L-804 LED Elevated Runway Guard Light

Installation and Maintenance Manual

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AC 150/5345-46D

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## Record of Changes

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# Table of Contents

Record of Changes ........................................................................................................ iii
Table of Contents ......................................................................................................... v
List of Figures ............................................................................................................. vii
List of Tables ............................................................................................................... ix
Warranty ..................................................................................................................... xi
Disclaimer ................................................................................................................... xiii
Proprietary Information .............................................................................................. xv

1. Safety ....................................................................................................................... 1-1
   1.1 Introduction ........................................................................................................... 1-1
   1.2 Safety Symbols .................................................................................................... 1-1
   1.3 Qualified Personnel ............................................................................................. 1-2
   1.4 Intended Use ....................................................................................................... 1-2
   1.5 Installation ......................................................................................................... 1-2
   1.6 Operation .......................................................................................................... 1-3
   1.7 Equipment Malfunctions ................................................................................... 1-3
   1.8 Maintenance and Repair .................................................................................... 1-4

2. Description ............................................................................................................... 2-1
   2.1 Introduction ........................................................................................................... 2-1
   2.2 Uses ...................................................................................................................... 2-1
      2.2.1 Support Frame, L-804 ................................................................................ 2-2
      2.2.2 Housing Assembly, L-804 ......................................................................... 2-2
      2.2.3 Driver PWA, L-804 (Not Shown) ................................................................. 2-2
      2.2.4 Monitor PWA (Not Shown) ......................................................................... 2-3
      2.2.5 Front Plate, L-804 ....................................................................................... 2-3
      2.2.6 Frangible Coupling, L-804 ......................................................................... 2-3
      2.2.7 Light Engine Assembly, L-804 ................................................................... 2-3
      2.2.8 Tether Assembly (Not Shown) ................................................................... 2-3
      2.3 Equipment Specification Description .............................................................. 2-4
         2.3.1 Functional Characteristics ......................................................................... 2-4
         2.3.2 Photometric Data ...................................................................................... 2-5
         2.3.3 External Power Requirements .................................................................. 2-5
         2.3.4 Environmental Characteristics ................................................................ 2-5
         2.3.5 Mechanical Characteristics ...................................................................... 2-6
         2.3.6 Equipment and Accessories Supplied ....................................................... 2-6
         2.3.7 Equipment Required – Not Supplied ......................................................... 2-6

3. Installation ................................................................................................................ 3-1
   3.1 Introduction ........................................................................................................... 3-1
   3.2 Unpacking ............................................................................................................ 3-1
   3.3 Placement ............................................................................................................. 3-1
   3.4 Installation .......................................................................................................... 3-1
      3.4.1 Base Mounting ........................................................................................... 3-1
      3.4.2 Light Base Mounting .................................................................................. 3-1
      3.4.3 Light Fixture Alignment .............................................................................. 3-3

4. Operation ............................................................................................................... 4-1
   4.1 Introduction ........................................................................................................... 4-1
   4.2 Modes of Operation ............................................................................................ 4-2
   4.3 Brightness Settings ............................................................................................. 4-2
   4.4 Monitoring ............................................................................................................ 4-2
   4.5 Turn On and Checkout Procedure ....................................................................... 4-2
4.5.1 Operating Modes ................................................................. 4-2
4.5.2 Checkout ............................................................................... 4-2
4.6 Equipment Shutdown ............................................................... 4-2
5. Maintenance ............................................................................. 5-1
  5.1 Introduction ........................................................................... 5-1
  5.2 Maintenance Checks ................................................................. 5-1
6. Trouble shooting ......................................................................... 6-1
  6.1 Introduction ........................................................................... 6-1
  6.2 Equipment Required ................................................................. 6-1
  6.3 Troubleshooting Procedures ...................................................... 6-1
7. Repair ......................................................................................... 7-1
  7.1 Introduction ........................................................................... 7-1
  7.2 Repair Procedures ................................................................. 7-1
    7.2.1 Visual Operational Check ................................................. 7-1
  7.3 Maintenance ........................................................................... 7-1
    7.3.1 Visual Checks ................................................................. 7-1
    7.3.2 Line-of-Sight Inspection ................................................... 7-1
    7.3.3 Lens and Housing Cleaning and Inspection .................... 7-1
    7.3.4 Driver PWA ................................................................. 7-2
    7.3.5 Monitor PWA ................................................................. 7-7
    7.3.6 Light Engine Assy, LED Insulator, Lens and Lens Gasket ... 7-9
    7.3.7 Conduit Fitting ............................................................... 7-11
    7.3.8 Tuff Seal* (Older/Legacy models Only) ......................... 7-12
    7.3.9 Ferrite Clampon .............................................................. 7-14
    7.3.10 Power Cable, L-823 ....................................................... 7-14
    7.3.11 Steel Tether ................................................................. 7-18
8. Parts ......................................................................................... 8-1
  8.1 Introduction ........................................................................... 8-1
  8.2 Ordering Information ............................................................... 8-1
    8.2.1 L-804 LED Elevated Runway Guard Light .................... 8-1
Appendix A Installation Drawings ................................................. A-1
List of Figures

Figure 2-1 L-804 LED Runway Guard Light........................................... 2-2
Figure 3-1 Horizontal Alignment......................................................... 3-4
Figure 3-2 Vertical Alignment............................................................. 3-5
Figure 7-1 L-804 Current-Driven Version PWA Driver ...................... 7-3
Figure 7-2 L-804 Voltage-Driven Version PWA Driver....................... 7-4
Figure 7-3 Current-Driven L-804 PWA Driver DIP Switch Settings .. 7-6
Figure 7-4 Voltage-Driven L-804 PWA Driver DIP Switch Settings.. 7-6
Figure 7-5 L-804 Monitor PWA .......................................................... 7-8
Figure 7-6 L-804 Light Engine Assy .................................................. 7-10
Figure 7-7 L-804 Conduit Fitting....................................................... 7-12
Figure 7-8 L-804 Tuff Seal ............................................................ 7-13
Figure 7-9 Ferrite Clamp-on ......................................................... 7-14
Figure 7-10 L-804 Power Cable, L-823 ........................................... 7-15
Figure 7-11 L-804 Power Cable, L-823 ........................................... 7-17
Figure 7-12 L-804 Steel Tether ...................................................... 7-19
Figure 8-1 L-804 LED Elevated Runway Guard Light ...................... 8-2
Figure 8-2 L-804 LED Elevated Runway Guard Light (Break-Out Views)........................................... 8-3

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List of Tables

Table 2-1 L-804 Use ................................................................. 2-1
Table 2-2 Functional Characteristics ...................................... 2-4
Table 2-3 Functional Characteristics ...................................... 2-4
Table 2-4 Photometric Data L-804 ........................................... 2-5
Table 2-5 External Power Requirements .................................... 2-5
Table 2-6 Environmental Characteristics ................................. 2-5
Table 2-7 Mechanical Characteristics ...................................... 2-6
Table 2-8 Equipment and Accessories - Supplied .................... 2-6
Table 2-9 Equipment and Accessories Required - Not Supplied .... 2-6
Table 2-10 Isolation Transformers Required - Not Supplied ... ... 2-7
Table 5-1 Maintenance Checks ................................................ 5-1
Table 6-1 Troubleshooting Procedures, Current-Driven L-804 ....... 6-2
Table 6-2 Diagnostics LEDs for Voltage-Driven L-804 PWA Driver Board ................................................................. 6-2
Table 8-1 L-804 LED Elevated RGL - Reference Parts ............... 8-4
Table 8-2 L-804 LED Elevated RGL - Renewal Parts/Spares........ 8-5
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Warranty

Astronics DME warrants products against mechanical, electrical, physical, and workmanship defects for a period of two years from the date of manufacture or one year from the date of installation, whichever occurs first.*

This warranty, excludes consumable items such as batteries, filters, or lamps.

