Film-Tech

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BALCO

OPERATORS MANUAL

FOR 3-DECK AND 5-DECK
PLATTER SYSTEMS

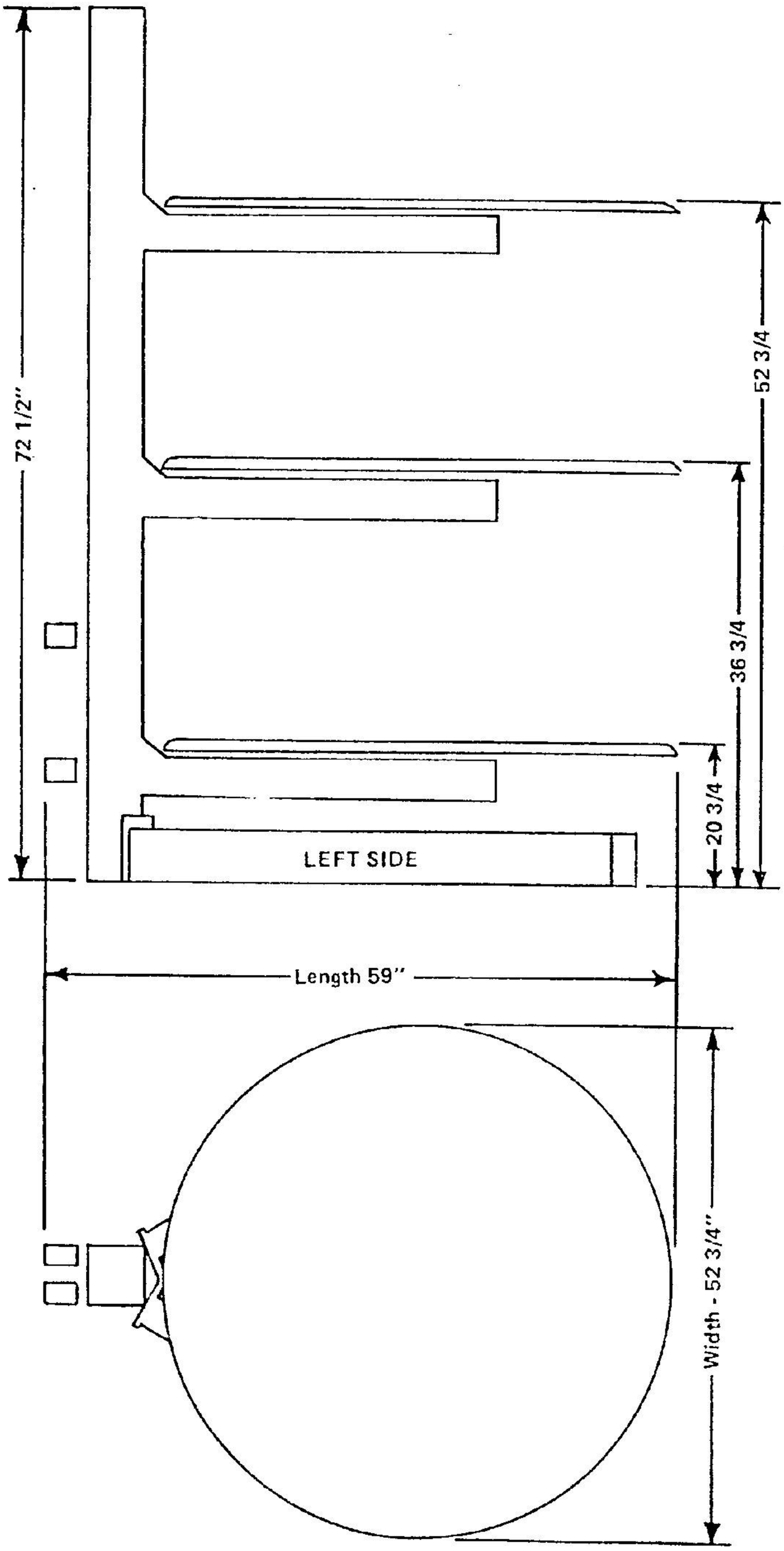
PIB #1788 05 10

BALLANTYNE
OF OMAHA, INC.
A SUBSIDIARY OF CANRAD-HANOVIA, INC.
1712 JACKSON ST. OMAHA NEBRASKA 68102

TABLE OF CONTENTS

TECHNICAL DATA

Length - 59
Width - 52 3/4
Height - 72 1/2
Weight - 395 Pounds
Power Requirements - 120 Volts, 60 HZ, 10 Amps. Max.



Uncrating Procedure for Balco 3 & 5 Deck Platter Systems

In order to find these instructions, you have already removed the steel bands and cardboard from the column crate.

Before proceeding, read through these instructions carefully. Any part name that you are unfamiliar with, will be listed in the accompanying parts manual.

For the purpose of these instructions, when reference is made to the "back" of the machine, it refers to the side of the machine that the film take-up is attached to. The "left" side of the machine is the side that the column feed castor assemblies are attached to. See Figure 1 on Page 1.

1.) Using a hammer, carefully remove the lid, side braces and upper end of the column crate.

2.) Remove the center rings from the crate.
   a.) In a 3-Deck they are stapled to the bottom of the crate.
   b.) In a 5-Deck they are banded to the column arms.

3.) Remove the variable transformer system (variac) from the crate by unscrewing the lag screw holding it in. (There are two variacs in a 5-Deck system.)

4.) Unbolt the legs from the bottom of the crate. Remove the leg bolts from the base of the column. With the column still laying flat in the crate, attach the legs. NOTE: The leg with four threaded holes in the side must be attached to the right hand side of the machine.

5.) Now with legs attached, stand the machine up. Unbolt the base of the column from the crate and remove the bracket holding the top of the column to the crate. By pushing on the back of the column, lean it forward and slide the rest of the crate out.

6.) Place the machine in the desired location. Level the machine using the leveling screws in the end of each leg. The leveling screws can be adjusted by inserting a 3/16 allen wrench through the hole in the top of the leg. The platter system can be placed almost anywhere in relation to the projector, however if they are more than 4 to 8 feet apart, the film running between them will sag. Use the projector arms that are in the control plate box to support long spans of film. The projector arms are made of aluminum for easy drilling and mounting and can be bent to whatever angle needed. One projector arm should be used for every 4 to 8 feet of unsupported film. Additional projector arms are available through your dealer.

7.) For a 3-Deck, proceed to step 9. For a 5-Deck, remove the retaining bolts from the right hand arm supports of the top four arms. Replace these with column pulley shaft assemblies which are in the control plate box.

8.) Three pulley bracket assemblies are provided in the 5-Deck control plate box. They are labeled T1, T2, and T3. Attach these assemblies to the appropriately marked spot on the column. See Figure 2 on Page 6.

9.) Mount the variac on the right leg, see Figure 3 on Page 7. The variac should be positioned so that the mounting bolts are in the middle of the slots in the variac mount angle.

10.) For the 5-Deck, the second variac mounts on the leg, the same way as the first but is offset away from the leg 1 1/4" using the variac offset spacers. See Figure 3 on Page 7.

Remove the cover from the variac. Put the variac cable through the cable hole and wrap it counterclockwise around the variac disk. Rotate the variac disk clockwise by hand and insert the ball on the cable end into the slotted hole in the disk.

Move the take-up plate to the top of its travel and hold it there. Rotate the variac disk clockwise; if the variac is mounted correctly the disk should move 1/8 to 1/4 inch.

Move the take-up plate to the bottom of its travel. As it reaches bottom the switch limit ramp should trigger the variac micro switch. The switch limit ramp should come close to but not touch the ramp stop.

14.) If the variac does not function as outlined in steps 12 and 13, loosen the mounting bolts and slide the variac left or right on the leg and repeat steps 12 and 13 until the variac is positioned correctly. Put the cover back on the variac.

15.) Repeat steps 11 - 14 for the second variac on the 5-Deck system.

16.) Plug the variac outlet cord into the socket at the base of the column. For a 5-Deck, the variac closest to the column should be plugged into the lower socket.

17.) Remove the arm end caps from the control plate box. Two have lights in them, one is plain. Connect each of the two lights to the yellow and white wires in the end of the two top arms. (It does not matter which wire goes to which screw on the light.) Push the endcaps onto the end of the arm and fasten them with the small trusshead screws which have been provided.

The procedure is the same for a 5-Deck. The top 4 arms get lights and the bottom arm gets a plain cap.

18.) On the spindle of each arm, there is a spacer held in place by a piece of tape. Remove the tape and be sure the spacer is in place.

19.) Remove the steel banding and cardboard from the disk crate. In the center of each side of the crate there is a bolt. Lay the crate down on one side and remove the bolt from the other side. Carefully separate the two halves of the crate with a hammer. Remove a disk and place it on the spindle of the lowest arm.

20.) Take a control plate from its shipping box and unwrap it. Holding it over the center of the disk, take the red and blue wires sticking out of the top of the spindle and push them through the hole in the center of the control plate. Lay the plate down flat on the top of the spindle and line up the two screw holes at the center of the spindle. The pulley on the control plate that is tilted, should tilt away from the column. Use the larger trusshead screws that have been provided, to attach the control plate to the spindle.

Remove the switch cover from the control plate switch. Under the cover, there is a second set of nuts holding the switch in adjustment. DO NOT LOOSEN THESE NUTS.

The switch is raised off the control plate by two 1/4" spacers. Take the two wires from the center of the control plate and slide them under the switch, between the two spacers. Attach one wire to each of the two screws on the back of the switch. These are the normally open and common terminals of the switch. It makes no difference which wire goes to which screw. Put the switch cover back on the switch. Put a disk on the next arm and repeat step 20 for the next control plate.

21.) Cut the bands and open the lid of the make-up table box. Remove the 1 hour arm and the table knob from the top of the box and set them aside. Now remove the rest of the cardboard, paper, and wood from the table. Remove the transfer arm from under the table and unwrap it. Mount it to the back side of the table, where the mounting bolts have been provided.

Unwrap the 1 hour arm. The 1 hour arm mounts on the end of the table that has only one leg. There are two bolts holding the table shell to that single leg. Remove the lower of these two bolts. Put the bolt through the lower hole of the 1 hour arm and screw it back into the lower hole on the leg. Tighten it most of the way, leaving it loose enough that the 1 hour arm can pivot. Remove the upper bolt from the leg, pivot the 1 hour arm into position, then replace the bolt. Tighten both bolts. Place the table knob on the shaft protruding from the front of the table. Tighten the setscrews in the knob.

Failsafe System

Your platter system is equipped with a built in failsafe switch for film breakage. If the film breaks, the take-up carriage drops to the bottom of its travel and shuts the power to the variac off. NOTE: The failsafe switch only functions when the variac mode switch is in the "Auto" position.

The platter system should be slaved into the projector failsafe system. A relay socket is wired into the variac for this purpose. See your dealer or installer for information about hooking up the failsafe system.

Power Source

The platter system requires a 110 Volt AC grounded power source that is fused for 10 AMPS. Be sure all assembly work is complete before plugging in the system.

Program Make-up

Position the make-up table with its back toward the platter system, so the castors on the transfer arm point easily toward the center of the platters.

See Figure 6 on Page 9 to familiarize yourself with the controls of the make-up table.

Before plugging the inlet cord into a 110 Volt AC power source, make sure that the speed control knob is turned counterclockwise until it stops.

Unplug the motor of the disk to be used by twisting the plug to the left and pulling. Pull the make-up cord out of the end of the table. Plug the motor plug into the make-up cord and twist it to the right to lock it in place.

Put the motor switch in the "make-up" position. Engage the motor toggle handle. Put the table mode switch in the "make-up" position. Now the speed of the platter can be controlled by the speed control knob on the front of the table.

Place a center ring onto the platter with the pins inserted into the holes provided. Make sure the ring is in its expanded position.

Add necessary leader to the first reel. Place the reel on the 1 hour arm spindle. Thread the leader through the table to the disk. See Figures 10-13 on Page 10 and 11. For 5-Deck threading, see Figures 14-19 on Pages 12-13. Film should be soundtrack up on the 1 hour arm and when it reaches the center ring.

Hook the film into the center ring, see Figure 4 on Page 8. Rotate the disk counterclockwise by hand for at least two revolutions to insure that the film is securely in place. Adjust the height of the transfer arm so the film rides between 1/8" and 1/4" above the outer edge of the disk.

Slowly turn the speed control knob clockwise. The film should now wind evenly and smoothly onto the platter. If the film tends to climb while wrapping around the center ring, the transfer arm is adjusted too high and should be lowered slightly untill the film winds evenly. Near the end of the reel, reduce the speed of the disk in order to prevent damage to the film.

Remove the tail from the first reel and the leader from the second reel. Splice the two reels together and continue the make-up procedure until the entire feature is on the platter.

Plug the drive motor back into its socket on the column.

The table can be set aside to be used as a rewind bench or an inspection station.

Operation of the Platter

Pull the knob on the center ring and collapse the ring. Gently lift the ring out of the center of the film, expand it and place it in the holes provided in another platter.

The platter with the film on it is called the feed-out platter. The one with the center ring on it is called the take-up platter.

Take the leader from the center of the feed-out platter and thread it through the control plate, see Figure 7 on page 9. . Put the motor switch on the feed-out platter in the "pay-out" position, engage the motor toggle handle, and put the variac mode switch in the "manual" position. This will allow the film to be fed to you during the rest of the threading procedure.

The rest of the threading procedure for a 3-Deck is shown on pages 14 and 15. For a 5-Deck, it is shown on pages 16 through 19. NOTE. The soundtrack should be up when wound onto the platter.

The center platter of the 5-Deck can be used with either the top two platters or the bottom two platters. When used with an upper platter, the switch on the side of the column must be in the up position. When used with a lower platter, the switch must be in the down position. The middle position of the switch is "off", disabling the center platter.

After following the appropriate diagrams for threading, hook the film into the center ring on the take-up platter. Be sure the angle of the film is correct, see Figure 4 on Page 8.

Put the variac mode switch in the "off" position. Take-up the excess film by turning the platter counterclockwise by hand until the stop pin on the take-up carriage is in line with the hole on the back of the column. Push the pin into the hole and turn the platter clockwise just enough to relieve the tension on the film and allow the pin to stay in the hole.

Engage the motor toggle handle of the take-up platter and put its motor switch in the "rewind" position. Double check your programming. Put the variac mode switch in the "Auto" position and start the projector.

Program Breakdown

Position the make-up table with its back toward the platter system so the castors on the transfer arm point easily toward the center of the platters.

Set the table speed control at "off". Disengage the motor toggle handle of the platter with the program to be broken down so that the platter can free wheel. (Failure to do this can result in damage to the table motor.) Place the take-up reel on the powered spindle of the table. Thread the film through the table rollers and wind it onto the reel in a clockwise direction, with the soundtrack up. See Figures 8, 11, 12 & 13, on Pages 10 and 11 for the appropriate threading diagram, and check Figure 5 on Page 8 for the correct film angle. Put the table mode switch in the "rewind" position. The speed of the take-up reel is now controlled by the speed control knob.

Trouble Shooting

A. If the system fails to turn on:
   1. Check the power source.
   2. Check the fuse in the variable transformer marked "motor voltage".

B. If the platter does not turn for film make-up, make sure that:
   1. The platter motor is disconnected from the column and plugged into the make-up cord (see Figure 6, page 9.)
   2. The platter motor switch is in the "make-up" position.
   3. The motor toggle handle is engaged.

C. If the film fails to transfer from the platter to the table, make sure that:
   1. The motor toggle handle is disengaged.
   2. The mode switch on the table is switched to the "rewind" position.

D. If the feed-out platter does not operate, make sure that:
   1. The motor switch is in the "pay-out" position.
   2. The motor toggle handle is engaged.
   3. The control arm works freely.

E. If the take-up platter fails to operate, make sure that:
   1. The motor switch is in the "rewind" position.
   2. The motor toggle handle is engaged.

F. If the system fails to shut down when the take-up carriage hits bottom, make sure that:
   1. The variac mode switch is in the "Auto" position.
   2. The variac is adjusted properly on the leg. (See steps 12 through 14 in the UNCRATING PROCEDURE).

G. If the platter lights fail to function:
   1. Check the bulbs.
   2. Check the fuse in the variac marked "light circuit".

Maintenance

1. Keep the platters, control plates, and film pulleys clean from oil and lint build-up. Alcohol is a good cleaning agent for this purpose.

2. The bearings in the film pulleys, control arms, and castor swivels should be oiled every 250-300 hours. Use a light oil and wipe off excess.

3. Check the swing of the control arms often. The free operation of this device is important to the proper functioning of your system.

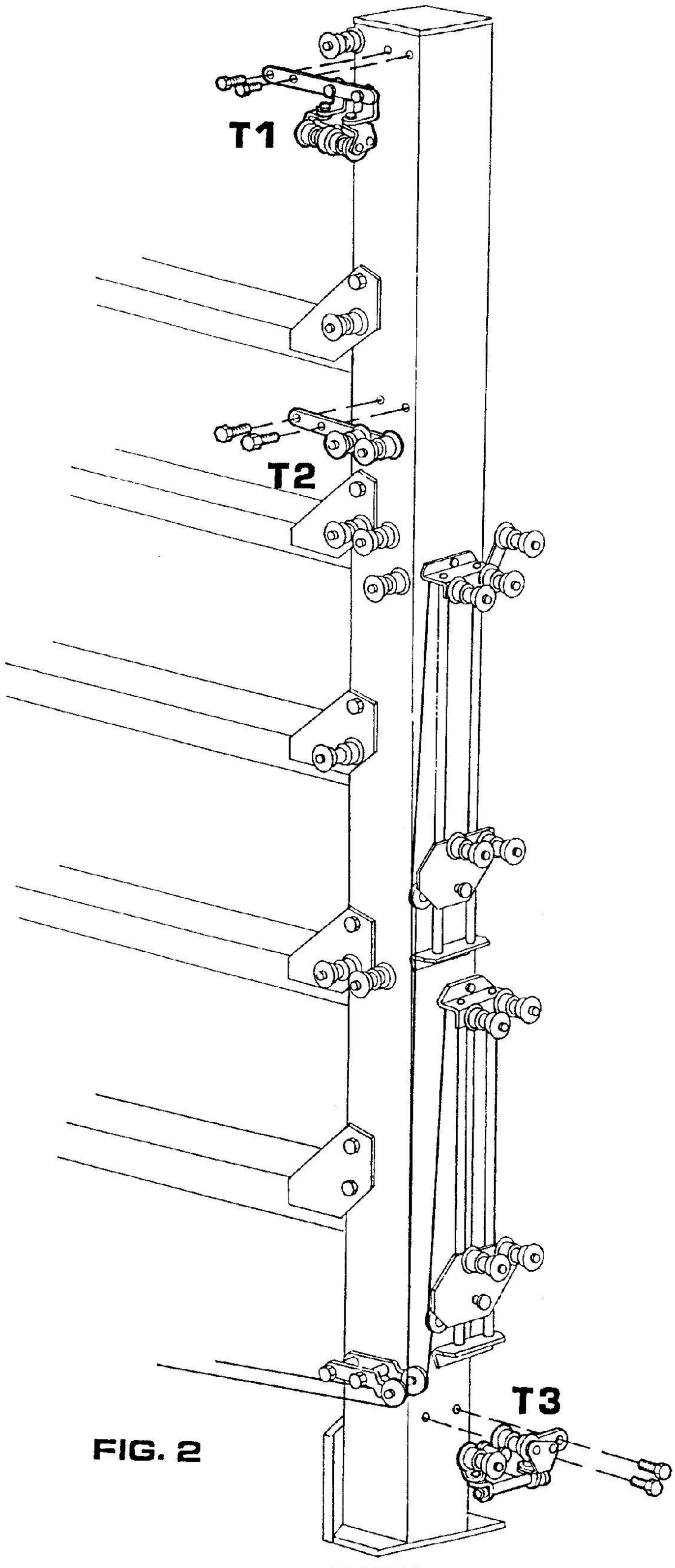


FIG. 2

A. Variac offset spacer
B. Cable hole
C. Slotted hole/cable end
D. Micro switch/failsafe switch
E. Variac mode switch
F. Motor voltage fuse
G. Light circuit fuse
H. Limit ramp
I. Ramp stop

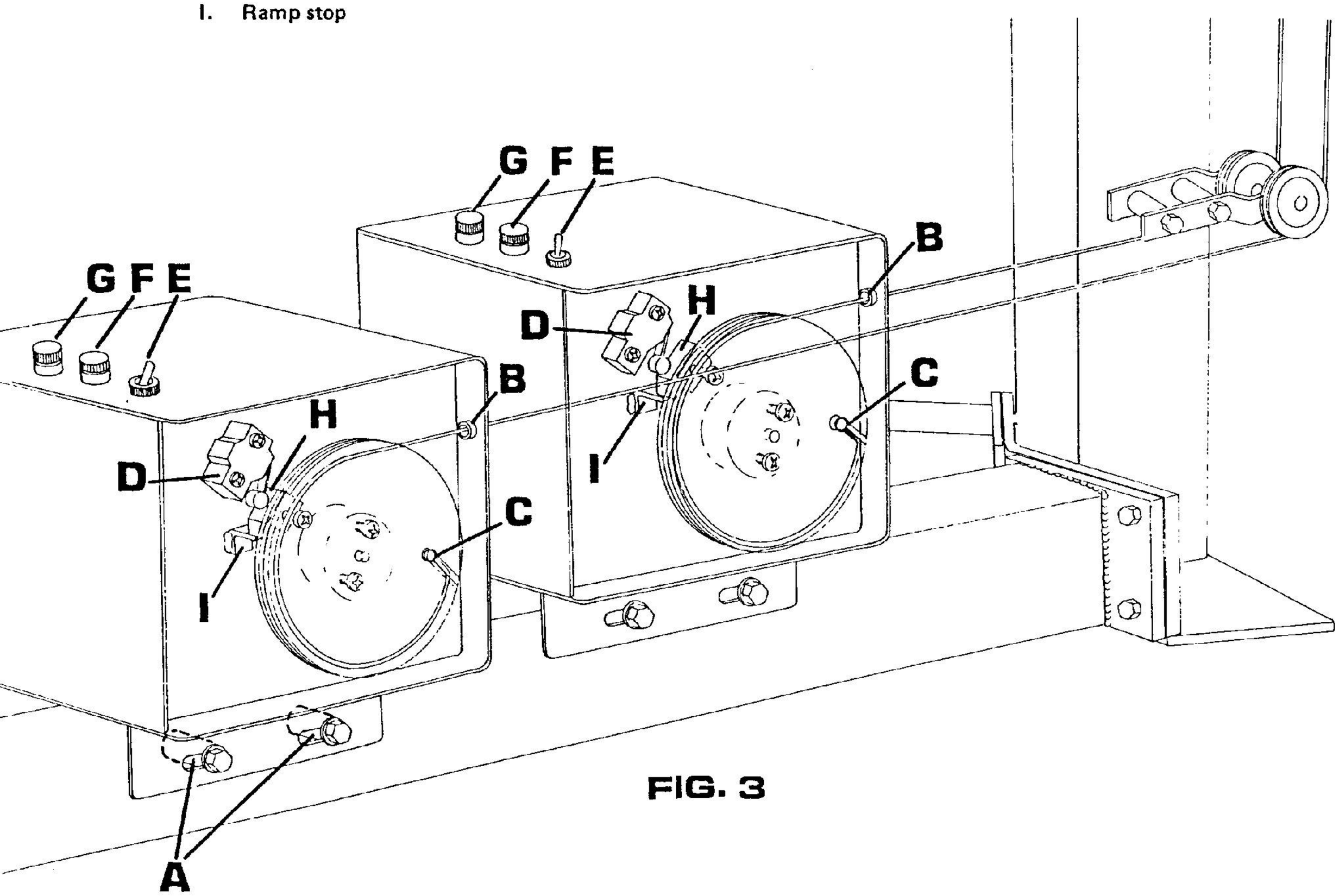
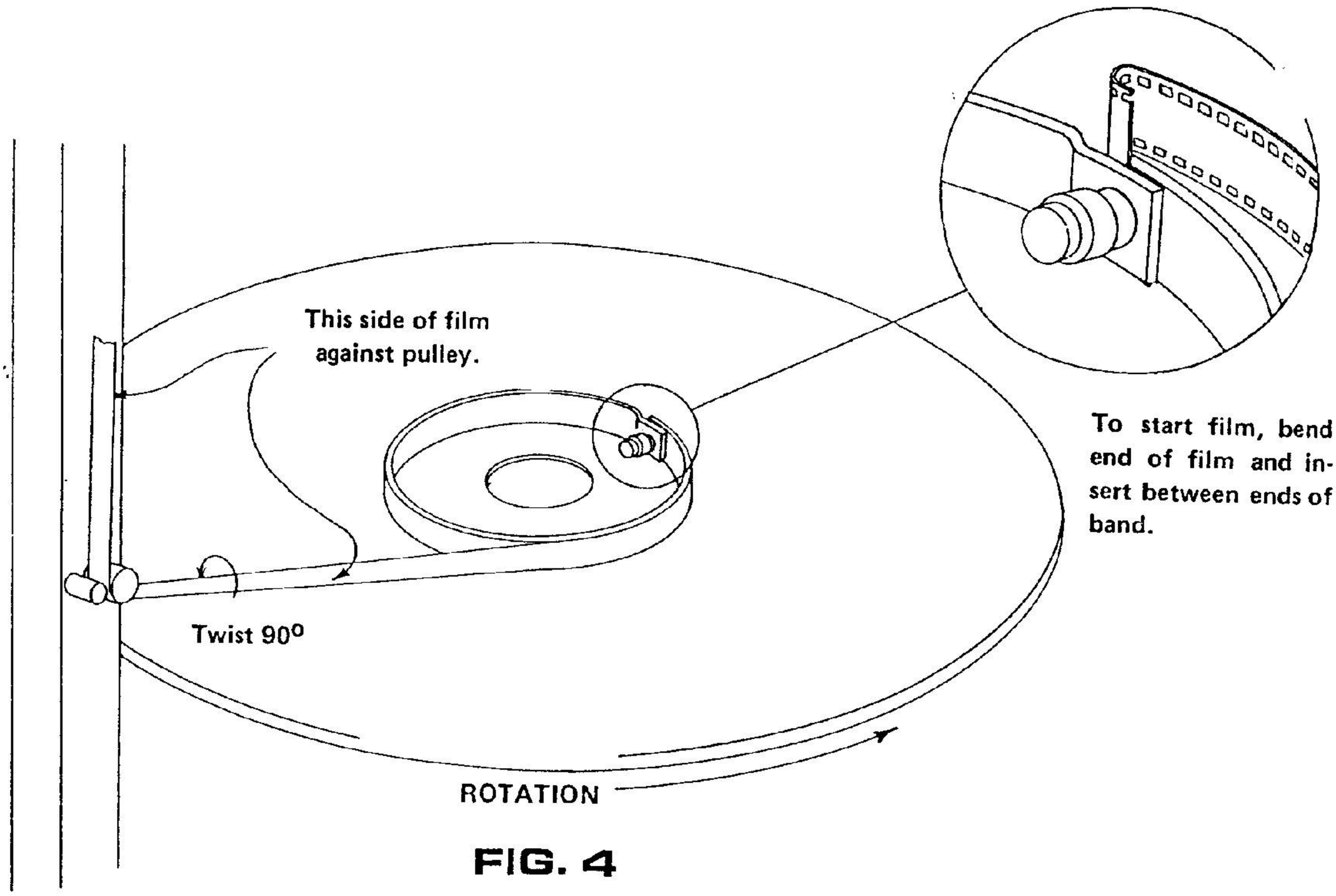


FIG. 3



To start film, bend end of film and insert between ends of band.

