

# INSTRUCTION MANUAL

## RADIANCE

Follow Spotlight

Type 72-00800

PRELIMINARY



## **STRONG INTERNATIONAL**

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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 bulbs. Bulbs are not supplied with the unit, but are available from theatrical supply distributors.

AN ELLIPICAL REFLECTOR and condenser lenses are designed to operate in a fixed position with the bulb mounted vertically in the lamphouse. The bulb socket is adjustable in relation to the optics to permit positioning the arc on 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 ( $\pm 10$  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.

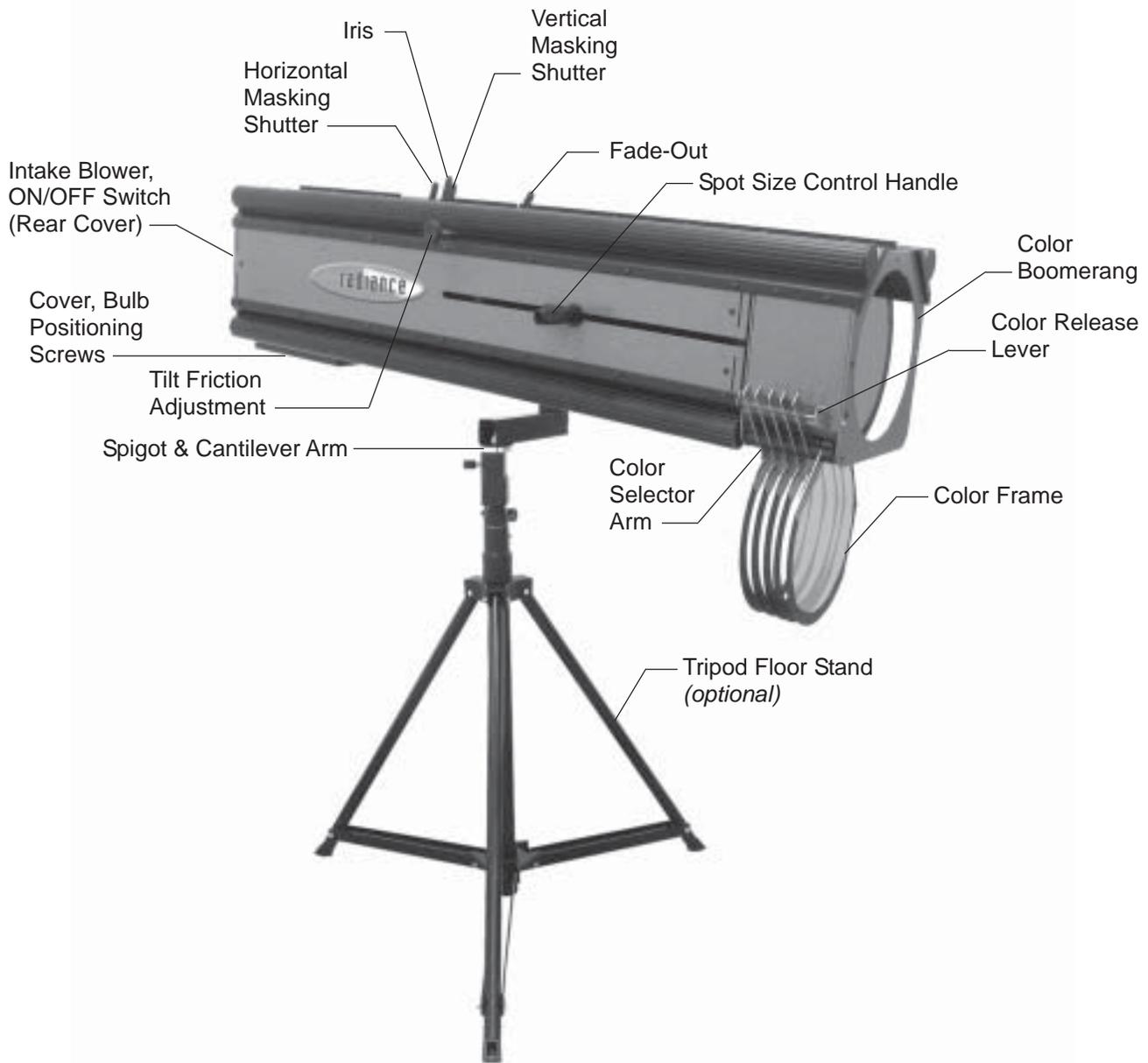
THE IGNITER in the lamphouse requires a 237 V.AC open circuit pulse, provided by a step-up transformer in the power supply, to ignite the bulb. After ignition, the power supply automatically drops the voltage to the value required to maintain the arc.

