## Manual Production Instructions

To add foldout pages to this manual, perform the following procedure:

1. Print the foldout page document (96A0226) on an appropriate printer.

2. Fold the pages in half with the text in. Fold back 4.25 inches (exactly) to show the page number and heading and to provide clearance for binding.

3. If necessary, replace specific “dummy” pages with the folded pages.

**THROW AWAY THIS MANUAL PRODUCTION INSTRUCTIONS PAGE AFTER YOU HAVE INSERTED THE NEW PAGES.**

ADB

A Siemens Company

**Document No. 96A0226**

**Issued: 2/27/98**

**Rev A 2/27/98**

# INSTRUCTION MANUAL

# RB-2
# L-801A (AIRPORT)
# ROTATING BEACON
## (EXPORT)

**Manufactured per FAA Specification**

**AC 150/5345-12C**

CE


**ADB**

**A SIEMENS COMPANY**

**977 Gahanna Parkway**

**Columbus, Ohio 43230**

**Tel: (614) 861-1304**

**Fax: (614) 864-2069**


Additional manuals are available upon request for a nominal charge of $25.

# Record of Changes

| PAGE | REV | DESCRIPTION | CHECKED | APPROVED |
|---|---|---|---|---|
| | A | Release manual. EC #3294. | WT | WT |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

# Table of Contents

# Table of Contents



# List of Illustrations

# List of Tables

## Safety Notices

The operating and maintenance personnel should refer to FAA Advisory Circular AC 150/5340-26, "Maintenance of Airport Visual Aids Facilities" for instructions on safety precautions. Personnel must observe the safety regulations at all times. While every practicable safety precaution has been incorporated in this equipment, the following rules must be strictly observed:

## Keep Away From Live Circuits

Operating and maintenance personnel must at all times observe all safety regulations. Do not change plug-in components or make adjustments inside equipment with high voltage supply ON.

## Resuscitation

Operating and maintenance personnel should familiarize themselves with the technique for resuscitation found in the First Aid Instruction Manual.

## Warranty

ADB, Inc. warrants that the RB-2 Rotating Beacon described herein, when sold by ADB, Inc. or its approved representatives, will perform in accordance with FAA specification AC 150/5345-12C, L-801A, and that any defect in design, materials or workmanship which may occur during proper and normal use during a period of one (1) year from date of installation or a maximum of two (2) years from date of shipment will be corrected by repair or replacement by ADB, Inc., f.o.b. factory. Such corrections shall constitute the limit of all ADB, Inc. liabilities for the L-801A Rotating Beacon.

# SECTION 1. GENERAL INFORMATION AND REQUIREMENTS

## 1.1 Introduction

The RB-2 all-weather Rotating Beacon (Export Version) consists of a rotating unit on which are mounted two cast-aluminum finned housings containing 1000-W PAR64 spot quartz lamps, and a motor box. The rotating unit is mounted on a vertical shaft which turns at 12.5 (EXPORT) revolutions per minute, resulting in an output of 24-30 flashes per minute, alternately white and green.

### 1.1.1 Purpose

This manual describes procedures for the installation, operation, maintenance and troubleshooting of the RB-2 Rotating Beacon (Export Version).

### 1.1.2 Scope

This instruction manual covers equipment manufactured to specification AC 150/5345-12C.

## 1.2 Description

(See Figure 7-1).

### 1.2.1 Lamp Housing

The lamp housing is a finned aluminum casting; the fins dissipate excess heat to the air, allowing the lamp to operate at its correct temperature for maximum life. The front section of the housing is hinged to allow access to the lamp for replacement, or to the lens for cleaning. A canopy, mounted on the hinged front section, is designed to deflect rain or hail from the lens. Clear and green lenses are mounted 180$^{o}$ apart, and each lamp housing is factory preset to an elevation of 5° above the horizontal.

### 1.2.2 Hub and Shaft Assembly

The rotating hub is mounted on a shaft which passes through the top of the motor box, and is supported by bearings at the top and bottom of the box. The lamp housings are attached to the hub by fittings which allow adjustment of the light beam elevation angle.

### 1.2.3 Motor Box

A heavy duty aluminum casting with a cover plate houses the motor and electrical equipment, and is vented to prevent an accumulation of excess heat. Access to the interior of the housing is gained by removal of the four cover plate screws and the plate.

### 1.2.4 Motor and Drive Assembly

The 50/60 Hz motor is geared to drive the shaft at 12.4 (FAA) or 12.5 (EXPORT) RPM. This output shaft is connected to the hub assembly which rotates the lamp heads.

### 1.2.5 Optional Heater Assembly

(See Figure 7-3.) A heater assembly is available for use at temperatures below -10°C (+14°F). The heater turns off at temperatures above +10°C (+50°F).

### 1.2.6 Optional Mounting Bases

Optional bases are available for mounting the beacon on a flat, horizontal roof or on top of a pole. See Figure 7-5 for optional pole mounting adapter. An optional roof mounting assembly is shown in Figure 7-6.

### 1.2.7 Optional Photocell Assembly

(See Figure 7-7.) An optional photocell assembly is available to automatically turn the beacon on at dusk and off at dawn.

## 1.3 Equipment Specification Data

The ADB part number for the RB-2 is given in Table 1-1 for each of the two options. Table 1-2 provides reference data pertinent to the equipment. Table 1-3 lists the equipment and accessories supplied. Items not supplied which might be required for installation are listed in Table 1-4.

### Table 1-1. L-801A Part Numbers

| Type | Part Number | Includes Heater |
|---|---|---|
| RB-2 (Export) | 44D0793-3 | No |
| RB-2 (Export) | 44D0793-4 | Yes |

## Table 1-2. Equipment Data

| | |
|---|---|
| Type | L-801A, RB-2 |
| Input | 120 VAC, ±10%, 50/60 Hz |
| Power Consumption | 2100W<br>2500W (with optional heater) |
| Lenses | One clear, one green (one pair) |
| Lamps | Part No.: GE. l000W, Quartzline, Q1000 PAR64/NSP (ADB P/N: 48A0004) |
| Quantity | 2 |
| Watts | 1000W |
| Rated Average Life | 4000 hours |
| Beam Intensity | 25,000 min. effective candelas from +1° to +2° vertical and from +8° to +10° vertical, 50,000 min. effective candelas from +2° to +8° vertical. |
| Rotation Speed | 12.5 (EXPORT) RPM (Produces 24-30 flashes per minute) |
| Heater | 400W (heating element) |
| Turns On | Below -10°C (+14°F) |
| Turns Off: | Above +10°C (+50°F) |
| Temperature Range of Installation | -55°C (-67°F) to +55°C (+131°F) |
| Humidity | 0% to 100% |
| Altitude | Sea level to 10,000 feet (3000 m) |
| Wind | Velocities to 100 mph (161 km/h) |
| Dimensions | Height: 28 inches (711.2 mm);<br>Width: 26 inches (660.4 mm) |
| Clearance for Rotation | 30 inches (762 mm) |
| Mounting Dimensions | Four 5/16" (7.9375 mm) holes in a rectangular pattern: (5"x 9-5/8") (127 x 244.475 mm) |
| Shipping Weight | Approximately 135 lb. (61 kg) |

## Table 1-3. Equipment and Accessories Supplied

| Quantity | Description |
|---|---|
| 1 | RB-2 Rotating Beacon |
| 1 | Instruction Manual |

## Table 1-4. Equipment Required But Not Supplied

| Quantity | Description |
|---|---|
| 1 | Wrench (7/16) |
| A/R | Set of Screwdrivers |
| A/R | Set of Pliers |
| 1 | Voltmeter |
| 1 | Insulation Tester |
| 1 | Level |
| 1 | Lightning Rod |
| A/R | Ground Wire (for lightning rod) |
| A/R | Liquid Glass Cleaner |
| 1 | S0-3 Cable, AWG 10 |

# SECTION 2. THEORY OF OPERATION

## 2.1 RB-2 Operation.

(See Figure 7-4.) Power is connected to TBl terminals Ll (120 VAC) and N (neutral). Power is supplied through fuse Fl to Motor Relay K3. Relay K3 is a motor starting relay. When power is first applied, 120 VAC is present at K3 pins 2 and 3. Relay pin 3 is connected to the motor main winding and pin 2 is connected to the start winding. When the motor is first turned on, it draws a current greater than 4.4 A, energizing the relay and placing 120 VAC on pin 2. After the motor has reached its operating speed, the current drops to less than 3.2 A and relay K3 de-energizes. This disconnects 120 VAC from the motor start winding. 120 VAC is continuously connected to the motor main winding at relay K3 pin 3.

Power is supplied to the lamps #1 and #2 through fuse F2, and brush blocks #1 and #2.

## 2.2 Optional Heater Assembly

(See Figure 7-4.) The optional heater assembly consists of a 400-watt heating element, thermostat, and safety fuse. The heater assembly should be connected through a power cord to a separate circuit breaker, so that it may remain operable when the beacon is turned off. The circuit breaker should be switched off during the summer months.

When the temperature drops below +14°F (-10°C), the thermostat activates the heater, which is attached to the motor gear box. The gear box lubricant is warmed and this facilitates rotation of the beacon when it is energized; the more effective lubrication which results also extends the service life of the motor.

## 2.3 Optional Photocell Assembly

(See Figure 7-8.) At dusk the decrease in light on the photocell causes a current to flow through terminal block TBX, the photocell and into the coil of relay Kl in the photocell relay assembly. This closes the normally open contact which connects 120 VAC to terminal block TBX terminal L0. This is connected to terminal block TB1 in the rotating beacon and starts it operating. At dawn the increase in light on the photocell stops current from flowing through relay K1 which opens the contact and shuts down the beacon.

# SECTION 3. MAINTENANCE

## 3.1 Lamp Replacement

(See Fig. 7-11.) Loosen the hexagonal slotted screw on the left side of the hinged lens cover and swing the cover open. Grasp the lamp with the fingertips and pull it straight out. Carefully insert replacement lamp into socket. Make sure the lamp filament is vertical before closing the lens cover and tightening the hexagonal screw.

### CAUTION

The lens temperature can be as high as 373°F (189°C). Allow one-half hour for the lamps to cool before opening the lens cover.

## 3.2 Brush Replacement

(See Fig. 7-10.) All three brushes should be replaced at the same time to provide even wear. Remove the two screws, lockwashers and nuts (Items H5, H10, H18, Fig. 7-9) holding the Brush block Assembly (Item A1, Fig. 7-9) to the brush block support (Item, M3). Lift Brush Block Assembly away from shaft, being careful not to place any strain on the wires.

Next remove the screw (Item H2, Fig. 7-10) holding the brush (Item H10) to the brush bracket (Item M1). Install new brushes by reversing the removal procedure.

To install new brush bracket on brush block, use the blade of a screw driver to loosen and remove the #2 x l/4 Rd. Hd. drive pin on the old bracket. Next remove the outer hex nut, lockwasher and wire from the screw holding the end of the bracket to the brush block. Remove solder from the remaining hex nut (brass), and remove the hex nut and brush bracket from screw on brush block. Do not remove screw. Place new bracket on screw, install drive pin on bracket and use 60/40 solder to secure brass hex nut to screw and bracket. Then reinstall wire, lockwasher and outer hex nut on the screw.

