Hali-Brite®

Installation and Maintenance Manual

Hali-Brite®

L-801A(L) LED Airport Rotating Beacon

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Table of Contents

1 Introduction 3
1.1 About this Manual 3
1.2 Model Configurations 3
1.3 Warranty 3
1.4 Disclaimers 4
2 Safety Precautions 5
2.1 Safety Statements 5
2.2 General Practices 5
2.3 Electrical Practices 6
2.4 Qualified Personnel 7
2.5 Proper Usage 7
3 Specifications 8
3.1 Electrical and Optical Specifications 8
3.2 Physical Specifications 8
3.3 Environmental Specifications 8
4 Installation 9
4.1 Unpacking 9
4.2 Tools and Supplies Needed 9
4.3 Installation 9
5 Maintenance 12
5.1 Maintenance Schedule 12
5.2 Maintenance Procedures 12
6 Repair 14
6.1 Timing Belt 14
6.4 Mercotac rotary electrical connector 14
6.5 Lamp Power Supply 15
6.6 Motor and Gearhead 15
7 Troubleshooting Chart, Replacement Parts and Wiring Diagrams 17

Revision Notes

Revision 2 – Increased green light output and added outer lens cover

Page 8 - Power consumption - 136W to 152W and 536W to 552W

- Product weight 75 lb. to 77 lb. & shipping weight 118 lb. to 125 lb.

Page 18 - Delete part # 0200-0034 & 9200-0048

- Add part # 0200-0030 & 9200-0054

Revision 3, 1.15.2026. Changed warranty from 1 year to 4

1Introduction

1.1 About this Manual

The information in this manual is provided to assist installation and maintenance personnel in the proper installation, upkeep, and maintenance of the L801A(L) Airport Rotating Beacon. This manual also includes installation and maintenance instructions for all equipment sold as options to the basic unit.

1.2 Model Configurations

L801AL116: 120 VAC, 60 Hz, Class I (-30°C to +55°C)
L801AL125: 220-240 VAC, 50 Hz, Class I (-30°C to +55°C)
L801AL126: 220-240 VAC, 60 Hz, Class I (-30°C to +55°C)
L801AL216: 120 VAC, 60 Hz, Class II (-55°C to +55°C)
L801AL225: 220-240 VAC, 50 Hz, Class II (-55°C to +55°C)
L801AL226: 220-240 VAC, 60 Hz, Class II (-55°C to +55°C)

Limited Warranty

Hali-Brite® products are warranted to be free from **mechanical, electrical, and physical defects** for:

- **Four (4) years from the date of installation**,
- Products are warranted to be **merchantable and fit for ordinary intended use**.

Warranty Coverage

At its option, Hali-Brite will **repair or replace** defective equipment or parts that fail due to covered defects, provided that:

- Products were properly handled and stored prior to installation
- Products were properly installed and operated
- Buyer provides written notice of the defect
- The product is made available for inspection and/or return if requested

Hali-Brite reserves the right to examine all products subject to a claim and may require return of the product in the condition in which the defect was discovered.

Limitations & Exclusions

This warranty:

- Covers **parts only**

- Does **not** cover:
    - Labor
    - Removal or reinstallation costs
    - Shipping or transportation charges
    - Field service costs
    - Incidental, special, or consequential damages of any kind
    - normal wear and tear, consumable components, or cosmetic deterioration that does not affect product performance.
    - damage caused by lightning, power surges, flooding, wind, salt corrosion, vandalism, fire, accidents, or other acts of God or external causes beyond Hali-Brite's control.

This warranty does not apply to products that have been **repaired or altered outside Hali-Brite's facilities** in a manner that affects reliability or performance

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Warranty Disclaimer

This is Hali-Brite's **sole and exclusive warranty**.

All other warranties, whether express or implied, including but not limited to:

- Fitness for a particular purpose
- Warranties arising from course of dealing or trade usage

are **expressly disclaimed**.

Technical & Information Disclaimer

Product data, specifications, illustrations, and performance values are provided for general reference only and are not guaranteed.

Hali-Brite assumes no liability for damages resulting from:

- Reliance on published information
- Use or installation of its products
- Any patent or third-party rights infringement

Buyers are responsible for evaluating product suitability and conducting their own testing.

