



FOLLOW SPOTLIGHT INSTRUCTION MANUAL

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PREFACE

THE STRONG RADIANCE SPOTLIGHT is an AC follow spot complete with lamphouse, igniter, power supply, optical system, and color boomerang. It is available in either 1200 or 2500 watt models, and is designed for use with one of two single-ended metal halide lamps. Lamps are not supplied with the unit, but are available from theatrical supply distributors.

A SPHERICAL REFLECTOR and condenser lens assembly are designed to operate in a fixed position with the lamp mounted vertically in the lamphouse. The lamp socket is adjustable in relation to the optics to permit positioning the arc to the optical center line of the reflector and lenses. The igniter is contained within the lamphouse enclosure.

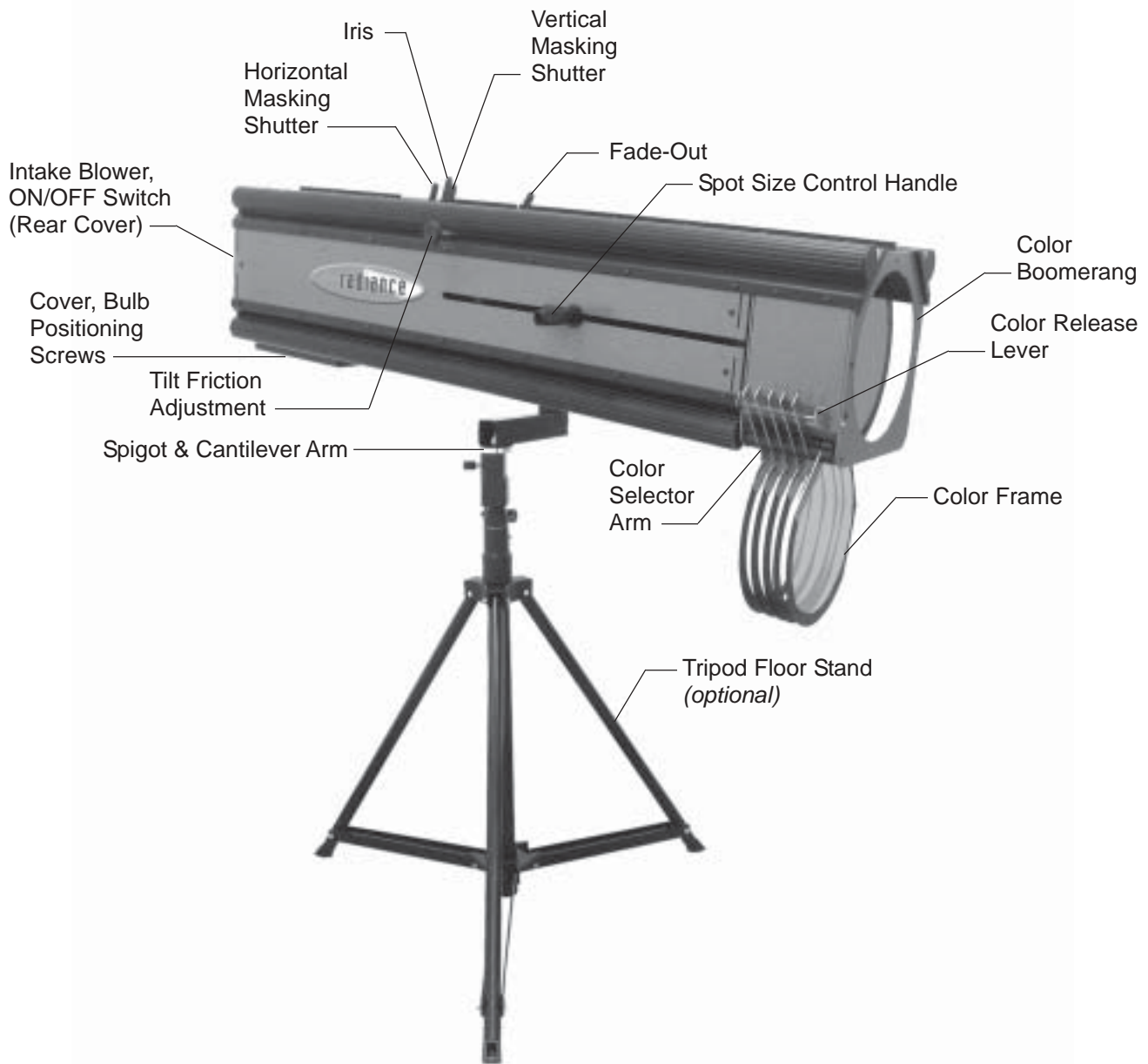
THE SEPARATE POWER SUPPLY comes equipped with a three-wire AC line cord and connects to a 230 volt (± 10 volt), single phase 60 Hz. AC line. The 1200 watt Radiance is available in a 115 volt model. A 230 volt, 50 Hz. power supply is shipped with export models of either wattage. The power supply is protected by a double-pole circuit breaker, and operation of the power supply is controlled by the ON/OFF switch on the lamphouse.

ADJUSTMENT CONTROLS for positioning the metal halide lamp are located below the lamp socket at the rear of the lamphouse. This control mechanism permits concise positioning of the lamp in relation to the reflector and also allows the lamp to be centered both vertically and horizontally on the optical center of the reflector.

THE POWER SUPPLY is connected to the lamphouse by a cable assembly approximately 13 feet long, terminating in a quick-disconnect plug for easy attachment to the power supply. This cable assembly contains all the control wires for the operation of the lamphouse and power supply.

AN INTERNALLY WIRED FAN is used in the follow spot lamphouse and operates from the AC control circuit. This blower is used to cool both the lamphouse and optical system.