Pre-bend new brush bracket(s) as shown in Fig. 7-10.1. The brushes must have a tension of 14 + 2 oz against the shaft. Verify the tension is correct by using a spring scale (e.g., Linear Barrel Scale (0-16 oz in 1/4 oz increments)[not supplied]) attached to the screw holding the brush on the brush bracket. If there is too much tension, release tension by bending the brush bracket as shown in Fig. 7-l0.l.

## 3.3 Cleaning

### 3.3.1 Lenses

Clean lenses periodically with alcohol or glass cleaner and soft cloths. Wipe dry with a clean soft cloth.

### 3.3.2 Lamp Housing Assemblies

Remove dust and dirt from the lamp housing assemblies using a soft cloth or sponge with soap and water.

### 3.3.3. Vents

Make certain that all vents in the lamp housing assemblies and motor box are clean and not plugged with dust and dirt. This is necessary to ensure adequate cooling of the quartz lamps and motor.

### 3.3.4 Slip Rings and Brushes

Clean the slip rings and brushes with a cloth moistened with an appropriate solvent which will not leave a film or residue. If sparking or pitting occurs, rings may be smoothed with 420 sandpaper. Avoid sanding if possible. Sanding produces a raw copper surface which shortens brush life. Replace brushes showing excessive wear. It is recommended that all three brushes be replaced at the same time to provide even wear. See Section 3.2 for brush replacement.

**WARNING**

If brushes are worn down to brush bracket, the bracket may damage the slip rings. Replace brushes worn to 1/8" (3.175 mm) of the bracket edge.

## 3.4 Lubrication

All moving parts are permanently lubricated and will not require further attention.

## 3.5 Preventive Maintenance

The preventive maintenance checks for the RB-2 Rotating Beacon shall be performed as listed in Table 3-1,

## Table 3-1. Preventive Maintenance Tasks

| Interval | Maintenance Task | Action |
|---|---|---|
| Daily | Lamp failure | Replace lamp. See Sec. 3-1. |
| | Incorrect RPM for beacon (count number of flashes per minute) | If flash rate is not 24-30 flashes per minute, check motor and shaft bearing. |
| Bi-monthly | Dirty or pitted slip rings and brushes | Clean. Replace worn brushes, deeply pitted slip rings or shaft. See Sec. 3.2 & Sec. 3.3.4. |
| | Loose lens retainer | Tighten screws or clamps. |
| | Dirty or pitted photocell relay contacts | Clean. Replace if badly pitted. |
| | Dirty lamp glassware | Clean. |
| Semi-annually | Input voltage out of tolerance | Record reading. If out of tolerance (within ±10% rated lamp voltage) contact power company or install an autotransformer. |
| | Verify beam elevation | Adjust. Check angle indicator on beacon head assembly. |
| | Poor contact on electrical switches and contacts | If contacts are corroded, repair or replace. |
| | Loose lightning rod connections | Tighten loose connections. Check and record ground resistance. |
| Annually | Beacon not level | Level. Check level in four directions. |
| | Loose or broken wiring, lugs and conduit | Repair or renew wiring when needed. Tighten loose lugs, conduit supports and connections. Replace broken brackets. |
| | Cracked or deteriorated gaskets or deteriorated weatherproofing | Replace. |

# SECTION 4. TROUBLESHOOTING

## 4.1 Troubleshooting Table

The troubleshooting guide for the RB-2 is given in Table 4-1.

### Table 4-1. Troubleshooting Guide

Problem: Short Lamp Life

| Possible Cause | Solution |
|---|---|
| Loose connections | Tighten. |
| Excess vibrations | Replace bearing or shaft. |
| Brush pressure is too little causing arcing | Adjust brush bracket or replace brush assembly. |
| Bad socket | Replace socket. |
| High voltage (> 126 VAC) or voltage spikes | Check input voltage. See Table 3-1. |

Problem: Lamp will not light

| Possible Cause | Solution |
|---|---|
| Defective lamp | Replace lamp. |
| Blown fuse | Replace fuse F2 (30 amp, Slo-Blo). |
| Photocell inoperable | See photocell problem (below). |
| Brush assembly | Replace brush assembly. |
| Loose or broken wire | Replace feedthru or socket. |

Problem: Photocell will not operate

| Possible Cause | Solution |
|---|---|
| Photocell defective | Replace photocell. |
| Relay defective | Replace relay. |
| Loose or broken wire | Repair or replace. |

Problem: Poor beacon visibility

| Possible Cause | Solution |
|---|---|
| Lamp filament not vertical | Align socket so lamp filament is vertical. |
| Dirty lenses | Clean lenses after they cool off. |

Problem: Motor will not turn

| Possible Cause | Solution |
|---|---|
| Blown fuse | Replace fuse F1 (3.2 amp, Slo-Blo) |
| Defective motor relay | Replace relay. |
| Motor defective | Replace motor. |
| Shaft bearing seized | Replace defective bearing. |
| Loose or broken wire | Repair or replace. |

## Table 4-1. Troubleshooting Guide

Problem: Motor will not turn during cold weather

| Possible Cause | Solution |
|---|---|
| Inoperable heater | See "Problem: Heater will not operate" (below). |

Problem: Heater will not operate

| Possible Cause | Solution |
|---|---|
| Blown fuse | Replace fuse F3 (5.0 amp, Slo-Blo). |
| Thermostat defective | Replace thermostat. |
| Defective heater | Replace heater. |
| Loose or broken wire | Repair or replace. |

# SECTION 5. PARTS LIST

## 5.1 Parts List

Table 5-1 lists parts ordinarily required for repair or replacement.

### Table 5-1. Parts List

| Item No. | Description: | |
|---|---|---|
| Fig. 7-1 | Beacon Final Assembly (44D0793) | ADB P/N |
| A3 | Hub Assembly | 44C0223 |
| M3 | Hub Base | 62C0197 |
| L1 | Lamp, GE #Q1000 PAR64/NSP | 48A0004 |
| A1 | Box Assembly (Export) | 44D4740-2 |
| TB | Terminal Block | 72A0016 |
| *1 | Heater Assembly | 44B0789 |

| Item No. | Description: | |
|---|---|---|
| Fig. 7-11 | Lamp Housing Assembly (Single Head) (44C0238-X) | ADB P/N |
| H3 | Clip, Socket | 61A0012 |
| L1 | Socket | 49A0004 |
| H1 | Spring, Retainer | 61A0008 |
| H9 | Clear Lens | 63B0022 |
| H12 | Green Lens | 63B0023 |
| M2 | Lens Gasket | 63A0091 |
| H10 | Lens Clip | 61A0009 |
| H11 | Stand-off Clips | 61A0010 |

| Item No. | Description: | |
|---|---|---|
| Fig. 7-9 | Box Assembly (44A4740-X) | ADB P/N |
| H2 | Bearing | 75A0004 |
| A1 | Brush Block Assembly | 44D0953-4 |
| A3 | Shaft Assembly | 44B0204 |
| H20 | Fiber Gear (48 Teeth) | 68A0002 |
| A2 | Motor Assy. (Export) (115V, 50/60 Hz, 26-Teeth Gear) | 44B0998-2 |
| A5 | Lid Assembly | 44B0231 |
| T1 | Transformer | 35A0492 |

# Table 5-1. Parts List

| Item No. | Description: | |
|---|---|---|
| Fig. 7-12 | Motor Assembly (44B0998-X) | ADB P/N |
| MT1 | Gear motor, (50/60 Hz, 115V, 26-28 RPM; Von Weise Gear Co. #V0378AA88, Series K83) | 69C0006 |
| K1 | Relay for motor (Von Weise Gear Co., #K03225-0011) | 53A0168 |
| M1 | Motor Mount (Export) | 62C0179-2 |
| H3 | Gear, 26 Teeth (Export) | 68A0007 |

| Item No. | Description: | |
|---|---|---|
| Fig. 7-10 | Brush Block Assembly (44D0953-4) | ADB P/N |
| H10 | Brush | 76A0001 |
| F2 | Fuse, 30 A, Slo-Blo | 47A0024 |
| F1 | Fuse, 3.2 A, Slo-Blo | 47A0003 |

| Item No. | Description: | |
|---|---|---|
| Fig. 7-7 | Photocell Contactor Assembly (44B0812) | ADB P/N |
| 1 | Photocell | 48A0089 |
| 2 | Socket | 49A0095 |
| 3 | Terminal Block | 72A0016 |
| 4 | Relay | 53A0126-1 |

| Item No. | Description: | |
|---|---|---|
| Fig. 7-3 | Heater Assembly (44B0788) | ADB P/N |
| HT1 | Heater Element, 400 W | 85A0050 |
| F1 | Fuse, 5 A, Slo-Blo | 47A0107 |
| F1 | Fuse Holder | 47A0061 |
| TH1 | Thermostat (Dayton #2E998) | 54A0010 |
| TB1 | Terminal Block | 72A0016 |

| Optional Assemblies | ADB P/N |
|---|---|
| Photocell Contactor Assembly | 44B0812 |
| Roof Mounting Assembly | 44D0351-1 |
| Pole Mounting Assembly | 44B0194 |
| Heater Assembly | 44B0788 |

# SECTION 6. INSTALLATION

## 6.1 Introduction

This section provides instructions for the installation of the RB-2 Rotating Beacon. Refer to the project plans and specifications for the specific installation instructions.

## 6.2 Unpacking

The equipment must be handled very carefully to prevent component damage. Note any exterior damage to carton/crate which might lead to detection of equipment damage. Open top of carton/crate. Remove foam packing from the top of the box. Carefully lift unit out of box by the handles on the side of the motor box. Do not lift unit by the lamp housings.

### 6.2.1 Damage

Check the contents and their condition. If damage to any equipment is noted, a claim form should be filed with the carrier immediately. Inspection of equipment by the carrier may be necessary.

## 6.3 Assembly

Your RB-2 is completely assembled except for installation of an AWG 10, S0-3 power cord (not supplied) and the canopies which are packaged separately in the box.

## 6.4 Canopy Attachment

(See Figure 7-11.) Loosen the hexagonal slotted screw on the left side of the hinged lens cover and swing the cover open. Three holes are provided on the hinged lens cover (one on top and one on each side) for attachment of the canopy. Fasten the canopy to the lens cover with the three screws (10-24 x 1/2), lockwashers, spacers (placed between canopy and lens cover) and hex nuts (#10-24) provided. Close the lens cover and tighten the hexagonal screw.

## 6.5 Mounting

Remove the cover plate from the motor box. Inspect the interior to make sure all parts are tight and have not been loosened in shipment. Reinstall the cover plate. Mounting adapters furnished are for mounting on a level surface with the following mounting dimensions: four 5/16-inch (7.9375 mm) holes in a rectangular pattern 5 x 9 - 5/8 inches (127 x 244.475 mm). If the surface is not level, spacers or shims will be needed. Place a level on top of the motor box and use shims as necessary under the four corners to bring the beacon to level. Tighten the mounting bolts, four each #1/4 - 20 length as required.

