L-852T OMNI DIRECTIONAL TAXIWAY IN-PAVEMENT LIGHT

ETL Certified to FAA Specifications
AC 150/5345-46D
and FAA LED Performance Specifications per Engineering Brief 67

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### Record Of Changes

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Warranty

Astronics DME Corporation 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, which ever occurs first.

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

Astronics DME Corporation 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 way, in Astronics DME’s judgment, as to affect the product adversely will not be covered under warranty.

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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.

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Customers must obtain a Return Material Authorization (RMA) Number (and identify equipment with this number before returning material) from:

Rick Kimmell (Astronics DME Corporation Customer Product Support)
6830 NW 16th Terrace, Fort Lauderdale, FL 33309
DMECPS@astronics.com
(954) 975-2123

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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. Always remove power prior to making any wire connections and touching any parts.

- Refer to FAA Advisory Circular AC 150/5340-26.

- 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 personnel 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 Corporation 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 Corporation 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.
- 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.

CAUTION

May result in damage to equipment.

NOTE

Informational guidance.
• 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 they will not be damaged by moving equipment.

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 its 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 Corporation 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.
2. DESCRIPTION

2.1 Introduction

This section describes the Astronics DME Corporation L-852T Taxiway In-Pavement Light Emitting Diode (LED) lights.

This section describes the Astronics DME Corporation L-852T Taxiway In-Pavement Light Emitting Diode (LED) light.

The L-8521T Taxiway In-Pavement LED light is used to delineate the edges of airport taxiways and aprons.

This elevated light is Class 1 (Direct-mounted fixtures), Mode 1 (Constant Current fixture, supplied 6.6 amperes (A)), Style 3 (The style designation applies only to in-pavement fixtures and describes the total height above finished grade (X) where $X \leq 1/4\text{ inch}$ ) and are Intertek Testing Services certified according to FAA specification AC 150/5345-46D, and FAA LED specifications.

The Astronics DME Corporation L-852T is an omni-directional light available in aviation blue. See Figure 2-1.

![Figure 2-1 L-852T Taxiway In-Pavement LED Light](image)
2.2 Equipment Description

The major components of the L-852T Taxiway In-Pavement LED Light are shown in Figure 2-2.

Figure 2-2 L-852T - Exploded View
2.3 Equipment Specification Data

Table 2-1 through Table 2-6 illustrates pertinent reference data on the L-852T Taxiway In-Pavement LED Lights. 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 Corporation.

2.3.1 Functional Characteristics

Table 2-1 lists the functional characteristics of the L-852T Taxiway In-Pavement LED Light.

<table>
<thead>
<tr>
<th>Condition</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power Consumption:</td>
<td></td>
</tr>
<tr>
<td>852T</td>
<td></td>
</tr>
<tr>
<td>Without Heater</td>
<td>&lt;8.5VA</td>
</tr>
<tr>
<td>With Heater</td>
<td>&lt;19VA</td>
</tr>
<tr>
<td>Optics</td>
<td></td>
</tr>
<tr>
<td>852T</td>
<td>1 high power Blue LED with optically matched glass lens</td>
</tr>
<tr>
<td>Weight</td>
<td>~ 10.2 lbs</td>
</tr>
<tr>
<td>Dimensions</td>
<td></td>
</tr>
<tr>
<td>Height (Depth)</td>
<td>4.72 inches</td>
</tr>
<tr>
<td>Outer Diameter</td>
<td>11.94 inches</td>
</tr>
<tr>
<td>Bolt-Circle Diameter</td>
<td>11.25 and 10.25 inches</td>
</tr>
<tr>
<td>Total Harmonic Distortion (THD)</td>
<td>&lt; 1.1%</td>
</tr>
<tr>
<td>Arctic Kit</td>
<td>Optional - Turns on at ~0°C and turns off at 25°C</td>
</tr>
</tbody>
</table>
2.3.2 Photometric Data

Table 2-2 lists the photometric data for the L-852T Taxiway In-Pavement LED Light.

<table>
<thead>
<tr>
<th>Color</th>
<th>Light Source</th>
<th>Measured Peak Intensity (candels)</th>
</tr>
</thead>
<tbody>
<tr>
<td>L-852T Blue</td>
<td>1.1 watt LED</td>
<td>1 to 6 Vertically: 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>15 to 90 Vertically: 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>360 Horizontally: 2</td>
</tr>
</tbody>
</table>

Table 2-3 3 Step CCR

<table>
<thead>
<tr>
<th>CCR Current (amps)</th>
<th>0 Degree Brightness Level (CD)</th>
<th>% of Max. Brightness</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.6</td>
<td>&gt;12</td>
<td>N/A</td>
</tr>
<tr>
<td>5.5</td>
<td>≅5.4</td>
<td>40 (FAA Requirement 30-51)</td>
</tr>
<tr>
<td>4.8</td>
<td>≅2.0</td>
<td>15 (FAA Requirement 10-19)</td>
</tr>
</tbody>
</table>

2.3.3 External Power Requirements

Table 2-4 lists the external power requirements of the L-852T Taxiway In-Pavement LED Light.