ADJUSTMENT CONTROLS for positioning the metal halide bulb are located below the bulb socket at the rear of the lamphouse. This control mechanism permits concise positioning of the bulb in relation to the reflector and also allows the bulb 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 BLOWER 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)	
<u>1200 Watt (G22 Base)</u>	<u>2500 Watt (G38 Base)</u>
Philips MSR 1200/2	Philips MSR 2500 HR
<i>or equivalent</i>	

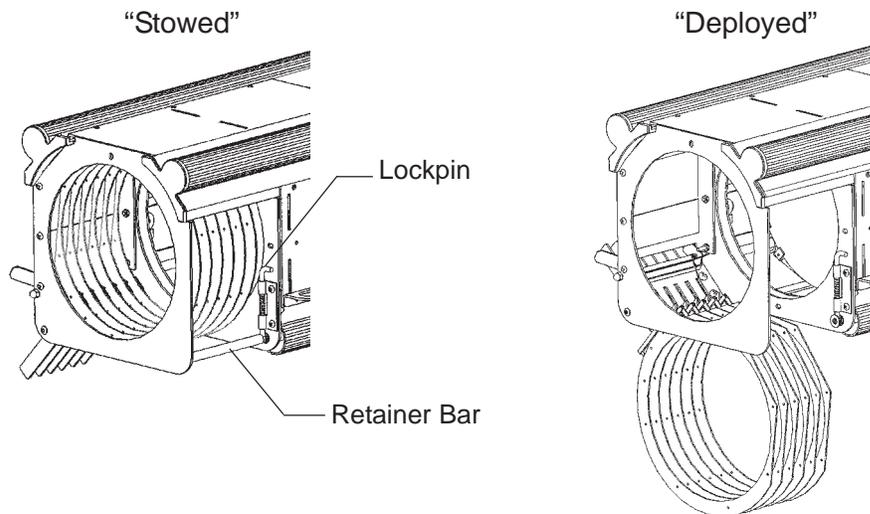


## SETTING UP SPOTLIGHT

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 bulb.

## **BULB 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 bulb socket located on the base of the lamphouse between the reflector and the condenser lenses.

**THE BULB SOCKET** accommodates either the 1200 (G22) or the 2500 watt (G38) single-ended metal halide bulb. Carefully check the data plates on the spotlight head and on the power supply to verify correct wattage before installing either bulb.

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

**INSERT THE METAL HALIDE BULB** into the lamphouse and seat the two pins into the bulb 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 blowers in the power supply and in the spotlight lamphouse will operate. Press the "ON" switch on the lamphouse and the bulb will ignite.

**ALLOW THE BULB** to heat up for three to five minutes to reach full brightness, then proceed with the instructions for alignment of the bulb with the reflector. Leave the bulb on throughout the alignment procedure; a metal halide bulb 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 bulb 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 rods, or otherwise reposition these elements.

## **BULB INSTALLATION AND OPERATION(continued)**

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

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

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

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

### **CAUTION**



ULTRAVIOLET RADIATION is emitted when the bulb is ignited. 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 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 spot size 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 spot size control 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 CONTROL KNOB operates the spot focus control. When making an adjustment, rotate the spot size 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 spotlamp 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 spot size control moved as far as possible toward the rear. Smaller sized spots are projected as the spot size 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 spot size 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 spot size 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.

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).

## **OPERATION OF OPTICAL SYSTEM (continued)**

THE ANGLE OF THE MASKING SHUTTER BLADES can be adjusted to compensate for the horizontal 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, Items \_\_ and \_\_) 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 SPOTLIGHT

GENERALLY THE BEST POSITION for the operator to stand is near the center of the spotlight, 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, dismount the lamphouse top cover and remove the bulb. 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 bulb before replacing in the same manner.