## 6.6 Wiring

An AWG 10, S0-3 power cord (user supplied) must be attached to the beacon. To install power cord, remove motor box cover plate and gasket by removing the four screws (7/16 wrench required) on the front of the motor box. Route cable through side hole (see Fig. 7-2) into box*. Connect power cord at the terminal strip as shown in Fig. 7-2). Attach 3-conductor black wire (120 VAC) to terminal marked Ll, white wire (neutral) to terminal marked N, and green wire (ground) to Terminal G.

## 6.7 Optional Heater Wiring

(See Figure 7-4.) The optional heater assembly, when ordered, is pre-wired at the factory. The power cord for the heater assembly should be connected from a separate circuit breaker to terminal block TBl terminals $Ll_H$ and N so the heater can be operated when the beacon is turned off.

## 6.8 Angle Adjustment

(See Figure 7-1.) All beacons are shipped from the factory preset at an angle of 5°. If the angle needs to be adjusted in the field, loosen the screw holding head in place, adjust the pointer to the desired angle and tighten screw.

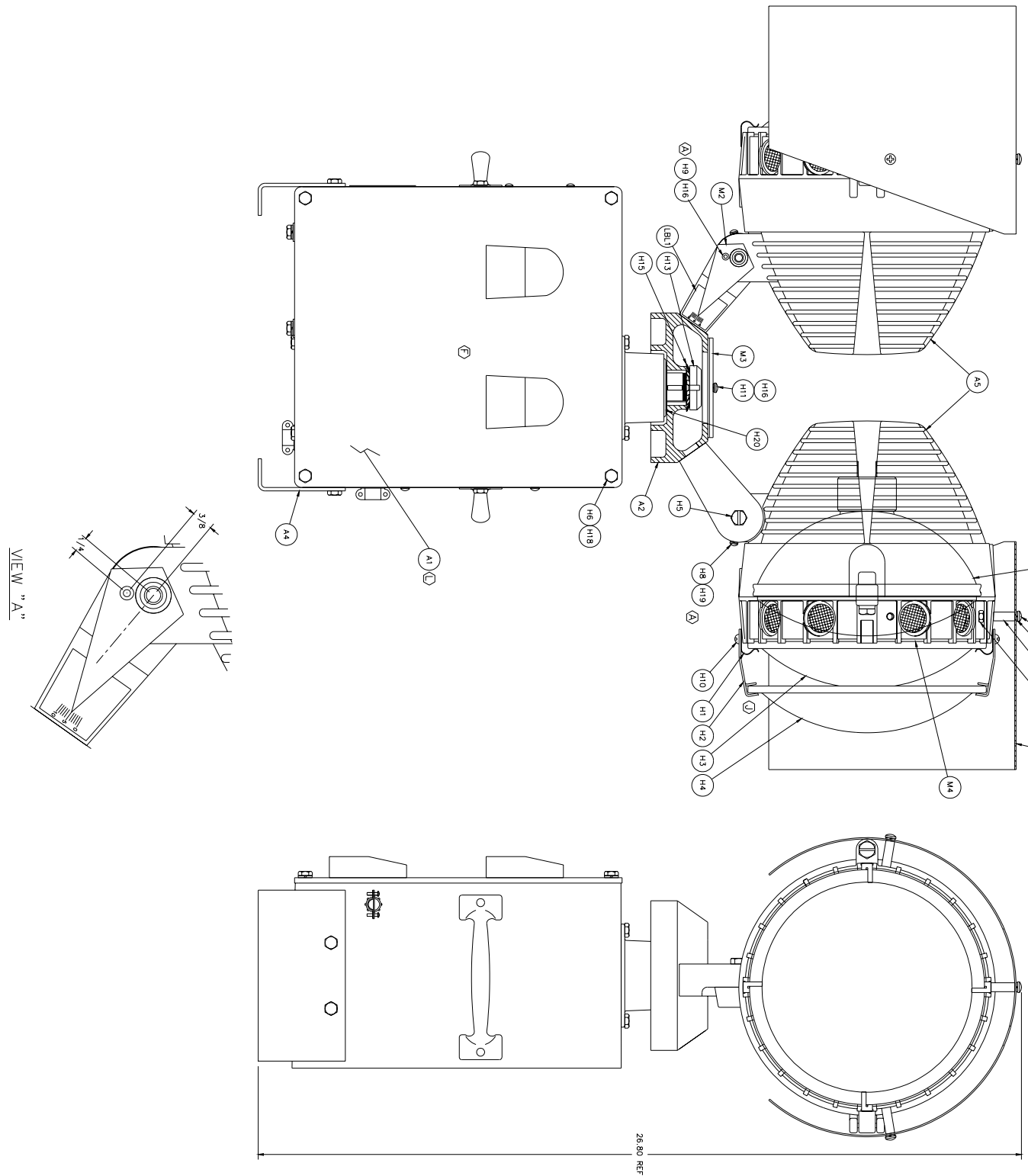
## 6.9 Export Beacon Installation Requirement

Requirement for export beacon installation only: *A fence with a padlock gate shall be installed around the beacon to prevent unauthorized entry.*

---

*Alternate location is on bottom of box.

# SECTION 7. ILLUSTRATIONS




GENERAL ASSEMBLY BILL OF MATERIAL

| ITEM NO. | PART NUMBER | PART NAME/DESCRIPTION | UNITS | QTY. |
|---|---|---|---|---|
| LBL1 | 42B0145 | DECAL, BEACON HEAD ANGLE | EA | 2 |
| A1 | 44B0231 | LID ASSEMBLY | EA | 1 |
| A2 | 44B0282 | HUB ASSEMBLY | EA | 1 |
| A3 | SEE TABLE | HEATER ASSEMBLY | EA | 1 |
| A4 | SEE TABLE | BOX ASSEMBLY | EA | 1 |
| A5 | 44C0238 | HOUSING ASSEMBLY | EA | 2 |
| L1 | SEE TABLE | LAMP | EA | 2 |
| M1 | 60C0028 | CANOPY | EA | 2 |
| M2 | 60A0704 | ANGLE INDICATOR | EA | 2 |
| H1 | 61A0009 | LENS CLIP | EA | 8 |
| H2 | 61A0010 | STANDOFF CLIP | EA | 4 |
| M3 | 62A0028 | HUB COVER (W/ GASKET) | EA | 1 |
| M4 | 63A0091 | LENS GASKET | EA | 2 |
| H3 | 63B0022 | CLEAR LENS | EA | 2 |
| H4 | 63B0023 | GREEN LENS | EA | 1 |
| H5 | 64A0001/24 | SCREW, SLOTTED HEX, 5/16-18 x 1 5/8 | EA | 2 |
| H6 | 64A0173/16 | BOLT, HEX HEAD 1/4-20 x 1 | EA | 4 |
| H7 | 64A0177/24 | SCREW, #10-32 x 1 1/2 PAN HEAD | EA | 6 |
| H8 | 64A0198/6 | SCREW, #6-32 x 3/8" PAN HEAD | EA | 2 |
| H9 | 64A0191/6 | SCREW, #8-32 x 3/8" PAN HEAD | EA | 2 |
| H10 | 64A0195/6 | 10-24 x 3/8 PAN HEAD PHILIPS | EA | 8 |
| H11 | 64A0191/8 | SCREW, #8-32 x 1/2" PAN HEAD | EA | 1 |
| H12 | 65A0015/19 | NUT, #10-32 HEX | EA | 6 |
| H13 | 65A0016 | LOCKNUT, N-05 | EA | 1 |
| H21 | 65A0031/1 | SPLICE CAP (RED SHOWN ON DRAWING) | EA | 3 |
| H22 | 65A0031/2 | SPLICE CAP INSULATOR (RED SHOWN ON DRAWING) | EA | 3 |
| H14 | 66A0006/14 | SPACER | EA | 6 |
| H15 | 66A0023 | LOCKWASHER, W-05 | EA | 1 |
| H20 | 66A0024 | THRUST WASHER 1/32 X 1 | EA | 1 |
| H16 | 66A0026/15 | LOCKWASHER, #8 SPLIT | EA | 3 |
| H17 | 66A0026/17 | LOCKWASHER, #10 SPLIT | EA | 6 |
| H18 | 66A0026/24 | LOCKWASHER, 1/4" SPLIT | EA | 4 |
| H19 | 66A0038/3 | LOCKWASHER, #6 INTERNAL TOOTH | EA | 2 |
| W1 | 89A0014/5 | WIRE, 14AWG GREEN | FT | 2 |