<table>
<thead>
<tr>
<th>Input</th>
<th>Power</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current Control Regulator (CCR)</td>
<td>3 Step 4.8A, 5.5A or 6.6A</td>
</tr>
</tbody>
</table>

2.3.4 Environmental Characteristics

Table 2-5 lists the environmental characteristics of the L-852T Taxiway In-Pavement LED 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>-66°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>N/A</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 2-6 lists the mechanical characteristics of the L-852T Taxiway In-Pavement LED Light.

<table>
<thead>
<tr>
<th>Condition</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>In-Pavement Lights - Top Surface</td>
<td>The slope of the top surface of the light fixture, which protrudes above finish grade, is less than 20 degrees (recesses excepted).</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 2-7 lists the equipment and accessories supplied for the L-852T Taxiway In-Pavement LED Light.

<table>
<thead>
<tr>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>L-852T Taxiway In-Pavement LED Light</td>
<td>As Required</td>
</tr>
<tr>
<td>Installation and Maintenance Manual - Y3-01-0162</td>
<td>1 (with each order)</td>
</tr>
</tbody>
</table>

2.3.7 Equipment Required - Not Supplied

Table 2-8 and Table 2-9 list the equipment and accessories required but not supplied for the L-852T Taxiway In-Pavement LED Light.

<table>
<thead>
<tr>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base Can - L-868-2 (Load Bearing Type)</td>
<td>1</td>
</tr>
<tr>
<td>Isolation transformer for series circuit - L-830 or L-831</td>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Circuit</th>
<th>Transformer</th>
<th>Without Arctic Kit</th>
<th>Arctic Kit Installed</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.6 A, 60Hz, series circuit</td>
<td>L-830-16 (10/15W)</td>
<td>852T</td>
<td>852T</td>
</tr>
<tr>
<td>6.6 A, 60Hz, series circuit</td>
<td>L-830-17 (20/25W)</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>6.6 A, 50Hz, series circuit</td>
<td>L-831-1 (30/45W)</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>20 A/6.6 A, 50 Hz series circuit</td>
<td>L-831-2 (30/45W)</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>
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3. INSTALLATION

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

3.1 Introduction

This section of the manual contains general instructions for installation of an L-852T Taxiway In-Pavement LED Light at a typical site. Refer to the airport project plans and specifications for the 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 contents and their condition. Note any exterior damage to the carton that may lead to detection of equipment damage.

3.3 Placement

This subsection describes the placement of the L-852 T Taxiway In-Pavement LED Light fixture. Follow the guidelines below, along with FAA specifications and site plans, when placing the light fixture.

3.4 Installation

This subsection provides installation instruction for the L-852 T Taxiway In-Pavement LED Light. See Figure 3-1.
Figure 3-1 L-852T Installation (Typical)

Light Detail Notes:

1. Light bases shall be installed with care to assure vertical & proper alignment of fixture.

2. Provide 2-2' cable slack within light base to allow transformer servicing.

3. Bolts and washers used during installation of base, cable and transformer shall be replaced with neoprene. For final installation, ensure threads engagement onto top flange of base is tight.

4. As required to maintain +0-1/8" below grade FAA installation tolerance, a maximum of three spacer rings may be stacked together.

Parallel with main/secondary centerline (if applicable) (verify exact base alignment).
4. OPERATION

4.1 Introduction

This section of the manual describes the operational aspects of the L-852T Taxiway In-Pavement LED Lights. The following paragraphs outline the details on controls, indicators, and system operation. Turn-on and turn-off operations are described, along with notes regarding safety hazards, where necessary.

4.2 Modes of Operation

The L-852T Taxiway In-Pavement LED Light is configured for 3 Step 6.6A Constant Current Regulators (CCRs).

4.3 Brightness Settings

Set the CCR to the desired brightness level.

4.4 Turn On And Checkout Procedure

Turn on the lights using the CCR.

4.5 Operating Modes

The L-852T Taxiway In-Pavement LED Lights will automatically switch between intensities depending upon the current from the CCR. There is no user interface to control light intensities.

4.6 Checkout

To checkout L-852T Taxiway In-Pavement LED Lights, turn on the CCR, step through the brightness levels, and observe intensity change on lights.

4.7 Equipment Shutdown

Turn the equipment off the lights by turning off the CCR.
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5. MAINTENANCE

5.1 Introduction

This section of the manual lists the maintenance tasks required for the L-852T Taxiway In-Pavement LED Light. This includes performance checks, on-site maintenance, and off-site maintenance. The performance checks and 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-852T Taxiway In-Pavement LED Light operating efficiently, follow a preventive maintenance schedule. Refer to FAA AC 150/5340-26 for more detailed information.