Astronics DME will repair or replace, at its option, equipment or parts, which fail because of mechanical, electrical, physical, or workmanship defects, provided the equipment or parts were installed operated or maintained in accordance with approved practice, and used for the intended purpose. Any product which has been repaired or altered in such a way, in Astronics DME’s judgment, as to affect the product adversely will not be covered under warranty.

Astronics DME reserves the right to examine the part(s) to determine if the equipment/part(s) is (are) covered under this warranty or to authorize scrap on site and provide replacement parts without examination by Astronics DME Customer Product Support.

Astronics DME shall have the right to substitute replacement parts having the same form, fit, function, and specification.

All repaired or overhauled parts will be warranted to be free from defect in material and workmanship, in accordance with the above stipulations, for a period of ninety (90) days from the date of shipment.

For products not manufactured by, but sold by Astronics DME, warranty is limited to that extended by the original manufacturer.

Customers must notify Astronics DME Customer Product Support (CPS) in writing within ten (10) working days of the failure/defect discovery with a detailed description of the problem and, if known, the cause of the problem.
Customers must obtain a Return Material Authorization (RMA) Number (and identify equipment with this number before returning material) from:

Astronics DME Customer Product Support  
6830 NW 16th Terrace, Fort Lauderdale, FL 33309  
DMEsupport@astronics.com  
(954) 975-2206

*In accordance with FAA requirements, Astronics DME warrants LED airfield lighting products against electrical defects for a period of four years from the date of installation.*
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This manual could contain technical inaccuracies or typographical errors. Astronics DME reserves the right to revise this manual from time to time in the contents thereof without obligation of Astronics DME to notify any person of such revision or change.

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1. SAFETY

1.1 Introduction

This section contains general safety instructions. Some safety instructions may not apply to the equipment in this manual. Specific warnings are included in the manual where appropriate. Follow all warnings, cautions and notes in the instructions carefully as failure to do so may result in personal injury, death, or damage to equipment.

To use this equipment safely:

- Refer to the FAA Advisory Circular AC 150/5340-26, Maintenance of Airport Visual Aids Facilities, for instructions on safety precautions.
- Observe all safety regulations.
- Read and become familiar with the general safety instructions provided in this section of the manual before installing, operating, maintaining, or repairing this equipment.
- Read and carefully follow the instructions given throughout this manual for performing specific tasks and working with specific equipment.
- Keep this manual within easy access of personnel installing, operating, maintaining, or repairing this equipment.
- Follow all applicable safety procedures required by your company, industry standards, and government or other regulatory agencies.
- Obtain and read Material Safety Data Sheets (MSDS) for all materials used.

1.2 Safety Symbols

Become familiar with the safety symbols presented in this section. These symbols will alert you to safety hazards and conditions that may result in personal injury, death, or damage to equipment.

**WARNING** May result in personal injury or death.
1.3 Qualified Personnel

Defined as personnel who thoroughly understand the equipment and its safe operation, maintenance, and repair. Qualified personnel are physically capable of performing the required tasks, familiar with all relevant safety rules and regulations and have been trained to safely install, operate, maintain, and repair the equipment.

1.4 Intended Use

Astronics DME is not 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 equipment damage.

Unintended uses may result from taking the following actions:

- Making changes to equipment that have not been recommended or described in this manual or using parts that are not genuine Astronics DME replacement parts.
- Failing to make sure that auxiliary equipment complies with approval agency requirements, local codes, and all applicable safety standards.
- Allowing unqualified personnel to perform any task.

1.5 Installation

Read and understand the installation section of all system component manuals before installing the equipment.

- Failure to follow safety procedures may result in injury or death.
- Allow only qualified personnel to install the equipment.
• Use only approved equipment. Using unapproved equipment in an approved system may void agency approvals and the warranty.

• 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.

1.6 Operation

Only qualified personnel should operate this equipment. Read all system component manuals before operating this equipment. A thorough understanding of system components and their operation will help you operate the system safely and efficiently.

• Before using this equipment, check all safety interlocks, fire-detection systems, and protective devices such as panels and covers. Make sure all devices are fully functional. Do not operate the system if these devices are not working properly. Do not deactivate or bypass automatic safety interlocks or locked-out electrical disconnects or pneumatic valves.

• Never operate equipment with a known malfunction.

• Do not attempt to operate or service electrical equipment if standing water is present.

• Use this equipment only in the environments for which it is rated. Do not operate this equipment in humid, flammable, or explosive environments unless it has been rated for safe operation in these environments.

• DO NOT touch exposed electrical connections on equipment while the power is ON.

1.7 Equipment Malfunctions

Do not operate a system that contains malfunctioning components. If a component malfunctions, turn the system OFF immediately.

• Disconnect and lock out electrical power.

• Allow only qualified personnel to make repairs. Repair or replace the malfunctioning component according to instructions provided in this manual.
1.8 Maintenance and Repair

Allow only qualified personnel to perform maintenance, troubleshooting, and repair tasks. Only properly trained personnel are permitted to service this equipment.

- Always use safety devices when working on this equipment.
- Follow the recommended maintenance procedures in your equipment manuals.
- Do not service or adjust any equipment unless another person trained in first aid and CPR is present.
- Connect all disconnected equipment ground cables and wires after servicing equipment. Ground all conductive equipment.
- Use only approved Astronics DME replacement parts. Using unapproved parts or making unapproved modifications to equipment may void agency approvals and create safety hazards.
- Check interlock systems periodically to ensure their effectiveness.
- Do not attempt to service electrical equipment if standing water is present. Use caution when servicing electrical equipment in a high-humidity environment.
- Use tools with insulated handles when working with electrical equipment.
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2. DESCRIPTION

2.1 Introduction

This section describes the Astronics DME L-804 LED Elevated Runway Guard Light (RGL).

The L-804 LED Runway Guard Light is a yellow unidirectional light that alternately flashes 45-50 times per minute to warn pilots that they are approaching a runway hold area and are about to enter an active runway.

These lights are Electrical Testing Labs (ETL) certified according to FAA specification AC 150/5345-46D, FAA Engineering Brief No 67D and ICAO: Annex 14, Vol. I, Para 5.3.23 & Appendix 2 Fig. A2-25 and meets the requirements of AC 150/5340-30H.

2.2 Uses

The L-804 LED light intended use is shown in Table 2-1.

Table 2-1 L-804 Use

<table>
<thead>
<tr>
<th>L-804</th>
<th>Runway Guard</th>
<th>Unidirectional: yellow; alternately flashing</th>
</tr>
</thead>
</table>

The L-804 LED Elevated Runway Guard Light is shown in Figure 2-1.
The major components of the L-804 LED Elevated Runway Guard Light are described in the following paragraphs. See Figure 2-1 and Figure 8-1. No special tools are required for maintenance.

### 2.2.1 Support Frame, L-804

The Support Frame holds the Housing Assembly and allows for horizontal adjustment of +/- 20º and vertical adjustment of 0º to 20º. It is secured to the Hex Extension Tube and attaches to the Frangible Coupling.