Figure 7-1. Beacon Final Assembly

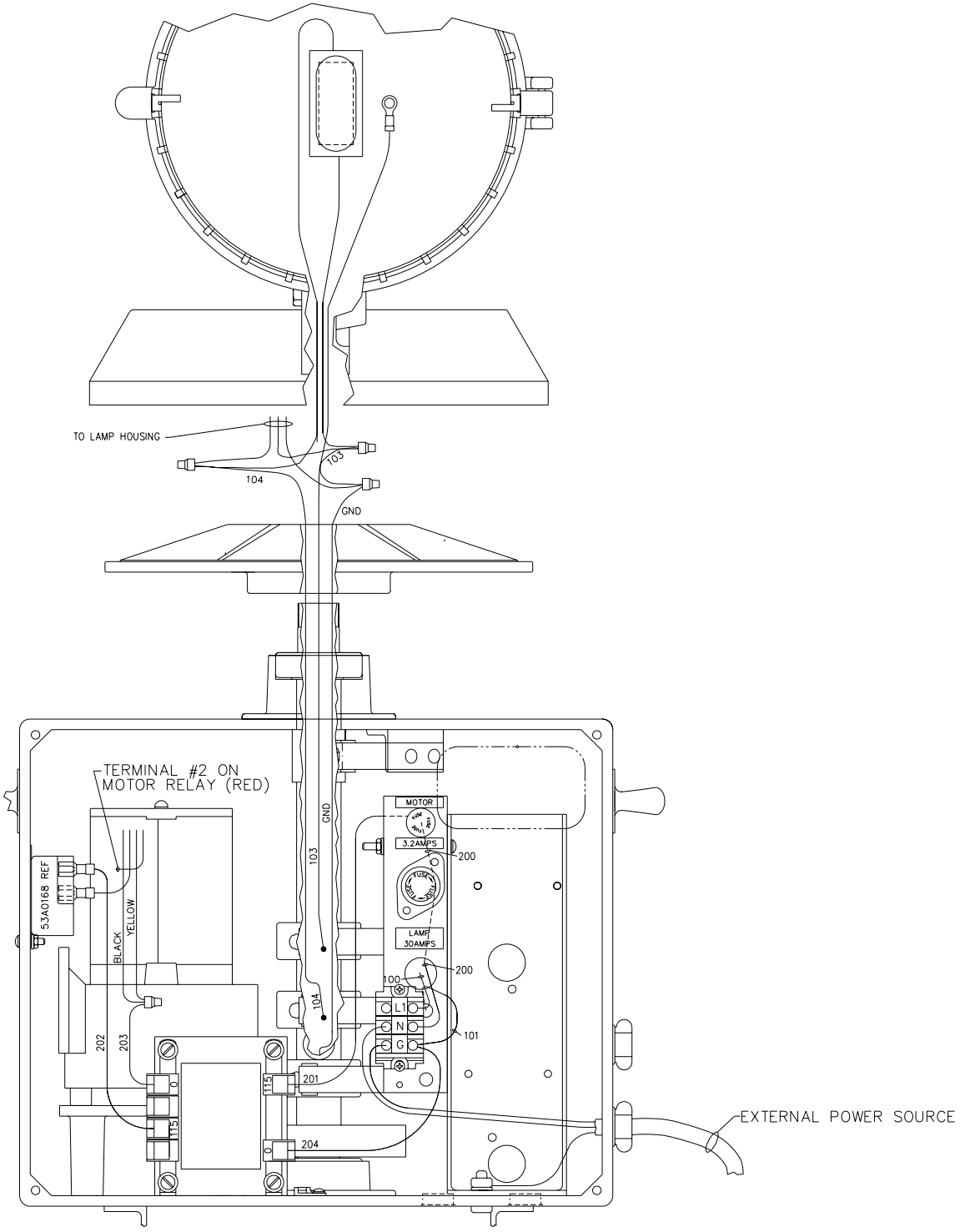



Figure 7-2. Beacon Final Assembly Wiring Diagram

| ITEM NO. | PART NUMBER | PART NAME/DESCRIPTION | UNITS | QTY. |
|---|---|---|---|---|
| F1 | 47A0061 | FUSE BLOCK | EA | 1 |
| F1 | 47A0107 | FUSE 5A 250V SLO-BLO | EA | 1 |
| TH1 | 54A0010 | THERMOSTAT FOR HEATER L801 | EA | 1 |
| H1 | 63A0126 | CABLE TIE MOUNT | EA | 1 |
| H2 | 63A0261 | FUSECLIP | EA | 2 |
| H3 | 64A0191/6 | 8-32 X 3/8 PAN HD PHIL | EA | 2 |
| H4 | 64A0191/8 | 8-32 X 1/2 PAN HD PHIL | EA | 2 |
| H5 | 64A0199/4 | 6-32 X 1/4 PAN HD PHIL | EA | 1 |
| H6 | 65A0015/15 | 8-32 HX NUT | EA | 4 |
| H7 | 65A0031/1 | SPLICE CAP | EA | 2 |
| H8 | 65A0031/2 | SPLICE CAP INSULATOR | EA | 2 |
| H9 | 66A0015/15 | #8 FLAT WASHER | EA | 2 |
| H10 | 66A0026/11 | #6 SPLIT LOCKWASHER | EA | 1 |
| H11 | 66A0026/15 | #8 SPLIT LOCKWASHER | EA | 4 |
| TB1 | 72A0016 | TERM BLK 22-10AWG 300V 50A | EA | 1 |
| HT1 | 85A0050 | HEATER 120V 400W L801 | EA | 1 |
| W1 | 89A0073/1 | 18AWG WIRE TEFLON WIRE | FT | 2 |