FIG. 4

FILM ANGLE DURING
MAKE UP OR REWIND

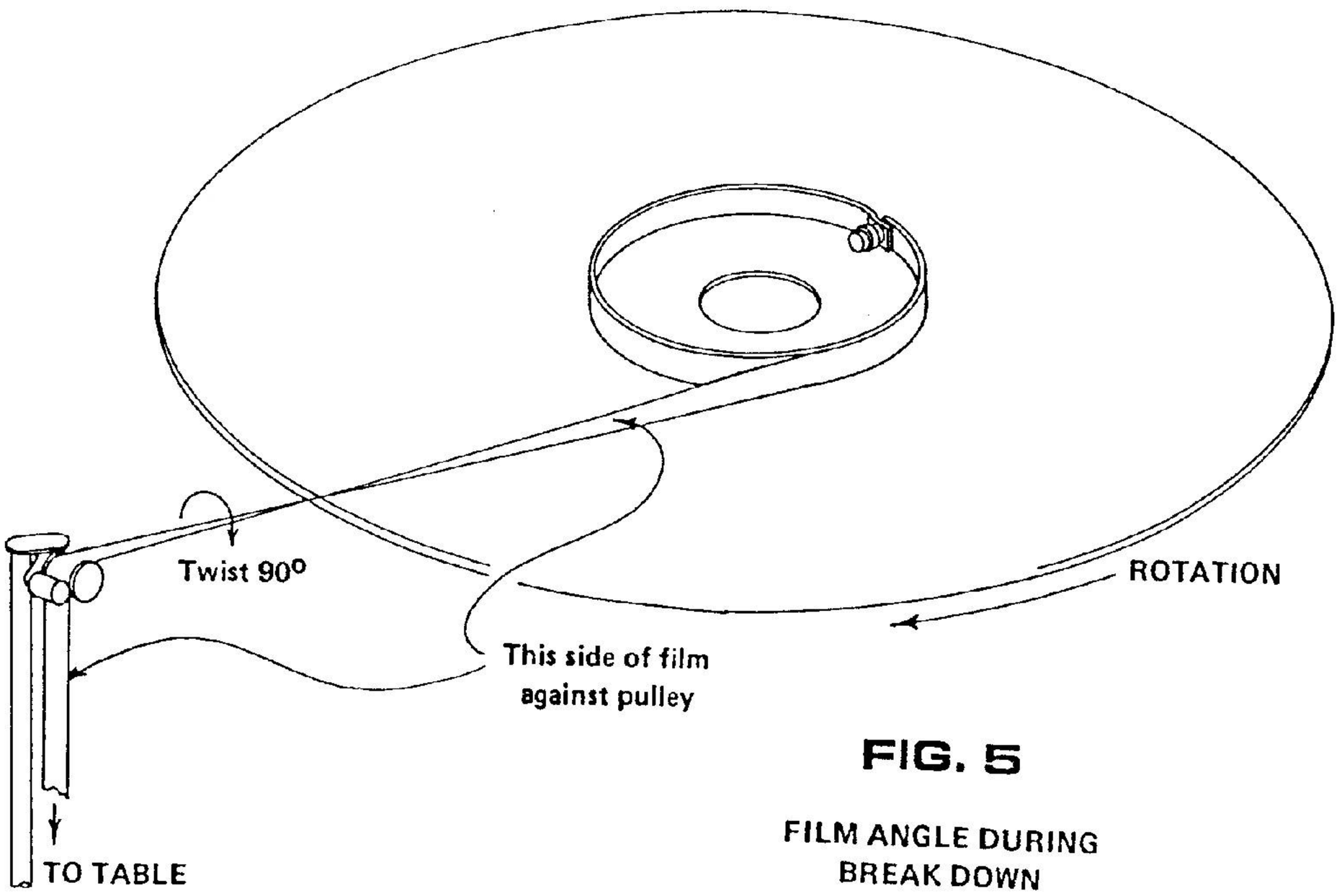
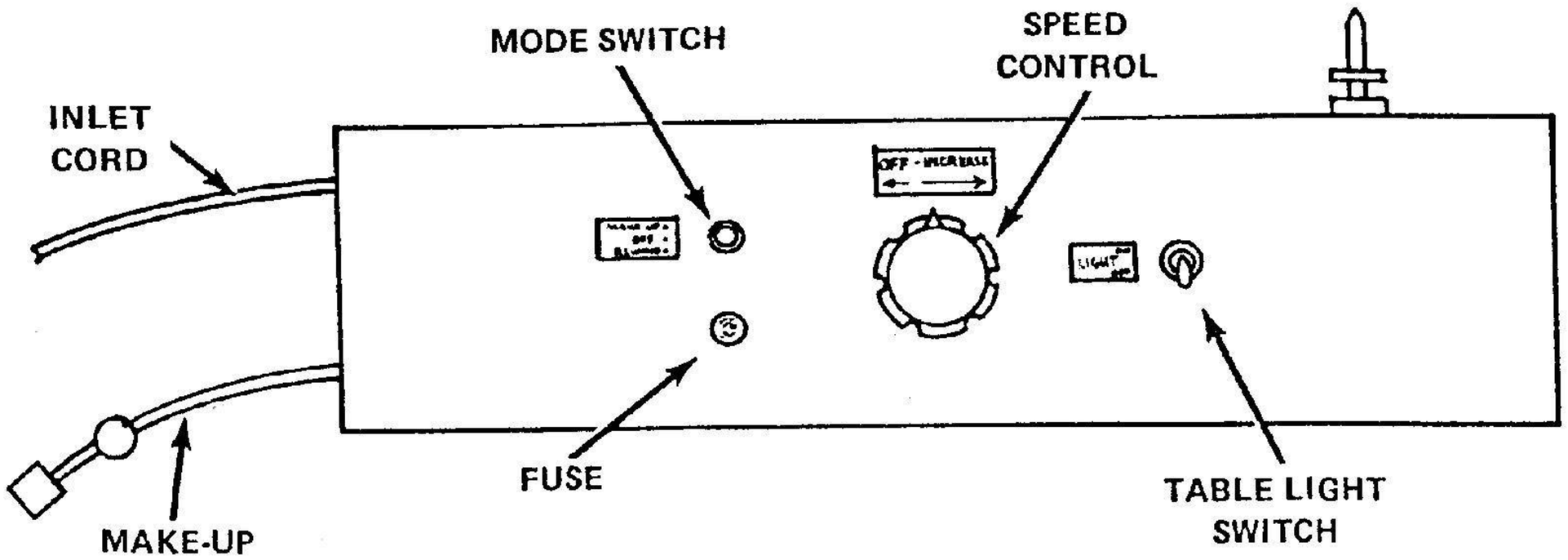