### 2.2.2 Housing Assembly, L-804

The Housing Assembly houses the Light Engine Assembly, Lens, and Driver PWA. A1-17-1107-001 is constant-current powered; A1-17-1107-002 is voltage-powered. The Front Plate and Visor are secured to the front of the Housing. Access to the Lens and Light Engine Assembly is accomplished by removing the eight fasteners on the Front Plate.

### 2.2.3 Driver PWA, L-804 (Not Shown)

The Driver PWA is used to accept incoming power from the isolation transformer or 120VAC/240VAC source and flash the Light Engines 45-50 times per minute. A3-07-1122-001 is used in the current version and A3-07-1164-001 is used in the voltage version.
2.2.4  Monitor PWA (Not Shown)

The Monitor PWA is used to provide a customer-selectable NO or NC contact closure upon detection of a fault.

2.2.5  Front Plate, L-804

The Front Plate is secured to the Housing Assembly and, along with the Visor, reduces the amount of incident sunlight; maximizing the contrast during the On/Off cycle.

2.2.6  Frangible Coupling, L-804

The Frangible Coupling is designed to break at a defined load and is used to attach the L-804 to the Base Plate L-867 (Not Supplied).

2.2.7  Light Engine Assembly, L-804

The Light Engine Assembly consists of the LEDs, LED PWAs and is powered by the Driver PWA.

2.2.8  Tether Assembly (Not Shown)

A stainless steel tether is used to secure the unit to the base plate.

2.2.9  Light Sensor (Not Shown)

Senses ambient light level for intensity switching of the L-804V.
2.3 Equipment Specification Description

Table 2-2 through Table 2-7 illustrates pertinent reference data on the L-804 LED Runway Guard Light. Included are tables containing functional characteristics, external power requirements, environmental characteristics, equipment and accessories supplied, and equipment required for operation and maintenance, but not supplied by Astronics DME.

2.3.1 Functional Characteristics

Table 2-2 and Table 2-3 list the functional characteristics of the L-804 LED Runway Guard Light.

Table 2-2 Functional Characteristics

<table>
<thead>
<tr>
<th>Fixture Load VA</th>
<th>65W Isolation Transformer Load VA</th>
<th>Total CCR Load VA/PF</th>
<th>Total 120VAC VA/PF</th>
<th>Total 240VAC VA/PF</th>
</tr>
</thead>
<tbody>
<tr>
<td>L-804 6.6A Input Power</td>
<td>56.4VA</td>
<td>12.7 VA</td>
<td>69.1VA/0.86 PF</td>
<td>NA</td>
</tr>
<tr>
<td>Voltage</td>
<td>36.4VA</td>
<td>NA</td>
<td>NA</td>
<td>41.6VA/0.923 PF</td>
</tr>
</tbody>
</table>

Notes: No Heater Kit Required

Table 2-3 Functional Characteristics

<table>
<thead>
<tr>
<th>Condition</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Optics L-804 Yellow</td>
<td>Yellow LED Light Head</td>
</tr>
<tr>
<td>Weight</td>
<td>~ 40 lbs with Bottom Support Plate and Frangible Coupling</td>
</tr>
<tr>
<td>Height</td>
<td>24 inches with Bottom Support Plate and Frangible Coupling</td>
</tr>
</tbody>
</table>
2.3.2 **Photometric Data**

Table 2-4 lists the photometric data for the L-804 LED Elevated Runway Guard Light.

<table>
<thead>
<tr>
<th>Minimum Beam Coverage (Degrees)</th>
<th>Intensity (candelas)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>H</td>
</tr>
<tr>
<td>L-804</td>
<td>±8</td>
</tr>
</tbody>
</table>

2.3.3 **External Power Requirements**

Table 2-5 lists the external power requirements of the L-804 LED Elevated Runway Guard Light.

<table>
<thead>
<tr>
<th>Input</th>
<th>Power</th>
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</thead>
<tbody>
<tr>
<td>Constant Current Regulator (CCR)</td>
<td>3 Step 4.8A, 5.5A, and 6.6A or 5 Step 2.8A, 3.4A, 4.1A, 5.2A and 6.6A</td>
</tr>
<tr>
<td>Alternating Current Source (AC)</td>
<td>120VAC Nominal (+/-10%) or 240VAC Nominal (+/-10%) 50/60Hz</td>
</tr>
</tbody>
</table>

2.3.4 **Environmental Characteristics**

Table 2-6 lists the environmental characteristics of the L-804 LED Elevated Runway Guard Light.

<table>
<thead>
<tr>
<th>Condition</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature:</td>
<td></td>
</tr>
<tr>
<td>Operating</td>
<td>-40°C to +55°C (-40°F to +131°F)</td>
</tr>
<tr>
<td>Storage/Shipping</td>
<td>-55°C to +55°C (-67°F to 131°F)</td>
</tr>
<tr>
<td>Temperature Shock</td>
<td>Withstands exposure of the hot light fixture to cold water spray</td>
</tr>
<tr>
<td>Salt fog</td>
<td>Withstands exposure to a corrosive salt atmosphere</td>
</tr>
<tr>
<td>Wind</td>
<td>Velocities up to 300 mph (482 kph)</td>
</tr>
<tr>
<td>Altitude</td>
<td>Sea level to 10,000 feet (3000 m)</td>
</tr>
<tr>
<td>Precipitation</td>
<td>Withstands exposure to rain, snow, ice, and standing water</td>
</tr>
<tr>
<td>Solar radiation</td>
<td>Withstands exposure to solar radiation</td>
</tr>
</tbody>
</table>
2.3.5 Mechanical Characteristics

Table 2-7 lists the mechanical characteristics of the L-804 LED Elevated Runway Guard Light.

<table>
<thead>
<tr>
<th>Condition</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yield Device</td>
<td>The L-804 has a yield point near the point or position where the light attaches to the base plate. The yield point will withstand a bending moment of 1,300 foot-pounds (1,762.5 N-m) without failure, and will separate cleanly at the yield point before the bending moment reaches 2,100 foot-pounds (2,847.2 N-m).</td>
</tr>
<tr>
<td>Insulation Resistance</td>
<td>Resistance of 50 meg-ohms lead-to-case</td>
</tr>
</tbody>
</table>

2.3.6 Equipment and Accessories Supplied

Table 2-8 lists the equipment and accessories supplied for the L-804 LED Elevated Runway Guard Light.

<table>
<thead>
<tr>
<th>Description</th>
<th>Quantity</th>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>L-804 LED Elevated Runway Guard Light fixture</td>
<td>As Required</td>
<td>Installation and Maintenance Manual - Y3-01-0174</td>
<td>Download from <a href="http://www.astronics.com">www.astronics.com</a></td>
</tr>
</tbody>
</table>

2.3.7 Equipment Required – Not Supplied

Table 2-9 and Table 2-10 list the equipment and accessories required but not supplied.