METAL HALIDE BULB (not provided with unit)
1200 Watt (G22 Base) 2500 Watt (G38 Base)
Philips MSR 1200/2 Philips MSR 2500 HR
or equivalent

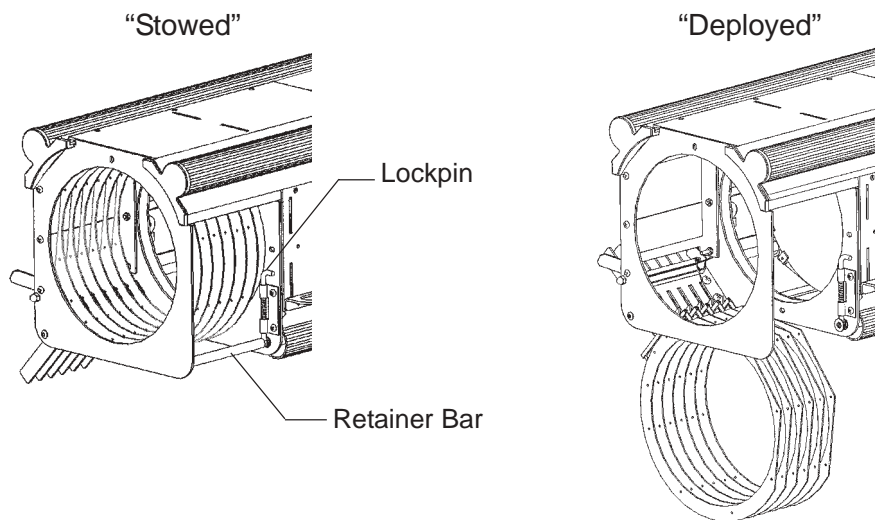


SETTING UP FOLLOW SPOT

THE RADIANCE FOLLOW SPOT is shipped in sections which must be assembled. The cantilever arm and spigot (truss pin) mount to the round tension plate on the off-operator side of the spotlight head using (2) truss head screws. Keyhole slots in the cantilever arm align to the screws.

THE SPIGOT is a standard 28mm (1-1/8 inch) diameter for truss mounting. The spigot will also seat into the top of the optional tripod base stand. Height of the unit may be determined by the user, but when adjusting the tripod base, make certain the unit remains stable. Setting the tripod base to an extreme operating height contributes to making the spotlight assembly topheavy and unsteady.

THE RADIANCE COLOR BOOMERANG makes provision for “stowing” color frames for shipment. When stowed, the color frames are protected from breakage or other damage caused by transporting the spotlight. To enable operation of the color boomerang, raise the spring-loaded lockpin and push the retainer bar into its recess. This allows the color frames to drop into a “deployed” position for normal operation. To again stow the color frames for transport, raise all six color frames to their engaged position, raise the lockpin, and extend the retainer bar from its recess.



CONNECT THE CABLE ASSEMBLY from the lamphouse to the mating receptacle on the side of the power supply and tighten firmly. The connector and receptacle are keyed to prevent misalignment of the pins; check for correct pin alignment before tightening the locking ring. Do not connect the power supply to the AC line until completing the installation of the metal halide lamp.

LAMP INSTALLATION AND OPERATION

REMOVE THE REAR TOP COVER PLATE by releasing the four chromed captive quarter-turn screws and lifting the plate from the top of the lamphouse enclosure. This will expose the ceramic base of the two-pin lamp socket located on the base of the lamphouse between the reflector and the condenser lenses.

TWO LAMP SOCKETS used in the Radiance will accommodate either the 1200 (G22) or the 2500 watt (G38) single-ended metal halide lamp. Carefully check the data plates on the spotlight head and on the power supply to verify correct wattage before attempting lamp installation.

DO NOT TOUCH the quartz portion of the metal halide lamp with bare fingers! Any fingermarks accidentally placed on the lamp envelope must be removed with alcohol before lighting the bulb; skin oils will rapidly burn into the envelope material and shorten lamp life. Wear clean cloth gloves or grasp the envelope using a clean cloth towel when handling the lamp.

INSERT THE METAL HALIDE LAMP into the lamphouse and seat the two pins into the socket. Press firmly downward to insure correct fit and good electrical contact.

REPLACE THE TOP COVER PLATE over the lamphouse opening. Tighten all four quarter-turn fasteners. Make certain the ON/OFF switch on the rear cover is in its OFF position.

CHECK THE POWER SUPPLY DATA PLATE for the required input voltage. Plug the AC cord from the power supply into an appropriate AC outlet. Turn the circuit breaker on the side of the power supply case to the "ON" position. The cooling fans in the power supply and in the follow spot will operate. Press the "ON" switch on the lamphouse and the lamp will ignite.

ALLOW THE LAMP to heat up for three to five minutes to reach full brightness, then proceed with the instructions for alignment of the lamp with the reflector. Leave the lamp on throughout the alignment procedure; a metal halide lamp will not readily restart when hot.

USING A PHILLIPS SCREWDRIVER, rotate the three adjusting screws below the lamphouse base pan to center and focus the lamp inside the reflector. Screw heads are accessible through three clearance holes in the cover plate. The ideal light field is as flat as possible at highest intensity.

BOTH THE REFLECTOR and the condenser lens assembly are positioned at the factory for optimum light collection. Do not loosen the set screws retaining these components to the slide rails, or otherwise reposition these elements.

LAMP INSTALLATION AND OPERATION(continued)

WHEN TRANSPORTING THE FOLLOW SPOT, or if the lamp may be subjected to a hard shock when moving to another location, remove the metal halide lamp from the lamphouse by reversing the installation procedures. If the control section of the lamp adjustment is not changed, the lamp should be able to be replaced without any necessity to repeat the aligning procedures.

THE METAL HALIDE LAMP ignites best when cold. After extinguishing the lamp, allow at least thirty minutes cooling before attempting re-ignition.

EXPECTED LAMP LIFE ranges from 500 to 800 hours (depending upon wattage), but because of manufacturing tolerances, some lamps may lose color quality before this period. Refer to the lamp manufacturer's specifications and information packaged with the lamp.

LAMP LIFE can be maximized by avoiding repeated ignitions. Allow the lamp to burn throughout the follow spot's use cycle, dousing out with the masking shutter blades or fade-out mechanism as required.

CAUTION



ULTRAVIOLET RADIATION is emitted when the lamp is operating. Wear protective clothing and goggles or glasses when adjusting the shutter blades or performing any service with the optical system housing removed.



OPERATION OF OPTICAL SYSTEM

THE SPOT SIZE CONTROL (ZOOM) is located on the right side of the optical system protruding from a slot in the spotlight housing. A variation of spot sizes from full flood to a small spot can be obtained by moving the zoom control from one extreme to the other. Beam intensity is increased by this optical system when reducing from flood to spot, and maximum intensity is reached when the zoom is in the extreme forward position. Depressing a thumb lever adjacent to the control permits free movement forward and back, and releasing the thumb lever locks the control in position.

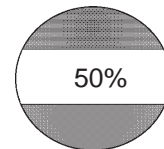
ROTATING THE FOCUS KNOB operates the spot focus control. When making an adjustment, rotate the focus control until the sharpest edge is obtained on the projected spot. Moving the large lens to its center of travel and then adjusting for a sharp edge should give satisfactory results for the full movement of the lens system.

THREE BEAM SHAPING CONTROL LEVERS are located immediately in front of the lamphouse compartment and project through the top of the optical system housing. The iris control is the center lever. When this lever is to the left (viewing the spotlight from the rear), the largest aperture is provided. Smaller apertures are obtained as the lever is moved to the right.

