-63691	Lamp FULL/HALF Switch	1
*	R A-R50220	R6, 7 Resistor 1/2W 22 Ohm	2	82	225-63711	Input Receptacle	1
*	R A-R25274	R10, 11 Resistor 1/4W 270K Ohm	2	83	X O-3005S	Screw (for above)	2
*	225-63941	D3, 4 Diode TVR1J	2	84	225-63721	Voltage Selection Plate	1
*	C M-601153	Capacitor 600V 0.015 MFD	1	85	X P-3008S	Screw	2
*	R A-R50226	R9 Resistor 1/2W 22M Ohm	1	86	WC-30	Lock Washer	2
24	225-63291	Insulating Plate	1	87	WA-30	Washer	2
25	X P-4012S	Screw	4	*	312-12241	Nylon Connector (Male) 2P 1545P	1
26	WC-40	Lock Washer	4	88	312-60771	Nylon Connector (Female) 2P 1545R	2
27	WA-40	Washer	4	89	225-63731	Voltage Selector	1
*	225-63401	Transformer Assy	1	90	X P-3008S	Screw	2
28	225-63341	T1 Transformer 3K4-13348	1	91	WC-30	Lock Washer	2
29	X P-4090S	Screw	2	92	WA-30	Washer	2
30	WC-40	Lock Washer	4	93	225-63751	Fuse Holder	1
31	WA-40	Washer	4			(Includes Cap, Fibre Washer & Nut)	
32	NA-40	Nut	4	*	F10-6030	Fuse 10A φ6 x 30	1
*	225-63501	Printed Circuit Board Assy	1	94	222-20041	Rubber Foot	4
33	225-63511	Printed Circuit Only PB-0196	1	*	X T-4015	Screw	4
*	RW-2R0101	Resister 2W 100 Ohm	2	*	WA-40	Washer	4
*	C M-401682	Capacitor 400V 0.0068 MFD	2	95	225-63601	Printed Circuit Board Assy	1
34	R E-200300	R2 Resistor 20W 30 Ohm	1	96	X P-3016S	Screw	6
35	R E-200R02	R5 Resistor 20W 0.02 Ohm	1	97	WC-30	Lock Washer	6
36	X P-3075S	Screw	1	98	WA-30	Washer	6
37	WC-30	Lock Washer	2	99	225-63481	Spacer	6
38	WA-30	Washer	4	100	225-63491	Cord Clip	1
39	NA-30	Nut	2	101	225-63701	AC power cable Assy (USA, CANADA)	1
40	225-63541	Washer 3 x 16 — 1.5t	2	*	225-63911	AC power cable W/O plug	
41	225-63551	L Choke Coil	1	*	225-63931	AC power cable Assy (Australia)	
42	225-63561	Spacer	1				
43	X P-4045S	Screw	1				
44	WC-40	Lock Washer	1				
45	WA-40	Washer	1				
46	NA-40	Nut	1				
47	225-63641	Washer 4 x 12 — 1t	1				
48	C M-181455	C1 Capacitor 180V 4.5 MFD	1				
49	X P-4015S	Screw	1				
50	WC-40	Lock Washer	1				
51	WA-40	Washer	2				
52	NA-40	Nut	1				
53	X P-4012S	Screw (for fin assy)	2				
54	WC-40	Lock Washer (for fin assy)	2				
55	WA-40	Washer (for fin assy)	2				
*	225-63101	Fan Assy	1				

63-1 RECTIFIER (P.C.BOARD)

INDEX NO	PART NO	DESCRIPTION	Q'TY	INDEX NO	PART NO	DESCRIPTION	QTY.
95	225-63601	Printed Circuit Board Assy	1	*	225-63771	T1, 2 Transformer SRW 22EW	2
*	225-63921	Printed Circuit Board Only	1	*	225-63781	L Noise Filter Coil SC-10-100	1
*	225-63611	D1 Diode 1S1888	1	*	225-63881	Fuse A MF60-NR1	1
*	225-63621	D3, 16 Diode 05Z5. 1L	2	103	225-63791	RY Relay MY4-02, DC12V	1
*	225-63941	D4-13, 17 Diode TVR1J	11				
*	225-63951	D14, 15 Diode RB-154	2				
*	2SA-965	TR1, 2 Transistor 2SA965	2				
*	2SC-2235	TR3 Transistor 2SC2235	1				
*	C C-401222	C1, 2 Capacitor 400V 2200 PFD	2				
*	C M-251224	C3, 4 Capacitor 250V 0.22 MFD	2				
*	C E-500227	C5 Capacitor 50V 220 MFD	1				
101	C E-201477	C6-9 Capacitor 200V 470 MFD	4				
*	C E-500106	C10, 11 Capacitor 50V 10 MFD	2				
*	C E-500105	C12 Capacitor 50V 1 MFD	1				
*	C M-500102	C13, 15 Capacitor 50V 0.001 MFD	2				
*	C M-500103	C14 Capacitor 50V 0.01 MFD	1				
*	C E-250228	C16 Capacitor 25V 2200 MFD	1				
102	C E-161687	C19 Capacitor 160V 680 MFD	1				
*	C E-401472	C20, 21 Capacitor 400V 4700 PFD	2				
*	RW-2R0152	R1 Resistor 2W 1.5K Ohm	1				
*	RW-2R0470	R2 Resistor 2W 47 Ohm	1				
*	RW-2R0223	R4, 5 Resistor 2W 22K Ohm	2				
*	R A-R25422	R6, 12 Resistor 1/4W 4.2K Ohm	2				
*	R A-R25471	R7, 14, 15 Resistor 1/4W 470 Ohm	3				
*	R A-R25102	R8, 16, 17 Resistor 1/4W 1000 Ohm	3				
*	R A-R25103	R9, 10, 27 Resistor 1/4W 10K Ohm	3				
*	R A-R25105	R11 Resistor 1/4W 1M Ohm	1				
*	RW-2R0R47	R13 Resistor 2W 0.47 Ohm	1				
*	RW-2R0220	R18, 19 Resistor 2W 22 Ohm	2				
*	R A-R506R8	R20, 21 Resistor 1/2W 6.8 Ohm	2				
*	RW-2R0152	R22, 23 Resistor 2W 1.5 Ohm	2				
*	R E-3R0332	R24, 25 Resistor 3W 3.3K Ohm	2				
*	R A-R25102	R26 Resistor 1/4W 1K Ohm	1				
*	R E-5R0151	R28 Resistor 5W 150 Ohm	1				
*	225-63981	VR1, 4 Volume SR19R-B47K Ohm	2				
*	225-63991	VR2, 3 Volume SR19R-B10K Ohm	2				

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