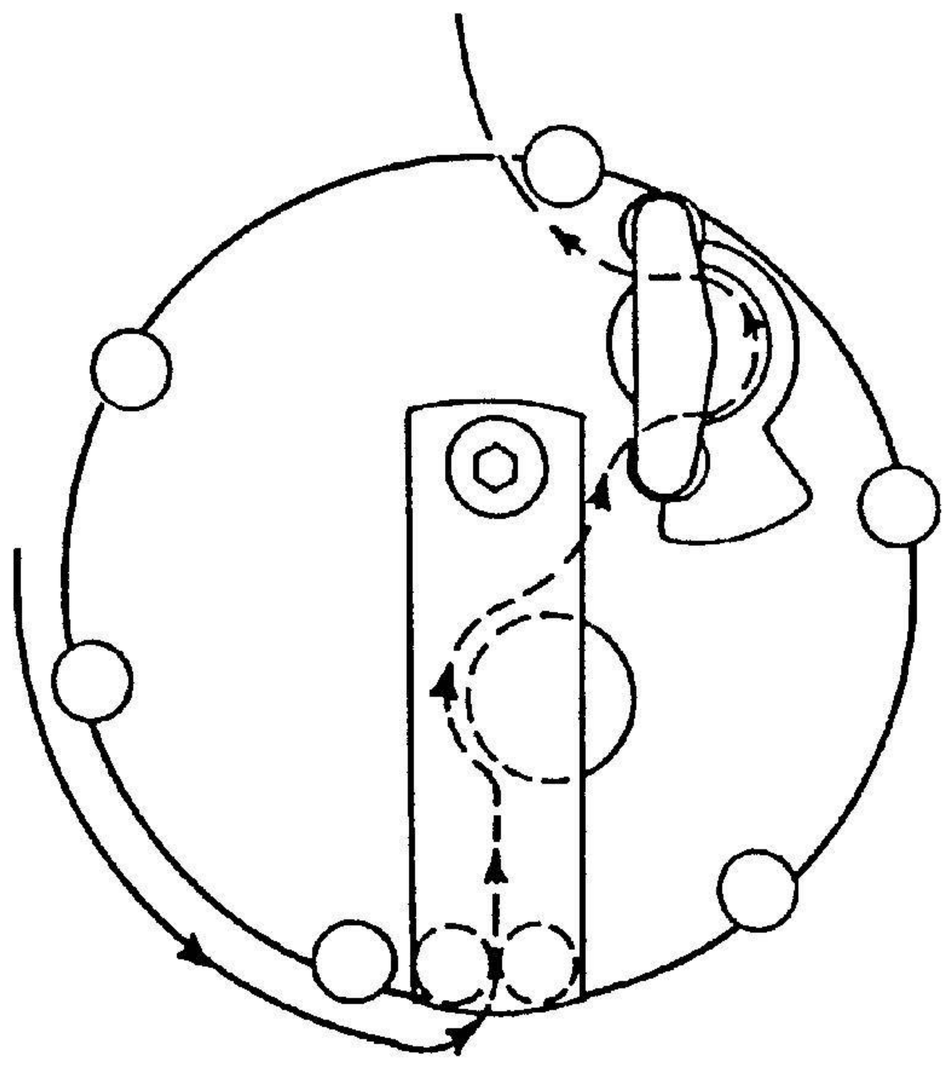
FIG. 5

FILM ANGLE DURING
BREAK DOWN



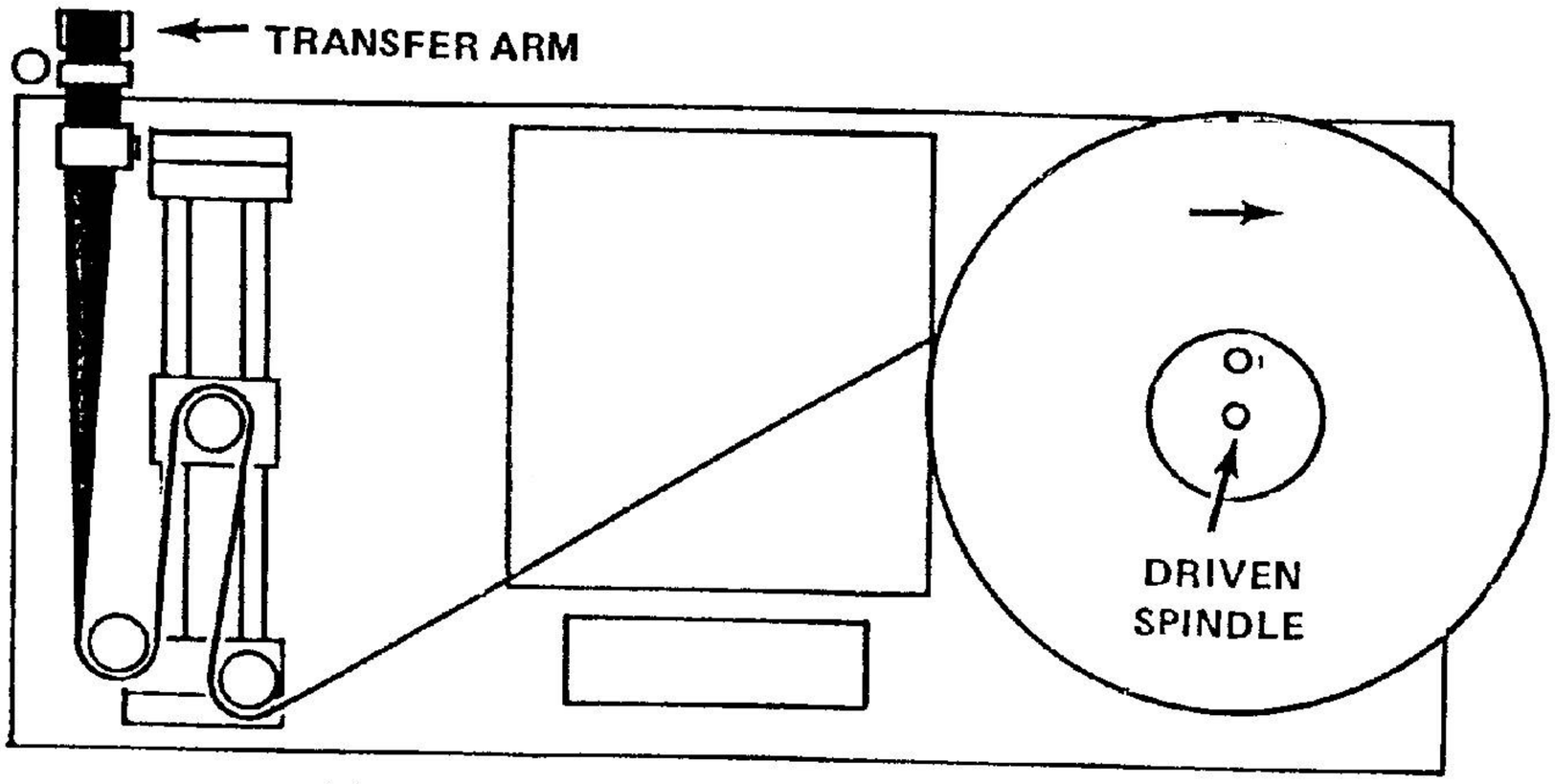
CONTROLS

FIG. 6



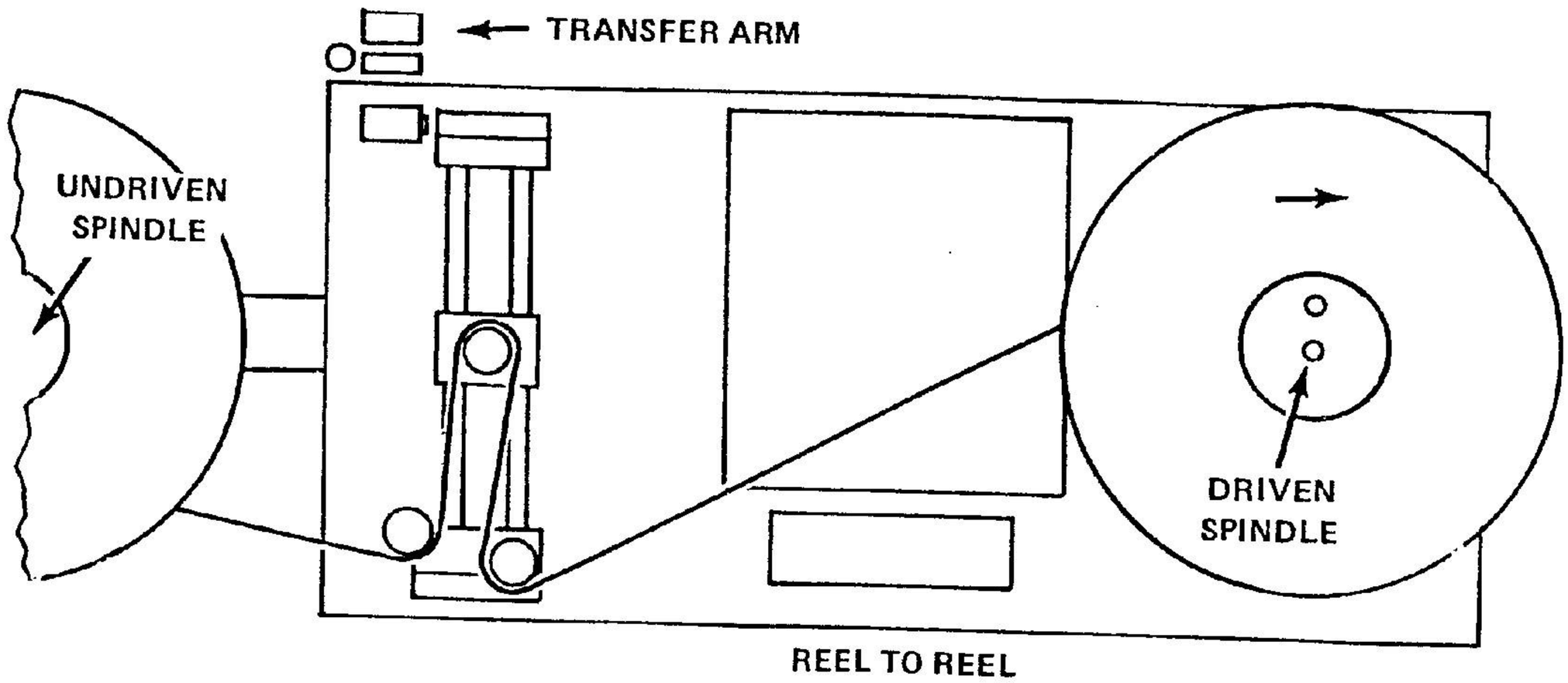
CONTROL PLATE THREADING DIAGRAM

FIG. 7



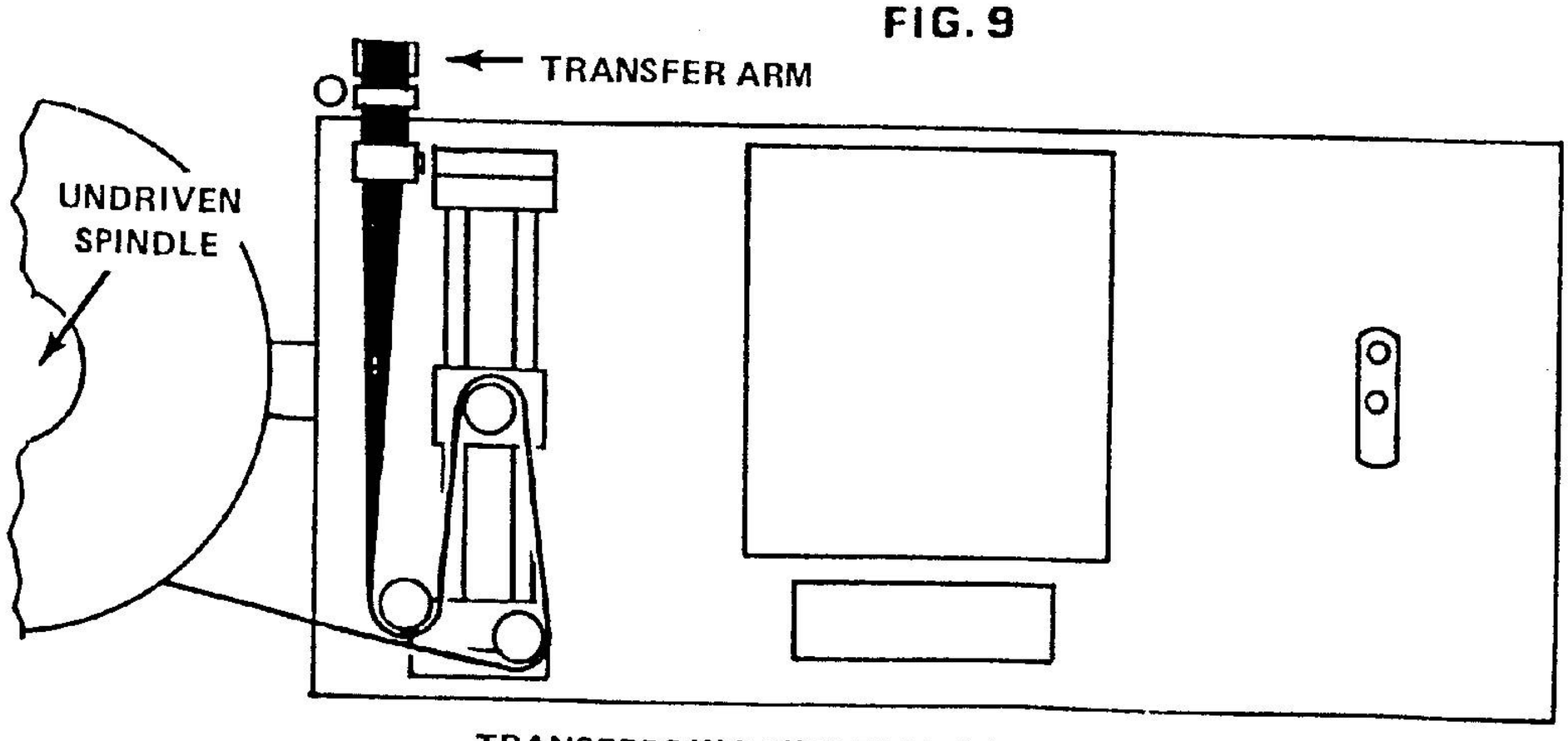
REWINDING FILM FROM PLATTER TO TABLE

FIG. 8



REEL TO REEL

FIG. 9



TRANSFERRING FILM FROM TABLE TO PLATTER

FIG. 10

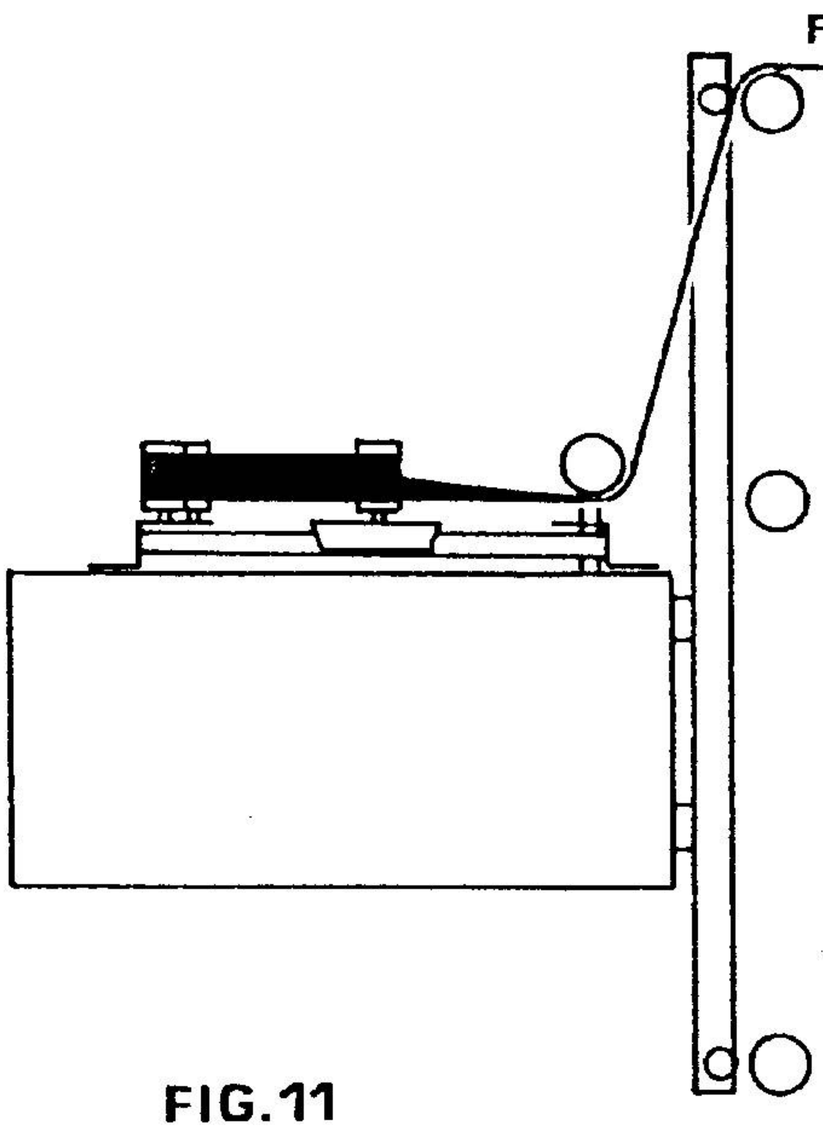


FIG. 11

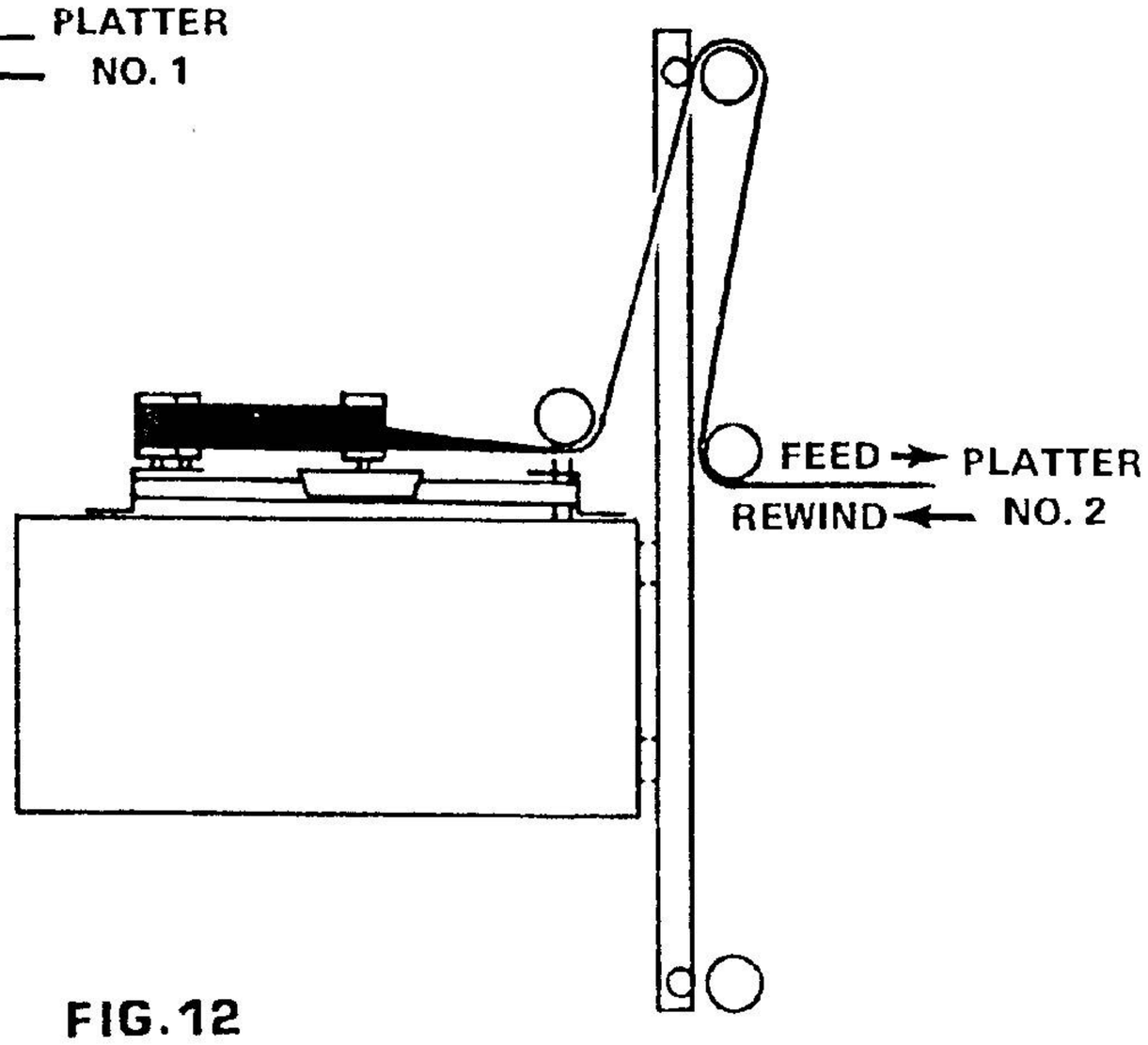


FIG. 12

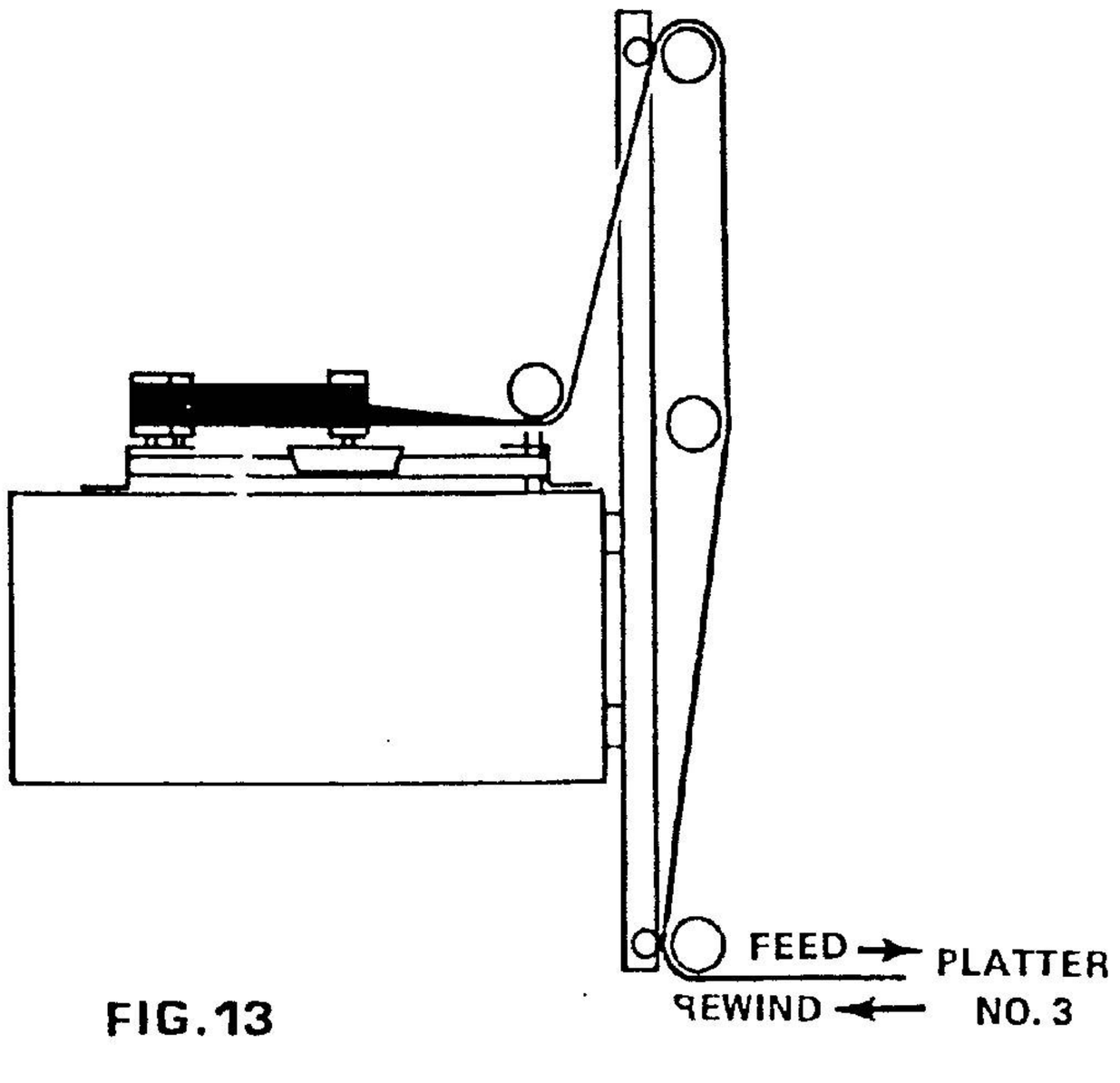


FIG. 13

THREE PLATTER TRANSFER ARM
SHOWING FEEDING OR REWINDING
FILM FROM PLATTERS 1, 2, AND 3

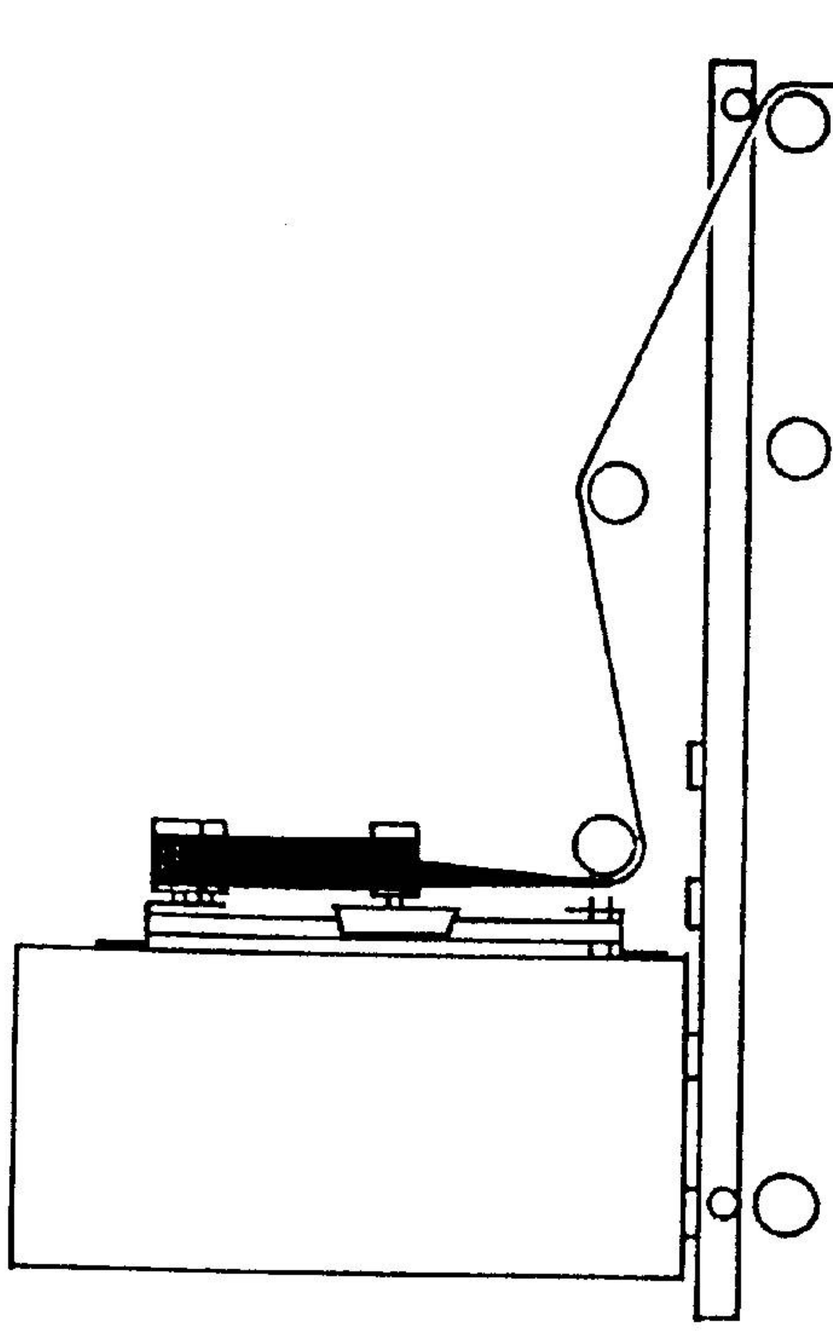


FIG. 14

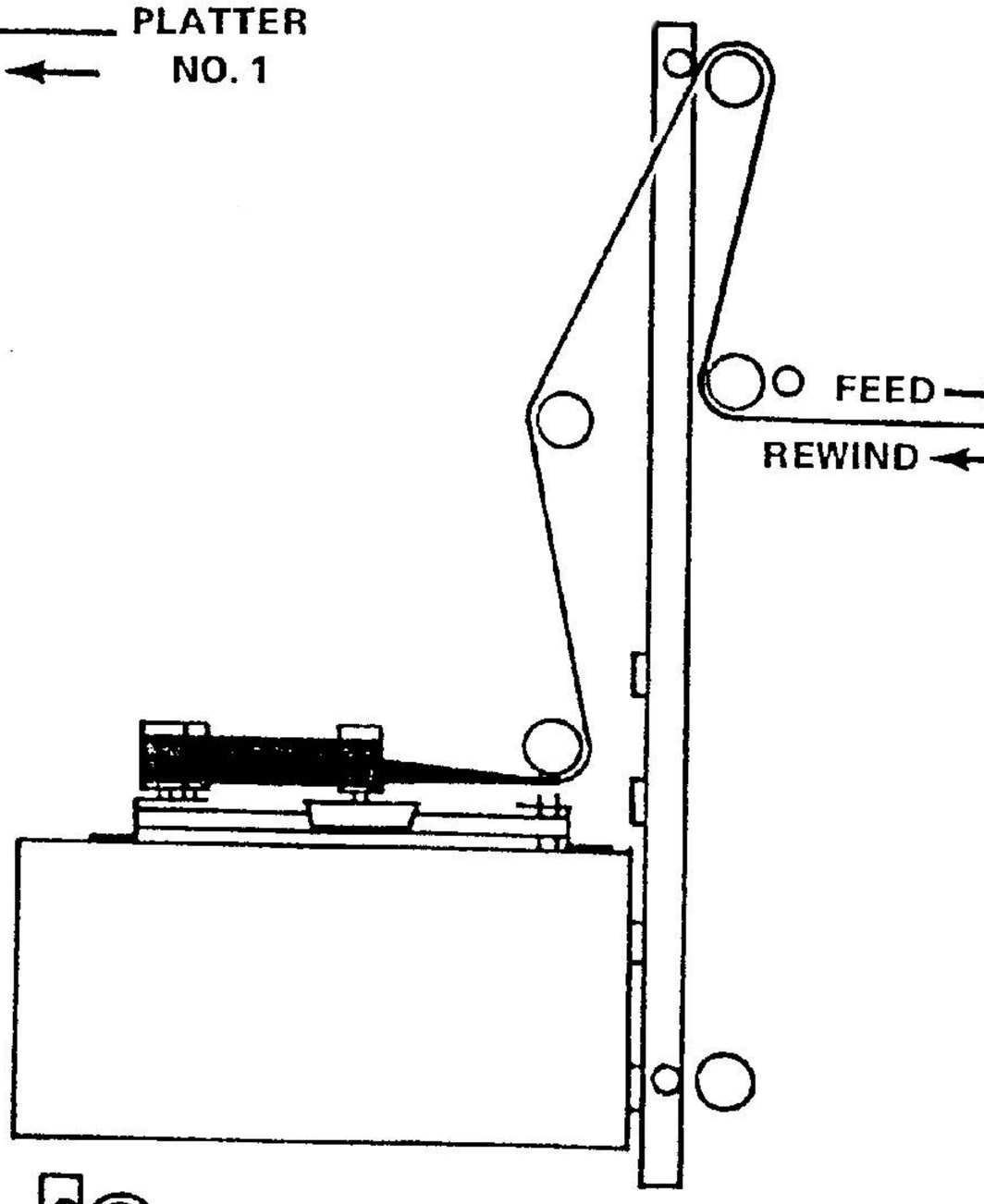


FIG. 15

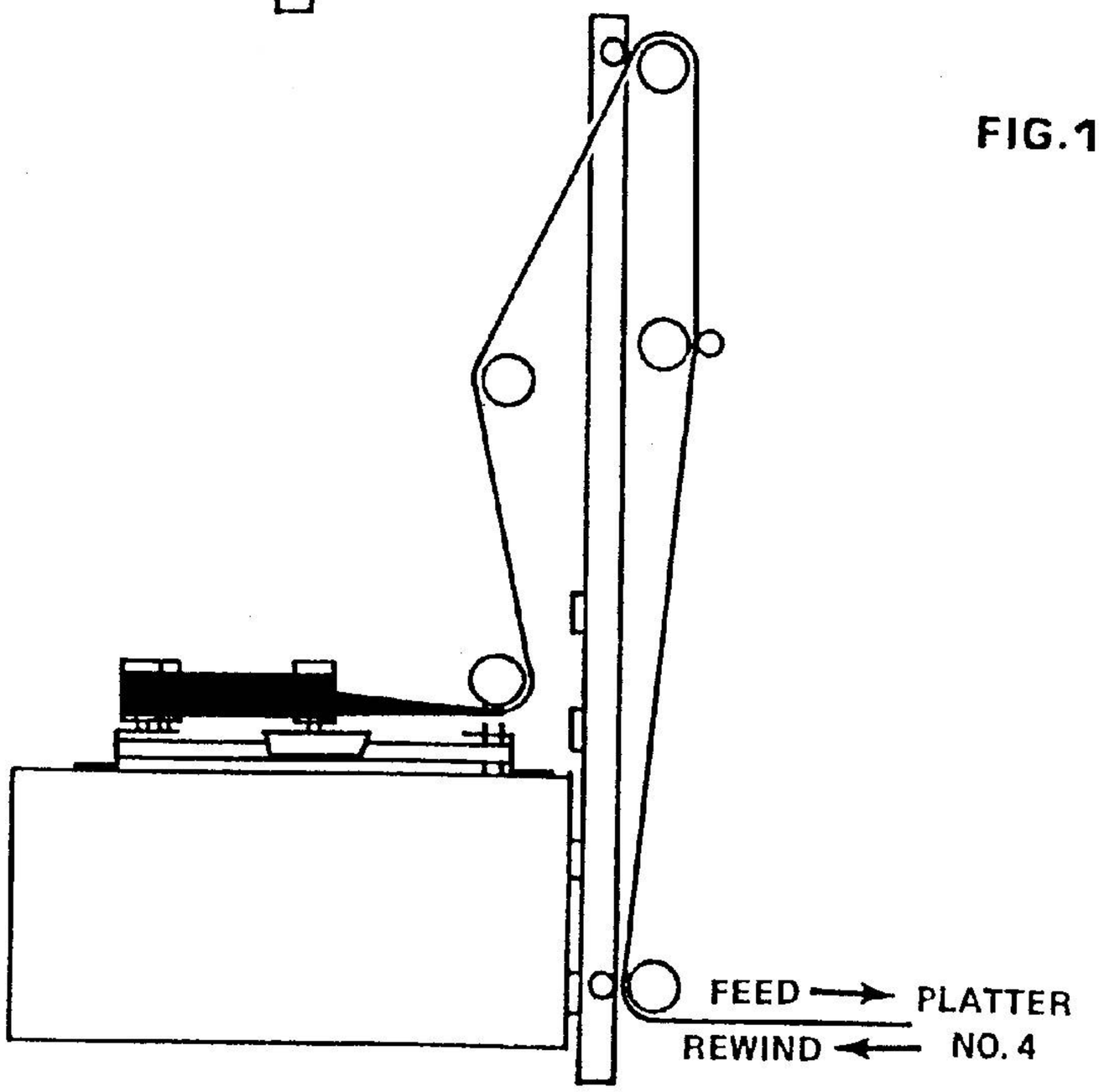


FIG. 16

FIVE PLATTER TRANSFER ARM
IN UPPER POSITION TO FEED OR
REWIND FILM FROM PLATTERS 1, 2 AND 4

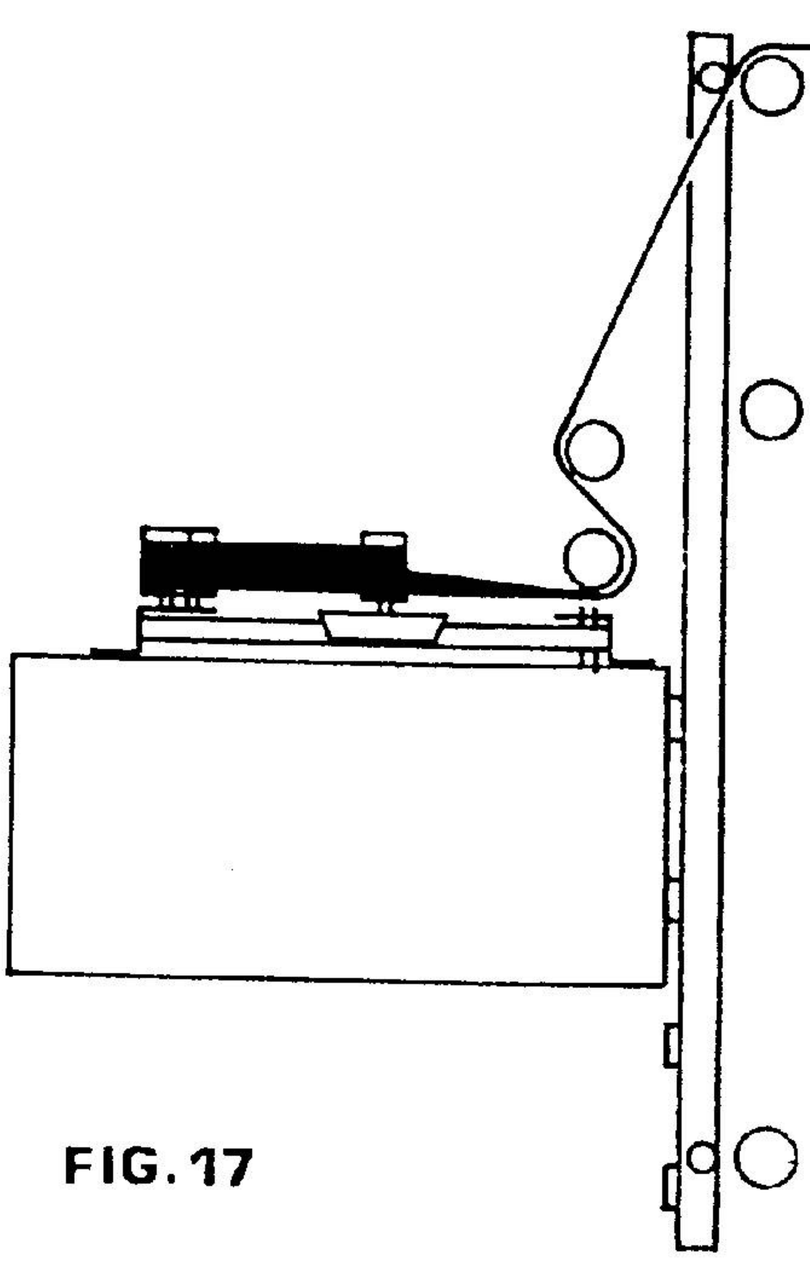


FIG. 17

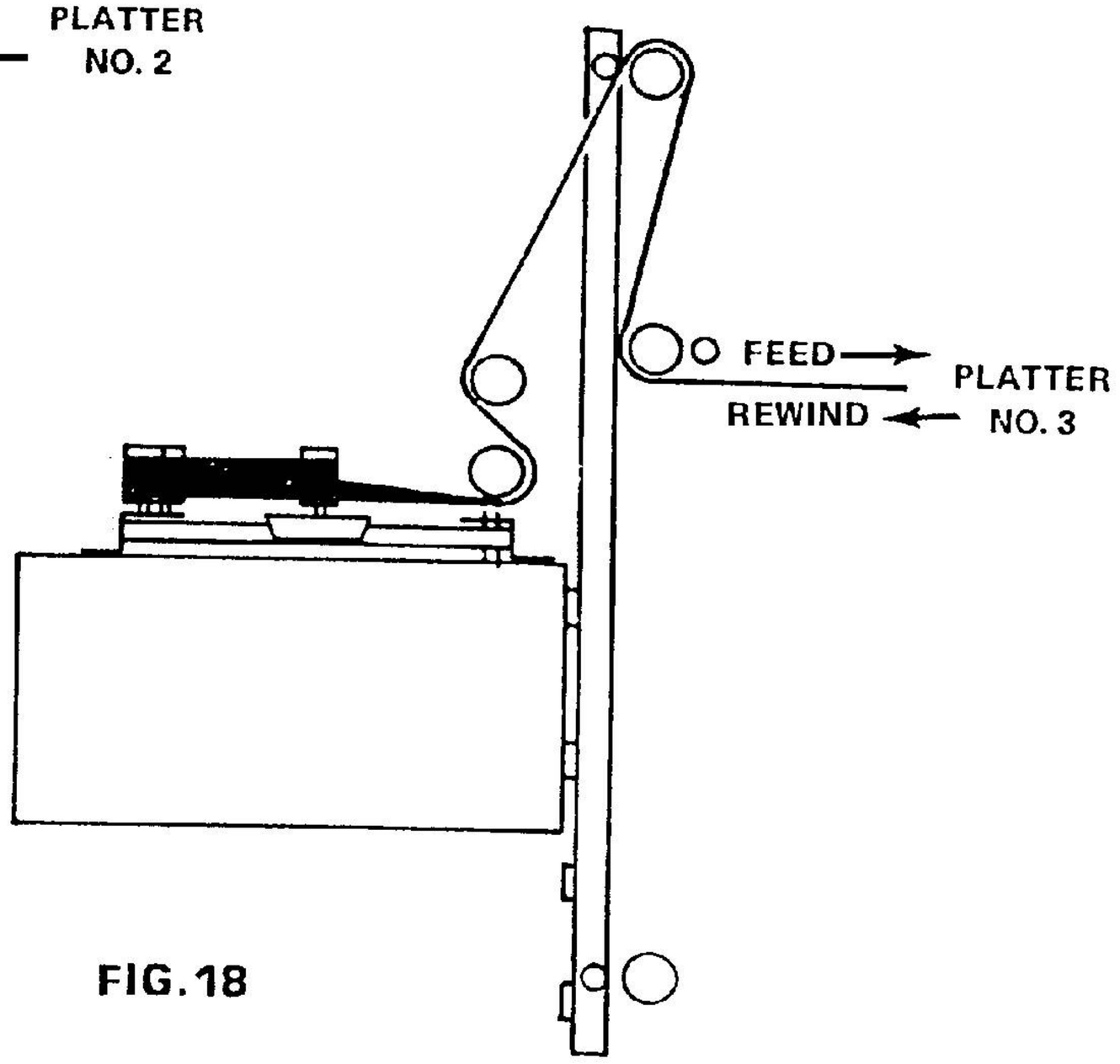


FIG. 18

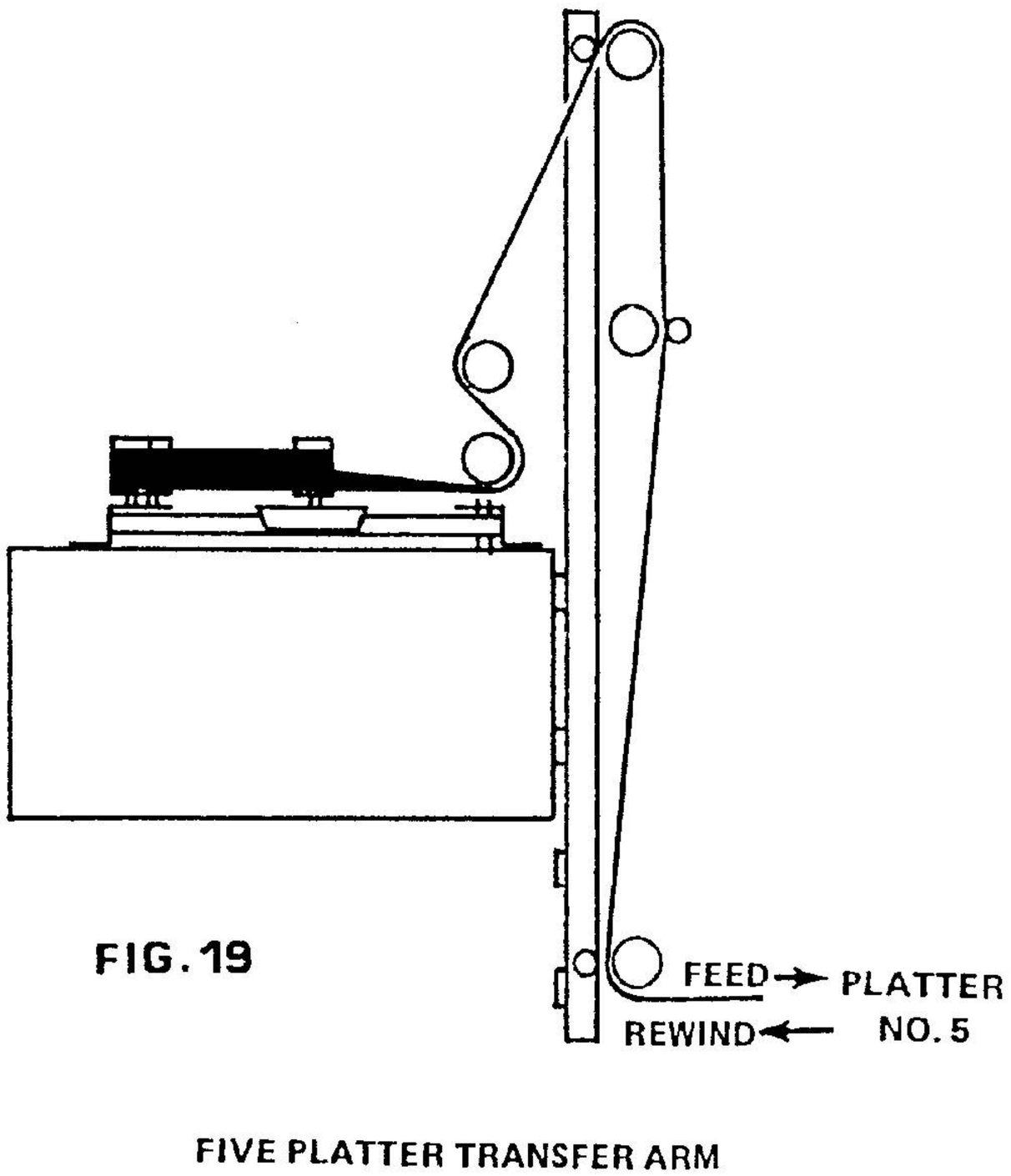
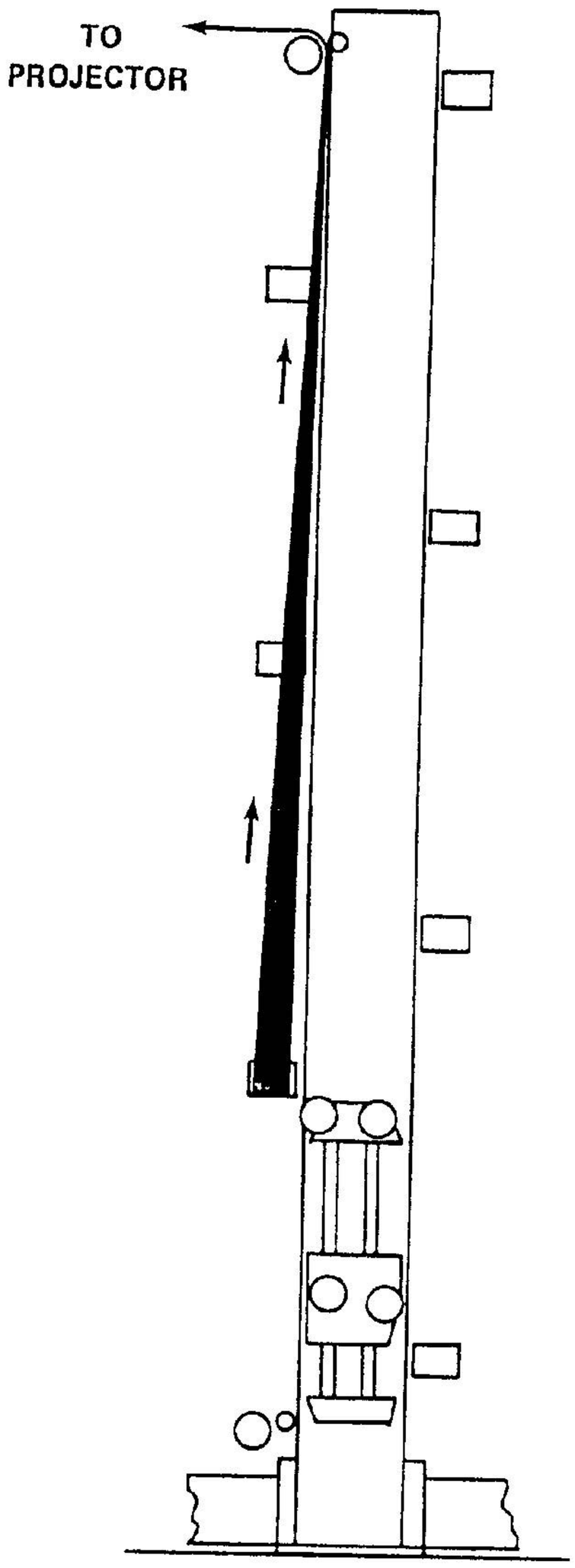
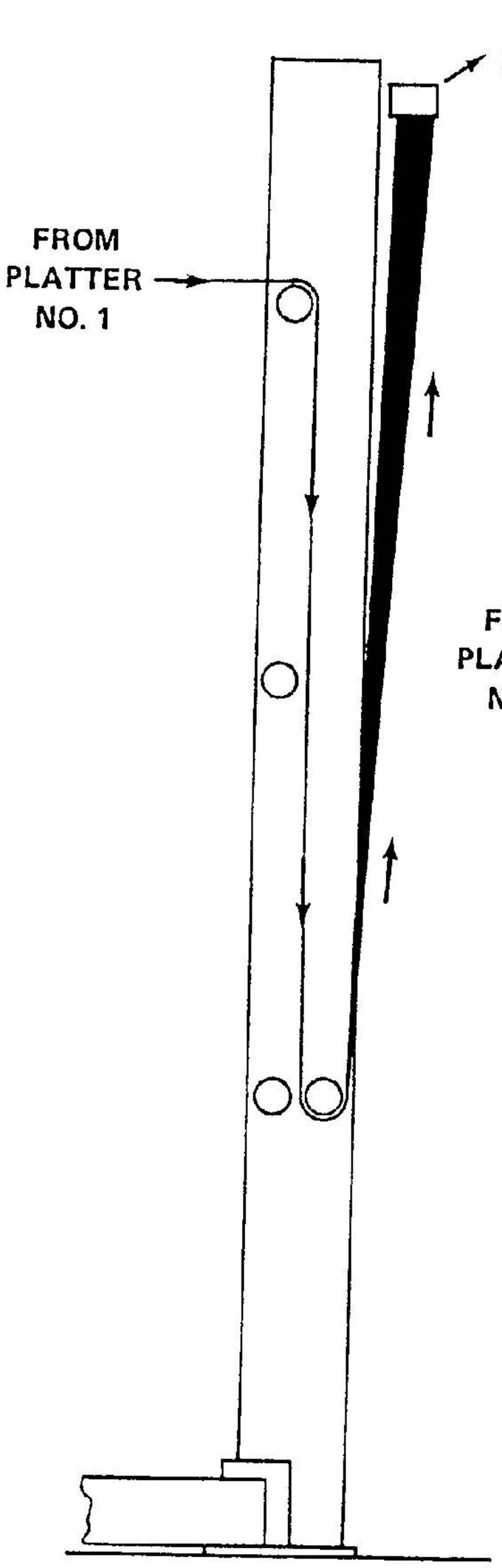