<table>
<thead>
<tr>
<th>Interval</th>
<th>Task</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>As Req’d</td>
<td>Check Lens for obstructions</td>
<td>Clean Lens</td>
</tr>
<tr>
<td>Weekly</td>
<td>Check for Rubber and other contaminant deposits on the lens</td>
<td>Clean lens</td>
</tr>
<tr>
<td>Bi-Monthly</td>
<td>Check Bolt Torque</td>
<td>The torque of the bolts attaching the light to its base should be checked - 36in/lbs.</td>
</tr>
<tr>
<td>Semi-Annually</td>
<td>Check the shallow base installations for the presence of water</td>
<td>Any water should be removed and the base should be sealed to prevent its reentry.</td>
</tr>
<tr>
<td>Unscheduled</td>
<td>Make prediction of heavy snowfall, if necessary</td>
<td>Use red flags or sticks to mark location of fixtures to facilitate snow removal and less chance of damage to fixtures</td>
</tr>
</tbody>
</table>
6. TROUBLESHOOTING

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-852T Taxiway In-Pavement LED 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
- Cover Puller and Eyebolts
- Multi-meter

6.3 Troubleshooting Procedures

The L-852T Taxiway In-Pavement LED 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

<table>
<thead>
<tr>
<th>Problem</th>
<th>Possible Cause</th>
<th>Corrective Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>LED(s) not lighting</td>
<td>Defective LED</td>
<td>Replace LED PWA</td>
</tr>
<tr>
<td></td>
<td>Defective Driver PWA</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Loose wire connection</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Deteriorated wire insulation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Internal components wired incorrectly</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Check voltage from Driver PWA across J1 using an oscilloscope. When fixture is</td>
</tr>
<tr>
<td></td>
<td></td>
<td>powered and the LED PWA is connected, a PWM signal should be observed at J1.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tighten wire connections.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Replace wires.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ensure components are connected per 7.3.24.</td>
</tr>
<tr>
<td>LED too dim</td>
<td>Dirty lens</td>
<td>Clean lens</td>
</tr>
<tr>
<td></td>
<td>Service life of LED exceeded</td>
<td>Replace LED PWA</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ice forming on lens (Optional Arctic Kit</td>
<td>Defective arctic kit (Heater PWA) or</td>
<td>Disconnect J1 from Heater; leave other end connected to Driver PWA. Power the unit</td>
</tr>
<tr>
<td>Installed)</td>
<td>Heater</td>
<td>and measure the voltage across Pins 1 and 2 on the loose end of the cable. If 5VDC</td>
</tr>
<tr>
<td></td>
<td></td>
<td>present replace Heater PWA, if no voltage present, replace Driver PWA.</td>
</tr>
<tr>
<td>Water/Excessive Moisture in 852 Light</td>
<td>Defective O-Ring</td>
<td>Replace O-Ring</td>
</tr>
<tr>
<td>Fixture</td>
<td>Teflon tape worn/not properly installed</td>
<td>Replace Teflon tape.</td>
</tr>
</tbody>
</table>
7. REPAIR

7.1 Introduction
This section of the manual provides maintenance personnel with step-by-step procedures for performing the maintenance procedures. It also lists the maintenance tasks required for the L-852T Taxiway In-Pavement LED Light.

7.2 Repair Procedures
These procedures consist of the procedures required for testing, measuring, aligning, and repairing the L-852T Taxiway In-Pavement LED 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-852T Taxiway In-Pavement LED Light to verify LEDs are on.
2. Visually inspect each L-852T Taxiway In-Pavement LED Light for obvious damage.

7.3 Maintenance
The following maintenance procedures are those required to perform the maintenance tasks listed in Section 5.

7.3.1 Line-of-Sight Inspection
1. Visually inspect the lights for obstructions.
2. Refer to FAA specification AC 150/5340-24 for visibility requirements.

7.3.2 Lens and Cover Cleaning and Inspection
1. Inspect the lens, cover, and other visible parts for rubber build-up, moisture, dirt, etc.
2. Clean the outer lens.
3. Replace any damaged parts.

7.3.3 Removing 852 Light Fixture From Base Can
1. Shut off CCR.
2. Remove six (6) bolts, washers, and lockwashers from cover. See Figure 7-1.
3. If required to pull 852 light fixture out of the base can, install two (2) eyebolt screws into the two (2) threaded holes on the cover, insert a bar through the eyebolts, and lift the light fixture out of the base can with the lifting bar. See Figure 7-2.
High Voltage may be present from the Isolation Transformer and arcing may occur if the plug is disconnected without shutting off power first. Ensure power from CCR to Isolation Transformer is OFF.