<table>
<thead>
<tr>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cross-point screwdriver</td>
<td>1</td>
</tr>
<tr>
<td>Wrench ¼ inch and 2 inch Open End</td>
<td>1</td>
</tr>
<tr>
<td>Allen Wrench ¼ inch</td>
<td>1</td>
</tr>
<tr>
<td>Torque Wrench</td>
<td>1</td>
</tr>
<tr>
<td>Isolation transformer for series circuit</td>
<td>1</td>
</tr>
<tr>
<td>Circuit</td>
<td>Transformer</td>
</tr>
<tr>
<td>---------------------------------------------</td>
<td>----------------------</td>
</tr>
<tr>
<td>6.6 A, 60Hz, series circuit</td>
<td>L-830-3 (65W)</td>
</tr>
<tr>
<td>6.6 A, 50Hz, series circuit</td>
<td>L-831-3 (65W)</td>
</tr>
<tr>
<td>20 A, 60Hz, series circuit</td>
<td>20A–6.6A, 65W, 60Hz</td>
</tr>
<tr>
<td>20 A, 50Hz, series circuit</td>
<td>20A–6.6A, 65W, 50Hz</td>
</tr>
<tr>
<td>120VAC/240VAC 50Hz/60Hz circuit</td>
<td>Not Required</td>
</tr>
</tbody>
</table>
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3. INSTALLATION

3.1 Introduction

This section of the manual contains general instructions for installation, unpacking and placement of the L-804 at a typical site. Refer to Appendix A and the airport project plans and specifications for specific installation instructions.

3.2 Unpacking

The equipment is shipped ready for installation. Handle equipment very carefully to prevent component damage. Unpack the carton upon receipt and check the condition of the contents. Note any exterior damage to the carton that may lead to the detection of equipment damage.

3.3 Placement

Follow the installation instructions below, along with FAA specification AC 150/5340-30H and site plans, when placing the L-804 light fixture.

3.4 Installation

This subsection provides installation instructions for the L-804 LED Elevated Runway Guard Light.

See Appendix A for the installation drawings.

3.4.1 Base Mounting

L-804 light fixtures can be mounted on an L-867 base plate with a diameter and bolt-hole corresponding to either a 12 inch (304.8 mm) diameter L-867B base or a 16 inch (406.4 mm) diameter L-867D base plate per FAA AC 150/5345-46. The base plate is designed to receive a frangible coupling using a male thread. The standard coupling thread is 2-11½. A gasket is supplied with the base plate to form a watertight seal between the base plate and the L-867 light base per FAA AC 150/5345-42.

3.4.2 Light Base Mounting

1. Install the L-867 base on undisturbed soil. If the soil is unsuitable,
remove soil to an adequate depth and replace with compacted acceptable material.

**NOTE:** In closed duct systems, install in soil conditions with good drainage. Use light bases that have a drain hole to prevent water accumulation.

2. Orient the cable entrance hubs of the light base in the proper directions according to site plans.

3. Level the light base so that the mounting flange surface is level with the finished grade.

4. With the base at the proper orientation and held at proper elevation, place approximately 4 inches (101.6 mm) of concrete backfill around the outside base.

**NOTE:** If the concrete backfill is omitted, the earth backfill must be compacted to maintain proper elevation and orientation of the base.

5. Slope the top of the concrete away from the flange portion of the base so the sloped outer edges of the concrete are at surface grade.

6. Connect the field circuit to the appropriate isolation transformer. Refer to Table 2-10.

**NOTE:** Use a brick to raise the transformer about 3 inches above the bottom surface of the L-867 light base to avoid the possibility of the transformer being partially immersed in water in case water accumulates above the level of the ducts or pipes.

After connecting transformer, check the continuity of the series loop.

7. Wrap the connector joints in the primary circuit with at least one layer of rubber or synthetic rubber tape and one layer of plastic tape one-half lapped, extending at least 1-1/2 inches (3.81 cm) on each side of the joint.

8. Clamp the female secondary plug from the isolation transformer (or L-823 female cable end, L-804V) to the L-867 base plate fitting using the clamp device supplied with the base plate.

9. Bolt the base plate with the base plate gasket to the L-867 base using six 3/8-16 stainless steel bolts. Apply a drop of thread lock to each bolt thread, and torque bolts to 100-110 inch-lbs. (11.3Nt-m).

Once the base plate is installed, the L-804 LED Elevated Runway Guard Light is ready to be installed.

10. Route the male plug from the L-804 LED Elevated Runway Guard Light through the Hex Extension Tube and Frangible Coupling, then connect to the female plug on the secondary lead of the isolation
11. Install the Frangible Coupling to the base plate, torque to 70 ft-lbs.

12. Align the 0 position of the light (bottom hole of the positioning holes in the top of the Hex Extension Tube) with a line parallel to the taxiway centerline.

13. Install the Hex Extension Tube to the Frangible Coupling and torque the 6 fasteners on the bottom of the Hex Extension Tube to 72 inch-lbs.

14. Position the Bottom Support Plate (ensure the fasteners are backed out) of the L-804 LED Elevated Runway Guard Light over the Hex Extension Tube.

15. Align the L-804 LED Elevated Runway Guard Light. Refer to 3.4.3.

### 3.4.3 Light Fixture Alignment

RGLs must be oriented to maximize the visibility of the light to pilots of aircraft approaching the runway holding position. The orientation must be specified by the design engineer to aim the center of the light beam toward the aircraft cockpit when the aircraft is between 150 ft. (45 m) and 200 ft. (60 m) from the holding position, along the predominant taxi path to the holding position. The vertical aiming angle must be set between 5 degrees and 10 degrees above the horizontal.

#### 3.4.3.1 Horizontal Alignment

See Figure 3-1.

After performing the Light Base Mounting per 3.4.1 and 3.4.2 aim the L-804 to the orientation specified for the airfield by performing the following steps:

1. Remove the Quick Release Locking Pin from the Support Frame Assembly.
2. Horizontally position the front of the L-804 as required. See NOTE in 3.4.3 for positioning.
3. Install the Quick Release Locking Pin at the 0 position and torque the 3 fasteners on the Support Frame to 72 inch-lbs.
4. The final aim adjustments (5 degree increments from –20 to 20 degrees) are performed by removing the Quick Release Locking Pin and loosening the 3 fasteners on the Support Frame, then turning the L-804 assembly as required, and then reinstalling the Locking Pin and torqueing the fasteners to 72 inch-lbs.
3.4.3.2 Vertical Alignment

See Figure 3-2.

1. Remove the 2 vertical alignment 1/4"-20 screws (one from each side of the L-804) from the Support Frame Assembly.
2. Slightly loosen the 2 3/8"-24 screws holding the Housing Assembly to the Support Frame.
3. Vertically position the front of the L-804 as required. See NOTE in 3.4.3 for positioning.
4. Install the 2 vertical alignment fasteners to the required angle (1 degree increments – 0 to 20 degrees) and torque to 72 inch-lbs.
5. Torque the 2 fasteners holding the Housing Assembly to the Support Frame to 11 ft.-lbs.
2 Fasteners (typical, one each side)

Figure 3-2 Vertical Alignment
4. OPERATION

4.1 Introduction

This section of the manual describes the operational aspects of both the L-804 LED Elevated Runway Guard Light Current-driven version and the L-804 LED Elevated Runway Guard Light Voltage-driven version. The following paragraphs outline the details of controls, indicators, and system operation. Turn-on and turn-off operations are described, along with notes regarding safety hazards, where necessary.

4.2 Current-Driven Version

4.2.1 Modes of Operation

The current version L-804 LED Elevated Runway Guard Light is configured for 3 or 5 step 6.6A Constant Current Regulators (CCRs). 20A CCR can be used in combination with a 20/6.6A isolation transformer.

4.2.2 Brightness Settings

Set the CCR to the desired brightness level.

4.2.3 Monitoring

A single NO (normally open) or NC (normally closed) pair of contacts are available for remote failure indication. NO or NC refers to the contact state during normal non-failure operation. Contacts are wired through a 5-pin cable in place of the normal 2-pin cable.

4.2.4 Turn On and Checkout Procedure

Turn on the lights using the CCR.