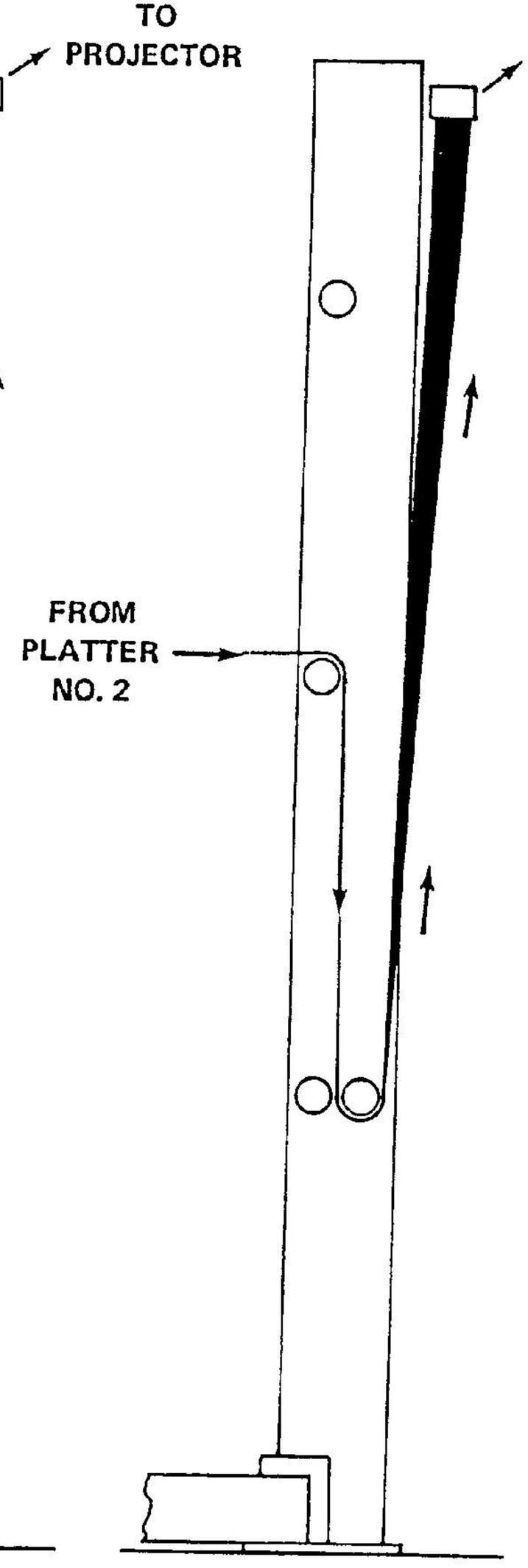
FIG. 19

FIVE PLATTER TRANSFER ARM
IN LOWER POSITION TO FEED OR REWIND
FILM FROM PLATTERS 2, 3 AND 5

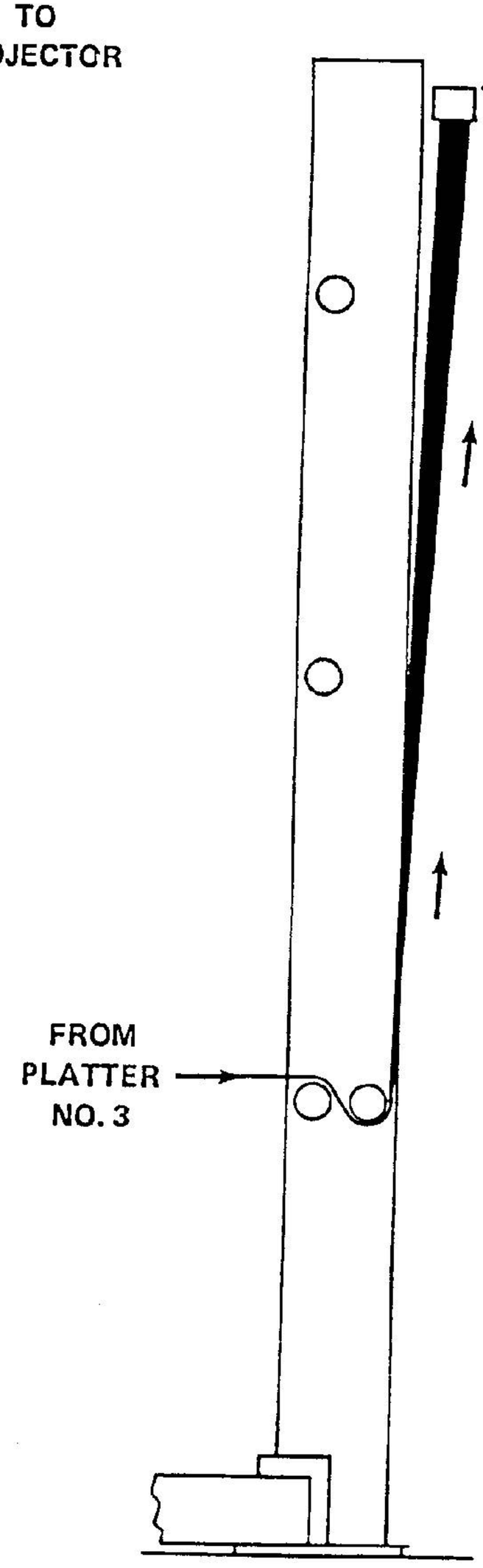


REAR VIEW
SHOWING FEED-OUT
TO PROJECTOR

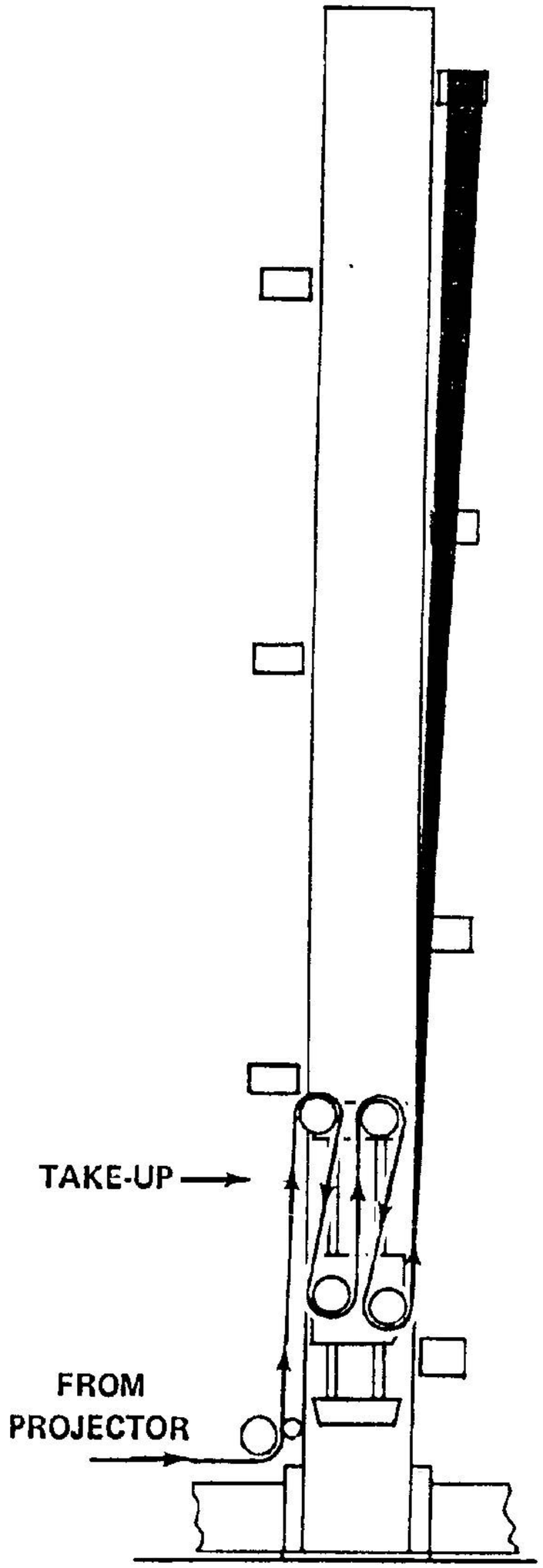




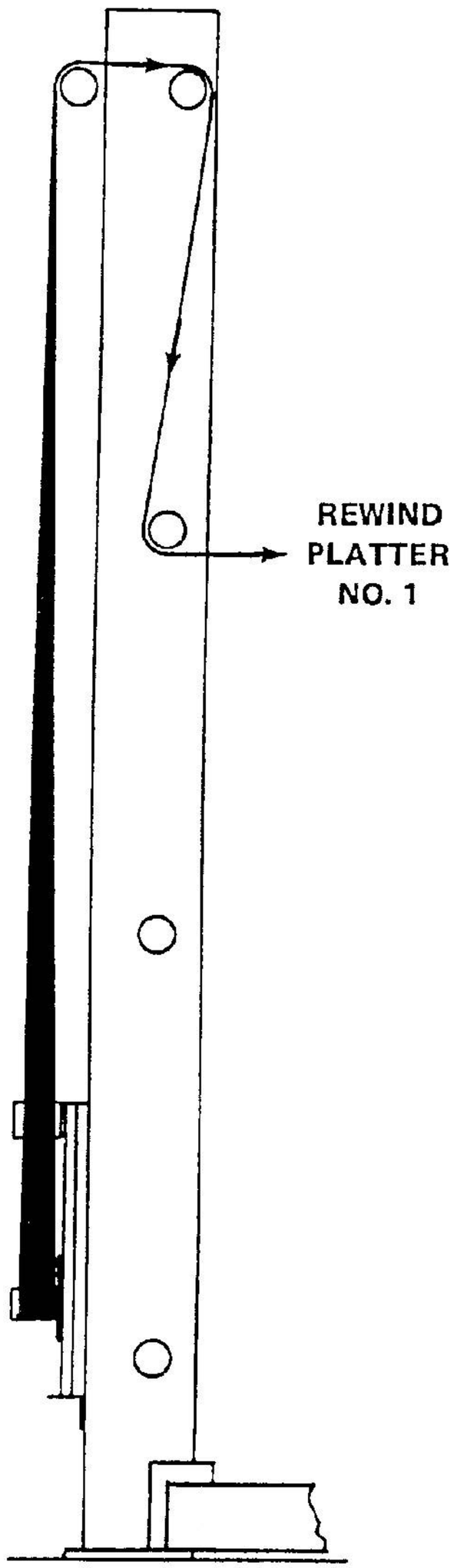
THREE PLATTER FEED-OUT

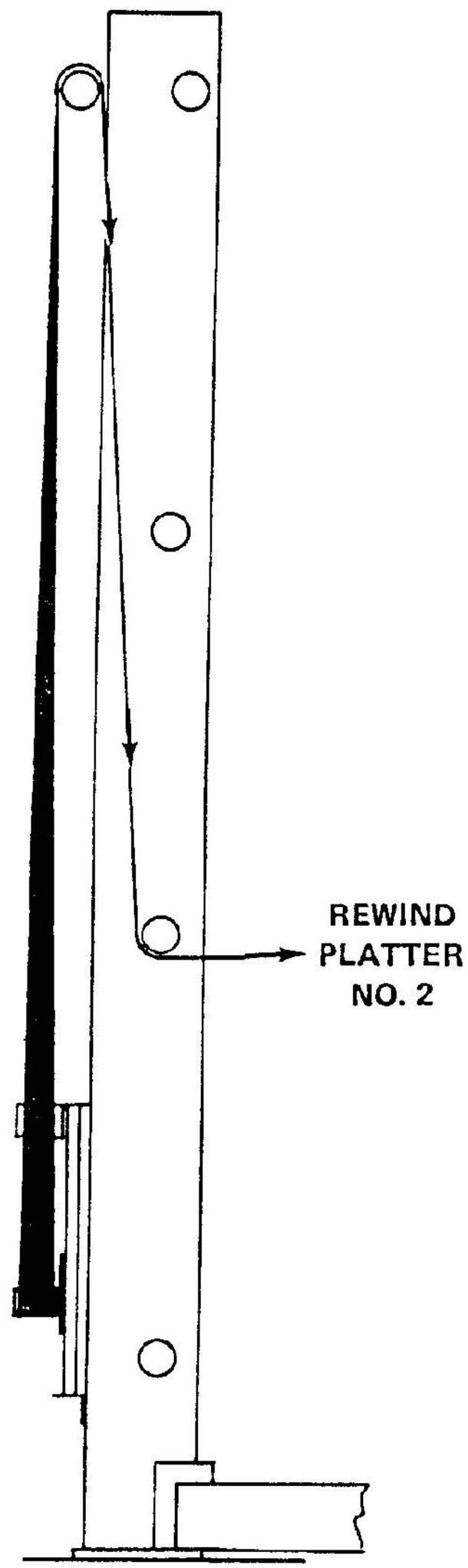


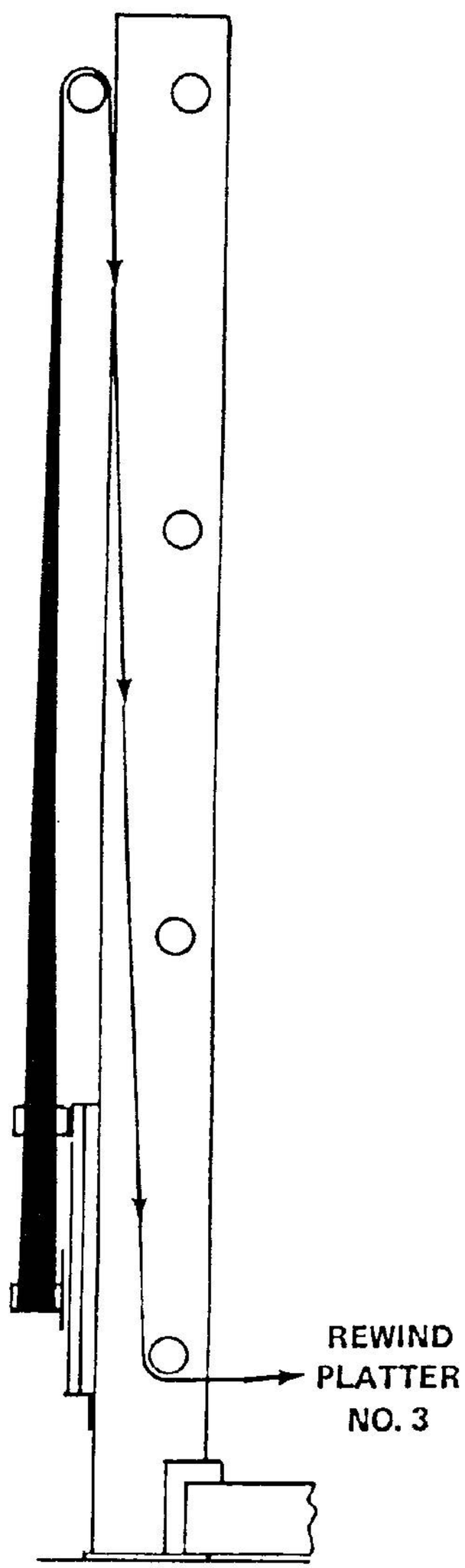
PLATTERS 1, 2 AND 3



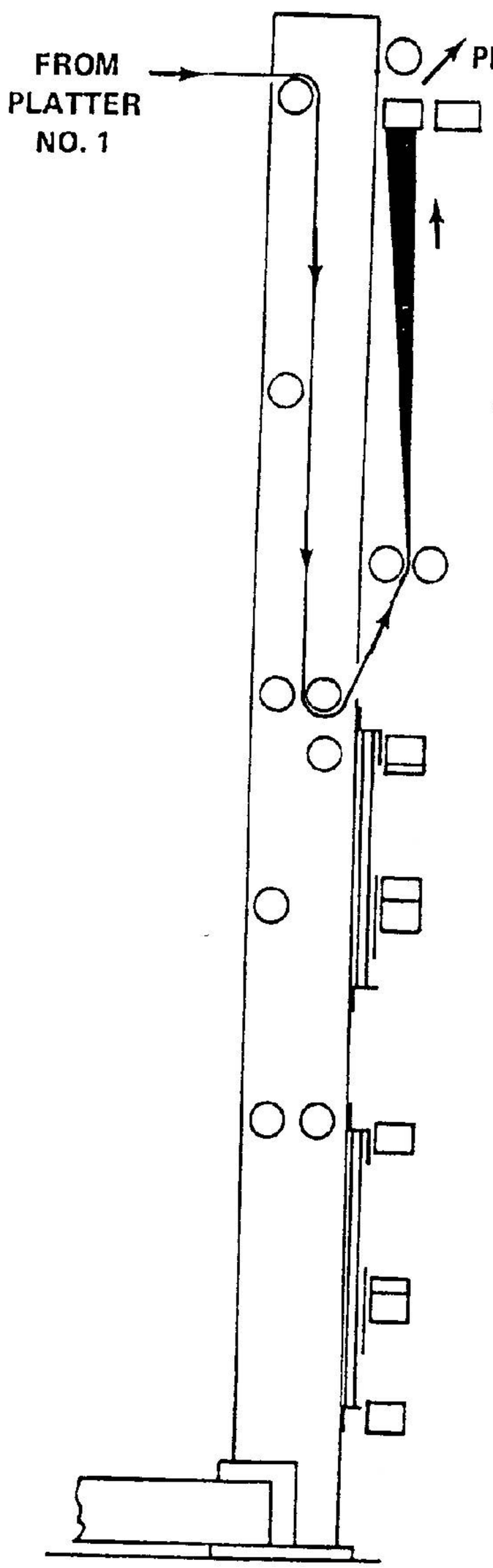
REAR VIEW
SHOWING RETURN
FROM PROJECTOR



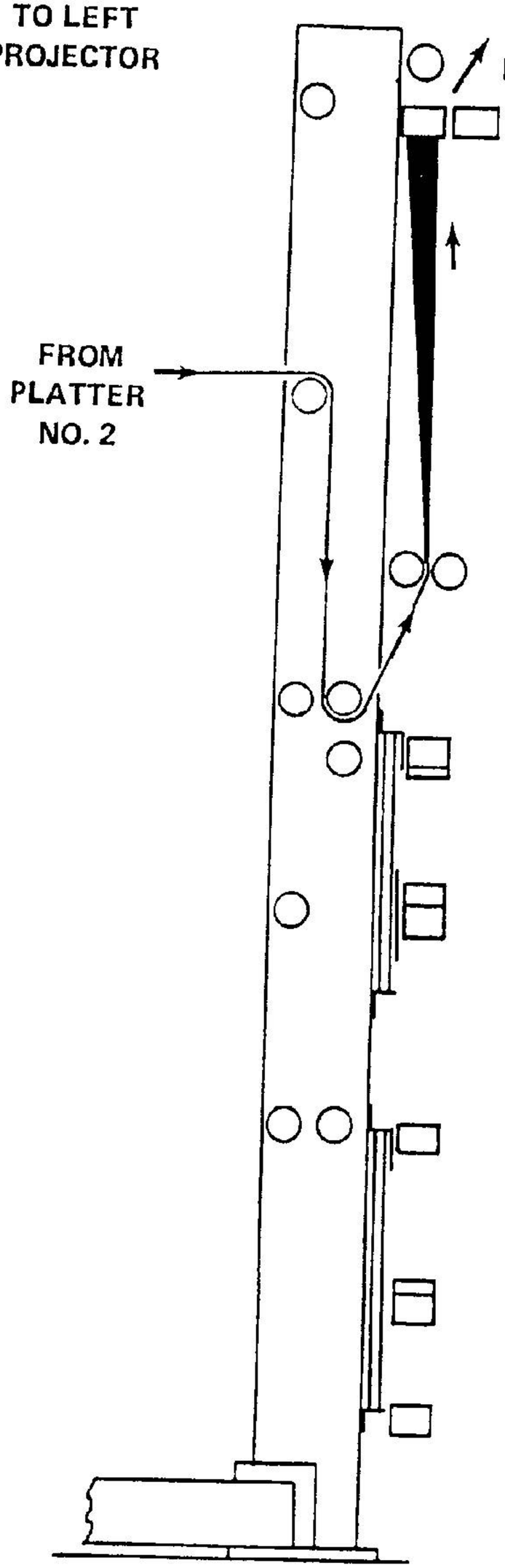


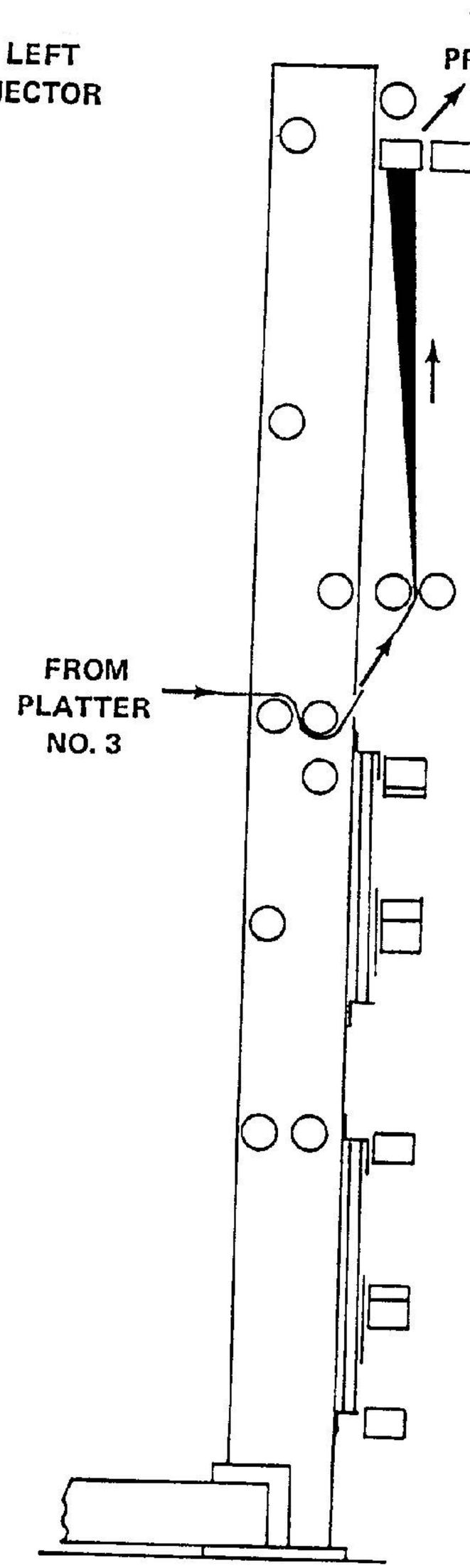


THREE PLATTER REWIND
PLATTERS 1, 2 AND 3

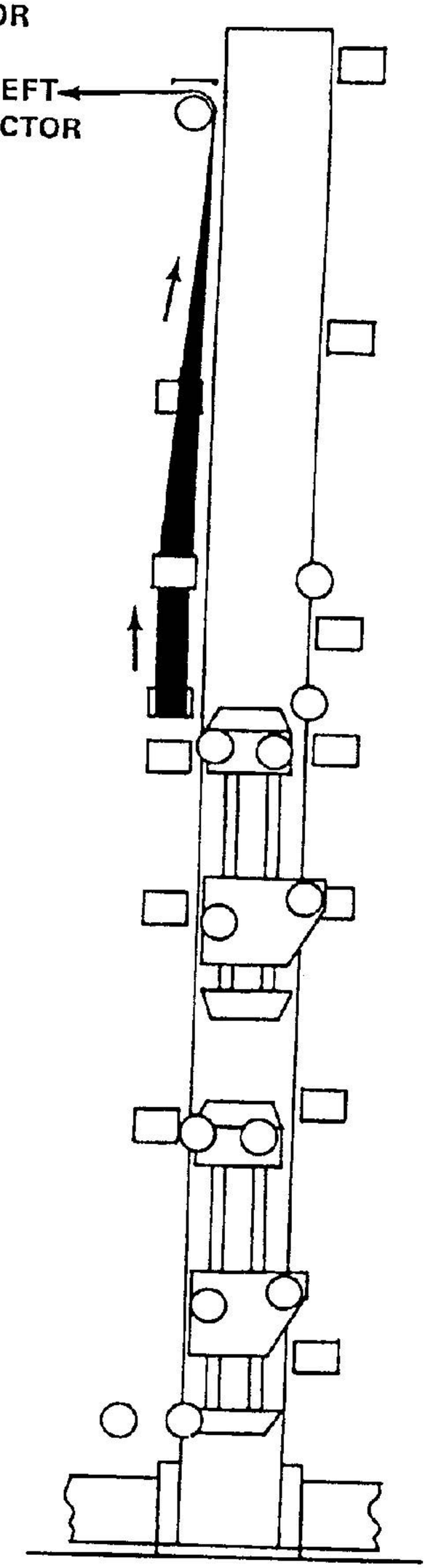


FIVE PLATTER FEED-OUT

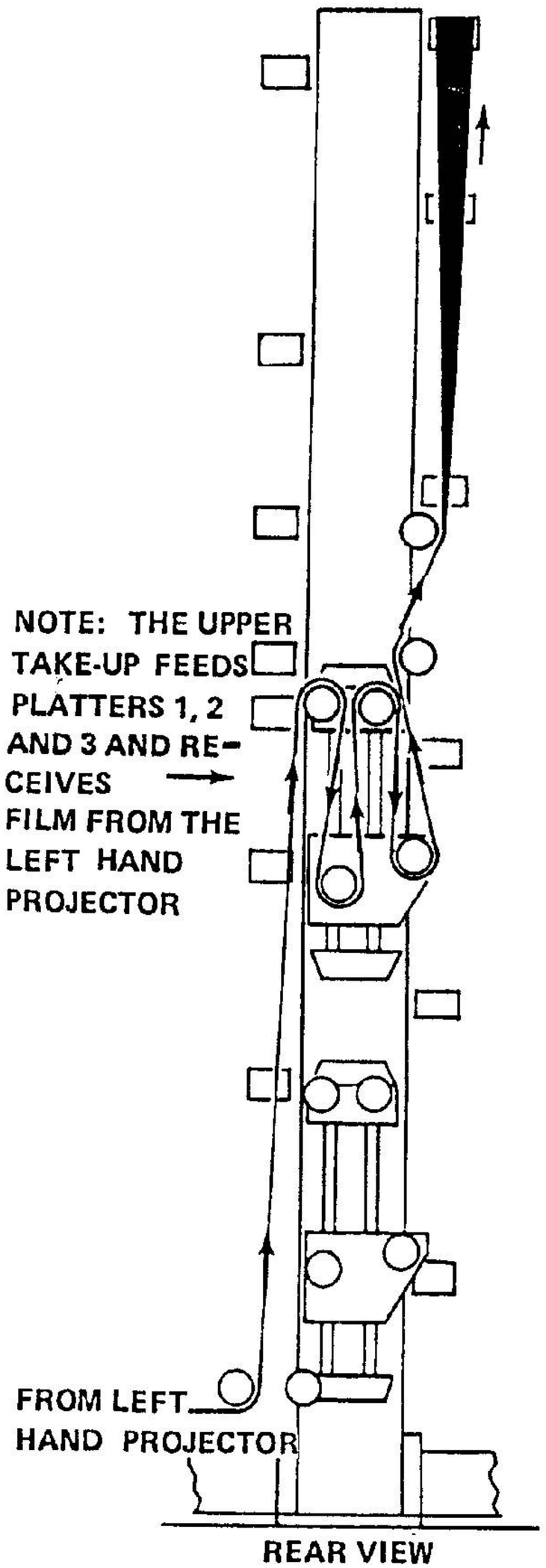




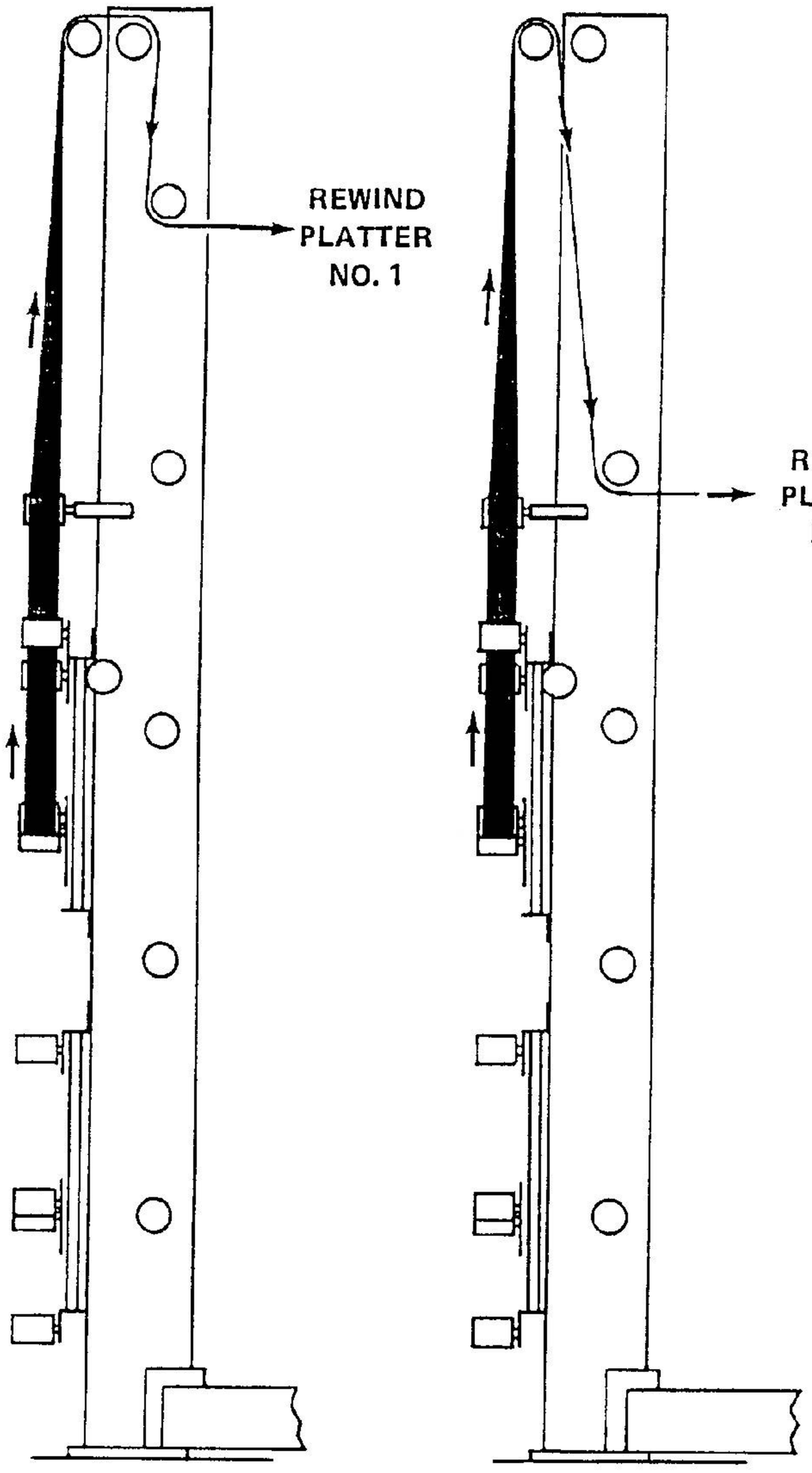
PLATTERS 1, 2 AND 3



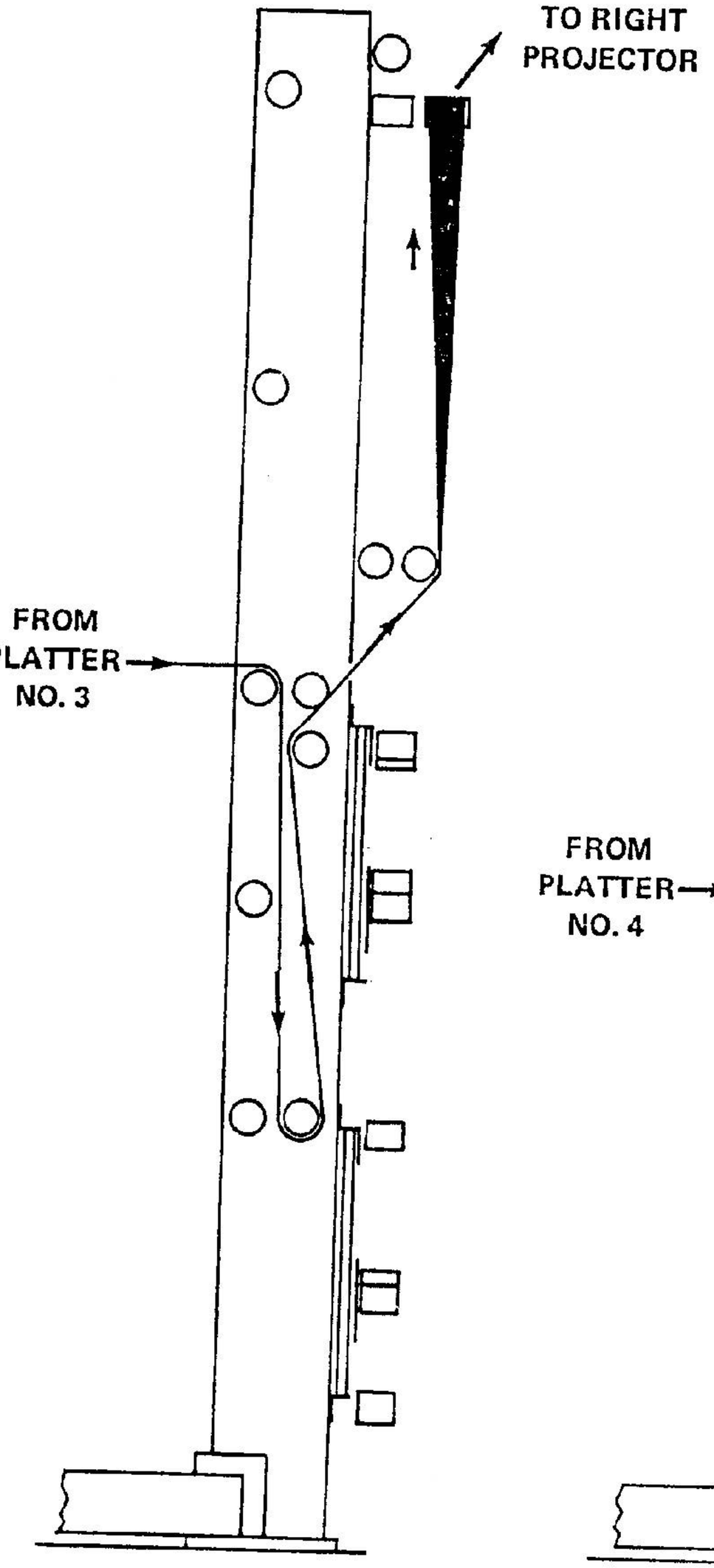
REAR VIEW SHOWING
PLATTERS 1, 2 AND 3
FEEDING OUT TO LEFT PROJECTOR

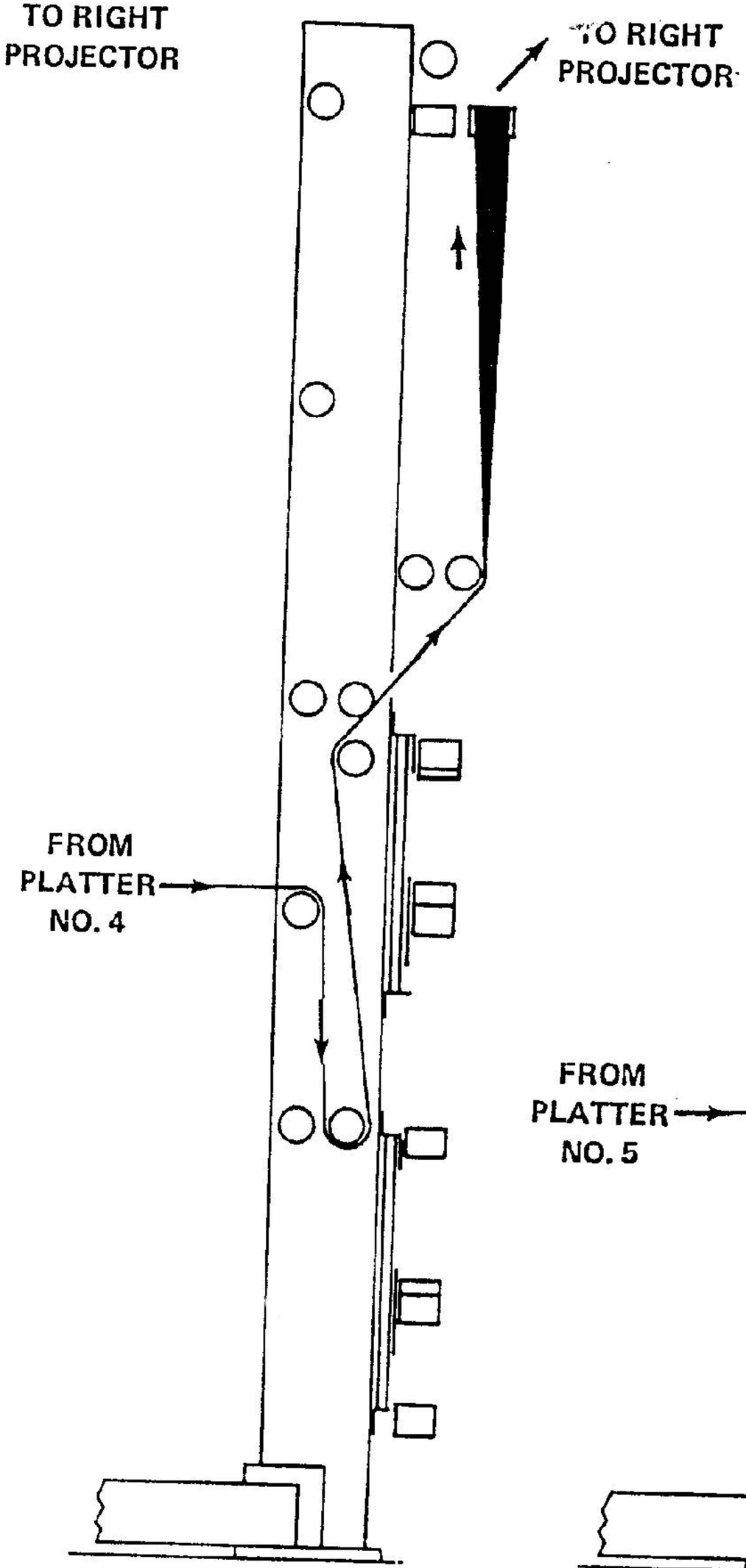


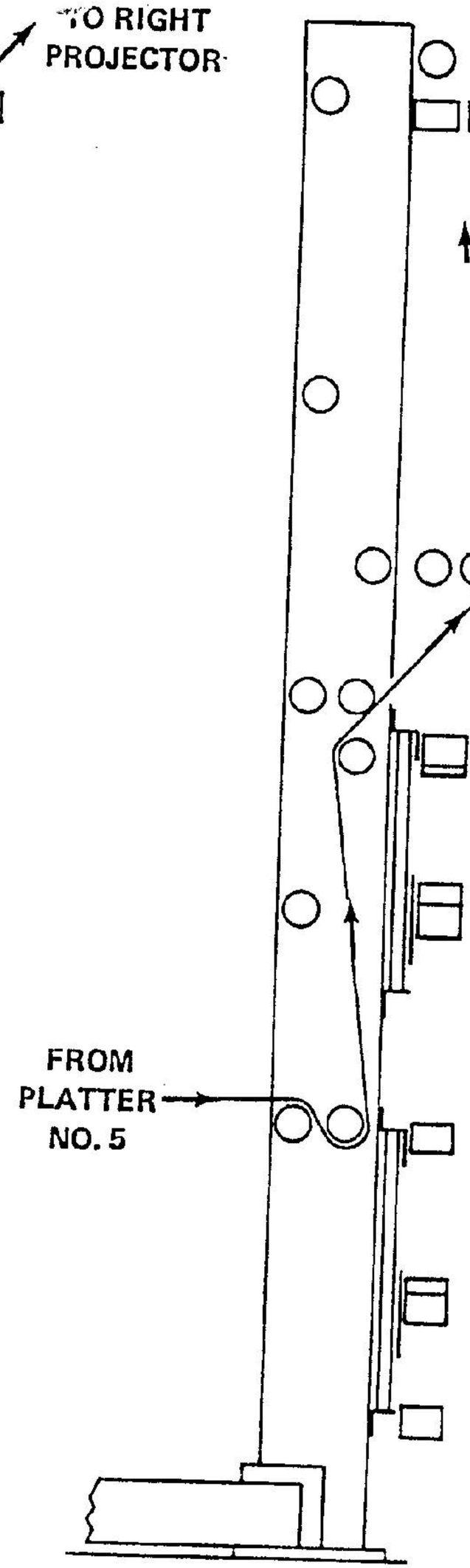
REAR VIEW
SHOWING RETURN
FROM LEFT HAND PROJECTOR
TO UPPER TAKE-UP ASSEMBLY



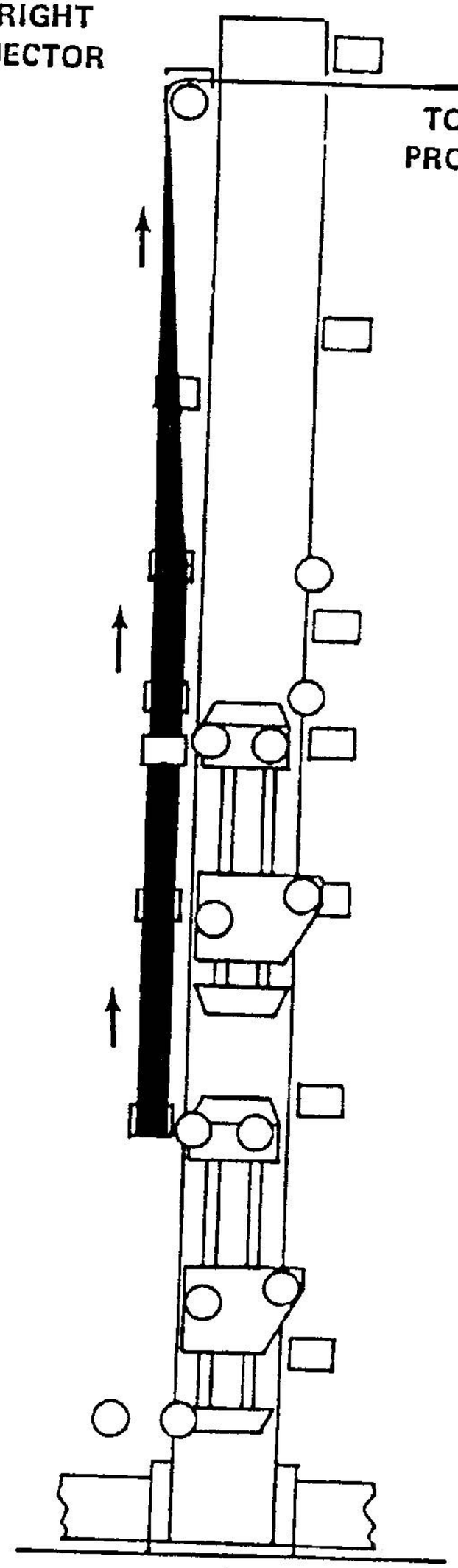
FIVE PLATTER REWIND FROM LEFT PROJECTOR
TO PLATTERS 1, 2 AND 3



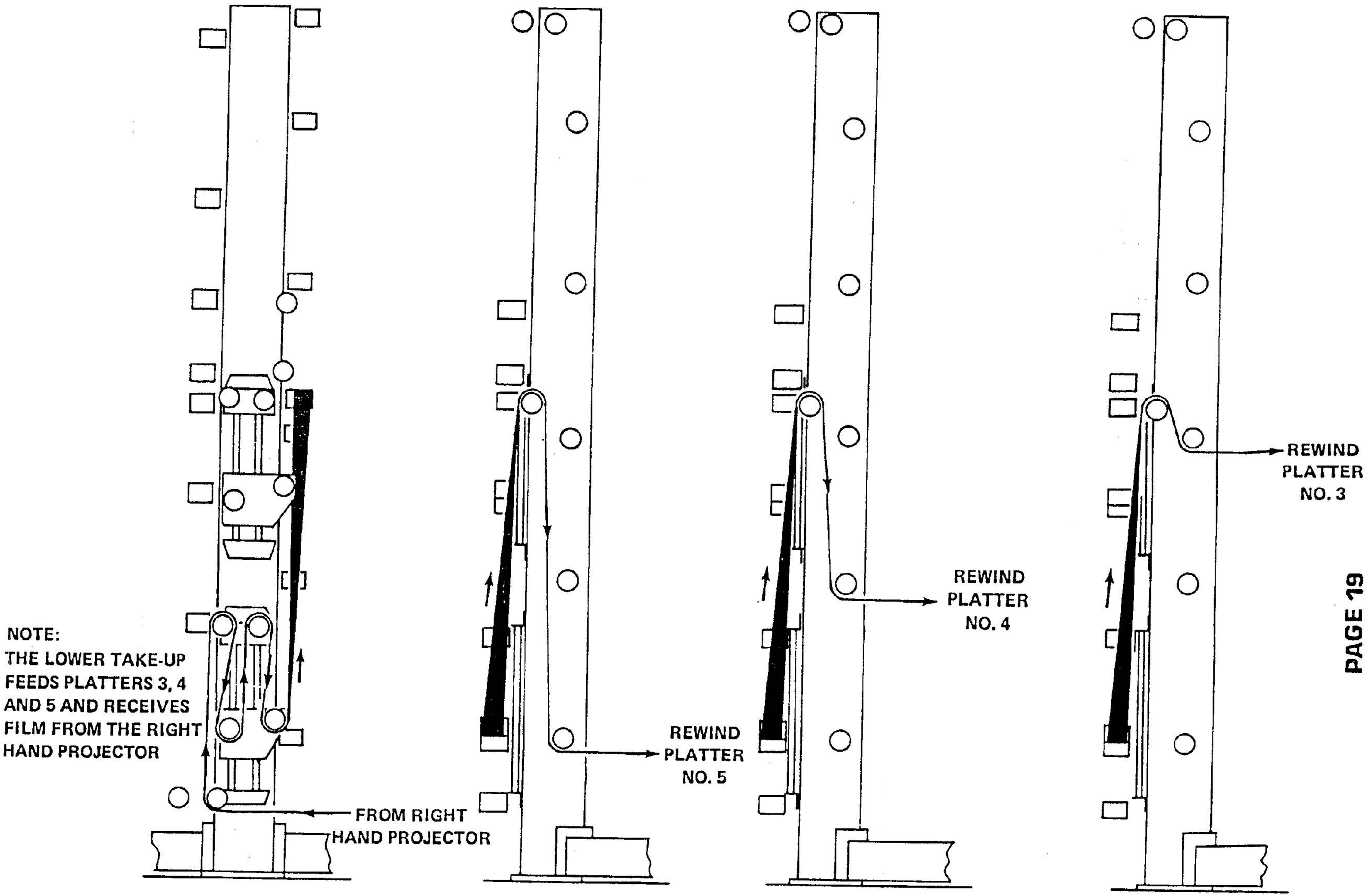




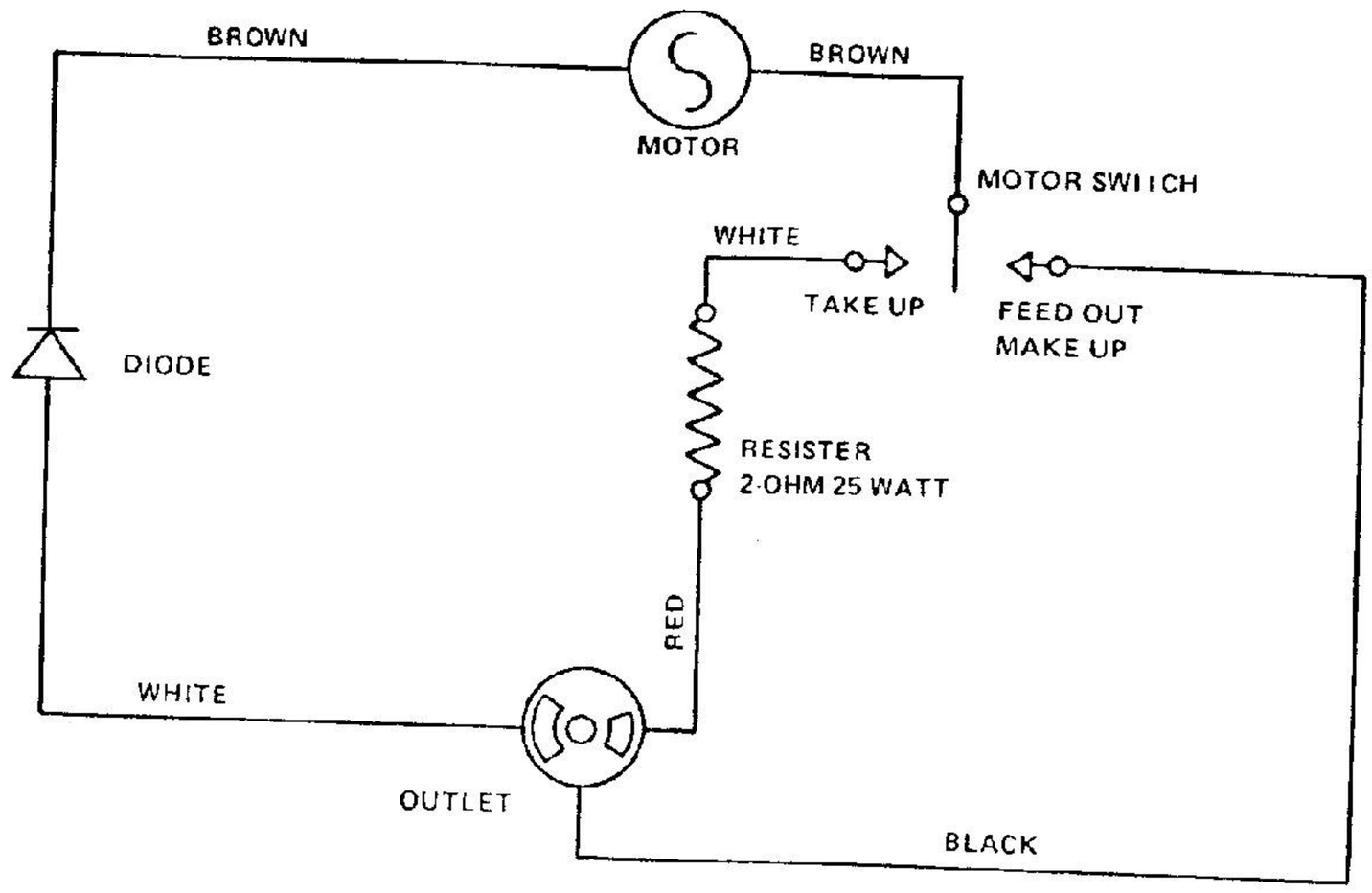
FIVE PLATTER FEED-OUT, PLATTERS 3, 4 AND 5
FEEDING RIGHT PROJECTOR



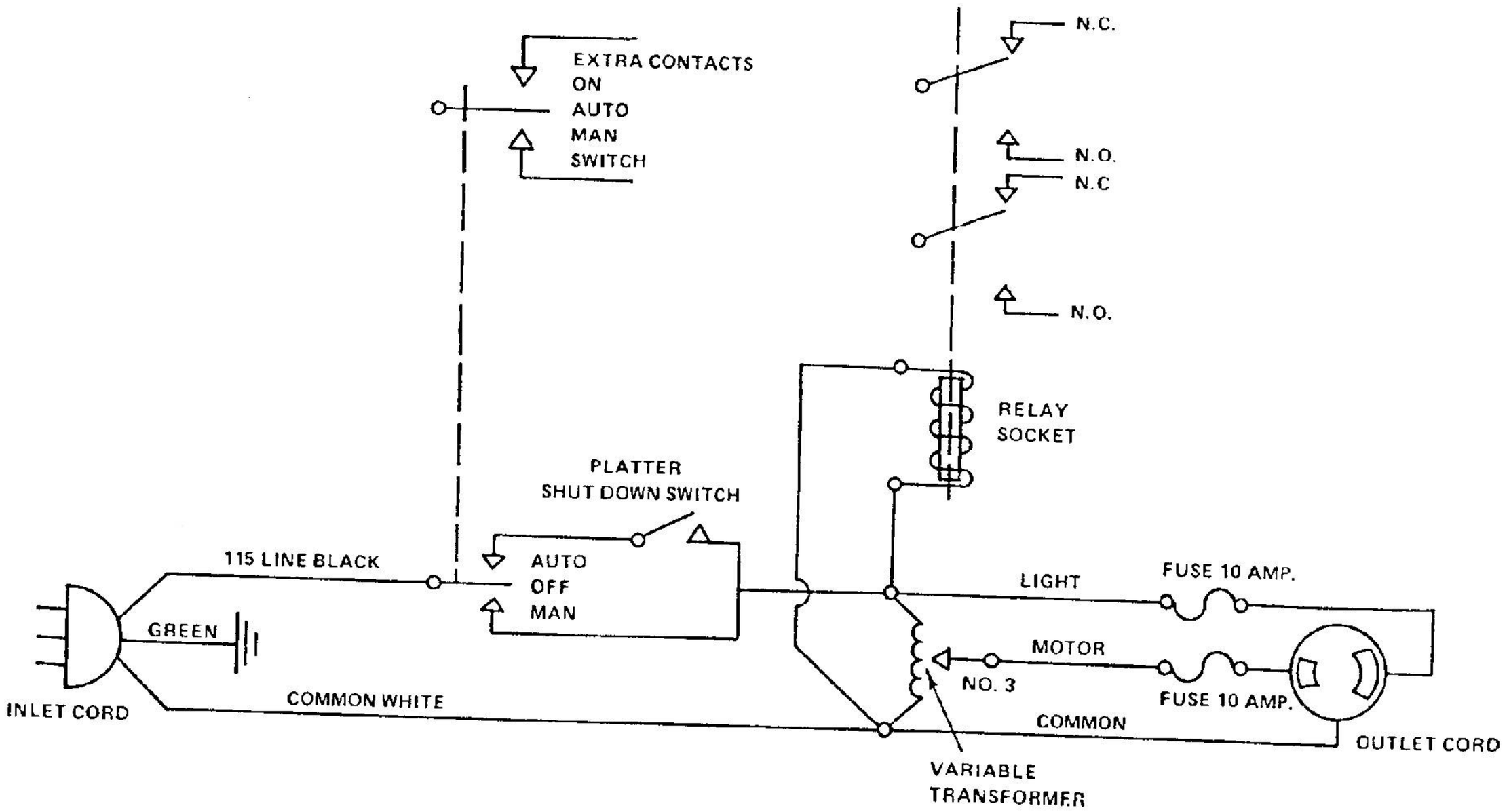
REAR VIEW SHOWING
PLATTERS 3, 4 AND 5
FEEDING-OUT TO RIGHT PROJECTOR



FIVE PLATTER REWIND FROM RIGHT PROJECTOR
TO PLATTERS 3, 4 AND 5



MOTOR WIRING DIAGRAM



VARIAC WIRING DIAGRAM

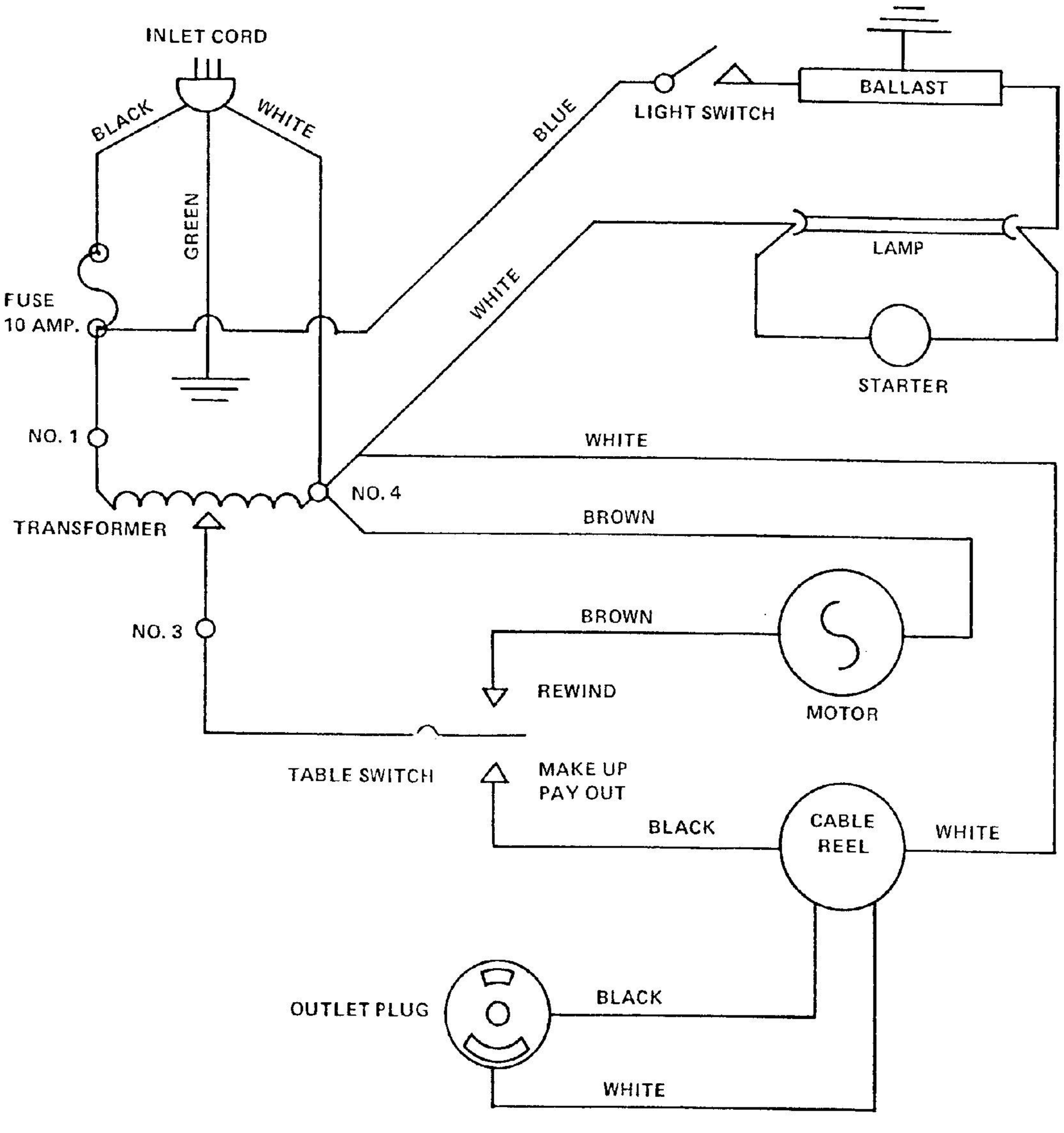
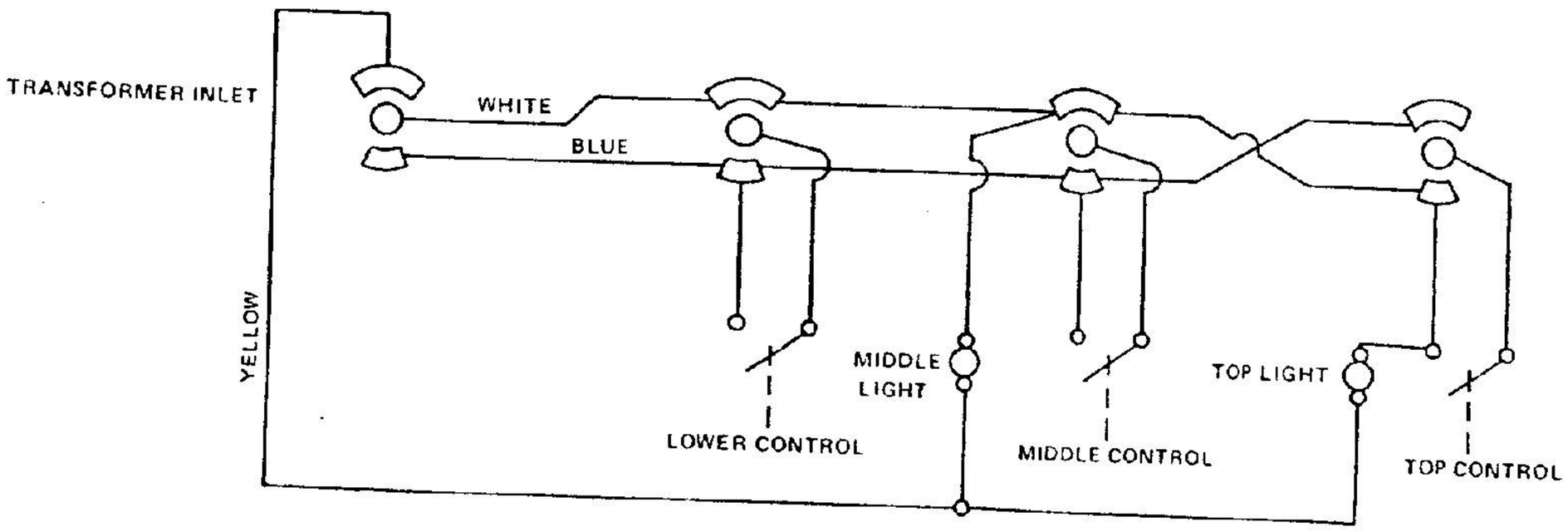
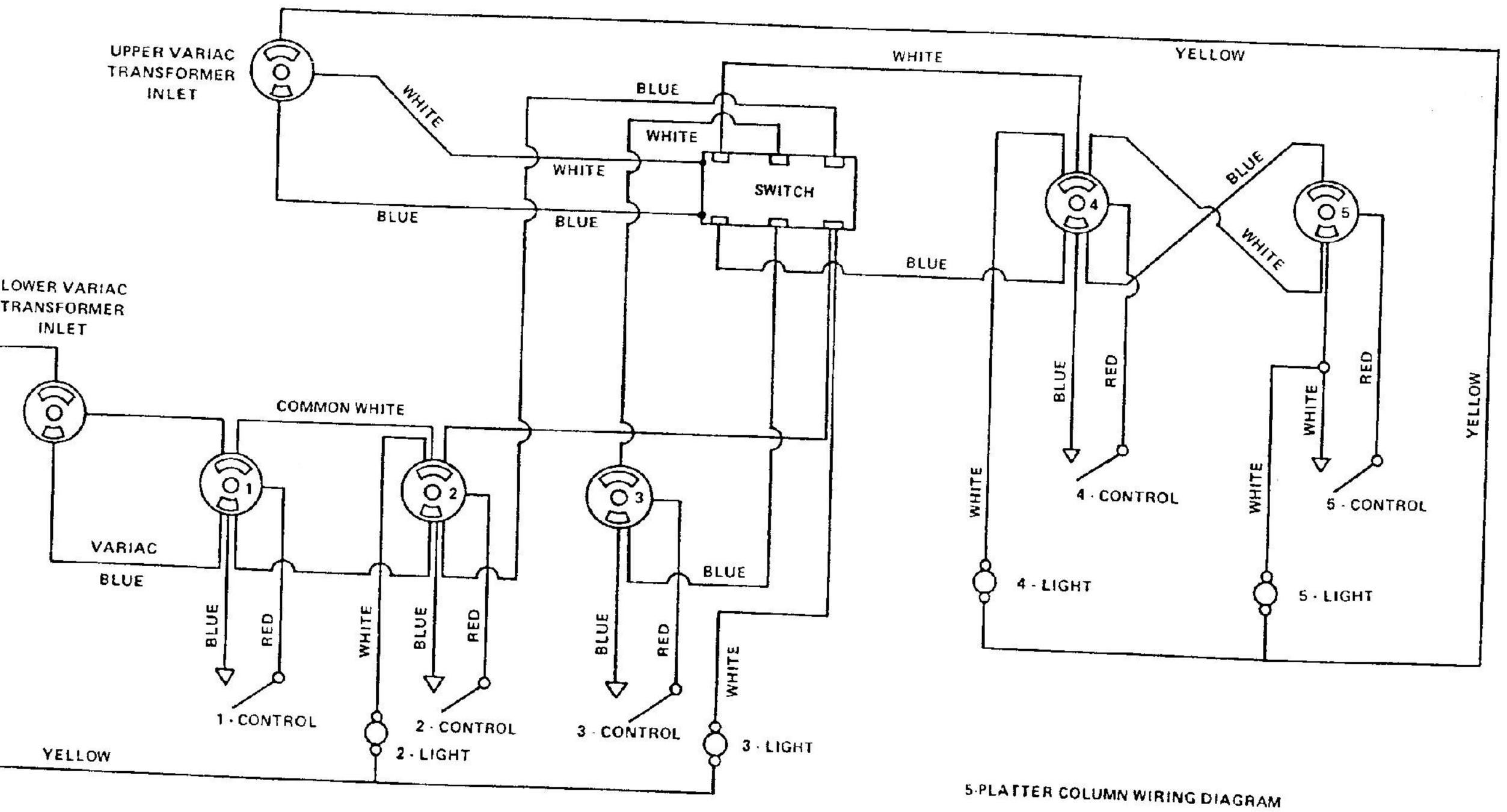


TABLE WIRING DIAGRAM



3 · PLATTER COLUMN WIRING DIAGRAM



5-PLATTER COLUMN WIRING DIAGRAM

BALCO PLATTER SYSTEM
PARTS MANUAL
1787-05-10

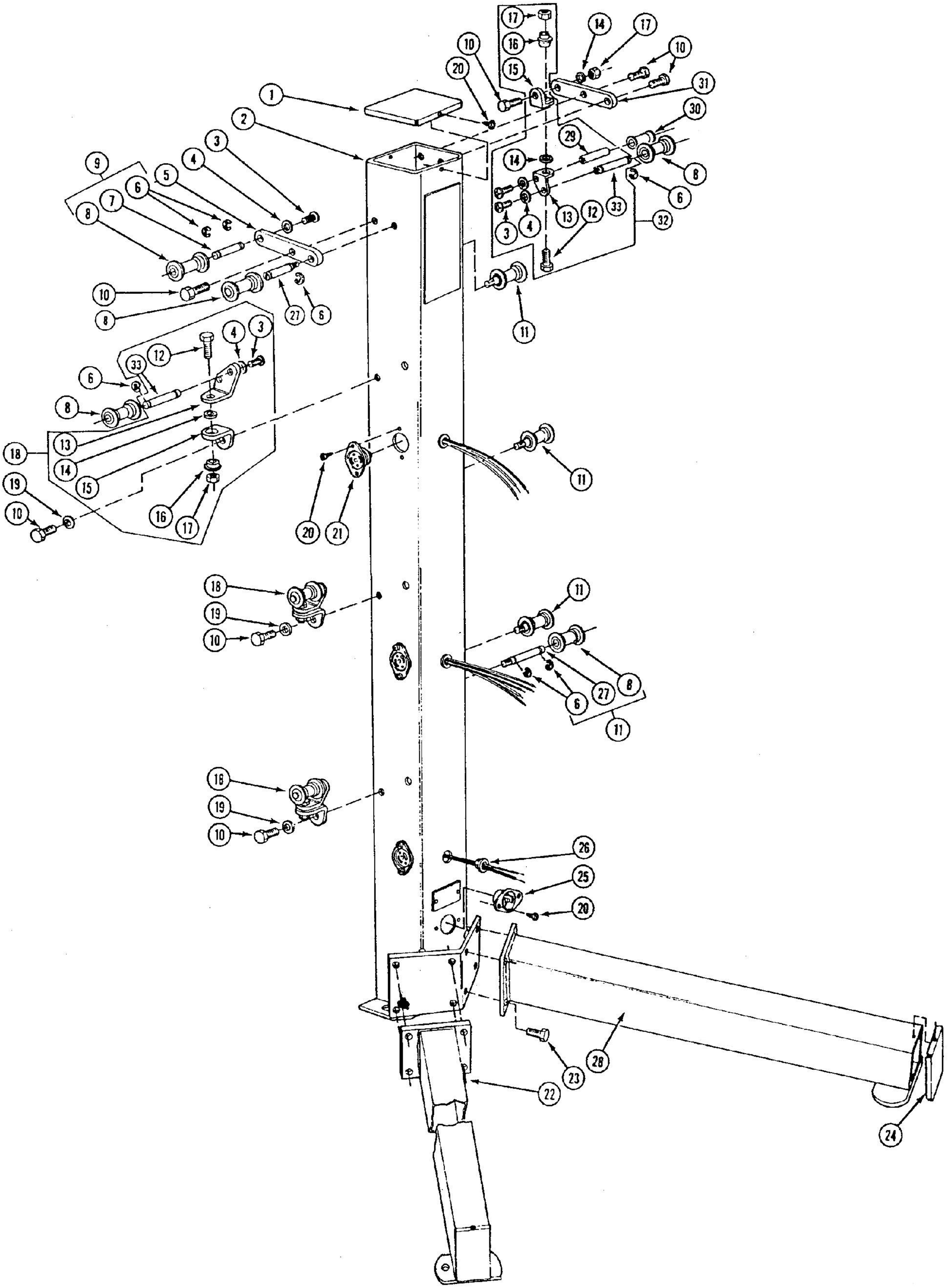
for 3 Platter 35mm
5 Platter 35mm
Make-up Table 35mm

manufactured from 1976 until May 1983

Table of Contents

3 PLATTER MAIN FRAME

ITEM	PART NO.	DESCRIPTION