2 Safety Precautions

To help you install and maintain this equipment safely and efficiently make sure you read and understand all safety information in this manual prior to performing any procedure. Failure to do so may result in personal injury, property damage, or possible death.

2.1 Safety Statements

The following safety statements are used throughout this manual. They will alert you to possible safety hazards and conditions that could result in personal injury, death, or property and equipment damage.

CAUTION: Indicates hazards or unsafe practices that could result in minor personal injury, product, or property damage.

WARNING: Indicates hazards or unsafe practices that could result in severe personal injury or death.

DANGER: Indicates immediate hazards that will result in severe personal injury or death.

2.2 General Practices

Read and become familiar with the general safety instructions provided in this section of the manual before installing, operating, maintaining, or repairing this equipment.

• Do not attempt to assemble or install this equipment if it has been damaged from shipping.

• Do not attempt to install or maintain this equipment if you or the equipment is standing in water.

• Only qualified personnel should perform maintenance on this equipment.

• Always use proper tools (as mentioned in this manual) to perform installation and maintenance.

• Use proper hand and eye protection as needed when installing or maintaining this equipment.

• Make sure you have adequate first aid supplies available when installing this equipment.

• Do not modify this equipment as this could create a safety hazard and void your Hali-Brite® warranty.

• Use only Hali-Brite® replacement parts.

• Read and carefully follow the instructions given throughout this manual for performing specific tasks and working with specific equipment.

• Follow all applicable safety procedures required by your company, industry standards, and government or other regulatory agencies.

• Make sure all equipment is rated and approved for the environment in which you are using it.

• Follow all instructions for installing components and accessories.

• Protect components from damage, wear, and harsh environment conditions.

• Allow ample room for maintenance, wiring accessibility, and cover removal.

2.3 Electrical Practices

• Do not attempt to make electrical connections with the power on.

• Disconnect and lock out electrical power before touching any electrical connections.

• Install all electrical connections to local code.

• Use only electrical wire of sufficient gauge and insulation to handle the rated current demand. All wiring must meet local codes.

• Route electrical wiring along a protected path. Make sure moving equipment will not damage it.

• Protect equipment with safety devices as specified by applicable safety regulations.

• If safety devices must be removed for installation, install them immediately after the work is completed and check them for proper functioning.

• Always use rated electrical tools when performing electrical work.

• Always make sure electrical connections are tight.

• Make sure electrical covers are in place after installation.

2.4 Qualified Personnel

Qualified personnel are those that are trained and experienced with installing or maintaining Hali-Brite® equipment. Only qualified personnel should install or maintain Hali-Brite® equipment and auxiliary features.

No one should:

• Attempt to install or perform maintenance on this or any Hali-Brite® equipment if they are physically impaired or under the influence of alcohol or non-prescription drugs.

• Maintain or install this equipment without correct training, supervision or experience in mechanical or electrical equipment.

• Attempt to maintain or install this equipment without the correct tools as specified in this manual.

2.5 Proper Usage

Always use this equipment as specified in this manual. Improper usage may result in serious personal injury, property damage, or possible death.

• Do not make any modifications that have not been recommended by Hali-Brite®.
• Do not use any replacement parts that are not purchased from Hali-Brite®.

• Hali-Brite® cannot be responsible for injuries or damages resulting from nonstandard, unintended applications of its equipment. This equipment is designed and intended only for the purpose described in this manual. Uses not described in this manual are considered unintended uses and may result in serious personal injury, death, or property damage.

3Specifications

3.1 Electrical and Optical Specifications

FAA Type .....L-801A(L)

Input Voltage.....120 or 220-240VAC, +/-10%, 50/60 Hz
Power Consumption.....152W (Class I), 552W (Class II)

Lamps.....One White, One Green
Rated Average Lamp Life .....50,000 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 +3° to +7°

Rotation Speed .....12 RPM (Produces 24 flashes per minute)

3.2 Physical Specifications

Dimensions .....Height: 28.25 inches (698.5 mm)
.....Width: 18.25 inches (463.55 mm)
Mounting Dimensions.....Four ½ inch (12.7 mm) holes in a rectangular pattern: (4"x 16") (101.6 x 406.4 mm)
Product Weight.....77 lb. (34 kg)
Shipping Weight .....125 lb. (53.52 kg)