4.2.5 Operating Modes

The L-804 LED Elevated Runway Guard Light will automatically switch between intensities depending on the current from the CCR. There is no user interface to control light intensities.

4.2.6 Checkout

To check the current-driven L-804 LED Elevated Runway Guard Light, turn on the CCR, step through the brightness levels, and observe lights change intensity.

If necessary to verify Monitor function, disconnect one LED wire from driver PWA (must remove back cover to accomplish this test). Monitor relay will indicate failure within 5 seconds.
4.2.7 Equipment Shutdown

Turn off the L-804 LED Elevated Runway Guard Light by turning off the CCR.

4.3 Voltage-Driven Version

4.3.1 Modes of Operation

The voltage driven model is configured for 120VAC/240VAC 50/60Hz source.

4.3.2 Brightness Settings

The voltage-driven version photosensor will automatically adjust brightness based on solar intensity.

4.3.3 Monitoring

A single NO (normally open) or NC (normally closed) pair of contacts are available for remote failure indication. NO or NC refers to the contact state during normal non-failure operation. Contacts are wired through a 5-pin cable in place of the normal 2-pin cable.

4.3.4 Turn On and Checkout Procedure

Turn on the lights using a 120VAC/240VAC 50/60Hz Voltage source.

4.3.5 Operating Modes

The voltage-driven version will change between intensity settings depending on solar intensity. Cover/expose the photocell to switch between intensities.

4.3.6 Checkout

For the voltage-driven version, turn on the power from 120VAC 60Hz or 240VAC 50Hz. The default brightness in startup is HIGH. Cover the photocell for 45 seconds to switch to low intensity.

If necessary to verify Monitor function, disconnect one LED wire from driver PWA (must remove back cover to accomplish this test). Monitor relay will indicate failure within 5 seconds.

4.4 Equipment Shutdown

Turn off the L-804 LED Elevated Runway Guard Light by turning off the voltage source.
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5. MAINTENANCE

5.1 Introduction

This section of the manual lists the maintenance tasks required for the L-804 LED Elevated Runway Guard Light. The maintenance tasks in this section are required to ensure optimum equipment performance.

5.2 Maintenance Checks

Table 5-1 lists the maintenance checks. To keep the L-804 LED Elevated Runway Guard Light operating efficiently, follow a preventive maintenance schedule. Refer to FAA AC 150/5340-26 for more detailed information.

Table 5-1 Maintenance Checks

<table>
<thead>
<tr>
<th>Interval</th>
<th>Task</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weekly</td>
<td>Check for vegetation</td>
<td>Remove vegetation</td>
</tr>
<tr>
<td>Monthly</td>
<td>Check for misaligned fixture</td>
<td>Straighten, level and align</td>
</tr>
<tr>
<td></td>
<td>Check for dirty lens</td>
<td>Clean with glass cleaner</td>
</tr>
<tr>
<td>Annually</td>
<td>Check for improper ground elevation</td>
<td>Grade so frangible point is ~ 1 inch (25.4 mm) above ground elevation</td>
</tr>
<tr>
<td></td>
<td>Check for improper light elevation</td>
<td>Maintain same elevation for all light fixtures</td>
</tr>
<tr>
<td></td>
<td>Check Housing &amp; Frangible Coupling for</td>
<td>Touch up paint as necessary</td>
</tr>
<tr>
<td></td>
<td>corrosion present or paint chipped</td>
<td></td>
</tr>
<tr>
<td>Unscheduled</td>
<td>Prepare for heavy snowfall, when necessary</td>
<td>Use red flags or sticks to mark location of fixtures to facilitate snow removal and lessen chance of damage to fixtures</td>
</tr>
</tbody>
</table>
6. TROUBLE SHOOTING

6.1 Introduction

This section of the manual provides onsite corrective procedures in order to diagnose, isolate, and repair malfunctions and faults that may be found in the L-804 LED Elevated Runway Guard Light in its operational environment. Field repair is limited to the replacement of easily replaceable components.

6.2 Equipment Required

The following equipment is required to perform the onsite corrective maintenance procedures:

- Standard tool kit
- Multi-meter

6.3 Troubleshooting Procedures

The L-804 LED Elevated Runway Guard Light must be operated as described in Section 4. When a fault or malfunction occurs, corrective maintenance is required by an onsite technician to isolate and correct the problem. The following items should be checked/verified before other troubleshooting/maintenance procedures are performed:

- Check all cables are connected
- Check all power connections are intact

If the above do not correct the malfunction, refer to Table 6-1.

**CAUTION**

When removing and replacing the electronics module, handle with care to avoid damage to discrete components that can be caused by electrostatic discharge. To avoid voltage overload, make sure the power is turned off when the replacement of a module is required.
Table 6-1 Troubleshooting Procedures, L-804

<table>
<thead>
<tr>
<th>Problem</th>
<th>Possible Cause</th>
<th>Corrective Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>LEDs not lighting or only one side of the two lights on</td>
<td>Defective electronic module</td>
<td>Replace the Driver PWA</td>
</tr>
<tr>
<td></td>
<td>Loose wire connection</td>
<td>Tighten wire connections</td>
</tr>
<tr>
<td></td>
<td>Deteriorated wire insulation</td>
<td>Replace wires</td>
</tr>
<tr>
<td></td>
<td>Moisture present in fixture</td>
<td>Open and dry the housing assembly. Replace any damaged items</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>DIP Switches in Disable Flashing Mode</td>
<td>Place DIP Switches in proper position.</td>
</tr>
<tr>
<td>Individual LEDs not lighting</td>
<td>Defective LEDs</td>
<td>Replace Light Engine assembly</td>
</tr>
<tr>
<td>LEDS too dim</td>
<td>Dirty lens</td>
<td>Clean lens</td>
</tr>
<tr>
<td></td>
<td>Service life of LED exceeded</td>
<td>Replace Light Engine assembly</td>
</tr>
<tr>
<td></td>
<td>Photocell lens dirty</td>
<td>Clean photocell lens</td>
</tr>
</tbody>
</table>

Table 6-2 Troubleshooting with Diagnostics LED for Voltage-Driven L-804 PWA Driver Board

<table>
<thead>
<tr>
<th>Diagnostic LEDs Action:</th>
<th>Explanation or Corrective Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green LED flashing five times</td>
<td>Warm up cycle.</td>
</tr>
<tr>
<td>Red LED flashing</td>
<td>Wrong DIP switch setting; place DIP switch in proper position.</td>
</tr>
<tr>
<td>Red LED steady</td>
<td>Left lamp failed; troubleshoot/replace left lamp.</td>
</tr>
<tr>
<td>Red and green steady</td>
<td>Right lamp failed; troubleshoot/replace right lamp.</td>
</tr>
</tbody>
</table>
7. REPAIR

7.1 Introduction

This section of the manual provides maintenance personnel with step-by-step procedures for performing maintenance and repairs on the L-804 LED Elevated Runway Guard Light. (Both the voltage-driven and the current-driven versions)

7.2 Repair Procedures

These procedures consist of the tasks required for testing, measuring, aligning, and repairing the L-804 LED Elevated Runway Guard Light. The tools and test equipment necessary for the performance of these procedures are also listed as required.

7.2.1 Visual Operational Check

1. With the system operating, visually inspect each L-804 LED Elevated Runway Guard Light to verify LEDs are on.
2. Visually inspect each L-804 LED Elevated Runway Guard Light for obvious damage.