1	AU-111	Top Cap
2	AS3-02	3 Platter Column
3	PP-171	Truss Head Screw 10-32 x 3/8
4	PP-172	Lockwasher, No. 10
5	A3-125-L	Top Left Bracket
6	PP-116	E-Ring
7	AU-308-1	Shaft No. 3
8	AS3-07	Pulley Assembly
9	AS3-58	No. 3 Shaft & Pulley Assembly
10	PP-164	Hex Bolt 1/4-28 x 1/2
11	AS3-13	Column Shaft & Pulley Assembly
12	PP-163	Hex Bolt 1/4-28 x 3/4
13	AU-170-R	Right Castor Swivel Bracket
14	PP-166	Lockwasher 1/4
15	AU-166	Castor Mount
16	PP-120	Castor Bearing
17	PP-167	Hex Nut 1/4-28
18	AS3-14S	Feed Castor Assembly
19	PP-165	Flatwasher 1/4
20	PP-173	Truss Head Screw 6-32 x 1/4
21	PP-107	Column Outlet Plug
22	AS3-33-L	Left Leg
23	PP-194	Hex Bolt 3/8-16 x 5/8
24	AU-509	Leg End Cap
25	PP-106	Column Inlet Plug
26	AU-322	Plastic Grommet 1/2
27	PP-124	Column Shaft
28	AS3-33-R	Right Leg
29	AU-302	Keeper Shaft
30	PP-155	Spool
31	A3-125-R	Top Right Castor Bracket
32	AS3-59	Left Exit Castor Assembly
53	PP-125	Castor Shaft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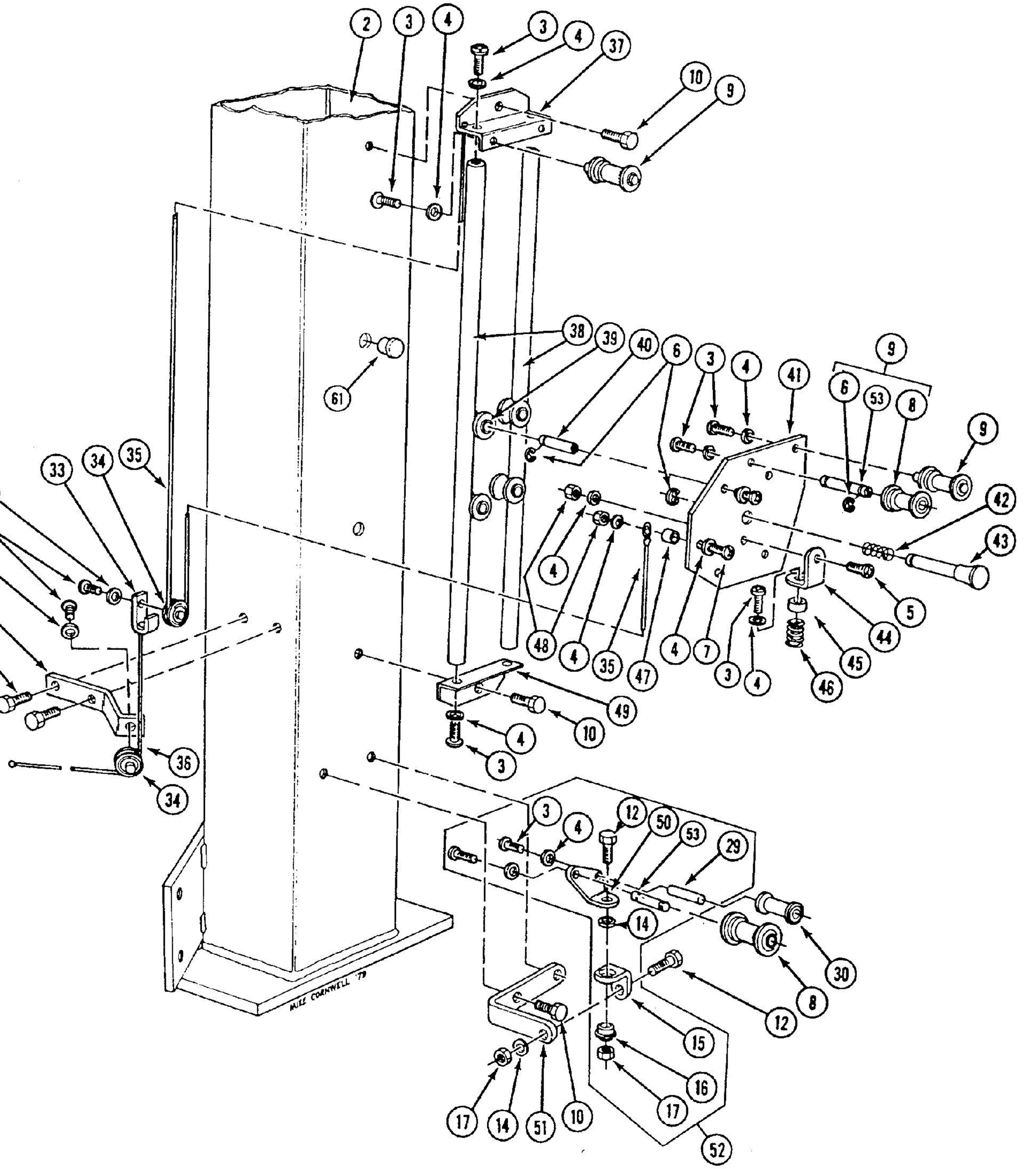
FILM TAKE-UP & LOWER CASTOR

ITEM	PART NO.	DESCRIPTION
2	AS3-02	3 Platter Column
3	PP-171	Truss Head Screw 10-32 x 3/8
4	PP-172	Lockwasher No. 10
5	PP-170	Truss Head Screw 10-32 x 1/2
6	PP-116	E-Ring
7	PP-183	Truss Head Screw 10-32 x 3/4
8	AS3-07	Pulley Assembly
9	AS3-56	Castor Shaft & Pulley Assembly
10	PP-164	Hex Head Bolt 1/4-28 x 1/2
12	PP-163	Hex Head Bolt 1/4-28 x 3/4
14	PP-166	Lockwasher 1/4
15	AU-166	Castor Mount
16	PP-120	Castor Bearing
17	PP-167	Hex Nut 1/4-28
29	AU-302	Keeper Shaft
30	PP-155	Spool
32	AU-227	Cable Pulley Bracket
33	AU-505	Cable Pulley Hanger
34	AS3-57	Cable Pulley & Shaft Assembly
35	FT-1	Take-up Cable
36	V-3A	Variac Cable 21 7/8"
		NOTE: Model Earlier/Variac Cable
	V3-0 3PN1010	Large Disk 44 1/2"
	V3 3PN1010	Small Disk 32 5/8"
37	AU-197	Upper Bracket
38	AU-205	Rails
39	PP-132	Rollers
40	PP-133	Roller Shaft
41	AU-211	Take-up Plate
42	PP-134	Spring
43	AS3-61	Stop Pin Shaft & Knob Assembly
44	AU-214	Stop Bracket
45	AU-217	Spring Spacer
46	PP-137	Stop Spring
47	AU-506	Cable Offset