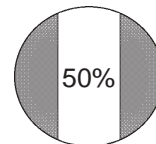
THE MAXIMUM FLOOD SPOT is obtained with the iris control lever to the left (away from operating side) for the large aperture and with the zoom control moved as far as possible toward the rear. Smaller sized spots are projected as the zoom control is moved forward. Most of the spot sizes needed will be produced with the iris in its maximum open position.

FOR A "HEAD SPOT," or any spot size smaller than can be obtained with the zoom control in its extreme forward position, shift the iris control lever to the right (toward operating side) for a smaller aperture. The iris control lever should always be returned to its extreme left position before the zoom control is again moved to obtain larger spots.

THE HORIZONTAL MASKING SHUTTER LEVER is the rearmost lever projecting through the top of the optical system housing. The horizontal masking shutter blades are operated by this lever to shape the projected spot to a rectangle, strip spot, or for dousing.



THE VERTICAL MASKING SHUTTER LEVER is the lever in front of the iris control. The vertical masking shutter blades are operated by this lever to narrow the projected spot from full width to complete douse.



OPERATION OF OPTICAL SYSTEM (continued)

THE DISENGAGED POSITION of both masking shutter levers is to the extreme left (away from operating side). Varying degrees of masking, from open to complete cutoff, are obtained by moving the levers to the right (toward operating side)

THE ANGLE OF THE MASKING SHUTTER BLADES can be adjusted to compensate for the horizontal and vertical projection angle. If the spotlight is installed at an extreme house-right or house-left position, the projected edges of the masking blades may not align horizontally with the apron, or vertically with the proscenium. Alternately tightening and loosening the 6-32 socket head adjusting screws (see Figure 3, Item 4a) using a long, ball-ended 3/32" allen key will shift the position of these blades.

THE FADE-OUT MECHANISM AND DOUSER CONTROL is the single lever projecting through the top of the optical system housing near the center of the unit. This lever controls the amount of light from full intensity when the lever is to the left, to complete fadeout and douse when the lever is to the extreme right.

HANDLING THE FOLLOW SPOT

GENERALLY THE BEST POSITION for the operator to stand is near the center of the follow spot, on the right hand side, although the angle of tilt and the size of porthole may alter the position for the most convenient operation.

EACH OPERATOR will, after a few minutes of operation, generally develop his or her own system and preferred position for operating the follow spot.

THE VERTICAL TILT TENSION KNOB is located on the side of the housing adjacent to the fade-out lever. Counterclockwise rotation of the knob frees the tilt tension, and clockwise rotation applies tension. The individual operator can set his or her desired degree of tension.

OPERATION OF COLOR BOOMERANG

SEE THE "SETTING UP SPOTLIGHT" SECTION in the preceding pages of this manual for details of the "Stowed" and "Deployed" configurations of the Radiance boomerang. It is recommended to "stow" the color frames whenever transporting the spotlight.

THE COLOR BOOMERANG is equipped with six color filter gels containing the following colors in order from rear to front: (1) Amber, (2) Flesh Pink, (3) Daylight Blue, (4) Light Sky Blue, (5) Primary Blue, (6) Light Red. Keep the darkest or most dense colors (red, dark blue) to the *front* of the boomerang, farthest from the bulb.

THE SIX COLOR ARMS are mounted to the side of the boomerang. To insert a color disc in the light beam, move the proper color arm downward until the latch engages. To release a color disc, raise the color release lever, or engage another color, thereby canceling the previous color.

TO REMOVE A COLOR DISC ASSEMBLY, release the arm and lift the color holder ring from the arm bracket. To attach a color gel to a color frame, spray the flat surface of the ring (without the channel clip) with an aerosol adhesive. Center the ring over a precut 12 by 12 inch (30 x 30cm) gel, and press the adhesive-coated side onto the gel. Trim the excess gel material and install the color frame into the boomerang. Only the six above-noted colors are supplied with the boomerang; additional colors, and color temperature reduction filters, are available from theatrical supply dealers.

MAINTENANCE

TO CLEAN THE CONDENSER LENSES, remove the lamphouse top cover and the lamp. Using a good grade of alcohol and piece of lens tissue (facial tissue can be used as a substitute), gently wipe both sides of each lens until the surfaces are clean. Clean the envelope of the lamp in the same manner before replacing.

THE REFLECTOR should be cleaned periodically with a clean, soft lint-free cloth to remove any dust from the reflecting surface. USE NO ABRASIVES.

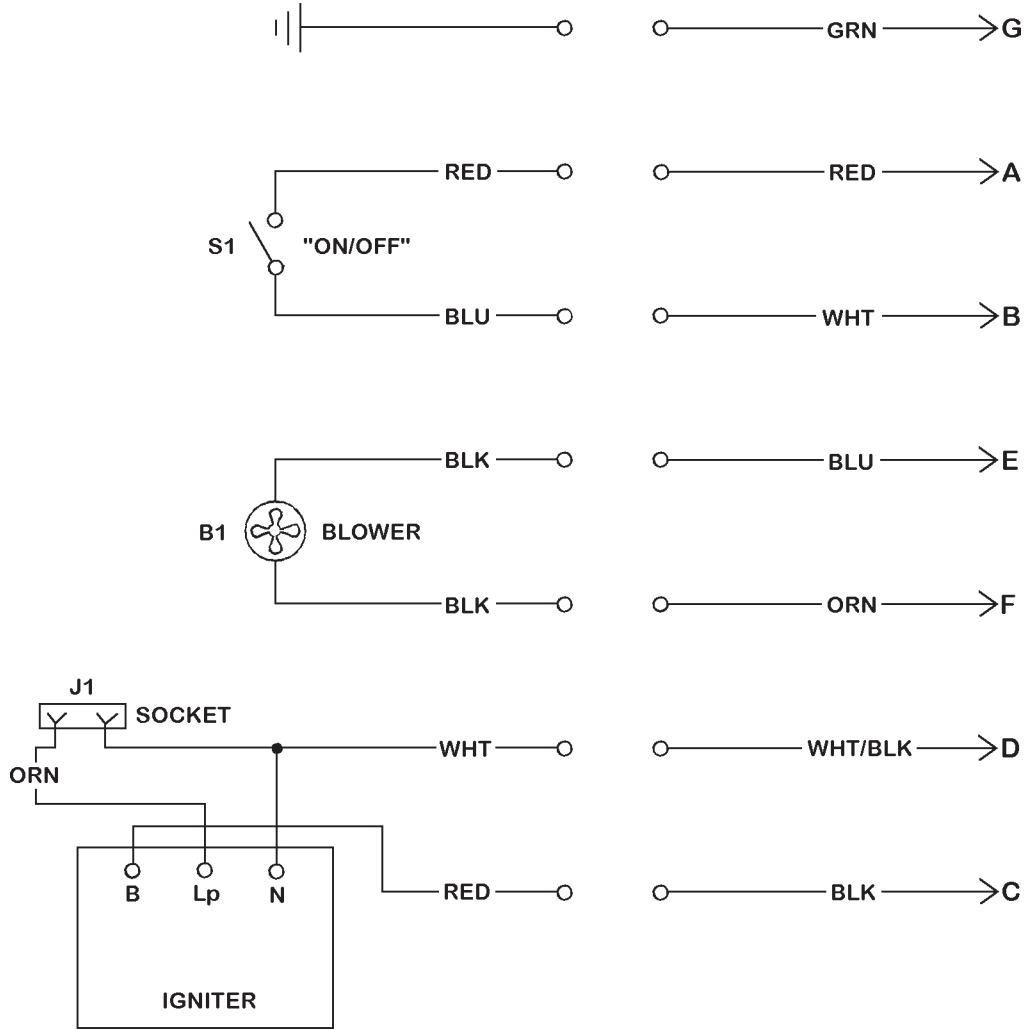
A REMOVABLE OPTICAL SYSTEM COVER, secured with quarter-turn fasteners, is located immediately in front of the fade-out control lever. The center lens, and the back surface of the large lens, can be cleaned easily through this opening.