3.3 Environmental Specifications

Operating Temperature (Class I) .....-30°C (-22°F) to +55°C (+131°F)
Operating Temperature (Class I) .....-55°C (-67°F) to +55°C (+131°F)
Heater (Class II only) .....400W (heating element)
Turns On .....Below 0°C (+32°F)
Humidity .....0% to 100%
Altitude .....Sea level to 10,000 feet (3000 m)
Wind.....Velocities to 100 mph (161 km/h)

4Installation

WARNING: Allow only qualified personnel to perform the following tasks. Observe and follow the safety instructions in this document and all other related documentation.

4.1 Unpacking

Handle equipment very carefully to prevent component damage. Note any exterior damage to the carton/crate that might lead to detection of equipment damage. Open the top of the carton/crate. Remove foam packing from the top of the box. Carefully lift the unit out of the box.

CAUTION: Do not lift the unit by the head. Failure to observe this warning may result in equipment damage.

Unpack the carton/crate upon receipt and check the contents and their condition. If you note any damage to any equipment, file a claim with the carrier immediately. The carrier may need to inspect the equipment.

4.2 Tools and Supplies Needed

Equipment Required But Not Supplied

Wrenches
Set of Screwdrivers
Set of Pliers
Voltmeter
Insulation Tester
Level
Lightning Rod
Ground Wire (for lightning rod)
Liquid Glass Cleaner
S0-3 Cable, AWG 12, liquid-tight conduit and connectors

4.3 Installation

The HBM 150/2 rotating beacon comes completely assembled except for installation of a customer-supplied AWG 12, S0-3 power cord.

4.3.1 Mounting

Open the front door on the cabinet. Inspect the interior to make sure all parts are tight and have not been loosened in shipment. Close the door and tighten the latches.

Determine the beacon mounting location, and drill four ½" holes in the platform, spaced as shown in Figure 1.

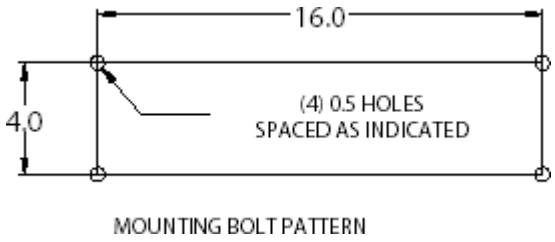


Figure 1

If the surface is not level, spacers or shims will be needed. Place a level on top of the weather cap and use shims as necessary under the four corners to bring the beacon to level. Install and tighten the mounting bolts, four each #1/2-13 bolts, length as required.

4.3.2 Wiring

See Figure 2 to locate the power connection point. The power cord enters the beacon chassis through the hole in the base, and attaches to the white terminal block in the lower right corner.

Figure 2

To install power cord, perform the following procedure:

1. Unscrew the two door latches and open the chassis door.

2. Route the cable through the hole in the bottom of the chassis. Install a ½" liquid-tight conduit fitting in the chassis hole.

3. Connect the power cord at the terminal strip as follows: Attach the black wire (120 VAC) to the terminal marked ∅, the white wire (neutral) to the terminal marked **N**, and the green wire (ground) to the terminal marked **G**.

4.3.3 Optional Heater Wiring

The optional heater assembly consists of a 400-watt heating element and thermostat. 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 +32°F (0°C), the thermostat activates the heater, which is attached to the motor gearbox. The gearbox lubricant is warmed and this facilitates rotation of the beacon when it is energized.

The power connections for the heater are located on the same terminal block as the main beacon power connections. Attach the black wire (120 VAC) to the terminal marked ∅**C**, the white wire (neutral) to the terminal marked **N**, and the green wire (ground) to the terminal marked **G**.

4.3.4 Beam Angle Adjustment

All beacons are shipped from the factory preset at an elevation angle of 5 degrees, per FAA requirements. To adjust to a different angle, refer to Section 5.2.2.

5Maintenance

5.1 Maintenance Schedule

Interval	Task
Daily	Inspect for lamp failure and proper rotation.
Bi-monthly	Inspect cleanliness of glass. Clean as necessary.
Annually	Inspect all electrical connections. Replace beacon lamps at 50,000 hours.