7.3 Maintenance

7.3.1 Visual Checks

1. With the system operating, visually inspect each L-804 LED Elevated Runway Guard Light to verify all lamps are on.
2. Visually inspect for obvious misalignment.

7.3.2 Line-of-Sight Inspection

1. Visually inspect the lights for obstructions.
2. Refer to FAA specification AC 150/5340-26 for visibility requirements.

7.3.3 Lens and Housing Cleaning and Inspection

1. Inspect the lens, housing, and other parts for moisture and dirt.
2. Clean all moisture and dirt from the lens, inside and out.
3. Replace any damaged parts.
7.3.4 Driver PWA

See Figure 7-1 and Figure 7-2.

7.3.4.1 Current-Driven Version: Driver PWA Removal

1. Turn CCR OFF.
2. Remove 10 fasteners from Cover (hold near back of L-804) and disconnect 2 Faston connectors from E1 and E2.
3. Remove Cover Gasket.
4. Using wire removal tool, disconnect 2 LED PWA wires from J4 and 2 LED PWA wires from J5, or unplug J4 & J5 connectors.

**CAUTION**

When removing and replacing the electronics module, handle with care to avoid damage to discrete components that can be caused by electrostatic discharge.

5. If necessary to remove Monitoring PWA at this time, refer to 7.3.5.1. If not, continue to step 6.
6. Remove 6 fasteners and washers from Driver PWA and remove PWA.
7. Remove 6 washers from under side of Driver PWA from the standoffs.

7.3.4.2 Voltage-Driven Version: Driver PWA Removal

1. Turn OFF the 120VAC 50/60 Hz or 240VAC 50/60 Hz power source for L804V.
2. Remove 10 fasteners from Cover (hold near back of L-804) and disconnect wires from J1 on PWA and then remove cover.
3. Remove Cover Gasket.
When removing and replacing the electronics module, handle with care to avoid damage to discrete components that can be caused by electrostatic discharge.

5. If necessary to remove Monitoring PWA at this time, refer to 7.3.5.1. If not, continue to step 6.
6. Remove 4 fasteners and washers from Driver PWA and remove PWA.
7. Remove 4 washers from under side of Driver PWA from the standoffs.

Figure 7-1 L-804 Current-Driven Version PWA Driver
7.3.4.3 Current-Driven Version: Driver PWA Installation

1. Position 6 washers on standoffs.
2. Position Driver PWA on standoffs.
3. Install 6 fasteners and washers, hand tighten plus ¼ turn.
4. Ensure Dip Switch is set properly for the application being used. See Figure 7-3 and Figure 7-4.
5. Install Cover Gasket.
6. Connect 2 LED PWA wires to J4 and 2 LED PWA wires to J5.
7. Position Cover close to Driver PWA and connect 2 Faston connectors to E1 and E2 on PWA.
8. Position Cover on Housing and install 10 fasteners, torque to 72 inch-lbs.
9. Perform Turn On and Checkout procedure per 4.3.4.
7.3.4.4 Voltage-Driven Version: Driver PWA Installation

1. Position 4 washers on standoffs.
2. Position Driver PWA on standoffs.
3. Install 4 fasteners and washers, torque to 36 inch-lbs.
4. Ensure Dip Switch is set properly for the application being used. See Figure 7-3 and Figure 7-4.
5. Install Cover Gasket.
6. Connect LED PWA wires to J2 and to J3.
7. Connect Photosensor to J4.
8. Position Cover close to Driver PWA and connect 2 Faston connectors to E1 and E2 on PWA. Insert and screw down input wires in J1.
9. Position Cover on Housing and install 10 fasteners, torque to 72 inch-lbs.
10. Perform Turn On and Checkout procedure per 4.3.4.
Figure 7-3 Current-Driven L-804 PWA Driver DIP Switch Settings

Figure 7-4 Voltage-Driven L-804 PWA Driver DIP Switch Settings
7.3.5 Monitor PWA

See Figure 7-5.

7.3.5.1 Current-Driven Version: Monitor PWA Removal

1. Turn CCR./
2. Remove 10 fasteners from Cover (hold near back of L-804) and disconnect 2 Faston connectors from E1 and E2 on Driver PWA and remove cover.
3. Remove Cover Gasket.
4. Disconnect ribbon cable from J1.

**CAUTION**

When removing and replacing the electronics module, handle with care to avoid damage to discrete components that can be caused by electrostatic discharge.

5. Remove 2 fasteners and washers from Monitor PWA and remove PWA.
6. Remove 2 washers from under side of Monitor PWA from the standoffs.
7.3.5.1 Voltage-Driven Version: Monitor PWA Removal

1. C Source Power OFF. 120VAC 50/60 HZ or 240VAC 50/60 HZ source OFF for L804V.
2. Remove 10 fasteners from Cover (hold near back of L-804), disconnect wires from J1 on PWA, and remove cover.
3. Remove Cover Gasket.
4. Disconnect ribbon cable from J1.

CAUTION

When removing and replacing the electronics module, handle with care to avoid damage to discrete components that can be caused by electrostatic discharge.

5. Remove 2 fasteners and washers from Monitor PWA and remove PWA.
6. Remove 2 washers from under side of Monitor PWA from the standoffs.

7.3.5.2 Monitor PWA Installation

1. Position 2 washers on standoffs.
2. Position Monitor PWA on standoffs.
3. Install 2 fasteners and washers, then hand tighten plus ¼” turn.
4. Install Cover Gasket.
5. Connect ribbon cable to J1.
6. Position Cover close to Driver PWA and connect 2 Faston connectors to E1 and E2 for the L-804I, or wires into J1 for the L-804V.
7. Position Cover on Housing and install 10 fasteners, torque to 72 inch-lbs.
8. Perform Turn On and Checkout procedure per 4.3.4.

7.3.6 Light Engine Assy, LED Insulator, Lens and Lens Gasket

See Figure 7-6.

7.3.6.1 Light Engine Assy, LED Insulator, Lens and Lens Gasket Removal

This procedure only describes the removal of one of the Light Engine Assemblies. The instructions are typical for both sides.

1. Turn CCR/AC Source Power OFF.
2. Remove 8 fasteners from around Visors and remove Visors.
3. Remove 8 fasteners from Front Plate and remove Front Plate.
4. Remove Lens and Lens Gasket from Housing.

CAUTION

When removing and replacing the electronics module, handle with care to avoid damage to discrete components that can be caused by electrostatic discharge.

5. Remove 5 fasteners and shoulder inserts from Light Engine Assy, remove 2 wires from J1 using wire removal tool and remove Light Engine Assy.
6. Remove cover per 7.3.5.1 steps 1 thru 3.
7. For the L-804V: Disconnect LED wires from J2 or J3 on Driver PWA. For the L-804I: Disconnect LED wires from J4 or J5 on Driver PWA.
8. Remove LED Insulator.
7.3.6.2 Light Engine Assy, LED Insulator, Lens and Lens Gasket Installation

1. Position LED Insulator in Housing to line up with holes.
2. Install 2 wires from Driver PWA into J1 of the Light Engine Assy PWA. (After S/N 000015, plug LED wire connector onto driver board J2/J3/J4/J5.)
3. Position Light Engine Assy over LED Insulator and install 5 shoulder inserts and 5 fasteners, then hand tighten plus a ¼” turn.
4. Install Lens and Lens Gasket into housing. The Lens and Lens Gasket are installed as an assembly.
5. Position the Front Plate over the Housing and install 8 fasteners, torque to 72 inch-lbs.
6. Position the Visors on the Front Plate and install 8 fasteners, torque to 72 inch-lbs.
7. Replace cover per 7.3.5.2 steps 8 and 9.