TO CLEAN THE FRONT SURFACE of the large lens, slide the lens carriage to the full forward position. The front surface is now readily accessible through the front of the housing.

THE INSIDE of the lamphouse, lens mechanism and the fan should be cleaned periodically, depending on the dust conditions at each installation. The fan blades and inlet grilles need cleaning to remove the dust buildup that accumulates over a period of time.

THE FOLLOW SPOT does not require any lubrication.

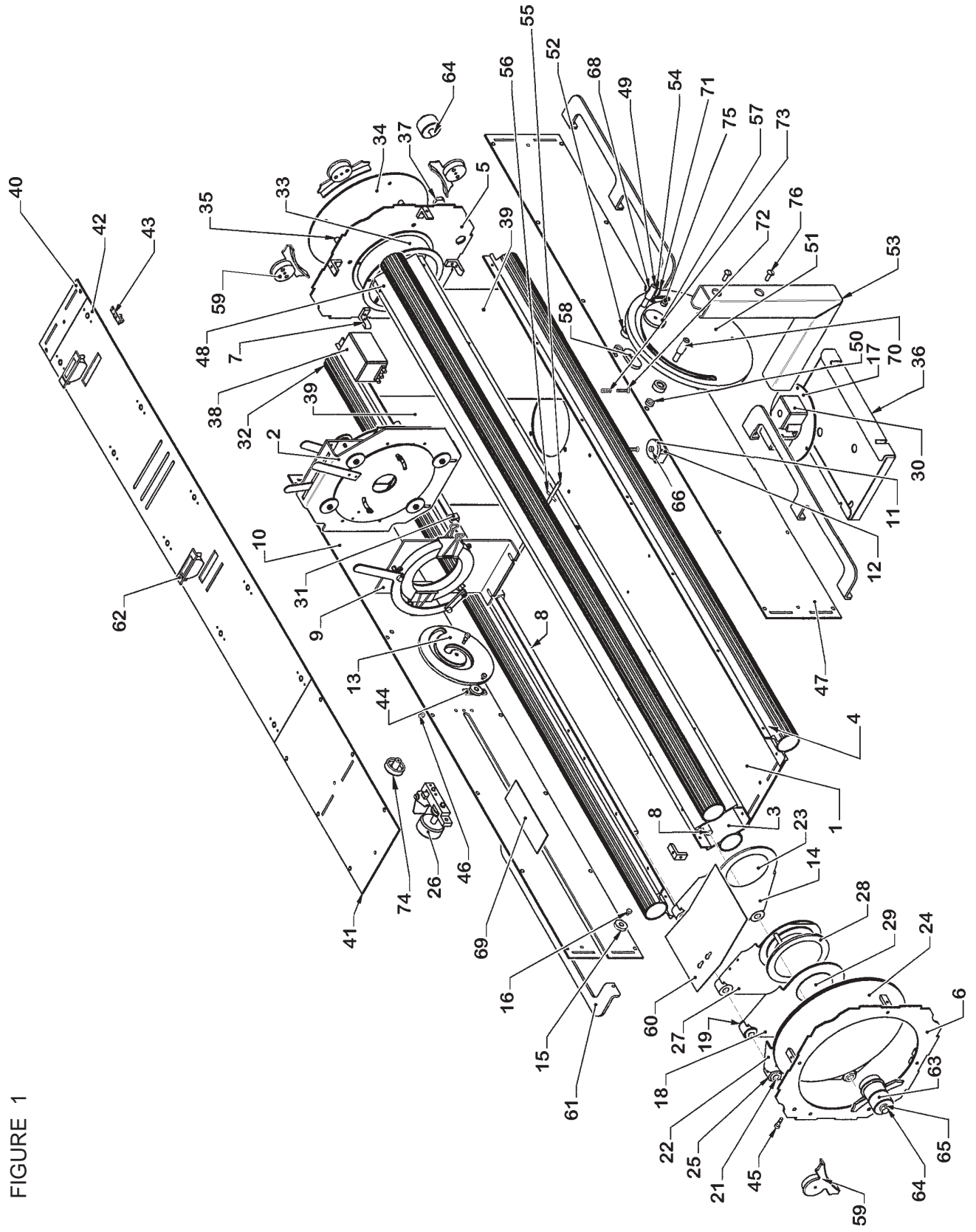
LAMPHOUSE SCHEMATIC DIAGRAM



Ref.