5.2 Maintenance Procedures

5.2.1 Lamp Replacement

1. Disconnect and lock out power to the beacon.
2. Remove the four ¼ - 20 bolts that mount the lamp to the rain cap.
3. Locate the electrical hub in the center of the rain cap.
4. Remove ½" conduit cover and gasket.
5. Remove the appropriate wire nuts.
6. Remove the cord strain relief from the electrical hub.
7. The lamp now is free to be removed.
8. Repeat above steps in reverse order to install replacement lamp.

5.2.2 Beam Angle Adjustment

All beacons are shipped from the factory preset at an elevation angle of 5 degrees, per FAA requirements.
To adjust the beacon beam to a different angle, perform the following procedure:

1. The beacon head has four screws that secure the lamp to the lamp support brackets. Loosen these four screws. This will allow the head to pivot on the top mounting bolts. (See figure 3)

2. Locate the beam elevation label on the right side of the beacon head. (See figure 3)

3. Locate the sight window at the bottom of the right support bracket. (See figure 3)

4. Adjust the beam angle by gently pressing on the bottom of the beacon head until the front edge of the sight window aligns with the desired elevation on the elevation label.

5. While holding the head in this position, tighten the four screws that secure the lamp to the lamp support brackets.

6. Repeat Steps 1-6 for the other head.

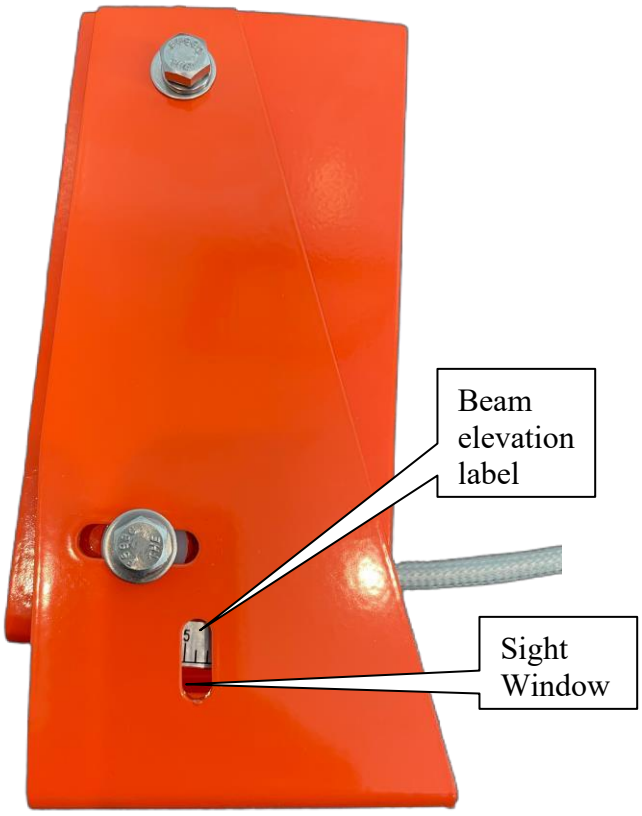


Figure 3

5.2.3 Lens Cleaning

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

5.2.4 Lubrication

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

6Repair

6.1 Timing Belt

To replace the timing belt:

1. Disconnect and lock out power to the beacon.
2. Disconnect the two lamp wires from the control panel. Refer to Section 7 for the wiring diagram.
3. Loosen the four screws on the motor, with a 5/32” Allen wrench and 3/8” wrench.
4. Slide the motor to the right and remove the old belt.
5. Install the new belt.
6. Tighten the belt by sliding the motor to the left. The belt should have 1/8” deflection. Do not over tighten the belt.
7. Reconnect the two lamp wires to the control panel.
8. Reconnect power to the beacon.