7.3.7 Conduit Fitting

See Figure 7-7.

7.3.7.1 Fitting Removal

1. Turn CCR/AC Source Power OFF.
2. **For the L-804I:** Remove 10 fasteners from Cover (hold near back of L-804) and disconnect 2 Faston connectors from E1 and E2 on PWA and remove cover. **For the L-804V:** Remove wires from J1.
3. Remove Fastons from wire ends.
4. Loosen outer and inner locknuts on fitting.

**CAUTION**

When removing and replacing the electronics module, handle with care to avoid damage to discrete components that can be caused by electrostatic discharge.

5. Remove Ferrite Clampon from wires per 7.3.9.1.
6. Remove conduit fitting from cover, then pull wires from cable through the fitting.
7. Remove Cover Gasket.
7.3.7.2 Conduit Fitting Installation

1. Install Cover Gasket.
2. Route wires from connector cable through Flexible Conduit and Conduit Fittings.
3. Feed wires through conduit and install ferrite clampon per section 7.3.9.2.
4. **For the L-804I**: Install Fastons on wire ends.
5. Install Conduit Fitting on Cover.
6. **For the L-804I**: Position Cover close to Driver PWA and connect 2 Faston connectors to E1 and E2 on PWA. **For the L-804V**: Position Cover close to Driver PWA and connect wires to J1.
7. Position Cover on Housing and install 10 fasteners, then torque to 72 inch-lbs.
8. Perform Turn On and Checkout procedure per 4.3.4.

7.3.8 Tuff Seal* (Older/Legacy models Only)

See Figure 7-8.

7.3.8.1 Tuff Seal Removal

1. Turn CCR power OFF.
2. Remove 10 fasteners from Cover (hold near back of L-804) and disconnect 2 Faston connectors from E1 and E2 on PWA and remove cover.
When removing and replacing the electronics module, handle with care to avoid damage to discrete components that can be caused by electrostatic discharge.

3. Remove Ferrite clampon from wires per section 7.3.9.1.
4. Remove Fastons from wire ends and pull wires from connector cable through Tuff Seal.
5. Remove Tuff Seal from Cover.
6. Remove Cover Gasket.

7.3.8.2 Tuff Seal Installation

1. Install Cover Gasket.
2. Route wires from connector cable through Tuff Seal.
3. Install Fastons on wire ends.
4. Install Ferrite clampon per 7.3.9.2.
5. Install Tuff Seal on Cover, torque to 72 inch-lbs.
6. Position Cover close to Driver PWA and connect 2 Faston connectors to E1 and E2 on PWA.
7. Position Cover on Housing and install 10 fasteners, then torque to 72 inch-lbs.
8. Perform Turn On and Checkout procedure per 4.3.4.
7.3.9 Ferrite Clampon

See Figure 7-9.

7.3.9.1 Ferrite Clampon Removal (Current-Driven Version Only)

1. Remove 10 fasteners from Cover (hold near back of L-804) and remove cover. * Ignore this step for the voltage-driven version.
2. Unsnap and open Ferrite Clampon.
3. Remove Ferrite Clampon from the L-823 Power Cable.

![Figure 7-9 Ferrite Clamp-on](image)

7.3.9.2 Ferrite Clamp-on Installation

1. Open Ferrite Clamp-on and route the L-823 Power Cable as shown in Figure 7-9.
2. Snap Ferrite Clamp-on closed.
3. Position Cover on Housing and install 10 fasteners, then torque to 72 inch-lbs.

7.3.10 Power Cable, L-823

See Figure 7-10.
Current-Driven Version

7.3.10.1 L-823 Power Cable Removal

1. Remove housing cover (7.3.7.1).
2. Remove Fastons from wire ends.
3. Remove Ferrite clampon per section 7.3.9.1.
4. Loosen 6 fasteners on Hex Extension Tube.
5. Remove locking pin.
6. Lift L-804 off Frangible Coupling.
7. Unscrew Frangible Coupling from base.
8. Disconnect the L-823 Power Cable from connector in base can.
9. Remove 3 fasteners on Bottom Support to Hex Extension Tube.
10. Fully remove Hex extension tube from frame.
11. Pull the L-823 Power Cable through Flexible Conduit and Bottom Support.

Note: Fittings need to be completely removed for ease of installation.

Note: This assumes conduit, for non conduit install follow the instructions in 7.3.10.3 steps 7 through 9.

Figure 7-10 L-804 Power Cable, L-823
7.3.10.2 L-823 Power Cable Installation

1. Install Cover Gasket.
2. Route the L-823 Power Cable through Bottom Support and 90°
   Elbow Fitting.
3. Route bottom end of the L-823 Power Cable with L-823 connector
   through the Hex Extension Tube and Frangible Coupling.
4. Route top end of the L-823 Power Cable through Flexible Conduit
   used on Cover.
5. Route wire ends through fitting on housing cover.
6. Install Fastons on wire ends.
7. Install the Ferrite Clampon per 7.3.9.2.
8. Position Cover close to Driver PWA and connect 2 Faston
   connectors to E1 and E2 on PWA.
9. Position Cover on Housing and install 10 fasteners, then torque to 72
   inch-lbs.
10. Secure the frame to the Hex extension and Frangible coupling,
    temporarily, to feed the L-823 cable through.
11. Connect the male plug from the L-804 LED Elevated Runway Guard
    Light to the female plug on the secondary lead of the isolation
    transformer.
12. Install the Frangible Coupling to the base plate, torque to 70 ft.-lbs.
13. Hand tighten fasteners on the Hex extension tube to frangible
    coupling, and install the Locking Pin in the zero hole (DO NOT
    torque the fasteners at this time).
14. Snug the 3 Fasteners on the Bottom Support to the Hex Extension
    Tube, do not torque at this time.
15. Position the L-804 assembly with the Hex Extension (ensure the
    fasteners are backed out) on the Frangible Coupling.
16. Align the 0 position of the light (bottom hole of the positioning holes
    in the top of the Hex Extension Tube) with a line parallel to the
    taxiway centerline.
17. Torque the 6 fasteners on the bottom of the Hex Extension Tube to
    100 in.-lbs.
18. Align the L-804 LED Elevated Runway Guard Light to a line
    parallel to the runway and install the locking pin. Refer to 3.4.3.
19. Torque the 3 screws to 100 inch-lbs.
20. Perform Turn On and Checkout procedure per 4.3.4.

**Note:** This assumes conduit, for non conduit install follow the
instructions in 7.3.10.4 steps 7 through 9.
**Voltage-Driven Version**

### 7.3.10.3 L-823 Power Cable Removal *

1. Do removal procedure in 7.3.7.1 and 7.3.9.1.
2. Loosen 6 fasteners on Hex Extension Tube.
3. Remove locking pin.
4. Lift L-804 off Frangible Coupling.
5. Unscrew Frangible Coupling from base.
6. Disconnect the L-823 Power Cable from connector in base can.
7. Remove 3 fasteners on Bottom Support to Hex Extension Tube.
8. Remove Tuff Seal from Bottom Support.
9. Pull the L-823 Power Cable through Tuff Seal, Bottom Support, Frangible Coupling and Hex Extension Tube.