48	PP-174	Hex Nut 10-32
49	AU-198	Lower Bracket
50	AU-170-L	Left Castor Swivel Bracket
51	A3-119	Lower Castor Bracket
52	AS3-62	Left Return Castor Assembly
53	PP-125	Castor Shaft
61	PP-195	Hole Plug 3/8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MOTOR

ITEM	PART NO.	DESCRIPTION
1	PP-179	Hex Nut 5/16-18
2	PP-169	Lockwasher 5/16
3	PP-178	Hex Bolt 5/16-18 x 5 1/2
4	AS3-24	Arm Assembly
5	AU-255	Drive Wheel
6	PP-180	Hex Bolt 1/4-28 x 2 1/4
7	AU-231	Pivot Arms
8	AU-300	Bearing Spacer
9	PP-176	Hex Stake Nut 1/4-28
10	PP-181	Hex Bolt 1/4-28 x 4
11	PP-146	Spring
12	AS3-29	Motor Mount Sub-Assembly
13	PP-165	Flatwasher 1/4
14	PP-164	Hex Bolt 1/4-28 x 1/2
15	PP-163	Hex Bolt 1/4-28 x 3/4
16	AU-233	Pivot Bushing
17	PP-167	Hex Nut 1/4-28
18	PP-196	Ball Swivel
19	AU-232	Ball Joint Bushing
20	AS3-28C	Drive Motor Assembly
21	PP-156	Drive Hub
22	PP-149	Switch
23	PP-148	Diode
24	PP-150	Resistor 2 OHM
25	PP-105	Motor Plug
26	PP-171	Truss Head Screw 10-32 x 3/8

O Ring for Newer Type Motor

2362-09-01 Rubber Tire

DRIVE MOTOR WHEEL CONVERSION KIT 2915-09-11

This PRODUCT INFORMATION BULLETIN accompanies part number 2915-09-11, which is sold as a replacement for part numbers 1203-09-01 DRIVE MOTOR WHEEL., and part number AU-255 DRIVE WHEEL.

INSTALLATION

To install the DRIVE MOTOR WHEEL CONVERSION KIT, disengage the drive motor, remove nut, item B, and bolt, item A, and remove the existing drive motor wheel, see page 2. Reinstall the drive motor wheel shield, item 1, on the inside of the drive motor wheel arm. item C. Next install the drive motor wheel assembly with the two drive motor wheel spacers, item 2, one on either side of the drive motor wheel assembly. Replace bolt, item A, and nut, item B.

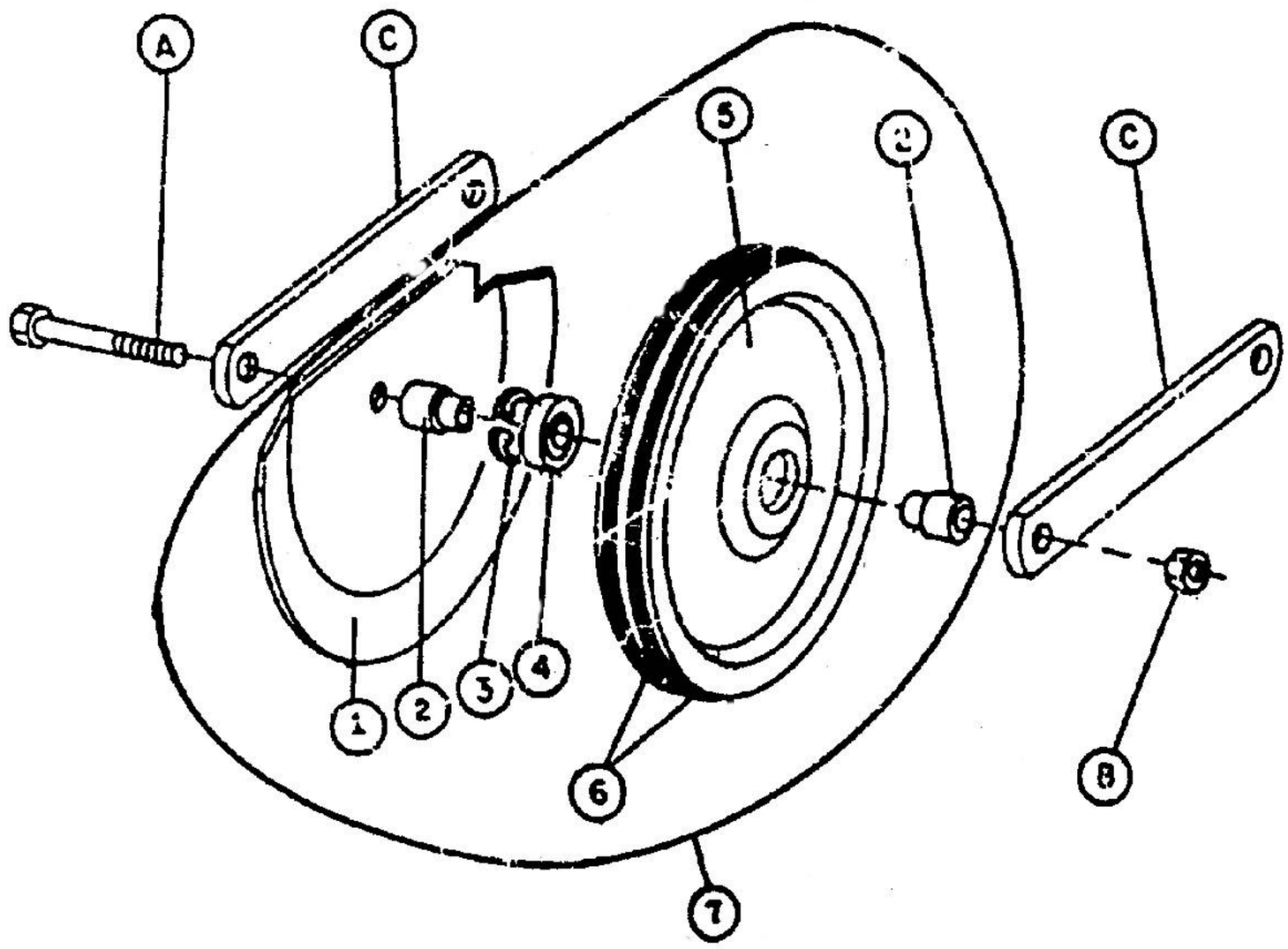
Before tightening nut item B, rotate the drive motor wheel shield, item 1, clockwise until the notch in the top of the drive motor wheel shield is parallel with the outer drive motor wheel arm, item C. While tightening nut item B, carefully maintain the drive motor wheel shield in this position.