6.2 Mercotac rotary electrical connector

Perform the following steps to replace the mercotac rotary electrical connector:

1. Disconnect and lock out power to the beacon.
2. Disconnect the two lamp wires from the control panel. Refer to Section 7 for the wiring diagram.
3. Remove the two wires from the bottom of the coupling.
4. Loosen the cap screw in torque arm, and remove the torque arm.
5. Loosen the setscrew in the bottom of the main shaft, and remove the mercotac rotary electrical connector.
6. Remove the two wires from the top of the mercotac rotary electrical connector.
7. Place the black wire on the center tab of the new mercotac rotary electrical connector, and place the white wire on the outer tab of the new mercotac rotary electrical connector.
8. Reinsert the mercotac rotary electrical connector in the shaft, and tighten the setscrew. (**NOTE:** Do not over tighten.)
9. Reinstall the torque arm, and tighten the cap screw. (**NOTE:** Do not over tighten.)
10. Place the black wire on the center tab of the mercotac rotary electrical connector, and the white wire on outer tab of the mercotac rotary electrical connector.

11. Connect the two wires to the control panel. Make sure they are connected to the original terminals. (**NOTE:** The black wire connects to the upper terminal, and white wire connects to the lower terminal.)
12. Reconnect power to the beacon.
13. The Mercotac rotary electrical connector contains a small amount of mercury. It should be returned to the manufacturer for recycling, using the form located at the back of this manual.

6.3 Lamp Power Supply

To replace a lamp power supply, perform the following steps:

1. Disconnect and lock out power to beacon.
2. Open the cabinet door.
3. Refer to the wiring diagrams in Section 7 to locate the connections. Disconnect the power supply input power leads at the terminal block.
4. Remove the power supply output wires at the terminal block.
5. Remove the two 8-32 screws and nuts attaching the power supply to the beacon ballast plate, and remove the old power supply.
6. Place the new power supply into position on the beacon ballast plate.
7. Replace the two 8-32 screws and nuts to attach the power supply to the beacon ballast plate.
8. Reconnect the power supply input power wires to the terminal block.
9. Reconnect the power supply output wires to the terminal block.
10. Reconnect the power to the beacon.

6.4 Motor and Gearhead

1. Disconnect and lock out power to the beacon.
2. Refer to the wiring diagrams in Section 7 for component connections.
3. Loosen the four cap screws that hold the motor in place, and slide the motor to the right.
4. Remove the timing belt.
5. Remove the setscrews in the motor gear, and remove the gear. (**NOTE:** There are two setscrews in each hole.)
6. Disconnect the motor black wire from control panel.
7. Disconnect the wires from the capacitor.
8. Remove the nuts from the four motor cap screws.
9. Remove the motor and gearbox.
10. If replacing only the motor, separate the old motor from the gearbox, and replace with the new motor.
11. If replacing only the gearbox, separate the gearbox from the motor, and replace with the new gearbox.
12. Install the new motor and gearbox back on to motor plate with the four cap screws and nuts.
    a. (**NOTE 1:** Make sure the shaft of the gearbox is to the right.)

b. (**NOTE 2:** Make sure the wires of the motor are facing out.)