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

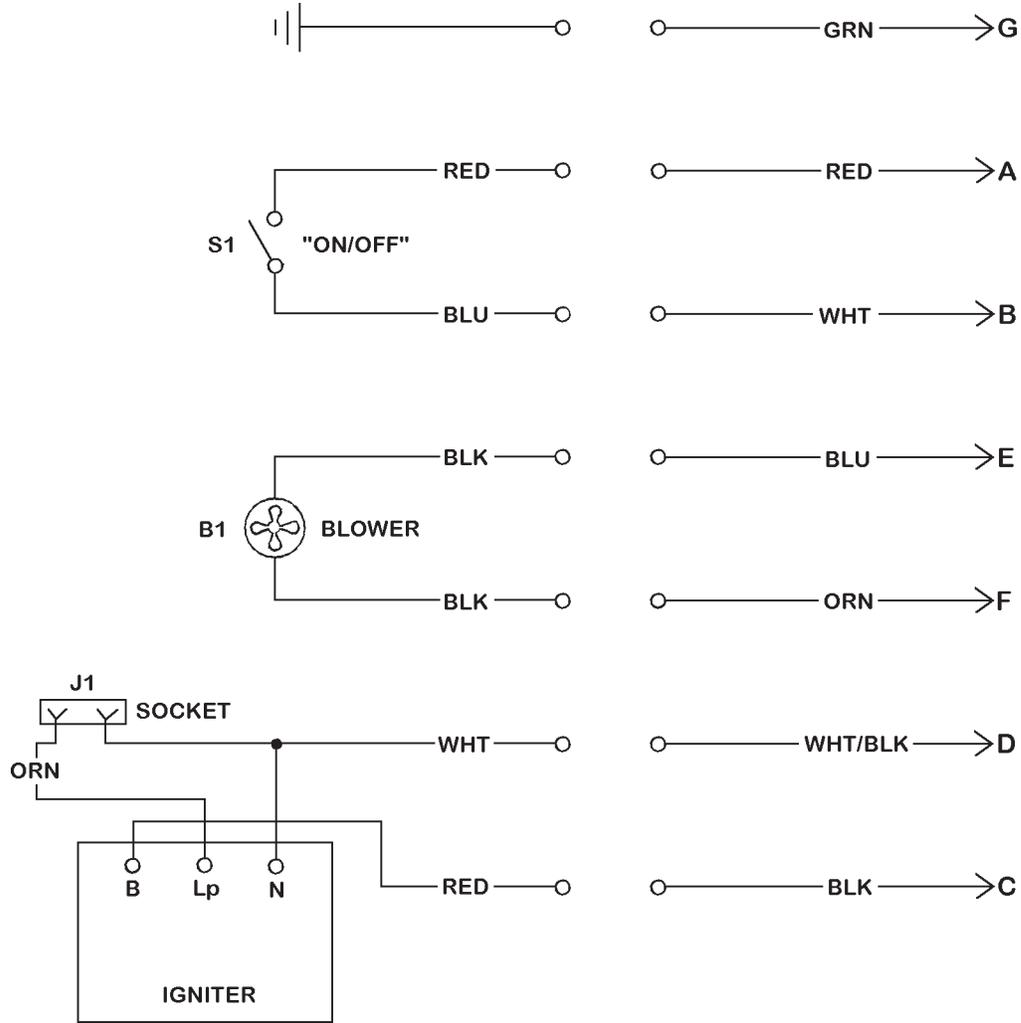
A REMOVABLE OPTICAL SYSTEM COVER, secured with quarter-turn fasteners, is located immediately in front of the fade-out control lever. The center lens, and the back surface of the large lens, can be cleaned easily through this opening.