![Diagram of L-804 Power Cable, L-823](image)

Figure 7-11 L-804 Power Cable, L-823

### 7.3.10.4 L-823 Power Cable Installation *

1. Route the L-823 Power Cable through (Bottom Support) Tuff Seal.
2. Install Tuff Seal to Bottom Support.
3. Route bottom end of the L-823 Power Cable with L-823 connector through the Hex Extension Tube and Frangible Coupling.
4. Route top end of the L-823 Power Cable through Tuff Seal used on Cover.
5. Install Tuff Seal on Cover, torque to 72 inch-lbs.
6. Install Cover Gasket.
7. Position Cover close to Driver PWA and connect wires connectors to J1 on PWA.
8. Position Cover on Housing and install 10 fasteners, then torque to 72 inch-lbs.
9. Secure the frame to the Hex extension and Frangible coupling, temporarily, to feed the L-823 cable through.
10. Connect the male plug from the L-804 LED Elevated Runway Guard Light to the female plug on the secondary lead of the isolation transformer.
11. Install the Frangible Coupling to the base plate, torque to 70 ft.-lbs.
12. Hand tighten fasteners on the Hex extension tube to frangible coupling, and install the Locking Pin in the zero hole (DO NOT torque the fasteners at this time).
13. Snug the 3 Fasteners on the Bottom Support to the Hex Extension Tube, do not torque at this time.
14. Position the L-804 assembly with the Hex Extension (ensure the fasteners are backed out) on the Frangible Coupling.
15. Align the 0 position of the light (bottom hole of the positioning holes in the top of the Hex Extension Tube) with a line parallel to the taxiway centerline.
16. Torque the 6 fasteners on the bottom of the Hex Extension Tube to 100 in.-lbs.
17. Align the L-804 LED Elevated Runway Guard Light to a line parallel to the runway and install the locking pin. Refer to 3.4.3.
18. Torque the 3 screws to 100 inch-lbs.
19. Perform Turn On and Checkout procedure per 4.3.4.

7.3.11 Steel Tether

See Figure 7-12.

7.3.11.1 Steel Tether Removal

1. Turn CCR/AC Source Power OFF.
2. Remove nut and washer on bottom side of L-804 where Steel Tether is attached.
3. Remove fastener where the Steel Tether is attached to the base can.
4. Remove Steel Tether.
7.3.11.2 Steel Tether Installation

1. Install fastener through one end of the Steel Tether to the base can and torque to 30 ft.-lbs.
2. Install the washer on the bottom side of the L-804 and install the other end of the tether on the bolt and torque to 30 ft.-lbs.
3. Turn CCR power ON.
8. PARTS

8.1 Introduction

This section of the manual contains the source data of all electrical and selected mechanical replacement parts of the L-804 LED Elevated Runway Guard Light, shown in Figure 8-1 and Figure 8-2. Refer to Table 8-1 and Table 8-2 for part description and part numbers.

8.2 Ordering Information

Use the part numbering scheme in 8.2.1 to order the fixtures and the information in Table 8-2 to order renewal parts.

8.2.1 L-804 LED Elevated Runway Guard Light

![Table 1](image)
Figure 8-1 L-804 LED Elevated Runway Guard Light
Figure 8-2 L-804 LED Elevated Runway Guard Light (Break-Out Views)
Table 8-1 L-804 LED Elevated RGL - Reference Parts

<table>
<thead>
<tr>
<th>Item</th>
<th>Part Name/Description</th>
<th>Part Number</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Figure 8-1 &amp; Figure 8-2</td>
<td>L-804 LED Elevated Runway Guard Light</td>
<td>See para 8.2.1</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>L-804 Support Frame Assembly</td>
<td>A3-06-3144-001</td>
<td>Not Procurable</td>
</tr>
<tr>
<td>1a</td>
<td>Support Frame, L-804</td>
<td>A1-17-1099-001</td>
<td>Not Procurable</td>
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<tr>
<td>1b</td>
<td>Bottom Support, L-804</td>
<td>A1-17-1096-001</td>
<td>Not Procurable</td>
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<tr>
<td>1c</td>
<td>Conduit Fitting, Liquid-Tight, 90° Elbow</td>
<td>A1-05-0588-002</td>
<td>Part of Kit</td>
</tr>
<tr>
<td>1d</td>
<td>Tether, Steel (not shown)</td>
<td>A1-05-0593-001</td>
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<tr>
<td>1e</td>
<td>Power Cable, L-823 (not shown)</td>
<td>10518-101-001</td>
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<td>1e2</td>
<td>Power Cable, 5-Pin (not shown – Monitor Option only)</td>
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<tr>
<td>1e3</td>
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<td>2</td>
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<tr>
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<td>Light Engine Assembly, L-804</td>
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<td>Part of Kit</td>
</tr>
<tr>
<td>2c</td>
<td>Conduit Fitting, Liquid-Tight, Straight</td>
<td>A1-05-0588-003</td>
<td>Part of Kit</td>
</tr>
<tr>
<td>2d</td>
<td>Faston, Connector (not shown)</td>
<td>A1-03-0260-001</td>
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<tr>
<td>2e</td>
<td>Cover, L-804</td>
<td>A1-17-1103-001</td>
<td>Part of Kit</td>
</tr>
<tr>
<td>2f</td>
<td>Housing, Casting, L-804 Current</td>
<td>A1-17-1107-001</td>
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<tr>
<td>2g</td>
<td>Gasket, Lens, L-804</td>
<td>A1-25-0100-001</td>
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<td>2h</td>
<td>Cover Gasket, L-804</td>
<td>A1-25-0103-001</td>
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<td>2i</td>
<td>Clear Lens, L-804</td>
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<tr>
<td>2j</td>
<td>Front Plate, L-804</td>
<td>A1-17-1102-001</td>
<td>Part of Kit</td>
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<td>2k</td>
<td>Insulator, LED, L-804</td>
<td>A2-12-0009-001</td>
<td>Part of Kit</td>
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<tr>
<td>2l</td>
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<td>A3-07-1122-001</td>
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<td>PWA Driver, L-804 Voltage</td>
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<tr>
<td>2o</td>
<td>Flexible Conduit, Liquid-Tight</td>
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<tr>
<td>3</td>
<td>Quick Release Locking Pin, w/Lanyard</td>
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<tr>
<td>4</td>
<td>Frangible Coupling</td>
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<td>5</td>
<td>Visor, L-804</td>
<td>A1-16-0362-002</td>
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<td>6</td>
<td>Hex Extension Tube</td>
<td>A1-17-1108-001</td>
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Table 8-2 L-804 LED Elevated RGL - Renewal Parts/Spares

<table>
<thead>
<tr>
<th>Item</th>
<th>Part Name/Description</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Figure 8-1 &amp; Figure 8-2</td>
<td>L-804 LED Elevated Runway Guard Light</td>
<td>See para 8.2.1</td>
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<tr>
<td>1d</td>
<td>Tether, Steel</td>
<td>A1-05-0593-001</td>
</tr>
<tr>
<td>3</td>
<td>Quick Release Locking Pin, w/Lanyard</td>
<td>A1-05-0571-001</td>
</tr>
<tr>
<td>4</td>
<td>Frangible Coupling</td>
<td>A1-17-1097-001</td>
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<td>Power Cable, 2-pin, Female, L-823 (for Voltage-Driven, Non-Monitoring) Installs in the can</td>
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<td>Power Cable, L-823 (Voltage-Driven)</td>
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<td>Power Cable, L-823 (Current-Driven)</td>
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<td>Power Cable, 5-pin (for Monitoring Option)</td>
<td>A2-17-0027-002</td>
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<td></td>
<td>Power Cable, 5-pin Adapter (for Monitoring Option) In Can</td>
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