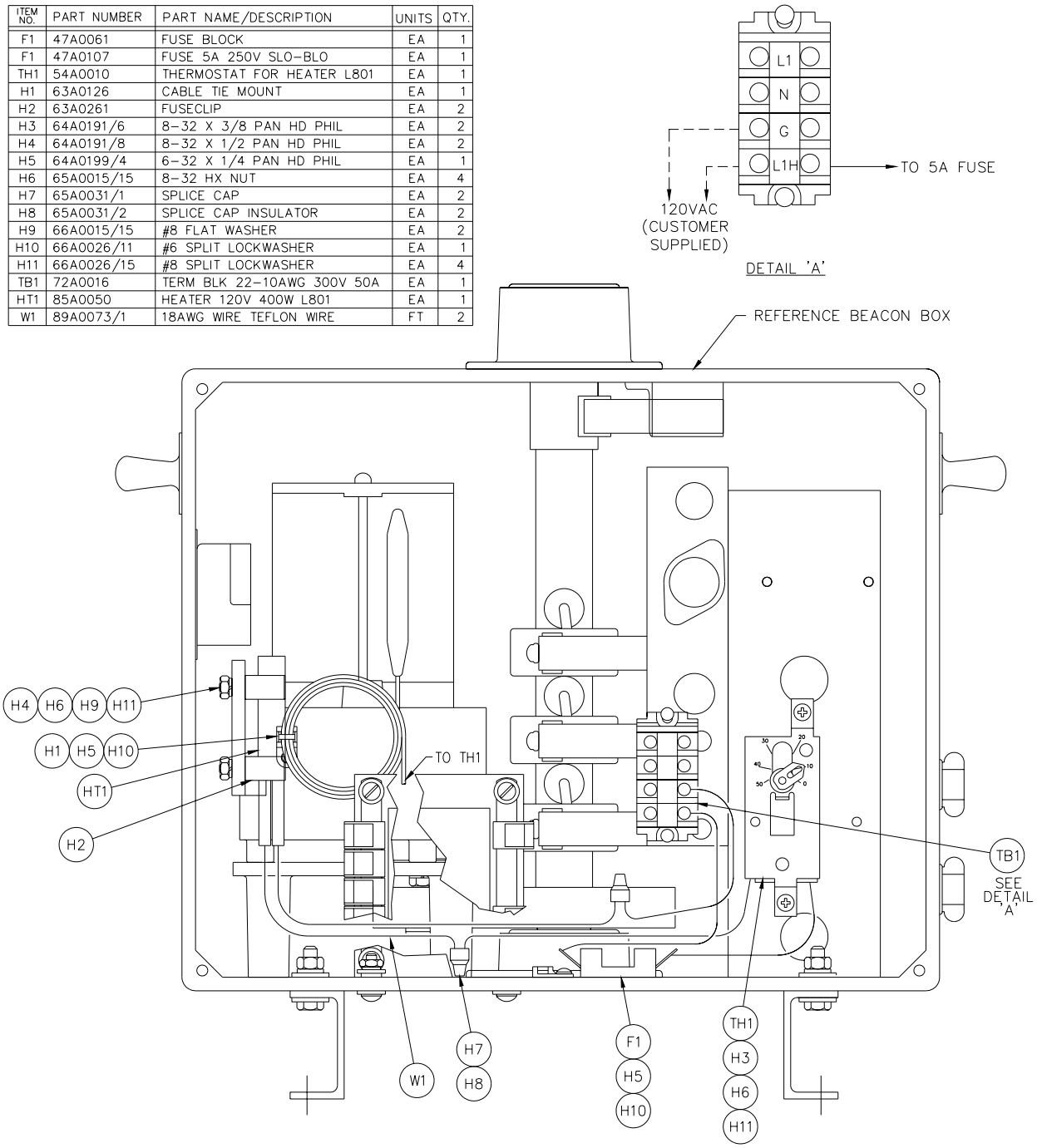



Figure 7-3. Heater Assembly

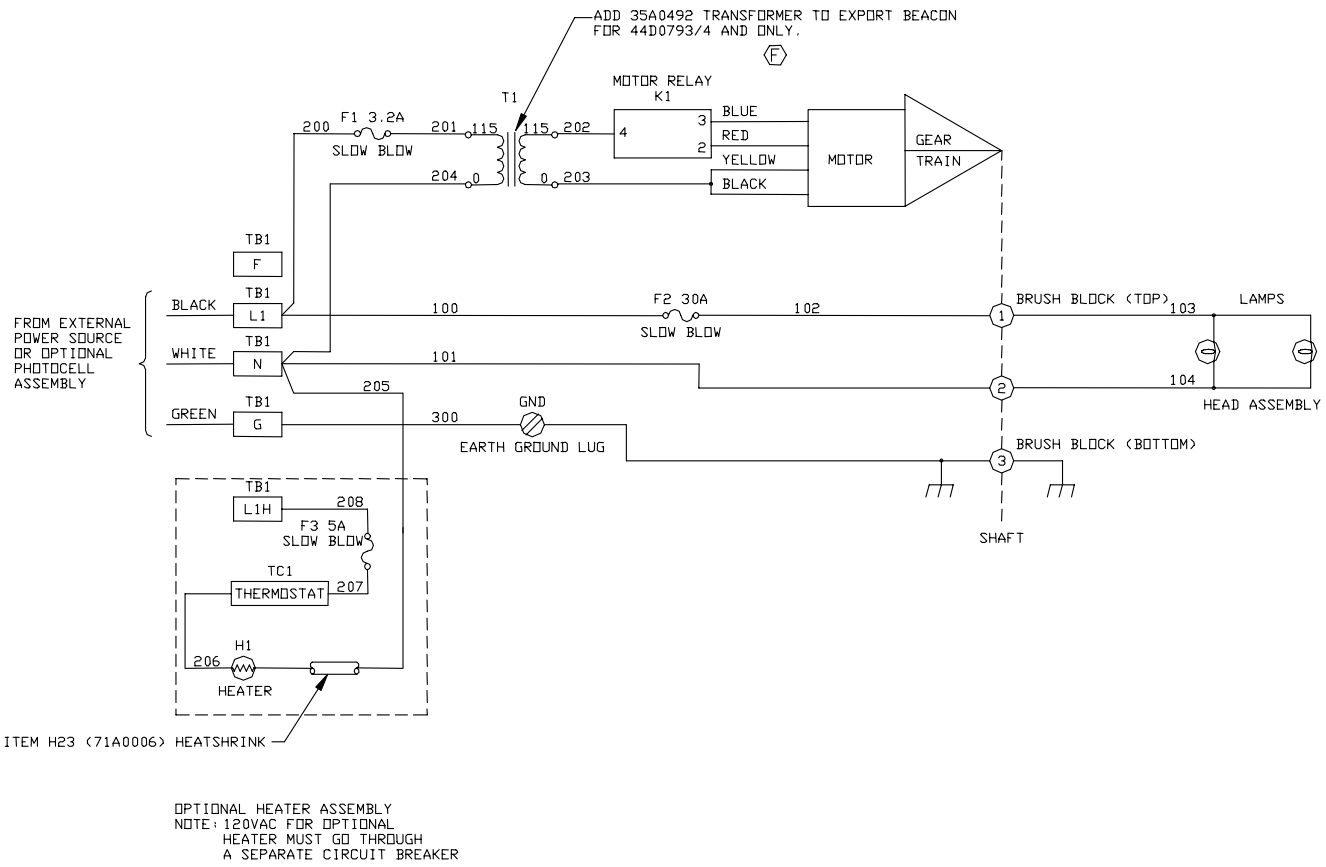



Figure 7-4. RB-2 Schematic with Optional Heater Assembly

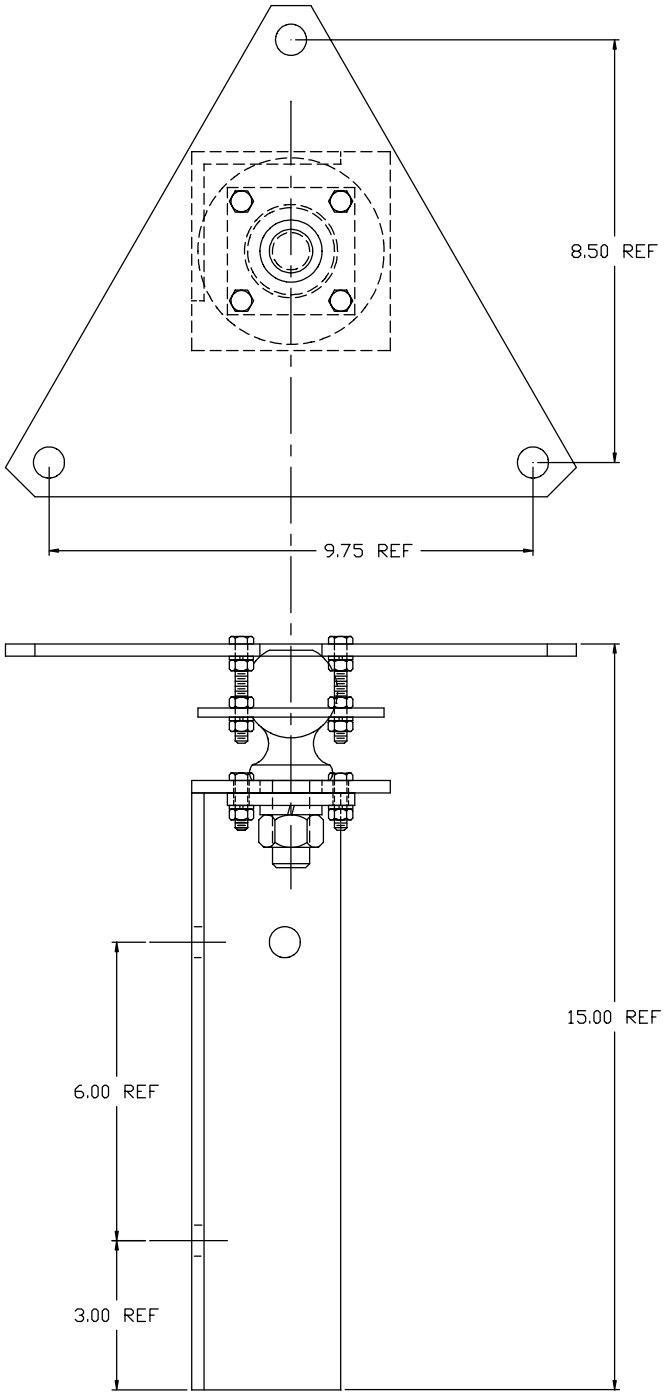



Figure 7-5. Pole Mounting Adapter Assembly

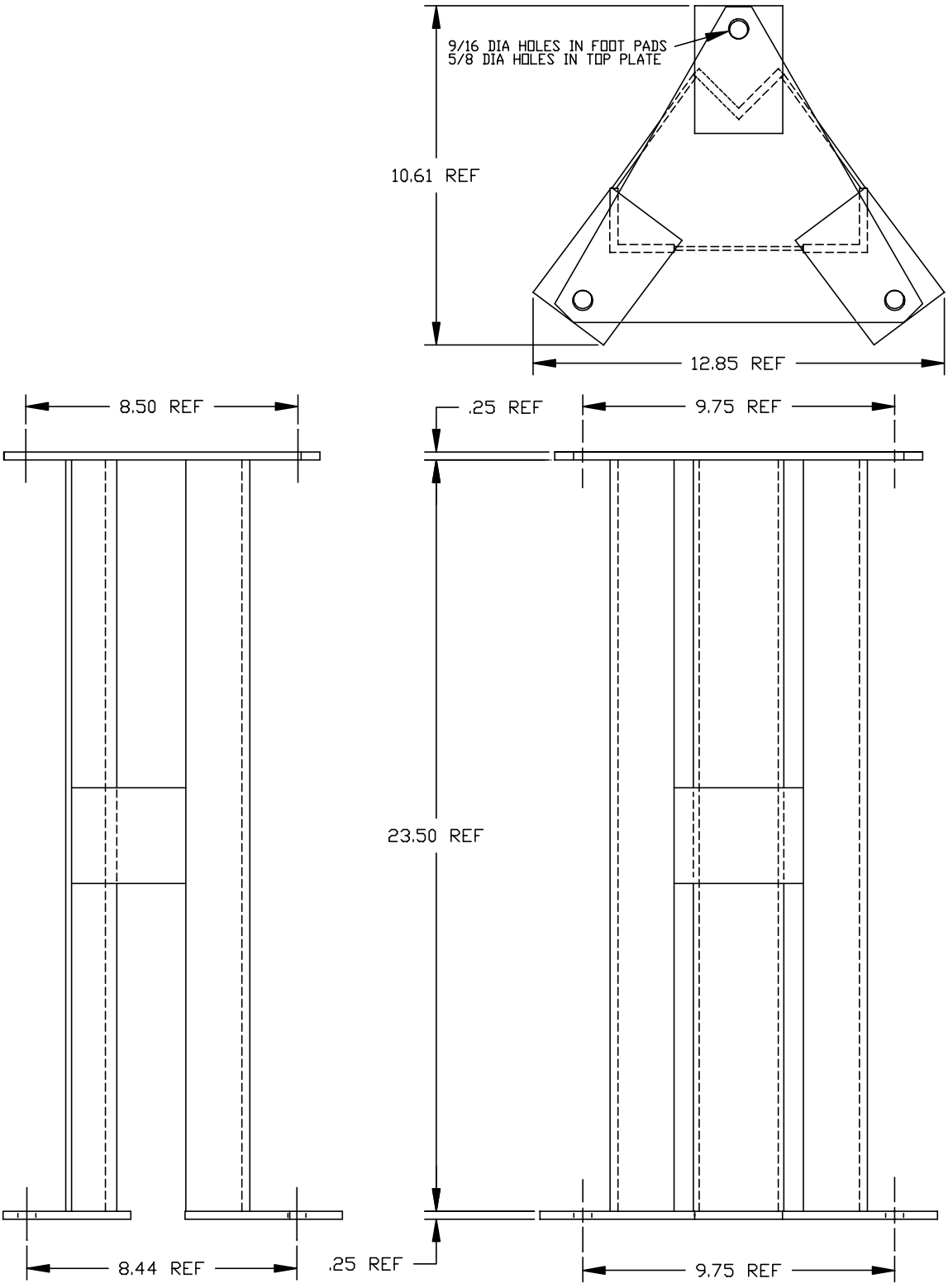



Figure 7-6. Roof Mounting Assembly

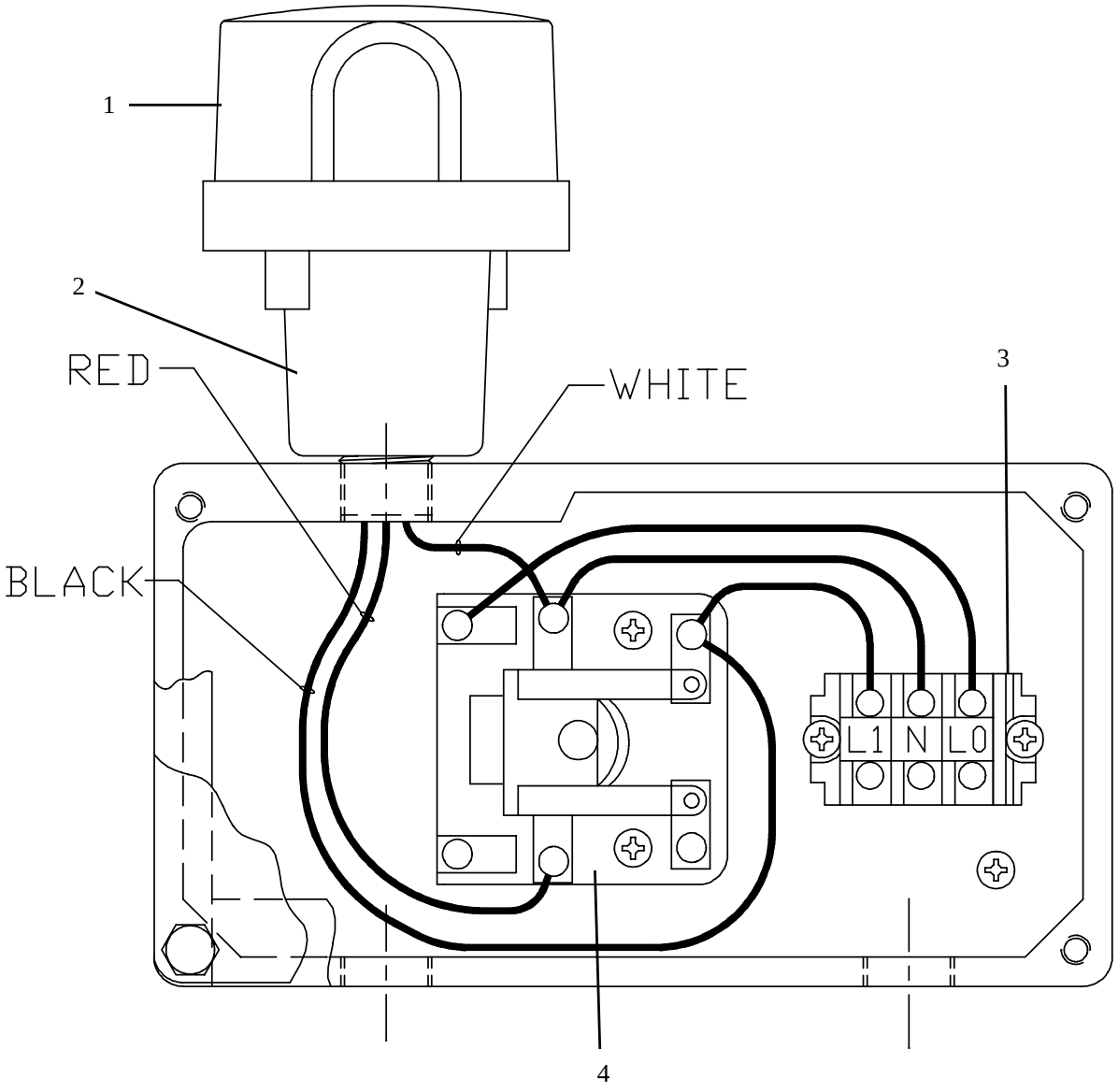



Figure 7-7. Photocell Contractor Assembly

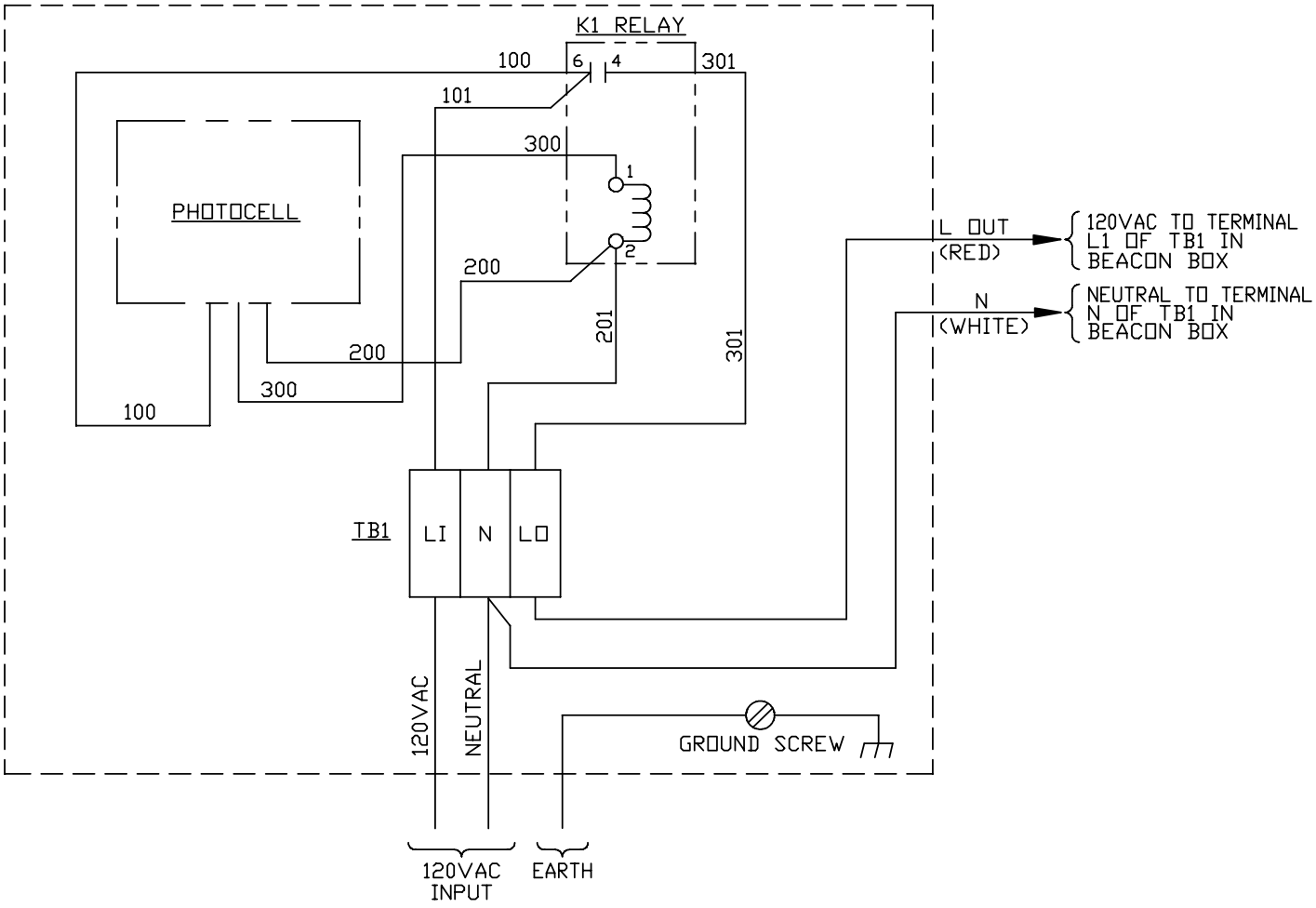
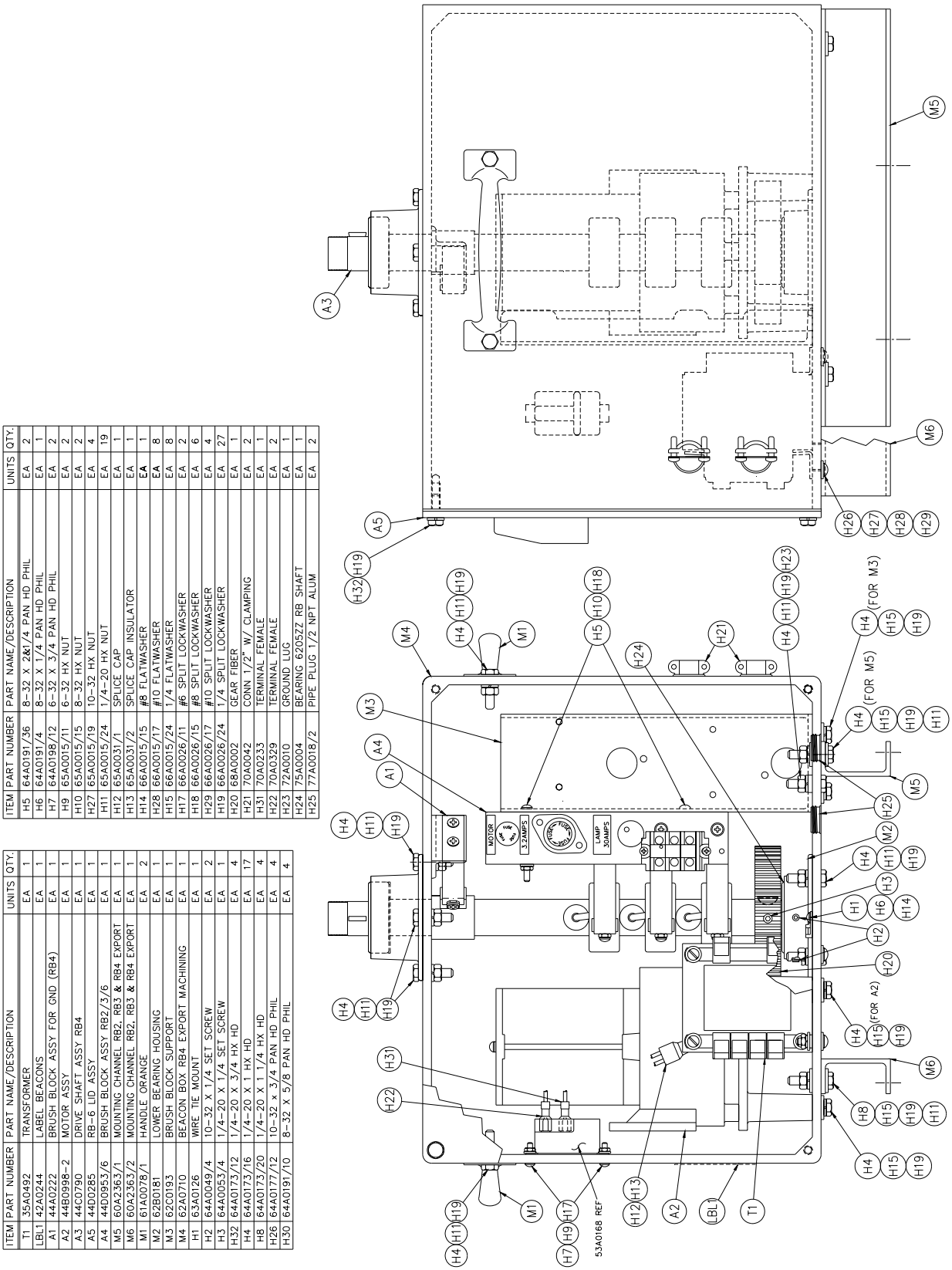


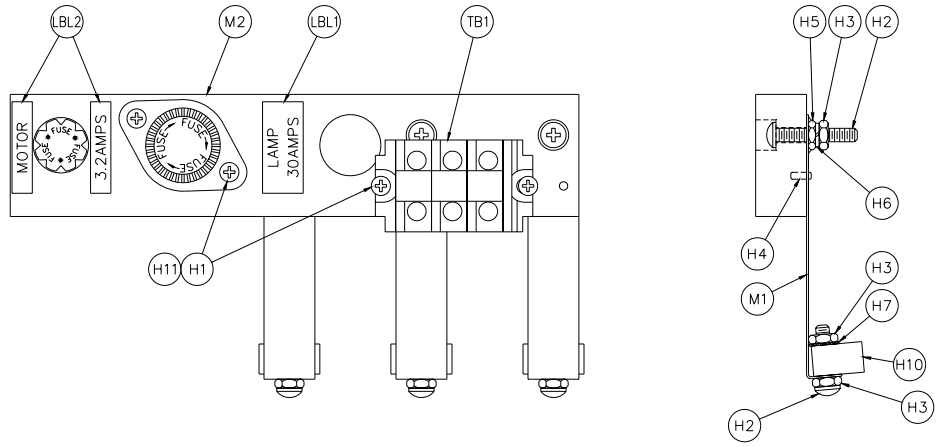

Figure 7-8. Photocell Schematic

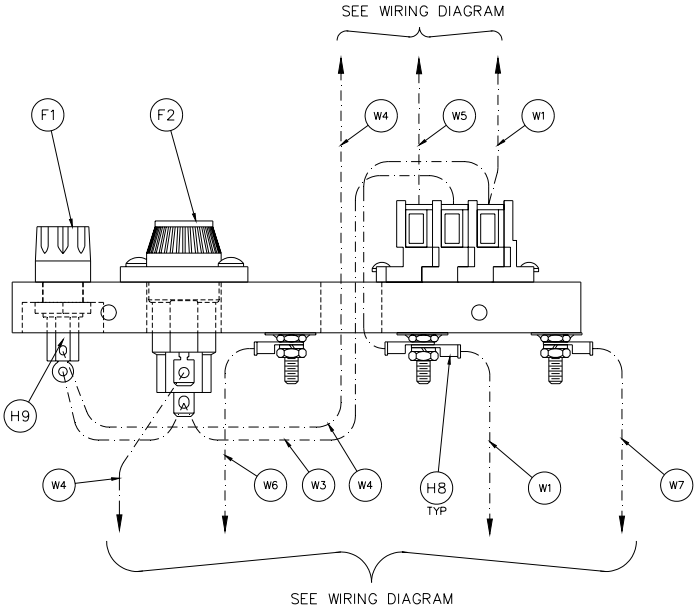


| ITEM | PART NUMBER | PART NAME/DESCRIPTION | UNITS | QTY. |
|---|---|---|---|---|
| T1 | 35A0492 | TRANSFORMER | EA | 1 |
| LBL1 | 42A0244 | LABEL BEACONS | EA | 1 |
| A1 | 44A0222 | BRUSH BLOCK ASSY FOR GND (RB4) | EA | 1 |
| A2 | 44B0998-2 | MOTOR ASSY | EA | 1 |