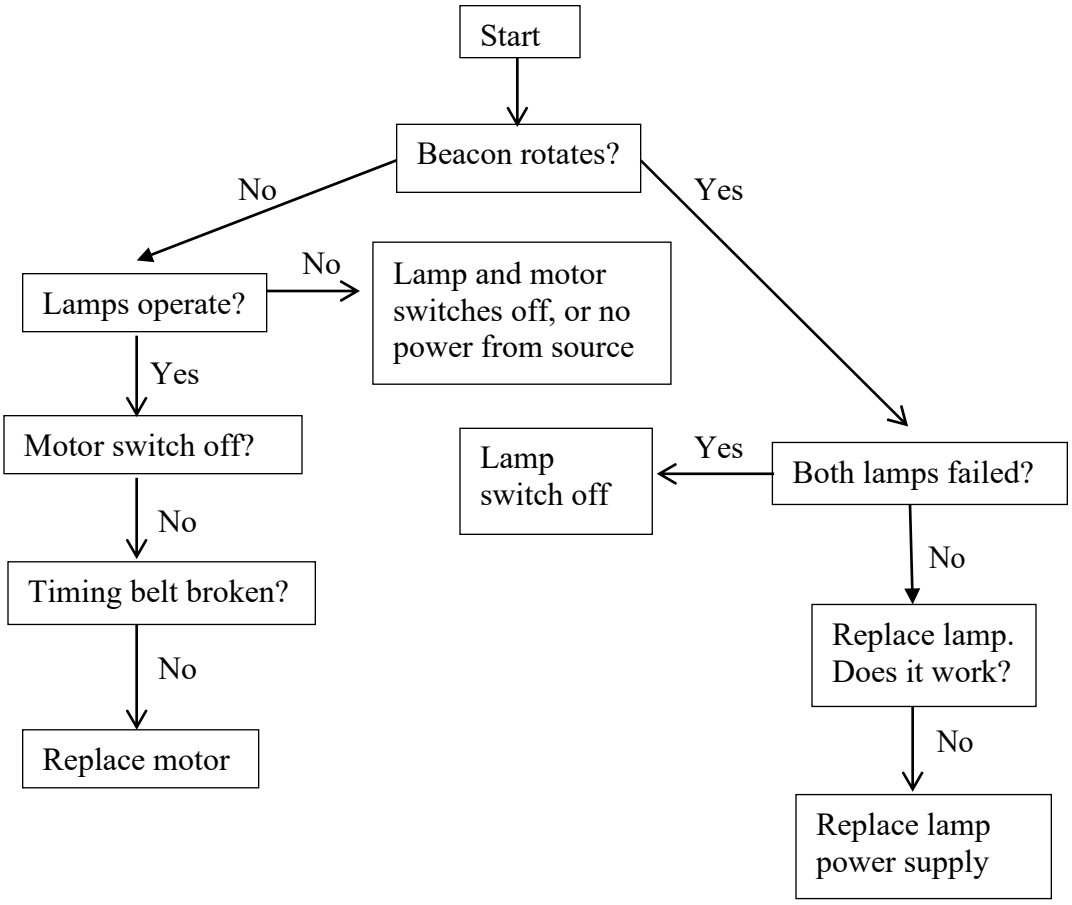
13. Reinstall the gear on the shaft of the gearbox, and tighten the setscrews.
14. Reinstall the belt on the two gears, and tighten the belt by sliding the motor to the left, and tighten the cap screws and nuts. (**NOTE:** Adjust the timing belt for no more than 1/8” deflection.)
15. Reconnect the wires to the motor capacitor. Red wire on the left side, and the two white wires on the right side.
16. Reconnect the black wire to the neutral on control panel.
17. Reconnect the power to the beacon.