<u>Desig.</u>	<u>Part No.</u>	<u>Description</u>
B1	71627000	Lamphouse Blower, 230 V.AC, 50/60 Hz.
J1		Socket, Type G22 for 1200 W.
J1	7140001	Socket, Type G38 for 2500 W.
S1	7161110	Rocker Switch, ON/OFF
-		Igniter (1200 W.)
-	7164001	Igniter (2500 W.)
-	7171001	Lamphouse/Power Supply Interconnect Cable Assembly includes (7) Pin Quick-Disconnect Plug

FIGURE 1



PARTS LIST

Figure 1

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
1	7200789	Bottom Cover Plate
2	7200875	Chopper & Iris Assembly (see Figure 3)
3	7200863	Extrusion, Operator Side, Lower
4	7200862	Extrusion, Off-Operator Side, Lower
5	7200786	Rear Cover
6	7200787	Front Cover
7	7200799	End Cover Bracket (9 req'd.)
8	7200798	Lens Mounting Rail (2 req'd.)
9	7200970	Fade-Out/Douser Assembly (see Figure 2)
10	7200790	Cover Panel, Operator Side
11	7200865	Lower Yoke Pulley
12	7200864	Bracket, Lower Yoke Pulley
13	7200805	Focus Cam Wheel
14	7200811	Reflector Mounting Bracket
15	25062000	Pulley (2 req'd.)
16	5220506	Shoulder Screw, Pulley Axle (2 req'd.)
17	7200852	Mounting Plate, Lamp Socket
18	7200813	Mounting Plate, Lens 3
19	8104003	Ball Bearing (not shown)
20	4080622	Screw, 8-32 x 5/8" Flat Head
21	24059000	Linear Bearing (4 req'd.)
22	7200810	Mounting Plate, Lens 4
23	7200924	Reflector, Spherical
24	51408000	Lens, 11" Plano Convex
25	8148008	Retaining Ring, External (8 Req'd.)
26	7200850	Large Lens Slide/Lock Assembly
27	7200812	Mounting Flange, Condensor Lenses
28	7198018	Condensor Lens Assembly
29	7200774	Small Lens (No. 3)
30	7140001	Socket (J1), Type G38, 2500 W.
30		Socket (J1), Type G22, 1200 W.
31	7200797	Support Bracket, Lens Rail (4 req'd.)
32	7200860	Extrusion, Operator Side, Upper
33	71627000	Blower (B1), 230 V.AC, 50/60 Hz.
34	7200803	Fan Cover Plate, Rear
35	4156004	Spacer, Air Intake (4 req'd.)

PARTS LIST, Figure 1 (continued)

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
36	7200849	Heat Shield, Lamp Base
37	7161110	Rocker Switch (S1), ON/OFF
38	7164001	Igniter Assembly, 2500 W.
38		Igniter Assembly, 1200 W.
39	7200817	Lamp Heat Shield (2 req'd.)
40	7200788	Top Cover Plate, Rear
41	7200848	Top Cover Plate, Front
42	7200819	Top Cover Plate, Center
43	5198423	Top Cover Retainer, Spring Cam Latch (10 req'd.)
44	7200967	Pulley Plate (Pulley: see Item 15)
45	4151755	Shoulder Screw, 3/8" Threaded 10-24 (2 req'd.)
46	4118008	Acorn Nut, 10-24
49	7200796	Spigot, 1-1/8" Dia. (not shown; mounts to Item 53)
-		Hexnut, Spigot; 12mm
-		Flatwasher
50	7200968	Spacer Washer (2 req'd.)
51	7200792	Tilt Brake Plate
52	7200866	Upper Roller, Brake Plate (2 req'd.)
53	7200793	Cantilever Arm
54	8104026	Ball Bearing (4 req'd.)
55	7200886	Brake Shaft
56	2137038	Roll Pin, 1/8" Dia. x 1"
57	7200884	Brake Shoe
58	7200886	Brake Bushing
59	7200882	Extrusion End Plug (6 req'd.)
60	7200973	Lamp Heat Shield, Upper
61	7200974	Side Handle (4 req'd.)
62	23833000	Concealed Pull, Black Plastic (2 req'd.)
63	7200975	Counterweight Puck (3 req'd.)
64	4371502	Screw, 3/8-16 x 3-1/2" Hex Head (2 req'd.)
65	4170075	Split Lockwasher, 3/8" (2 req'd.)
66	2151032	Shoulder Bolt, .25" Dia. Threaded 10-24
67	7200902	Color Boomerang (not shown), see Figure 4
68	4257103	Flatwasher, 1/4" x 1/2" O.D.
69	2198349	Neoprene Sheet, 1/16"
70	7200976	Pin, Brake Plate Roller (2 req'd.)

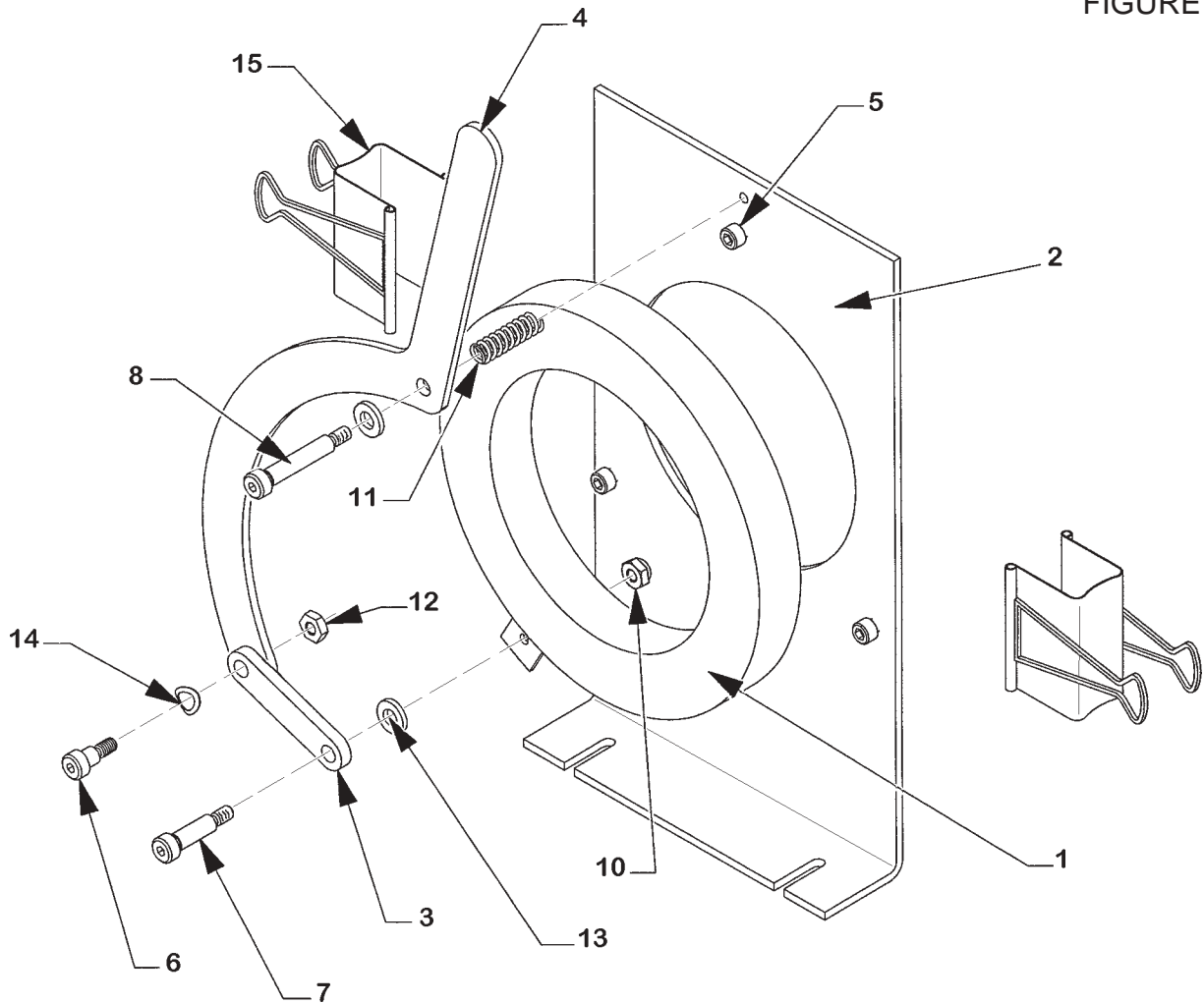
PARTS LIST, Figure 1 (continued)