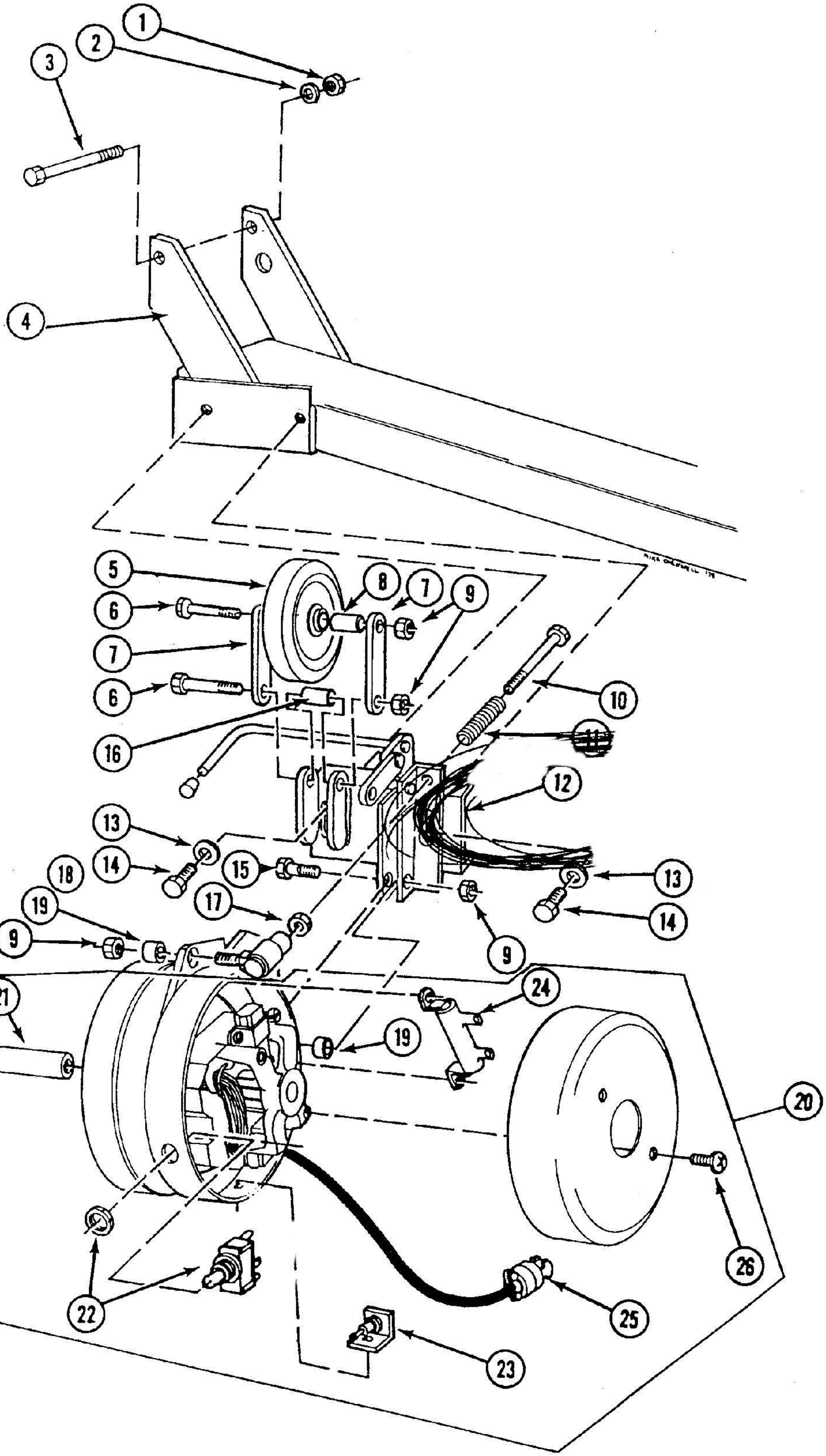
DRIVE MOTOR WHEEL CONVERSION KIT

A) 1059-03-01 HHCS 1/4 - 28 x 2 1/4"
B) 1088-03-01 NUT TWO WAY SELF LOCKING 1/4 - 28
C) 1202-09-00 DRV MTR WHEEL ARM

(ITEMS A, B, AND C NOT INCLUDED IN DRIVE MOTOR WHEEL CONVERSION KIT)

1) 2144-09-00 DRV. MTR WHEEL SHIELD
2) 2141-09-00 DRV MTR WHEEL SPACER
3) 2224-03-01 RETAINING RING INTERNAL 7/8"
4) 2066-05-01 BEARING DRV WHEEL 7/8 OD x 3/8 ID
5) 2140-09-03 DRV MTR WHEEL ASSY
6) 2362-09-01 DRV MTR RUBBER TIRE O-RING
7) 2915-09-11 DRV MTR WHEEL CONVERSION KIT

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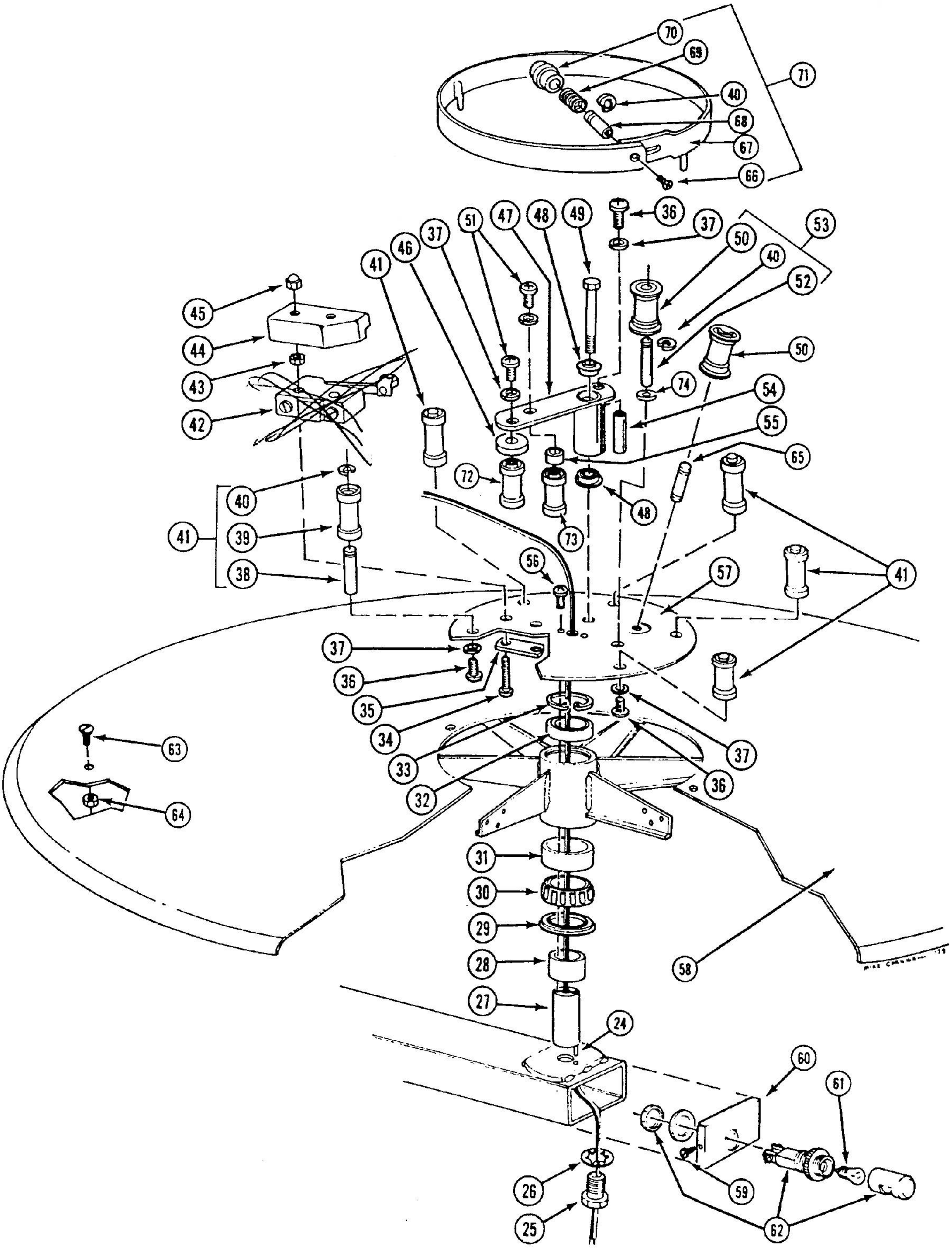
SPINDLE DISK CONTROL PLATE

ITEM	PART NO.	DESCRIPTION
24	PP-168	Roll Pin, 1/8 x 3/4
25	PP-184	Spindle Bolt
26	PP-185	Lockwasher, 5/8
27	PP-108	Spindle
28	PP-110	Bearing Spacer
29	PP-122	Grease Seal
30	PP-109	Bearing
31	PP-109A	Bearing Cup
32	PP-201	Top Bearing
33	PP-202	Bearing Retaining Ring
34	AS3-43	Switch Adjust. Plate Assy.
35		(Same as Item 34)
36	PP-171	Truss Head Screw 10-32 x 3/8
37	PP-172	Lockwasher, No. 10
38	AU-305	Spool Shaft, No. 1
39	PP-155	Spool
40	PP-116	E-Ring
41	AS3-60	Spool No. 1 Shaft & Spool Assy.
42	AU-289-1	Control Plate Switch
43	PP-191	Hex Nut 6-32
44	AU-313-1	Switch Cover
45	PP-147	Acorn Nut 6-32
46	AU-407	Film Travel Spacer
47	AS3-425-1	Control Arm & Hub Assembly
48	PP-120	Bearing
49	PP-190	Hex Bolt 1/4-28 x 2 3/8
50	AS3-07	Pulley Assembly
51	PP-170	Truss Head Screw 10-32 x 1/2
52	AU-306	No. 1 Control Plate Shaft
53	AS3-56	No. 1 Control Plate Shaft & Pulley Assy.
54	AU-302	Keeper Shaft
55	AU-314-1	Arm Spacer Float
56	PP-186	Truss Head Screw 8-32 x 3/8
57	AU-299-1	Control Plate
58	AS3-53	Disk Assembly
59	PP-173	Truss Head Screw 6-32 x 1/4
60	AU-135	End Cap
61	PP-101	Light Bulb
62	PP-100	Light Holder
63	PP-187	Flat Head Screw 6-32 x 3/8
64	PP-188	ESNA Nut 6-32
65	AU-308-1	Shaft No. 3
66	PP-189	Flat Head Screw 8-32 x 3/8
67	AS3-54	Center Ring
68	AU-402	Knob Shaft
69	AU-403	Knob Spring
70	AU-401	Ring Knob
71	AS3-55	Center Ring Assembly
72	PP-155-T	Spool
73	AU-555	Nylon Shaft, No. 1
74	PP-206	No. 10 Flatwasher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VARIABLE TRANSFORMER

ITEM	PART NO.	DESCRIPTION
1	TA-392	Fuse Holder
2	TA-393	Fuse
3	PP-199	Decal Light Circuit
4	PP-198	Decal Motor Voltage
5	PP-200	Decal Auto Off Man
6	AU-500	Limit Switch
7	PP-192	Screw 6-32 x 1 1/4
8	AS3-34	Mount Case Assembly
9	AU-322	Plastic Bushing 1/2"
10	AU-504-1	Limit Ramp
11	AU-190-1	Plastic Disk
12	PP-170	Truss Head Screw 10-32 x 1/2
13	PP-172	Lockwasher, No. 10
14	PP-129-1	Return Spring
15	PP-173	Truss Head Screw 6-32 x 1/4
16	V-203	Case Cover
17	AS3-35	Shaft & Hub Assembly
18	TA-394	Variable Transformer 1010KN
19	PP-164	Hex Bolt 1/4-28 x 1/2
20	AS3-37	Inlet Cord Wire Harness
21	AS3-36	3 Deck Outlet Cord Wire Harness
	AS5-04	5 Deck Outlet Cord Wire Harness
22	V-211	Hole Plug 5/8"
23	V-212	Machine Screw 6-32 x 1/2
24	V-205	Relay Mount (Relay not provided)
		NOTE: Use Potter & Brumfield type KAP11AY
		DPDT 120V enclosed 5 Amp-AC
25	PP-161	Switch
26	PP-165	Flatwasher 1/4
27	A5-012	Spacer (5 Deck Platter Only)
28	AU-502	Nut Plate
29	V-210	Spacer Washer
30	PP-164	3 Platter-Hex Bolt 1/4-28 x 1/2
	PP-193	5 Platter-Hex Bolt 1/4-28 x 2

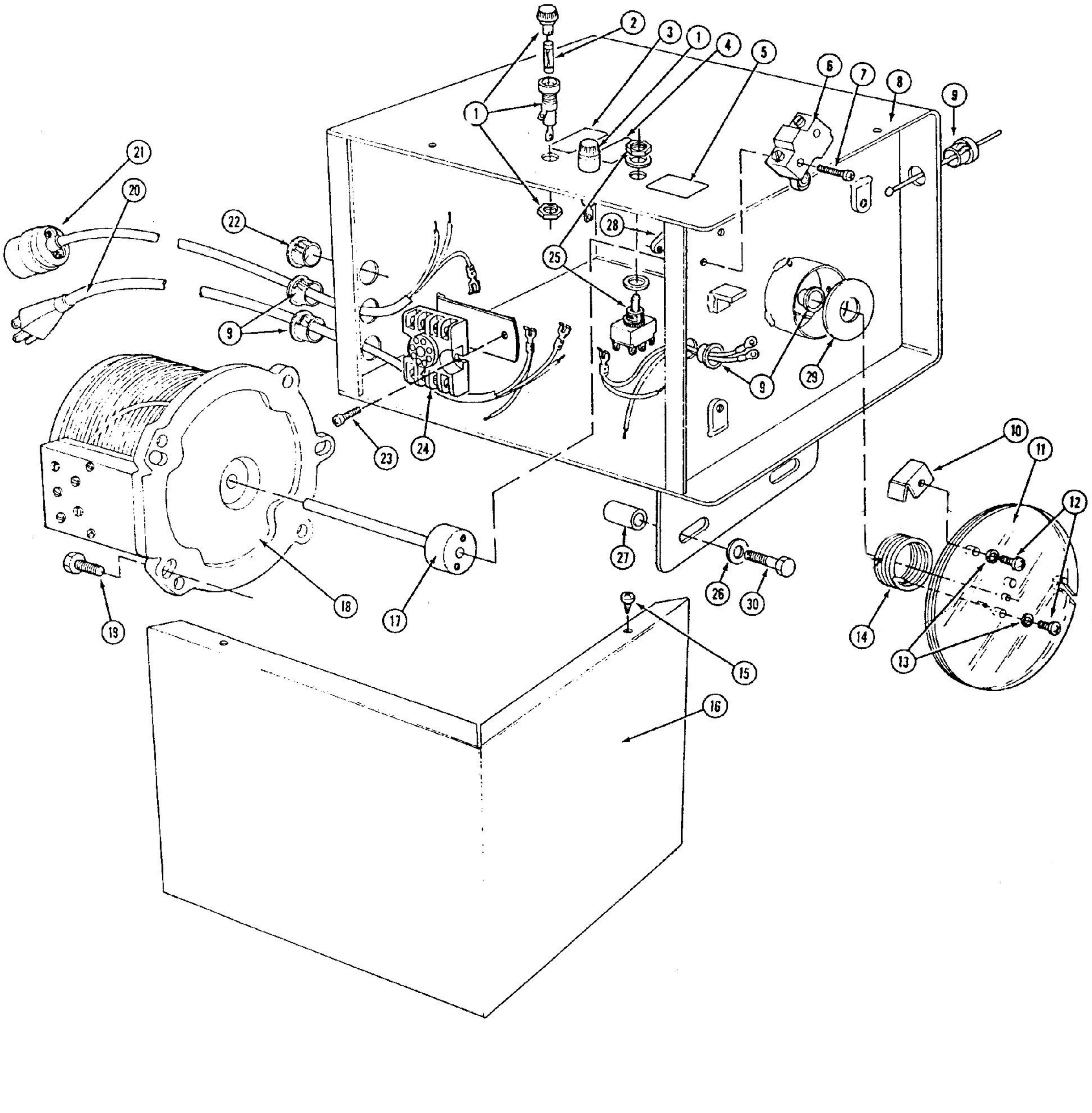
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TABLE TOP VIEW & 3 PLATTER TRANSFER ARM

ITEM	PART NO.	DESCRIPTION
1	AU-302	Keeper Shaft
2	PP-125	Castor Shaft
3	PP-116	E-Ring
4	AU-170-L	Left Castor Swivel Bracket
5	PP-171	Truss Head Screw 10-32 x 3/8
6	PP-172	Lockwasher, No. 10
7	AS3-095-L	Top Castor Assembly
8	PP-155	Spool
9	PP-126	Pulley Assembly
10	PP-166	Lockwasher, 1/4
11	PP-167	Hex Nut 1/4-28
12	PP-120	Castor Bearing
13	PP-163	Hex Bolt 1/4-28 x 3/4
14	TA-380	Dome Cap
15	AST-11-1	3 Deck Transfer Arm
16	AU-170-R	Right Castor Swivel Bracket
17	TA-337	Table Pulley Bracket
18	TA-392	Fuse Holder
19	TA-393	Fuse
20	PP-164	Hex Bolt 1/4-28 x 1/2
21	TA-384	Leg End Cap
22	AS3-095-R	Bottom Castor Assembly
23	TA-388	Wheel 2"
24	PP-176	Stake Nut 1/4-28
25	PP-177	Hex Bolt 1/4-28 x 1 1/2
26	AST-08	Table Base Assembly
27	AST-01	Table Shell Assembly
28	TA-379	Glide
29	AST-14S	1 Hr. Arm & Hub Assembly
30	TA-350	Outside Snap Ring 3/4"
31	AST-14C	1 Hr. Arm Assembly
32	TA-396	Felt Clutch Pad
33	AST-12	1 Hr. Arm Spindle Assembly
34	TA-332	Drive Pin
35	TA-322-1	Reel Adaptor
36	AS3-08S	Middle Castor Assembly
37	PP-174	Hex Nut 10-32
38	PP-170	Truss Head Screw 10-32 x 1/2
39	PP-132	Take-up Roller
40	TA-323	Tensioner Spring
41	PP-133	Take-up Roller Shaft
42	TA-326	Carrier Plate
43	TA-325	Tensioner Lower Bracket
44	TA-322	Rails
45	TA-324	Tensioner Upper Bracket
46	PP-165	Flatwasher 1/4
47	AST-09C	Table Tensioner Assembly
48	AST-11C	3-Deck Transfer Arm Assembly
49	AS3-56	Pulley & Castor Shaft Assembly

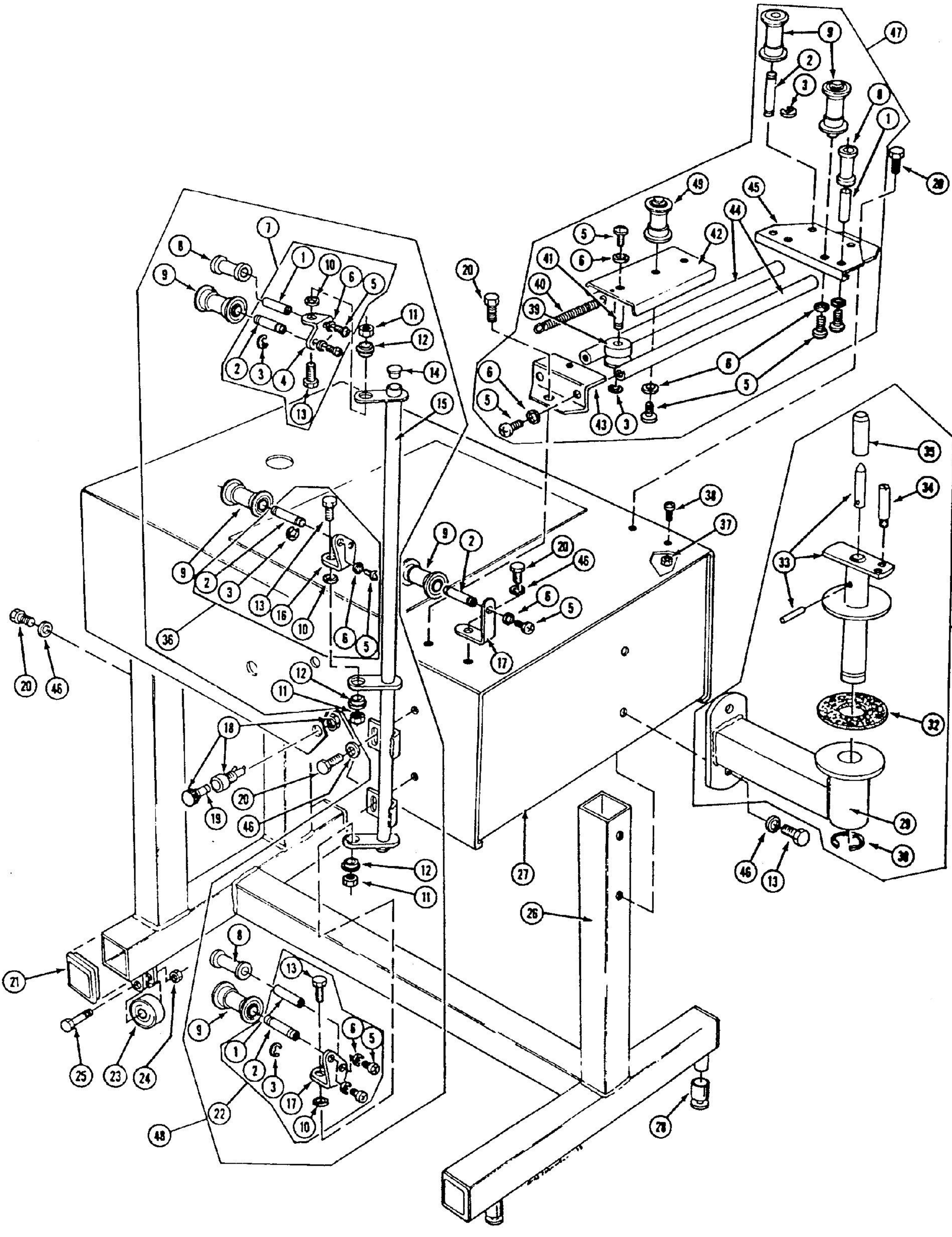
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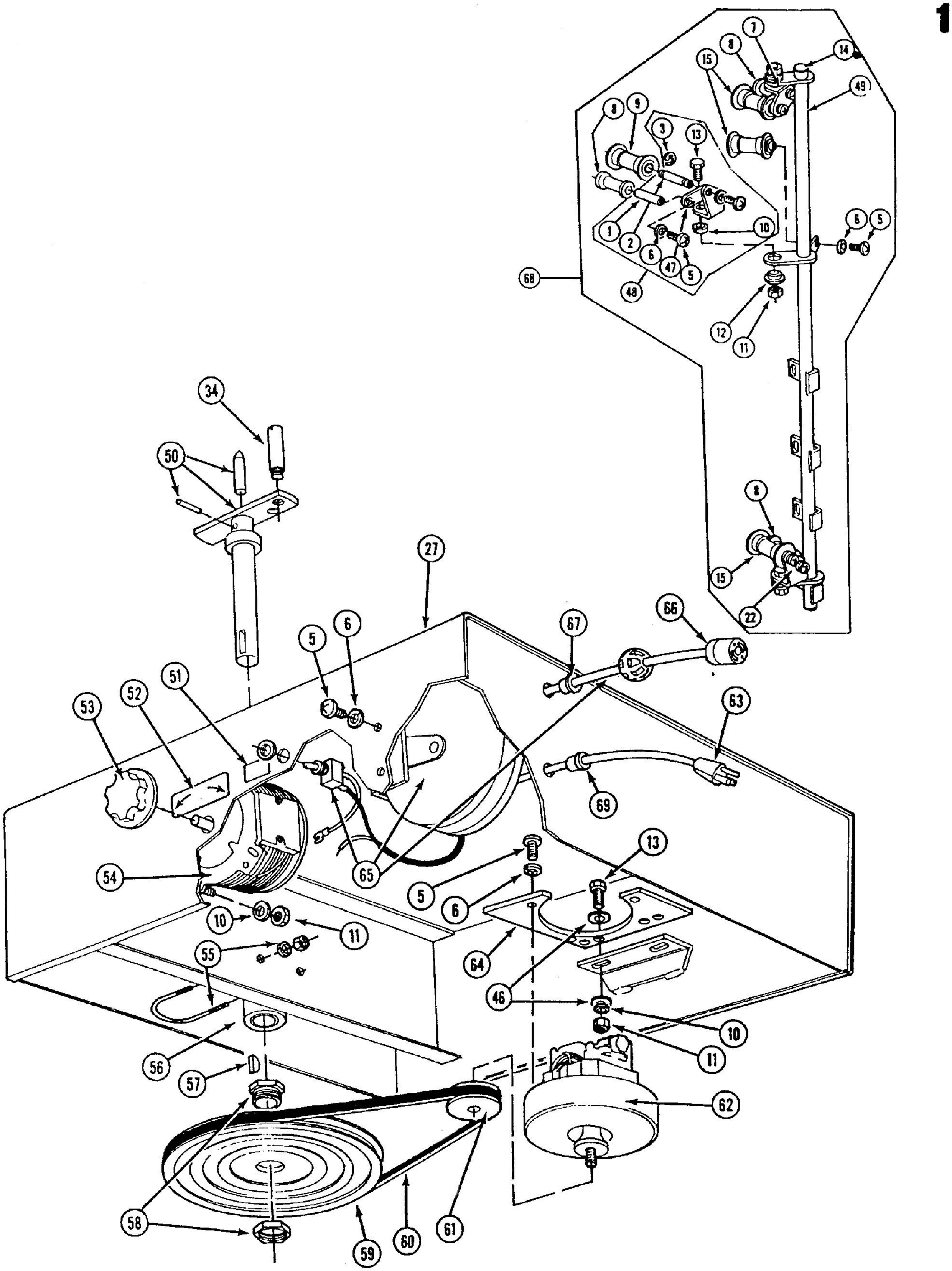
TABLE & 5 DECK TRANSFER ARM