| A3 | 44C0790 | DRIVE SHAFT ASSY RB4 | EA | 1 |
| A5 | 44D0285 | RB-6 LID ASSY | EA | 1 |
| A4 | 44D0953/6 | BRUSH BLOCK ASSY RB2/3/6 | EA | 1 |
| M5 | 60A2363/1 | MOUNTING CHANNEL RB2, RB3 & RB4 EXPORT | EA | 1 |
| M6 | 60A2363/2 | MOUNTING CHANNEL RB2, RB3 & RB4 EXPORT | EA | 1 |
| M1 | 61A0078/1 | HANDLE ORANGE | EA | 2 |
| M2 | 62B0181 | LOWER BEARING HOUSING | EA | 1 |
| M3 | 62C0193 | BRUSH BLOCK SUPPORT | EA | 1 |
| M4 | 62A0710 | BEACON BOX RB4 EXPORT MACHINING | EA | 1 |
| H1 | 63A0126 | WIRE TIE MOUNT | EA | 1 |
| H2 | 64A0049/4 | 10-32 X 1/4 SET SCREW | EA | 2 |
| H3 | 64A0053/4 | 1/4-20 X 1/4 SET SCREW | EA | 1 |
| H32 | 64A0173/12 | 1/4-20 X 3/4 HX HD | EA | 4 |
| H4 | 64A0173/16 | 1/4-20 X 1 HX HD | EA | 17 |
| H8 | 64A0173/20 | 1/4-20 X 1 1/4 HX HD | EA | 4 |
| H26 | 64A0177/12 | 10-32 x 3/4 PAN HD PHIL | EA | 4 |
| H30 | 64A0191/10 | 8-32 X 5/8 PAN HD PHIL | EA | 4 |