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
71	3198075	Retaining Ring, 1/4" (4 req'd.)
72	4100623	Screw, 10-32 x 5/8" Flat Head (3 req'd.)
73	5158052	Compression Spring, 3/4" Free Length (3 req'd.)
74	71281000	Brake Knob, 1.5" Dia.
75	4258008	Acorn Nut, 1/4-20
76	4250754	Screw, 1/4-20 x 3/4" Truss Head (2 req'd.)

NOT SHOWN

20102401 Tripod Floor Stand (optional)

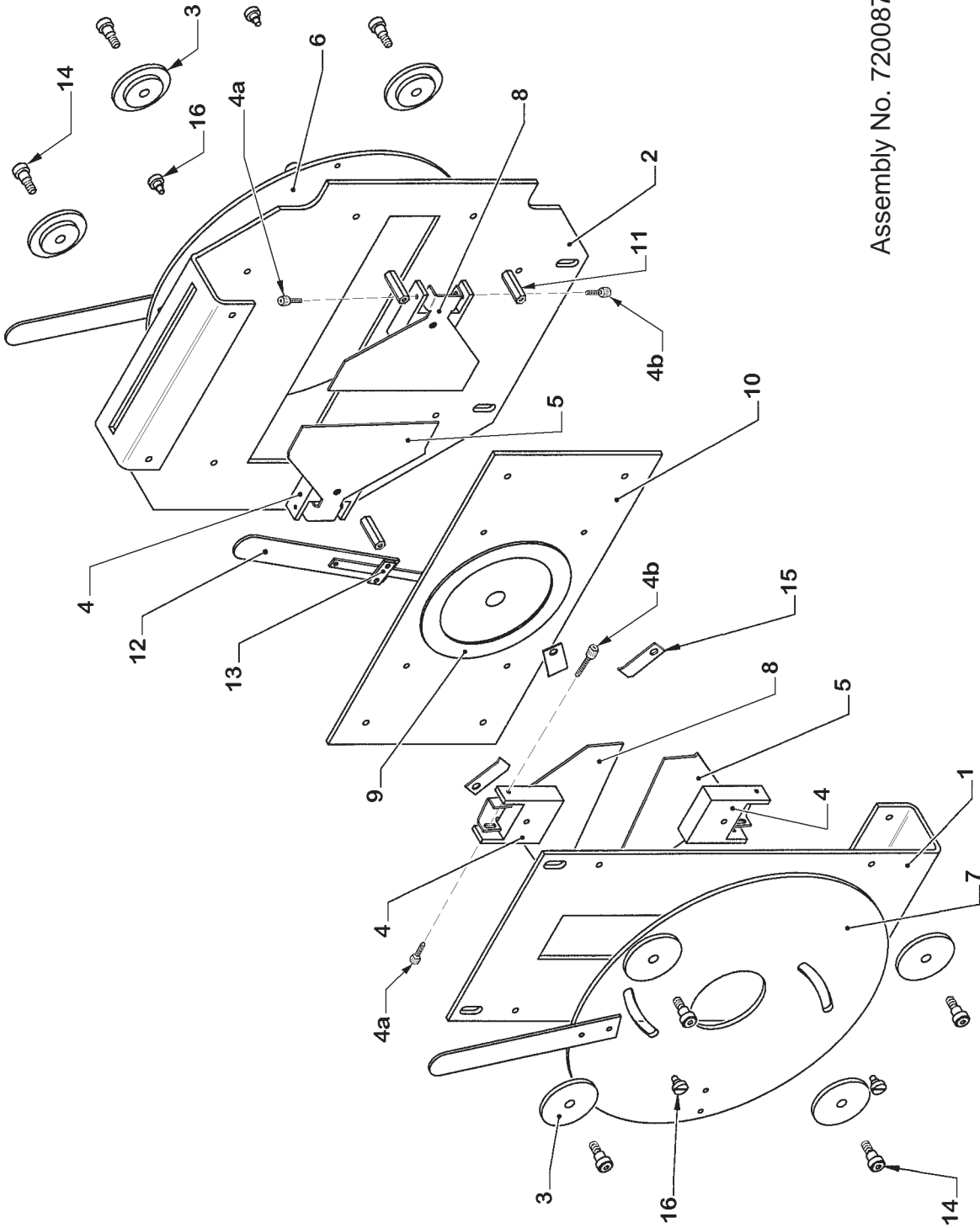
FIGURE 2



Assembly No. 7200970

<u>Item</u>	<u>Part No.</u>	<u>Description</u>	<u>Item</u>	<u>Part No.</u>	<u>Description</u>
1	7200969	Dimmer Assembly	9	4118002	Hexnut, 10-24 NyLoc
2	7200971	Dimmer Support Plate	10	4108002	Hexnut, 10-32 NyLoc (4 req'd.)
3	7200972	Linkage Arm	11	10260000	Compression Spring, 1-1/8"
4	7200883	Operating Lever	12	4108001	Hexnut, 10-32 (4 req'd.)
5	4100374	Screw, 10-32 x 3/4" (3 req'd.)	13	4257104	Flatwasher, 1/4" (2 req'd.)
6	2151032	Shoulder Screw, 1/4"	14	4257200	Spring Washer, 1/4"
7	5151011	Shoulder Screw, 3/4"	15	7110002	Paper Clamp, 1" Cap. (2 req'd.)
8	18194000	Shoulder Screw, 1-1/4"			