ITEM	PART NO.	DESCRIPTION
1	AU-302	Keeper Shaft
2	PP-125	Castor Shaft
3	PP-116	E-Ring
5	PP-171	Truss Head Screw 10-32 x 3/8
6	PP-172	Lockwasher, No. 10
7	AU-170-L	Left Castor Swivel Bracket
8	PP-155	Spool
9	AS3-07	Pulley Assembly
10	PP-166	Lockwasher, 1/4
11	PP-167	Hex Nut 1/4-28
12	PP-120	Castor Bearing
13	PP-163	Hex Bolt 1/4-28 x 3/4
14	TA-380	Dome Cap
15	AS3-56	Castor Shaft & Pulley Assy.
22	AU-170-R	Right Castor Swivel Bracket
27	AST-01	Table Shell Assembly
34	TA-332	Reel Drive Pin
46	PP-165	Flatwasher 1/4
47	A5-013	5 Platter Middle Castor Bracket
48	AS5-01	5 Platter Middle Castor Assy.
49	AS5-02-1	5 Deck Transfer Arm
50	AST-06	Drive Spindle Assembly
51	PP-162	Motor Decal
52	TA-400	Variac Decal
53	TA-401	Variac Knob
54	TA-394	Variac
55	TA-395	U-Clamp
56	AST-05	Drive Hub Assembly
57	TA-402	Key No. 9
58	TA-383-2	Pulley Hub
59	TA-383-1	Pulley 12"
60	TA-385	Belt
61	TA-382	Drive Pulley 1 1/2"
62	PP-144	Table Motor
63	AST-03	Inlet Cord
64	TA-398	Motor Mount Bracket
65	AST-07	Cable Reel & Wire Harness Assy.
66	PP-160	Table Plug
67	AU-322	Plastic Bushing 1/2"
68	AS5-02C	5 Deck Transfer Arm Assembly
69	PP-131	5/8" Strain Relief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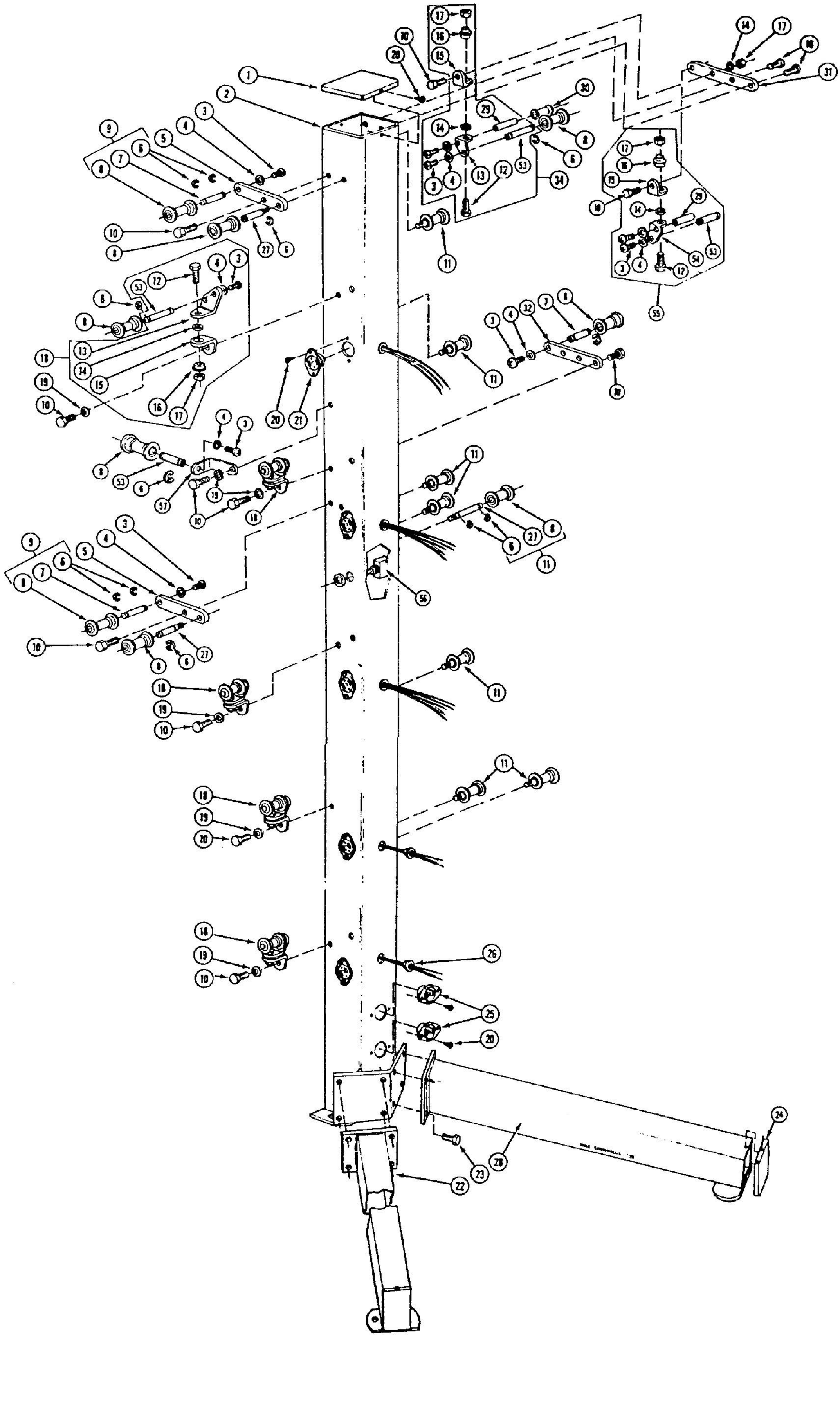
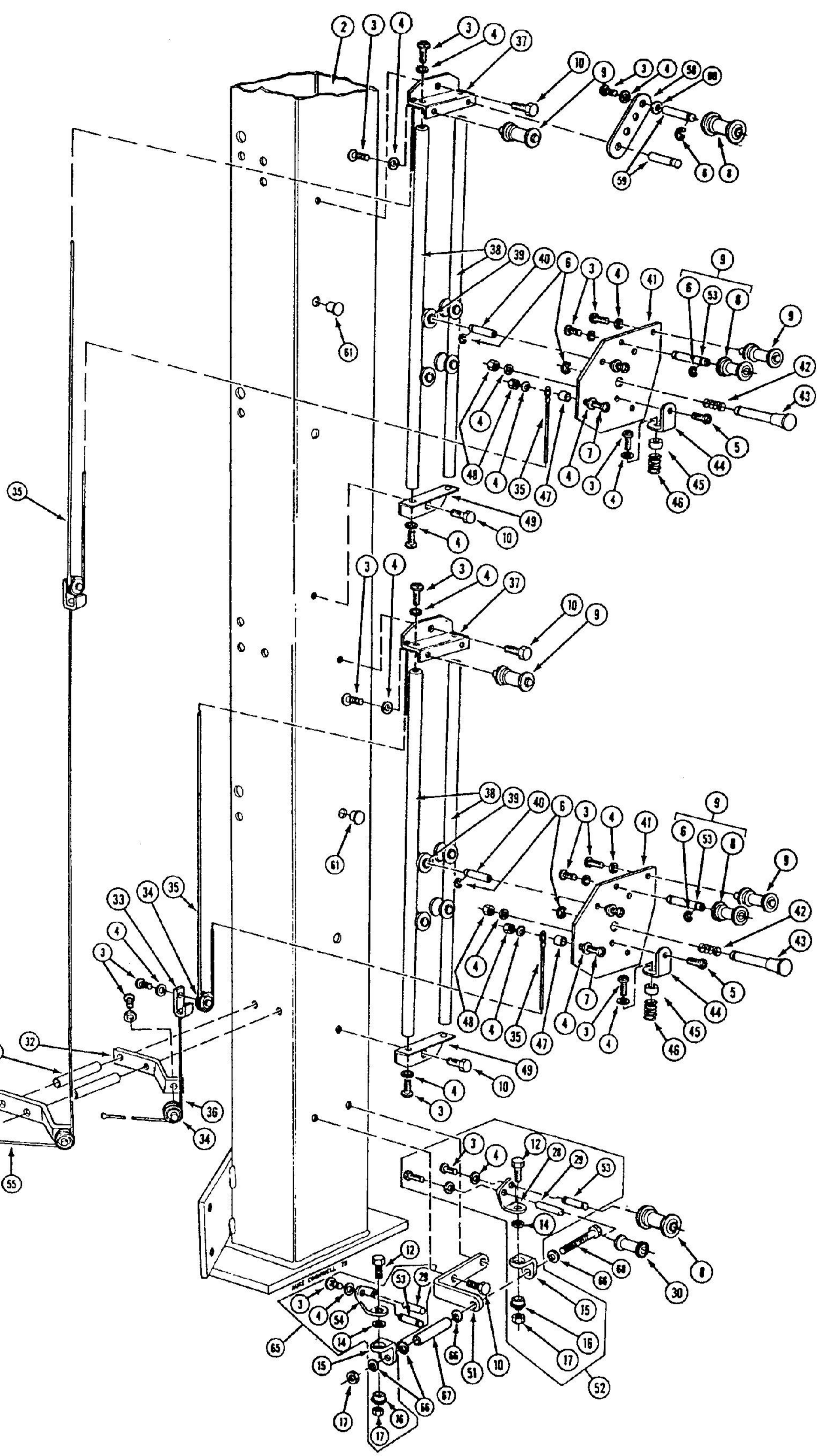
5 PLATTER FRONT VIEW

ITEM	PART NO.	DESCRIPTION
1	AU-111	Top Cap
2	AS5-22	5 Platter Column Assembly
3	PP-171	Truss Head Screw 10-32 x 3/8
4	PP-172	Lockwasher No. 10
5	A3-125-L	Top Left Bracket
6	PP-116	E-Ring
7	AU-308-1	No. 3 Shaft
8	PP-126	Pulley Assembly
9	AS3-58	No. 3 Shaft & Pulley Assembly
10	PP-164	Hex Bolt 1/4-28 x 1/2
11	AS3-13	Column Shaft & Pulley Assembly
12	PP-163	Hex Bolt 1/4-28 x 3/4
13	AU-170-R	Right Castor Swivel Bracket
14	PP-166	Lockwasher 1/4
15	AU-166	Castor Mount
16	PP-120	Castor Bearing
17	PP-167	Hex Nut 1/4-28
18	AS3-14S	Feed Castor Assembly
19	PP-165	Flatwasher 1/4
20	PP-173	Truss Head Screw 6-32 x 1/4
21	PP-107	Column Outlet Socket
22	AU-118-L	Left Leg
23	PP-194	Hex Bolt 3/8-16 x 5/8
24	AU-509	Leg End Cap
25	PP-106	Column Inlet Socket
26	AU-322	Plastic Bushing
27	PP-124	Column Shaft
28	AU-118-R	Right Leg
29	AU-302	Keeper Shaft
30	PP-155	Spool
31	5-B4	Castor Exit Bracket
32	5-B5	Right Twin Pulley Bracket
34	AS3-59	Left Exit Castor Assembly
53	PP-125	Castor Shaft
54	AU-170-L	Left Castor Bracket
55	AS3-62	Right Exit Castor Assembly
56	PP-161	Switch



5 PLATTER TAKE-UP & CABLE ASSY.
LOWER RETURN CASTOR

ITEM	PART NO.	DESCRIPTION
2	AS5-22	5 Platter Column
3	PP-171	Truss Head Screw 10-32 x 3/8
4	PP-172	Lockwasher No. 10
5	PP-170	Truss Head Screw 10-32 x 1/2
6	PP-116	E-Ring
7	PP-183	Truss Head Screw 10-32 x 3/4
8	PP-126	Pulley Assembly
9	AS3-56	Castor Shaft & Pulley Assembly
10	PP-164	Hex Head Bolt 1/4-28 x 1/2
12	PP-163	Hex Head Bolt 1/4-27 x 3/4
14	PP-166	Lockwasher 1/4
15	AU-166	Castor Mount
16	PP-120	Castor Bearing
17	PP-167	Hex Nut 1/4-28
28	AU-170-R	Right Castor Swivel Bracket
29	AU-302	Keeper Shaft
30	PP-155	Spool
32	AU-227	Cable Pulley Bracket
33	AU-505	Cable Pulley Hanger
34	AS3-57	Cable Pulley & Shaft Assembly
35	FT-1	Take-Up Cable
36	V-3A	Variac Cable 21 7/8"
		NOTE: Earlier model variac cable
	V-3 3PN1010	Small Disk 32 5/8"
	V3-0 3PN1010	Large Disk 44 1/2"
37	AU-197	Upper Bracket
38	AU-205	Rails
39	PP-132	Rollers
40	PP-133	Roller Shaft
41	AU-211	Take-Up Plate
42	PP-134	Spring
43	AS3-61	Stop Pin Shaft & Knob Assembly
44	AU-214	Stop Bracket
45	AU-217	Spring Spacer
46	PP-137	Stop Spring
47	AU-506	Cable Offset
48	PP-174	Hex Nut 10-32
49	AU-198	Lower Bracket
51	A3-119	Lower Castor Bracket
52	AS3-59	Right Castor Return Assembly
53	PP-125	Castor Shaft
54	AU-170-L	Left Castor Swivel Bracket
55	V-5A	Variac Cable 50 1/8"
		NOTE: Earlier model variac cables
	V5 3PN1010	Small Disk 61"
	V5-0 3PN1010	Large Disk 50 1/8"
58	A5-006	Upper Bracket Extension
59	AU-306	No. 1 Shaft
60	PP-206	Flatwasher No. 10
61	PP-195	Hole Plug 3/8
63	A5-007	Spacer Tube
64	PP-193	Hex Head Bolt 1/4-28 x 2
65	AS3-62	Left Castor Return Assembly
66	PP-165	Flatwasher 1/4
67	A5-005	Spacer
68	PP-181	Hex Bolt 1/4-28 x 4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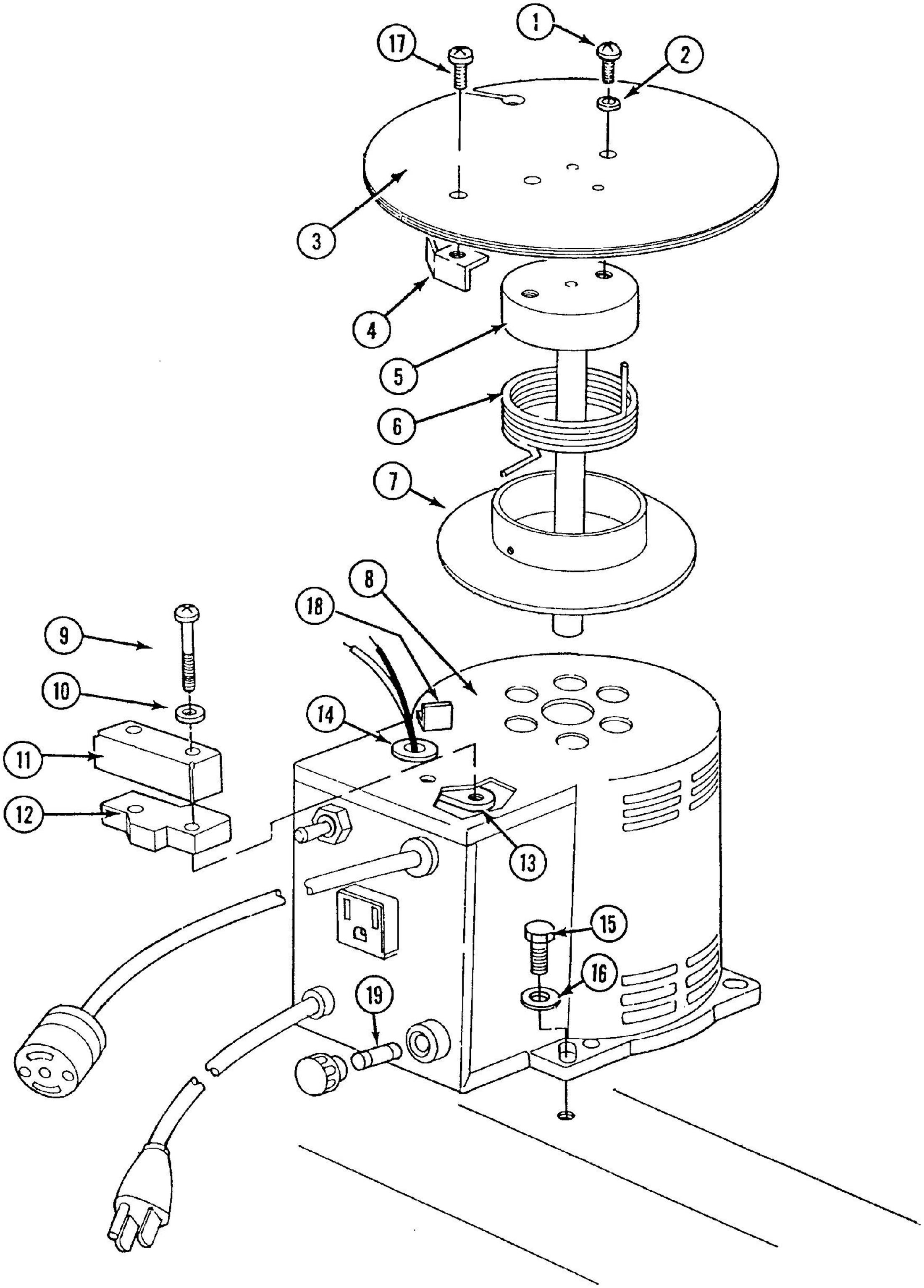
EARLY MODEL VARIAC 3PN-1010 WITH SMALL DISK

ITEM	PART NO.	DESCRIPTION
1	PP-170	Truss Head Screw 10-32 x 1/2
2	PP-172	Lockwasher No. 10
3	AU-190	Plastic Disk
4	AU-504	Limit Ramp
5	AS3-35	Hub & Shaft Assembly
6	PP-129	Return Spring
7	AU-187	Spring House
8	PP-128	Variable Transformer 3PN-1010
9	PP-192	Screw 6-32 x 1 1/4
10	PP-182	Flatwasher No. 6
11	AU-501	Switch Cover
12	AU-500	Micro Switch
13	AU-502	Nut Plate 6-32
14	AU-322	Plastic Bushing 1/2"
15	PP-163	Hex Head Bolt 1/4-28 x 3/4
16	PP-165	Flatwasher 1/4 SAE
17	PP-171-1	Truss Head Screw 10-24 x 3/8
18	AU-503	Ramp Stop
19	TA-393	Fuse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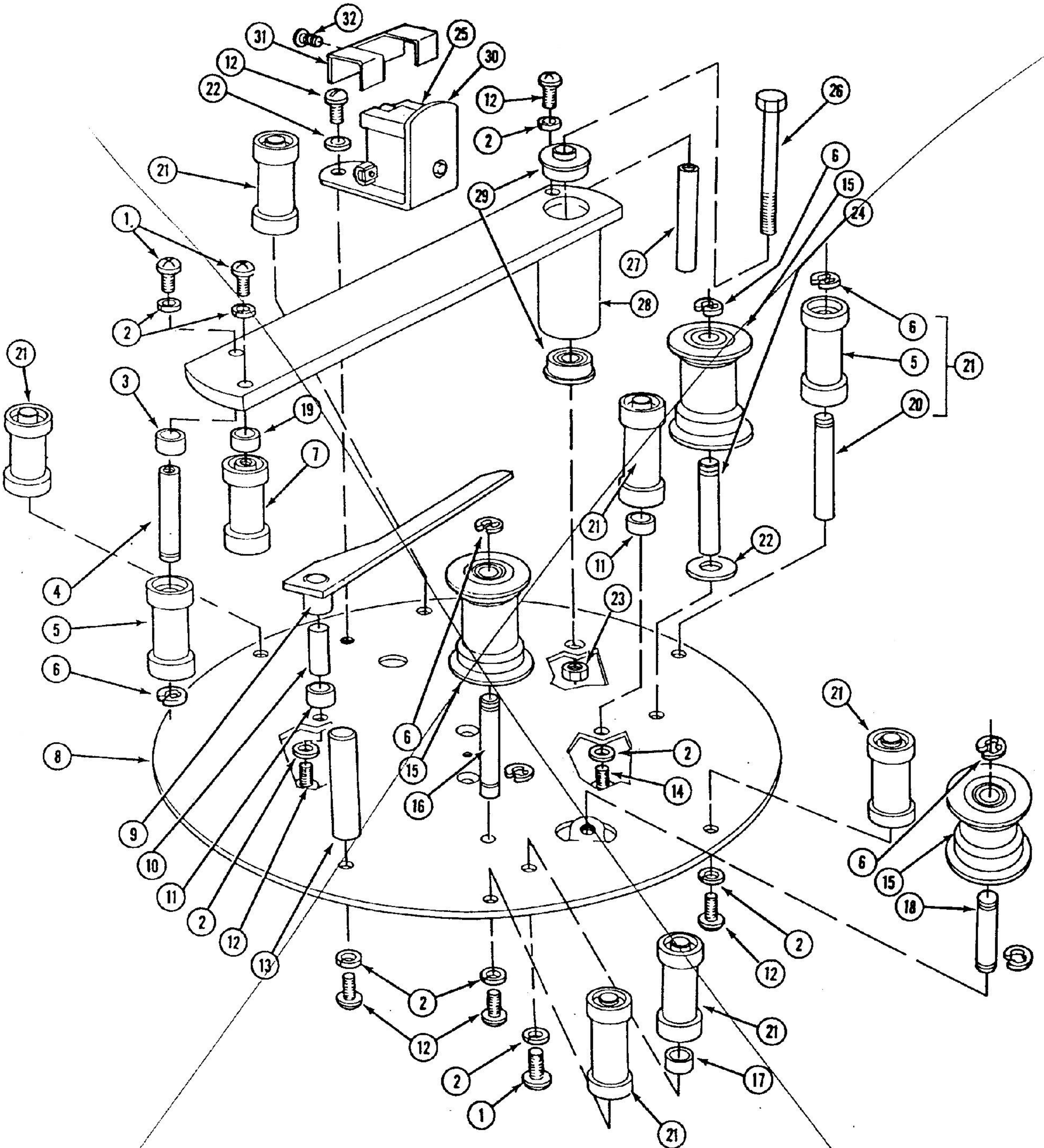
EARLY MODEL CONTROL PLATE

ITEM	PART NO.	DESCRIPTION
1	PP-183	Truss Head Screw 10-32 x 3/4
2	PP-172	Lockwashers No. 10
3	AU-315	Spacer Arm Solid
4	AU-320	Spool Shaft No. 2
5	PP-155	Spool
6	PP-116	E-Ring
7	AS3-63	Spool Shaft No. 2 & Spool Assembly
8	AU-299	Control Plate
9	AU-287	Fulcrum Arm & Hub Assembly
10	PP-133	Take-Up Shaft
11	AU-317	Spacer Plate Solid
12	PP-171	Truss Head Screw 10-32 x 3/8
13	AU-303	Control Arm Limit
14	PP-170	Truss Head Screw 10-32 x 1/2
15	AS3-07	Pulley Assembly
16	AU-307	No. 2 Pulley Shaft
17	AU-316	Spacer Plate Float
18	AU-308	No. 3 Pulley Shaft
19	AU-314	Spacer Arm Float
20	AU-305	Spool Shaft No. 1
21	AS3-60	Spool Shaft No. 1 & Spool Assembly
22	PP-206	Flatwasher No. 10
23	PP-167	Hex Nut 1/4-28
24	AU-306	No. 1 Pulley Shaft
25	AU-289	Control Plate Switch
26	PP-190	Hex Bolt 1/4-28 x 2 3/8
27	AU-302	Keeper Shaft
28	AS3-42S-E	Control Arm & Hub Assembly
29	PP-120	Bearing
30	AU-292	Control Plate Switch Bracket
31	AU-313	Switch Cover
32	PP-173	Truss Head Screw 6-32 x 1/4



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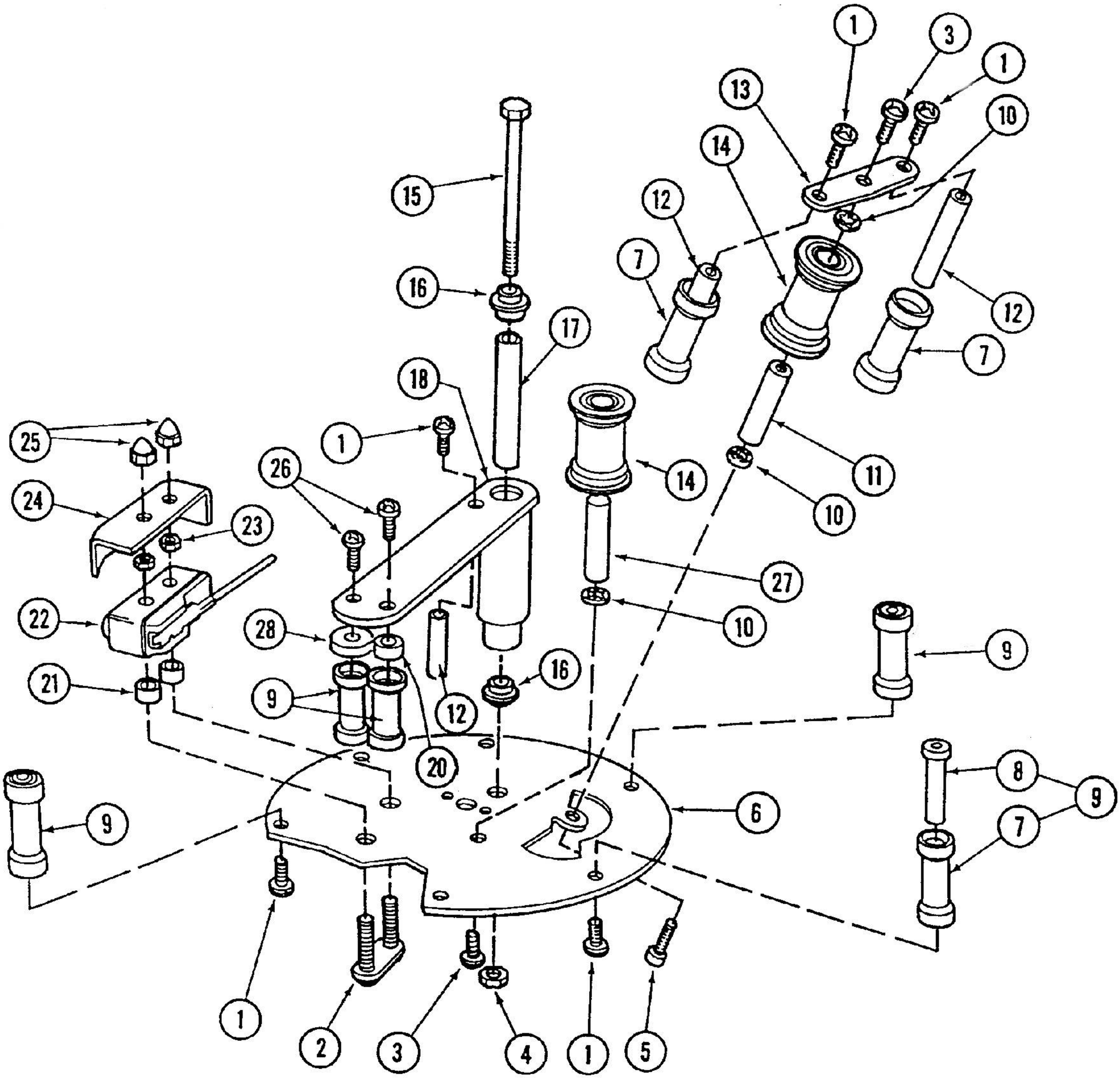
1981 CONTROL PLATE

ITEM	PART NO.	DESCRIPTION
1	1094-03-1	10-24 x 1/2 Self Tapping Screw
2	1469-06-3	Switch Adjusting Plate Assembly
3	1071-03-1	10-32 x 3/8 Truss Head Screw
4	1087-03-1	1/4-28 Hex Nut
5	1592-03-1	10-32 x 1/2 Sockethead Capscrew
6	1588-04-0	Control Plate
7	1448-05-3	Spool Assembly
8	1156-06-0	Spool Shaft, No. 1 Nylon
9	1513-06-3	Nylon Shaft & Spool Assembly
10	1078-03-1	No. 10 Lockwasher
11	1526-04-0	Pulley Shaft, No. 3-2
12	1597-06-0	Nylon Keeper Shaft
13	1548-06-0	Spool Keeper Bracket
14	1462-05-3	Pulley Assembly
15	1538-03-1	1/4-28 x 2 3/8 Hex Bolt
16	1130-05-1	Castor Bearing
17	1143-06-0	Control Arm Spacer
18	1594-06-4	Control Arm & Hub Assembly
20	1153-06-0	Spool Spacer Arm Float
21	1240-07-0	Cable Offset
22	1652-01-1	Control Plate Switch
23	1083-03-1	6-32 Hex Nut
24	1595-06-0	Switch Cover Revised
25	1085-03-1	6-32 Acorn Nut
26	1092-03-1	10-24 x 3/4 Self Tapping Screw
27	1596-06-0	Pulley Shaft, No. 3-3
28	1155-06-0	Film Travel Spacer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