| ITEM | PART NUMBER | PART NAME/DESCRIPTION | UNITS | QTY. |
|---|---|---|---|---|
| H5 | 64A0191/36 | 8-32 X 2&1/4 PAN HD PHIL | EA | 2 |
| H6 | 64A0191/4 | 8-32 X 1/4 PAN HD PHIL | EA | 1 |
| H7 | 64A0198/12 | 8-32 X 3/4 PAN HD PHIL | EA | 2 |
| H9 | 65A0015/11 | 6-32 HX NUT | EA | 2 |
| H10 | 65A0015/15 | 8-32 HX NUT | EA | 2 |
| H27 | 65A0015/19 | 10-32 HX NUT | EA | 4 |
| H11 | 65A0015/24 | 1/4-20 HX NUT | EA | 19 |
| H12 | 65A0031/1 | SPLICE CAP | EA | 1 |
| H13 | 65A0031/2 | SPLICE CAP INSULATOR | EA | 1 |
| H14 | 66A0015/15 | #8 FLATWASHER | EA | 1 |
| H28 | 66A0015/17 | #10 FLATWASHER | EA | 8 |
| H15 | 66A0015/24 | 1/4 FLATWASHER | EA | 8 |
| H17 | 66A0026/11 | #6 SPLIT LOCKWASHER | EA | 2 |
| H18 | 66A0026/15 | #8 SPLIT LOCKWASHER | EA | 6 |
| H29 | 66A0026/17 | #10 SPLIT LOCKWASHER | EA | 4 |
| H19 | 66A0026/24 | 1/4 SPLIT LOCKWASHER | EA | 27 |
| H20 | 68A0002 | GEAR FIBER | EA | 1 |
| H21 | 70A0042 | CONN 1/2" W/ CLAMPING | EA | 2 |
| H31 | 70A0233 | TERMINAL FEMALE | EA | 1 |
| H22 | 70A0329 | TERMINAL FEMALE | EA | 2 |
| H23 | 72A0010 | GROUND LUG | EA | 1 |
| H24 | 75A0004 | BEARING 6205ZZ RB SHAFT | EA | 1 |
| H25 | 77A0018/2 | PIPE PLUG 1/2 NPT ALUM | EA | 2 |

Figure 7-9. Box Assembly




| ITEM NO. | PART NUMBER | PART NAME/DESCRIPTION | UNITS | QTY. |
|---|---|---|---|---|
| LBL1 | 42A0155 | DECAL, LAMP FUSE | EA | 1 |
| LBL2 | 42A0167 | DECAL, MOTOR FUSE | EA | 1 |
| F1 | 47A0003 | FUSE, 3.2A SLO BLO | EA | 1 |
| F2 | 47A0024 | FUSE, 30A SLO-BLO | EA | 1 |
| F2 | 49A0033 | FUSE HOLDER (FOR 30A) | EA | 1 |
| F1 | 49A0040 | FUSE HOLDER (FOR 3.2A) | EA | 1 |
| M1 | 60B0097 | BRUSH BRACKET | EA | 3 |
| M2 | 60B0314 | BRUSH BLOCK | EA | 1 |
| H1 | 64A0191/6 | SCREW, RD HD #8-32 x 3/8 LG | EA | 4 |
| H2 | 64A0191/12 | SCREW, PAN HD, #8-32 x 3/4 LB | EA | 3 |
| H3 | 65A0015/15 | #8-32 HEX NUT | EA | 9 |
| H4 | 65A0019/4 | DRIVE PIN, #2 x 1/4, RD HD | EA | 3 |
| H5 | 65A0022/15 | HEX NUT, #8-32 (BRASS) | EA | 3 |
| H6 | 66A0026/15 | LOCKWASHER, #8 SPLIT | EA | 3 |
| H7 | 66A0039/5 | #8 EXTERNAL TOOTH LOCKWASHER | EA | 3 |
| H8 | 70A0102 | TERMINAL, RING TONGUE | EA | 4 |
| H9 | 70A0347 | TERMINAL, FEMALE, SLIP-ON | EA | 1 |
| TB | 72A0016 | TERMINAL BLOCK | EA | 3 |
| TB | 72A0025 | TERMINAL BLOCK END | EA | 1 |
| H10 | 76A0001 | BRUSH | EA | 3 |
| W1 | 89A0012/9 | WIRE, 12AWG WHITE | FT | 1.5 |
| W2 | 89A0014/9 | WIRE, 14AWG WHITE | FT | 1 |
| W3 | 89A0070/1 | WIRE, 12AWG BLACK | FT | 1 |
| W4 | 89A0070/5 | WIRE, 12AWG YELLOW | FT | 4.1 |
| W5 | 89A0070/3 | WIRE, 12AWG RED | FT | 1 |
| W6 | 89A0070/8 | WIRE, 12AWG ORANGE | FT | 1 |
| W7 | 89A0070/10 | WIRE, 12AWG VIOLET | FT | 1 |

Figure 7-10. Brush Block Assembly

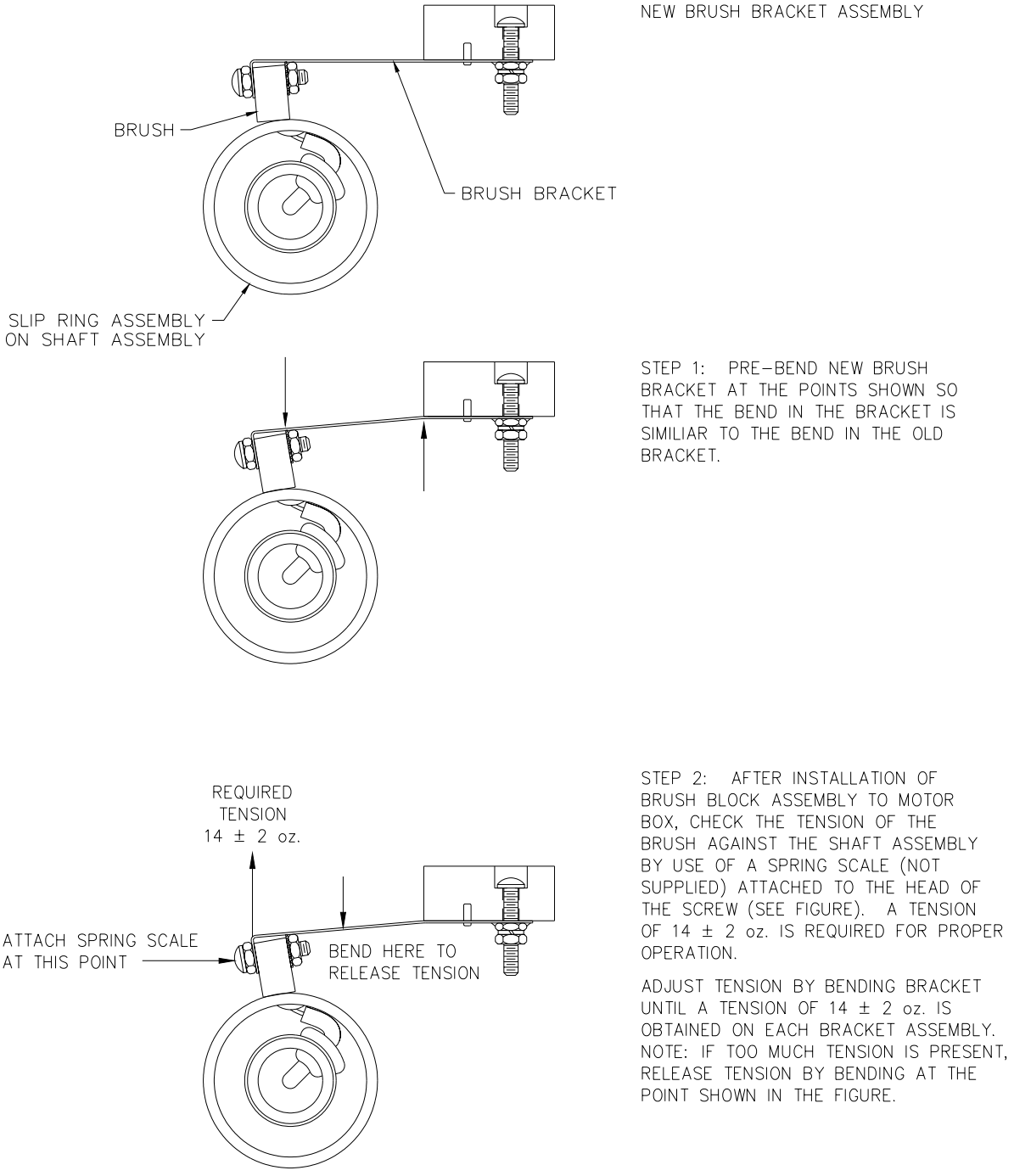
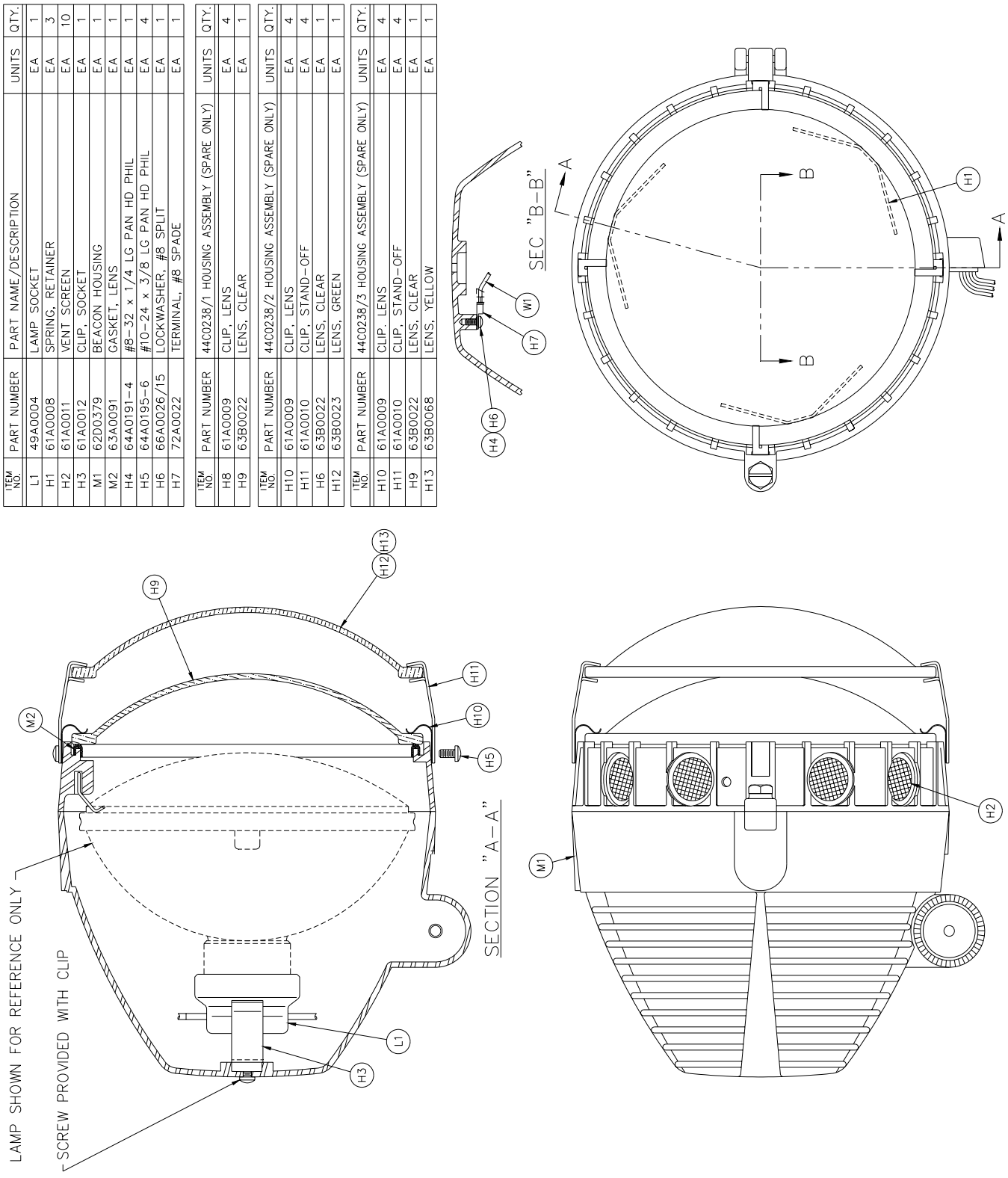