FIGURE 3



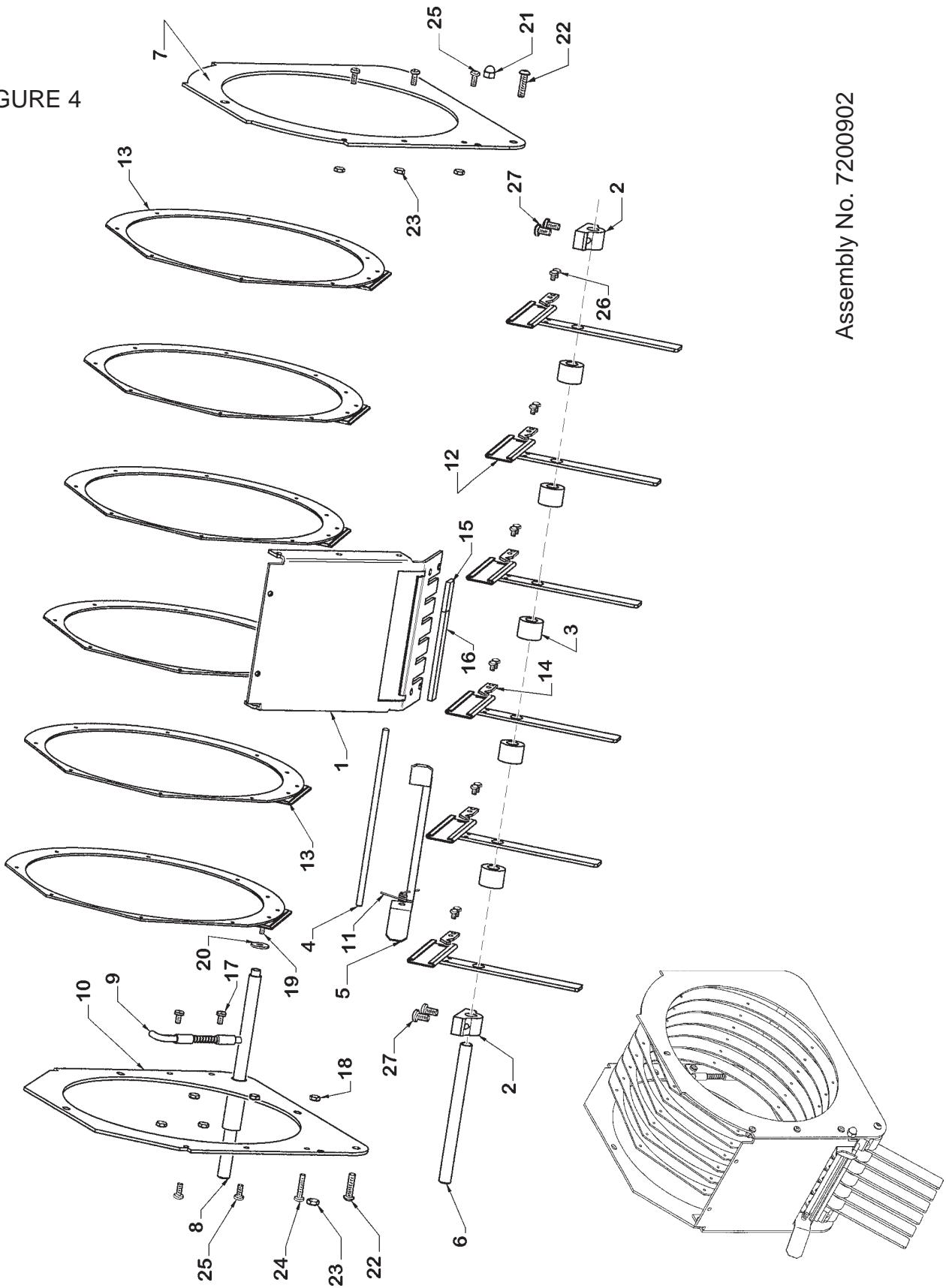
Assembly No. 7200875

PARTS LIST

Figure 3

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
1	7200880	Body Panel, Rear
2	7200879	Body Panel, Front
3	7200873	Roller (8 req'd.)
4	7200872	Blade Mounting Block (4 req'd.)
4a	4041000	Adjusting Screw, 4-40 x 1" Socket Head
4b	4010621	Adjusting Screw, 4-40 x 5/8" Socket Head
-	5158052	Compression Spring, 3/4" Free Length
5	7200871	Chopper Blade "B" (2 req'd.)
6	7200876	Disk & Lever Assembly, Vertical Chopper
7	7200877	Disk & Lever Assembly, Horizontal Chopper
8	7200870	Chopper Blade "A" (2 req'd.)
9	24329000	Iris Assembly
10	7200881	Iris Mounting Plate
11	6198006	Hex Spacer, 7/8" (4 req'd.)
12	7200878	Iris Control Lever
13	7200859	Clamp, Iris Lever
14	2151032	Shoulder Bolt, 1/4" x 1/4" Threaded 10-24 (8 req'd.)
15	5240137	Spring Clip, Iris Mount (4 req'd.)
16	5220506	Shoulder Screw (4 req'd.)