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

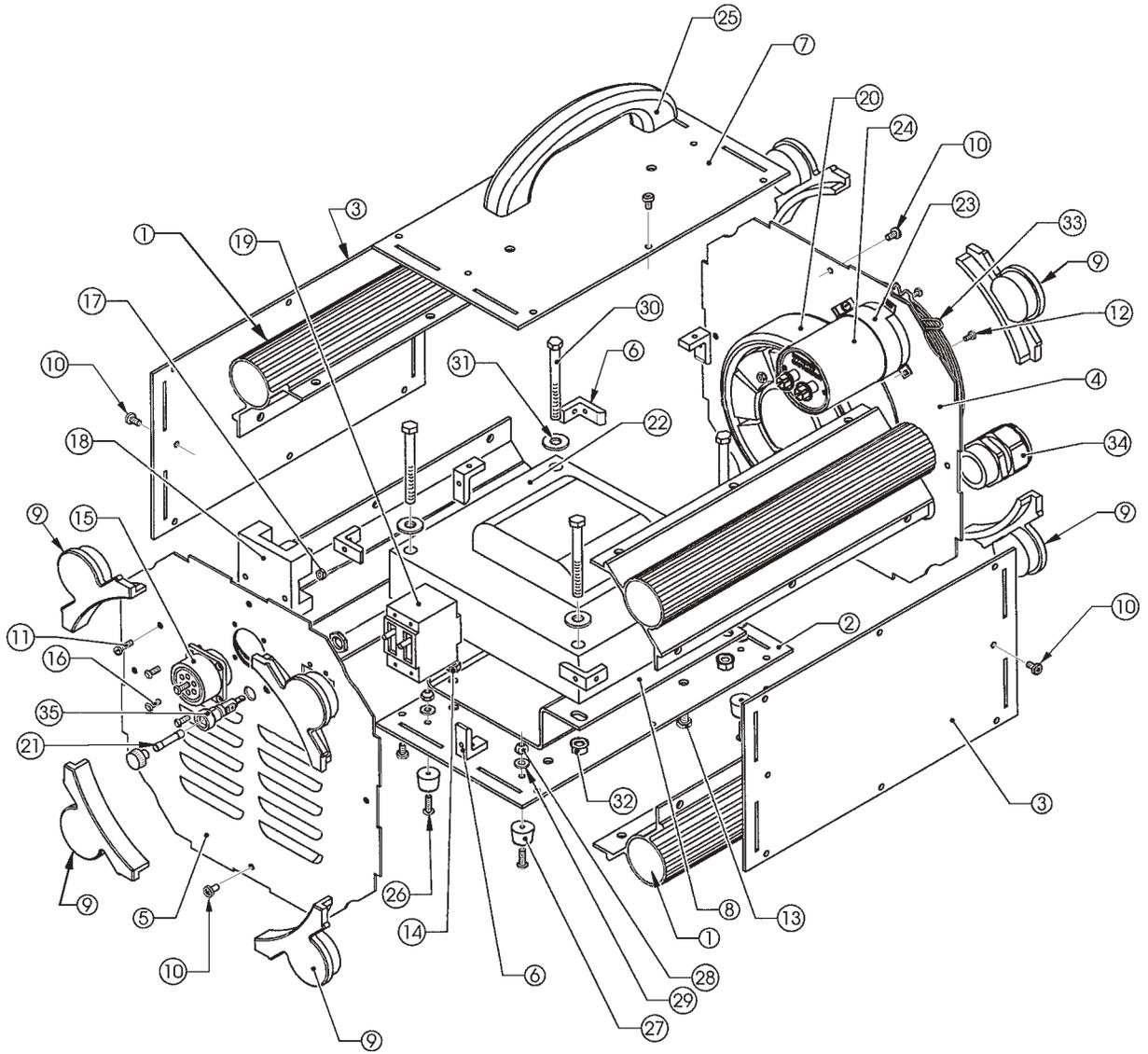
THE FOLLOW SPOT does not require any lubrication.

## LAMPHOUSE SCHEMATIC DIAGRAM



Ref.

Desig.	Part No.	Description
B1	71627000	Lamphouse Blower, 230 V.AC, 50/60 Hz.
J1		G22 Socket (1200 W.)
J1	71-40001	G38 Socket (2500 W.)
S1	71-61110	Rocker Switch, ON/OFF
-	71-64001	Igniter
-	71-71001	Lamphouse/Power Supply Interconnect Cable Assembly includes (7) Pin Quick-Disconnect Plug



RADIANCE POWER SUPPLY  
2500 Watt: 72-00939

## PARTS LIST

### Power Supply

<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 µf, 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