Figure 7-10.1 Brush Replacement




| ITEM NO. | PART NUMBER | PART NAME/DESCRIPTION | UNITS | QTY. |
|---|---|---|---|---|
| L1 | 49A0004 | LAMP SOCKET | EA | 1 |
| H1 | 61A0008 | SPRING, RETAINER | EA | 3 |
| H2 | 61A0011 | VENT SCREEN | EA | 10 |
| H3 | 61A0012 | CLIP, SOCKET | EA | 1 |
| M1 | 62D0379 | BEACON HOUSING | EA | 1 |
| M2 | 63A0091 | GASKET, LENS | EA | 1 |
| H4 | 64A0191-4 | #8-32 x 1/4 LG PAN HD PHIL | EA | 1 |
| H5 | 64A0195-6 | #10-24 x 3/8 LG PAN HD PHIL | EA | 4 |
| H6 | 66A0026/15 | LOCKWASHER, #8 SPLIT | EA | 1 |
| H7 | 72A0022 | TERMINAL, #8 SPADE | EA | 1 |

| ITEM NO. | PART NUMBER | 44C0238/1 HOUSING ASSEMBLY (SPARE ONLY) | UNITS | QTY. |
|---|---|---|---|---|
| H8 | 61A0009 | CLIP, LENS | EA | 4 |
| H9 | 63B0022 | LENS, CLEAR | EA | 1 |

| ITEM NO. | PART NUMBER | 44C0238/2 HOUSING ASSEMBLY (SPARE ONLY) | UNITS | QTY. |
|---|---|---|---|---|
| H10 | 61A0009 | CLIP, LENS | EA | 4 |
| H11 | 61A0010 | CLIP, STAND-OFF | EA | 4 |
| H6 | 63B0022 | LENS, CLEAR | EA | 1 |
| H12 | 63B0023 | LENS, GREEN | EA | 1 |

| ITEM NO. | PART NUMBER | 44C0238/3 HOUSING ASSEMBLY (SPARE ONLY) | UNITS | QTY. |
|---|---|---|---|---|
| H10 | 61A0009 | CLIP, LENS | EA | 4 |
| H11 | 61A0010 | CLIP, STAND-OFF | EA | 4 |
| H9 | 63B0022 | LENS, CLEAR | EA | 1 |
| H13 | 63B0068 | LENS, YELLOW | EA | 1 |

Figure 7-11. Lamp Housing Assembly

| ITEM NO. | PART NUMBER | PART NAME/DESCRIPTION | QTY. |
|---|---|---|---|
| K1 | 53A0168 | MOTOR RELAY (SEE BOX ASSEMBLY) | 1 |
| M2 | 60A2384 | SPACER, MOTOR MOUNT | 3 |
| M1 | 62c0179/2 | MOTOR MOUNT, EXPORT | 1 |
| H1 | 64A0173/10 | SCREW, HEX HEAD, 1/4–20 x 5/8 STAINLESS STEEL | 3 |
| H4 | 64A0243/8 | SET SCREW, 5/16–18 x 1/2 | 1 |
| H2 | 66A0026/24 | LOCKWASHER, 1/4 SPLIT, STAINLESS STEEL | 3 |
| H3 | 68A0007 | GEAR, 26 TEETH (EXPORT) | 1 |
| MT1 | 69C0006 | GEAR MOTOR | 1 |

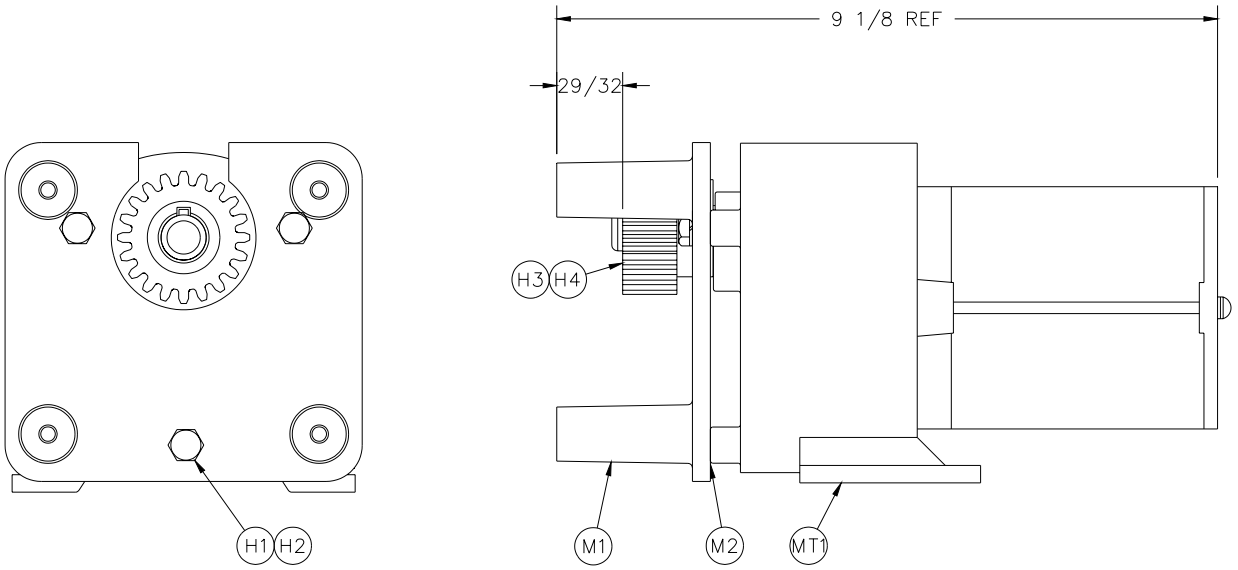
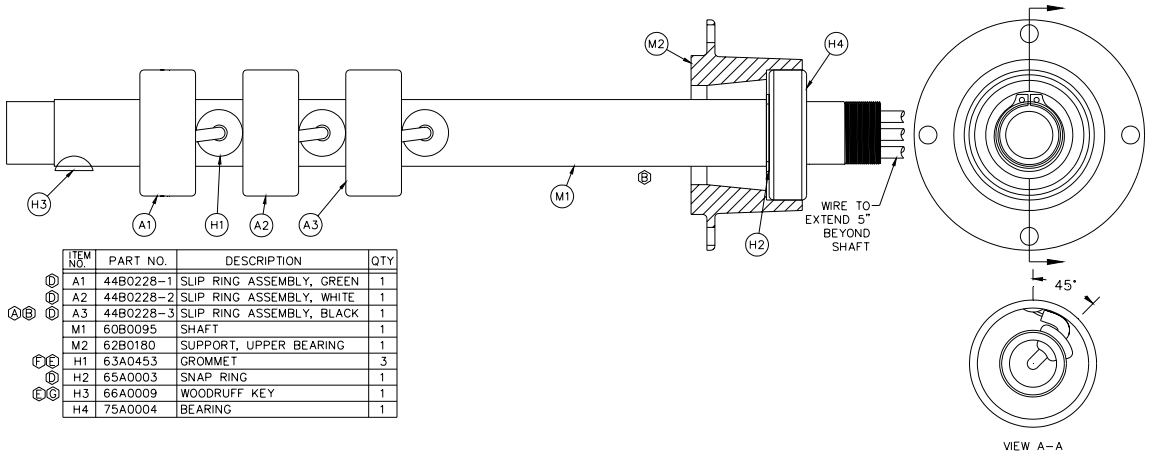



Figure 7-12. Motor Assembly




| ITEM NO. | PART NO. | DESCRIPTION | QTY |
|---|---|---|---|
| D | A1 | 44B0228-1 | SLIP RING ASSEMBLY, GREEN | 1 |
| D | A2 | 44B0228-2 | SLIP RING ASSEMBLY, WHITE | 1 |
| A B D | A3 | 44B0228-3 | SLIP RING ASSEMBLY, BLACK | 1 |
| | M1 | 60B0095 | SHAFT | 1 |
| | M2 | 62B0180 | SUPPORT, UPPER BEARING | 1 |
| F E | H1 | 63A0453 | GROMMET | 3 |
| D | H2 | 65A0003 | SNAP RING | 1 |
| E G | H3 | 66A0009 | WOODRUFF KEY | 1 |
| | H4 | 75A0004 | BEARING | 1 |

Figure 7-13. Shaft Assembly