7 Troubleshooting Chart, Replacement Parts and Wiring Diagrams

Beacon Troubleshooting Chart

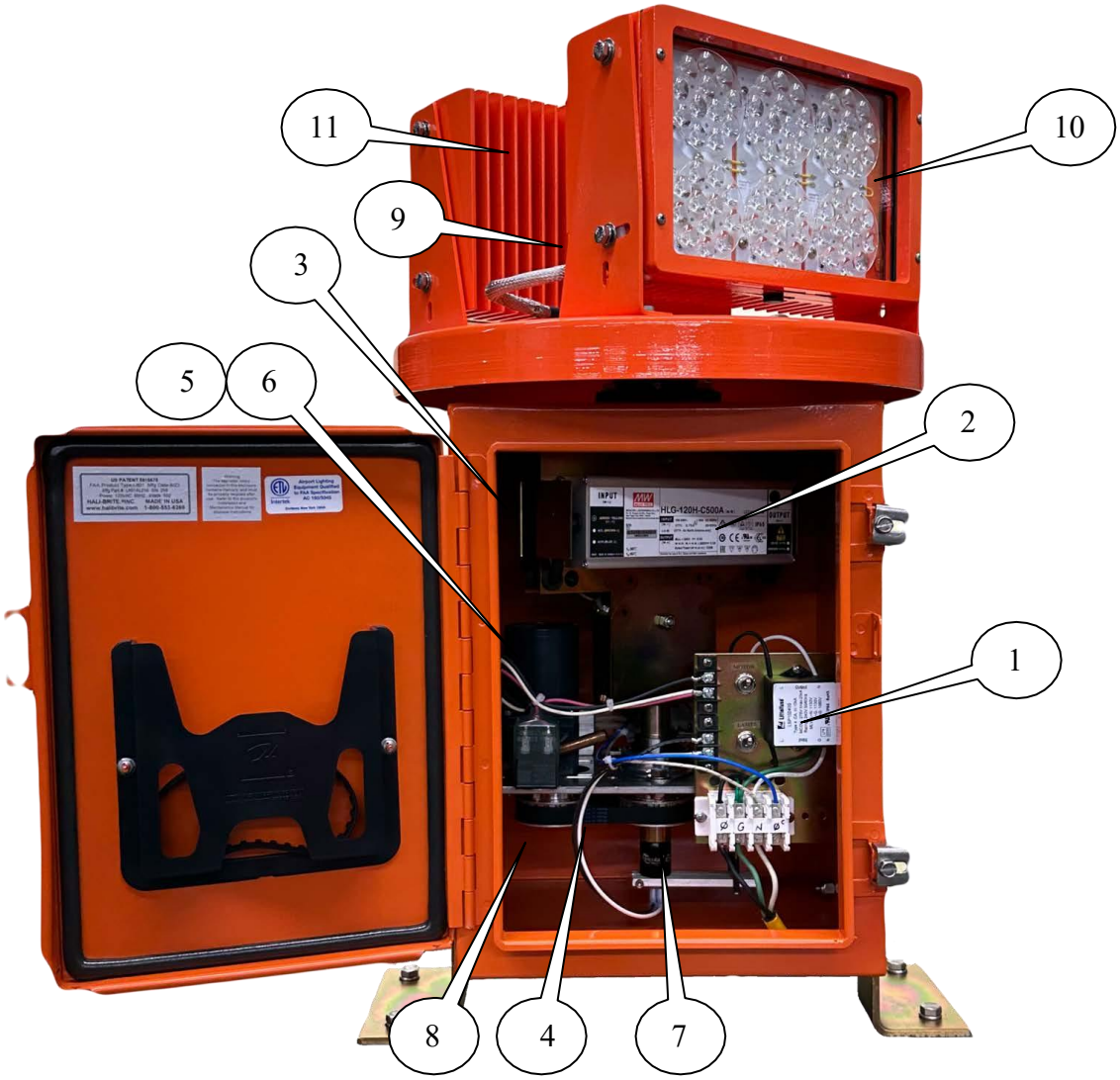
This chart will help you to locate over 99% of beacon problems. Detailed repair procedures are located in chapter 6 of this manual.

If you are still unable to solve the problem, call Hali-Brite at 800-553-6269.



Replacement Parts

Ref	Part Number	Description
1	0100-3944	Surge Protector
2	0200-0031	150 W Power Supply
3	0200-0030	70 W Power Supply
4	0600-0003	Drive Belt
5	4100-0000-1A	Motor 120VAC
6	4100-0006-2	Motor 230VAC
7	5000-0003	Pulley, Main Shaft
8	5000-0004	Pulley, Motor
9	9100-0015	1/2 in CONDUIT Cover & Gasket
10	9200-0047	Head Assembly, White
11	9200-0054	Head Assembly, Green



MERCOTAC CONNECTOR RECYCLING

Thank you for returning your used Mercotac connectors for recycling and not disposing them in the trash or landfill. The used connectors will be sent to a licensed mercury recycling facility where the liquid mercury is retrieved for future use through an environmentally safe distillation process.

HOW TO RETURN MERCOTAC CONNECTORS:

Used Mercotac connectors should be returned to Mercotac Inc. by UPS Ground shipping only. Do not send Mercotac connectors through the U.S. Mail. Mercotac Inc. provides free shipping within the 48 contiguous United States. Please contact Mercotac, Inc. for these shipping instructions. The used Mercotac connectors should be shipped to:

Mercotac Inc.
Attn: Returns
6195 Corte Del Cedro
Carlsbad, CA 92011

HOW TO PACKAGE:

The Mercotac connectors should be tightly sealed in a plastic bag using twist ties or a similar closure and then packaged with cushioning in a sturdy box. This completed Recycling Form must be included in the box with the shipment.

RETURNED CONNECTORS: (PACKING LIST)

Model	QTY.	Model	QTY.
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

FROM:

Company: _____

Contact: _____

Address: _____

_____

Telephone #: _____

	Y	N
Do you require a receipt?	☐	☐

Fax receipt to ( ) _____

FOR MERCOTAC USE

Received by: _____

Date received: _____

Date Faxed: _____

1) Verify information on form and complete above.
2) Place used Mercotac connectors in Recycling container.
3) If required Fax receipt .
4) File competed form in Recycle File Folder,Engineering

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