FIGURE 4



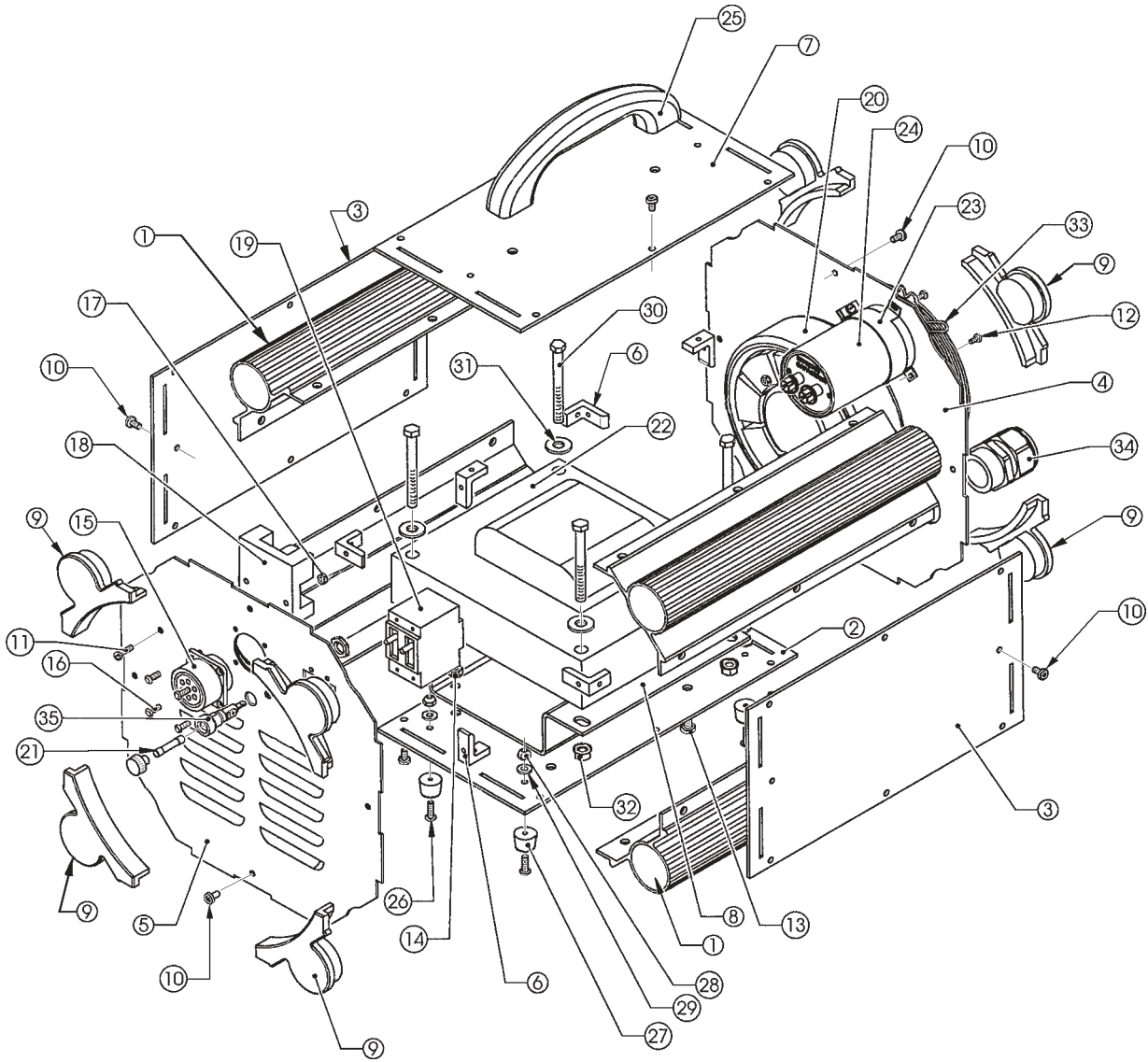
Assembly No. 7200902

PARTS LIST

Figure 4

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
1	7200904	Housing Side Plate
2	7200713	Bearing Block (2 req'd.)
3	7200911	Spacer, Color Arm (5 req'd.)
4	7200930	Lock Lever Shaft
5	7200905	Lock Lever
6	7200714	Pivot Shaft, Color Arms
7	7200922	Housing Front Plate
8	7200926	Color Frame Retainer Bar
9	7200925	Release Pin, Spring-Loaded
10	7200929	Housing Rear Plate
11	7158004	Torsion Spring
12	7200908	Color Arm Welded Assembly (6 req'd.)
13	7200910	Color Frame (6 req'd.)
14	51396000	Catch Hook (6 req'd.)
15	51506000	Rocker Pad, Short
16	51505000	Rocker Pad, Long
17	4100371	Screw, 10-32 x 3/8" Pan Head (2 req'd.)
18	4108007	Hexnut, 10-32 K-Lock (8 Req'd.)
19	4080501	Screw, 8-32 x 1/2" Flat Head
20	4257101	Flatwasher, 1/4"
21	4258008	Acorn Nut, 1/4-20
22	4251000	Screw, 1/4-20 x 1" Button Head (2 req'd.)
23	4258006	Jam Nut, 1/4-20 Hex
24	4101004	Screw, 10-32 x 1" Pan Head
25	4100503	Screw, 10-32 x 1/2" Pan Head, Self-Tapping (5 req'd.)
26	4080250	Screw, 8-32 x 1/4" Pan Head (12 req'd.)
27	4250508	Screw, 1/4-20 x 1/2" Pan Head (4 req'd.)

FIGURE 5



PARTS LIST

Figure 5

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
1	72-00932	Cabinet Corner Extrusion (4 req'd.)
2	72-00934	Bottom Plate, Cabinet
3	72-00933	Cabinet Side Panel (2 req'd.)
4	72-00937	End Panel, Blower Mount
5	72-00938	End Cover, Louvered
6	72-00799	End Cover Bracket (8 req'd.)
7	72-00935	Top Cover Plate
8	72-00936	Transformer Mounting Bracket
9	72-00882	Extrusion Dress Plug (8 req'd.)
10	4100371	Screw, 10-32 x 3/8" Pan Head (42 req'd.)
11	4080624	Screw, 8-32 x 5/8" Pan Head (3 req'd.)
12	4060310	Screw, 6-32 x 5/16" Pan Head (7 req'd.)
13	4250508	Screw, 1/4-20 x 1/2" Pan Head (4 req'd.)
14	4258001	Hexnut, 1/4-20 Self-Locking
15	71-71002	Receptacle, (7) Pin
16	4080622	Screw, 8-32 x 5/8" Flat Head (4 req'd.)
17	4068007	Hexnut, 6-32 Self-Locking
18	71-14110	Contactator
19	71-61120	Switching Circuit Breaker, 30 A. 2 Pole
20	71627000	Blower, 230 V.AC, 50/60 Hz.
21	21-21016	Fuse, 1 A. 250 V.
22	71-64002	Transformer, 2500 Watt
22		Transformer, 1200 Watt
23	31-10001	Capacitor Clamp, 2-1/2" Diameter
24	31-08133	Capacitor, 60 μ f, 370 V.AC
25	31-28039	Carry Handle
26	4100629	Screw, 10-32 x 5/8" Button Head (4 req'd.)
27	81-98254	Traction Foot, Rubber (4 req'd.)
28	4108002	Hexnut, 10-32 NyLock (4 req'd.)
29	4107101	Flatwasher, #10 SAE (4 req'd.)
30	4313000	Cap Screw, 5/16-18 x 3" Hex Head (4 req'd.)
31	4317100	Flatwasher, 5/16" (4 req'd.)
32	4318001	Nexnut, 5/16-18 (4 req'd.)
33	71307000	Blower Grille
34	31-98163	Cord Grip, Strain Relief
35	91-21001	Fuseholder