4. Disconnect the 852 light fixture plug from the isolation transformer in the base can.

Figure 7-1 Removal/Installation of 852 Fixture From Base Can
7.3.4 Access To Internal Components

1. See Figure 7-3. Remove 852 light fixture from base can per 7.3.3.

   **CAUTION**

   ESD practices must be followed when any maintenance is performed on the internal components of the 852 light fixture.

   **CAUTION**

   Use caution when placing the light fixture upside down as not to damage the lens on the top of the casting.

2. Place 852 light fixture upside down on a clean dry surface that will not damage the lens on top of the casting.

3. Remove six (6) bolts, washers, and lockwashers connecting base casting to cover.
The connectors must be disconnected from the LED PWA to the Driver PWA and Heater (if installed) when separating the Cover from the Base Casting. There is enough service loop wire to place the Cover and Base Casting along side each other.

4. Separate Cover from Base Casting.
5. Disconnect LED PWA and Heater (if installed) connectors from Driver PWA.

Figure 7-3 Access To Internal Components

7.3.5 Cover O-Ring Removal

1. Gain access to internal components per 7.3.4.
2. Remove O-Ring from channel in Cover. See Figure 7-4.
7.3.6 **Heater (Arctic Kit) Removal (If installed)**

1. Gain access to internal components per 7.3.4.
2. Remove (peel) heater strip from around LED Mount Plate. See Figure 7-4.

7.3.7 **LED Mount Plate and Spacer Removal**

1. Gain access to internal components per 7.3.4.
2. Remove Heater (Arctic Kit) if installed per 7.3.6.
3. Remove six (6) bolts, washers, and lockwashers and remove LED Mount Plate and Spacer from Cover. See Figure 7-4.

7.3.8 **LED PWA Removal**

1. Remove LED Mount Plate per 7.3.7.
2. Remove connector ends from LED PWA wires.
3. Remove two (2) screws from LED PWA and remove PWA from Mount Plate (pull wires through LED Mount Plate). See Figure 7-5.
7.3.9 Prism and Prism Seal Removal

1. Remove LED Mount Plate per 7.3.7.
2. Push Prism and Prism Seal from top of Cover to remove. See Figure 7-6.

7.3.10 Driver PWA and Transformer Removal

1. Gain access to internal components per 7.3.4.
2. Disconnect two (2) wires coming from Isolation Transformer plug to the Driver PWA. See Figure 7-7.
3. Disconnect connector from Heater (if installed).
4. Remove two (2) mounting screws, washers, and lockwashers from Transformer mounting bracket.
5. Remove two (2) mounting screws, washers, and lockwashers from Driver PWA mounting bracket and remove Driver PWA (with mounting bracket) and Transformer as an assembly.

Figure 7-7 Base Casting Components - L-852T

7.3.11 852 Heater PWA Removal

1. Gain access to internal components per 7.3.4.
2. Disconnect connectors from the Driver PWA. See Figure 7-7.
3. Remove four (4) mounting screws, washers, and lockwashers from Heater PWA and remove Heater PWA.
7.3.12 2 Hole Tuff Seal Removal (with Taxiway/Edge Light wire)

1. Gain access to internal components per 7.3.4.
2. Disconnect two (2) wires coming from Isolation Transformer plug to the Driver PWA. See Figure 7-7 and Figure 7-8.
3. Unscrew Plug from Base Casting and remove.

7.3.13 Air Schrader Valve Removal

1. Do steps 1 and 2 of 7.3.4.
2. Unscrew Air Schrader Valve from Base Casting and remove. See Figure 7-8.

7.3.14 Installation Of And Closing Access To Internal Components

The below paragraphs describe the installation of the internal components and installing the light fixture into the base can.

7.3.15 Air Schrader Valve Installation

See Figure 7-8.

1. Wrap threaded end of the Air Schrader Valve with Teflon tape.
2. Install Air Schrader Valve Plug into Base Casting and torque to 20 in. lbs.
3. If other component(s) were removed, install component(s) per appropriate procedure.
4. If no other component(s) were removed, and Cover and Base Casting were not separated, do 7.3.25.
5. Install Cover onto Base Casting per 7.3.24.

7.3.16 2 Hole Tuff Seal Installation (with Taxiway/Edge Light wire)

See Figure 7-7 and Figure 7-8.

1. Wrap threaded end of 2 Hole Tuff Seal with Teflon tape.
2. Feed wire into Base Casting.
3. Install Plug into Base Casting. Tighten hand tight, then ¼ turn.
4. If other component(s) were removed, install component(s) per appropriate procedure.
5. If no other component(s) were removed, install Cover onto Base Casting per 7.3.24.

7.3.17 852 Heater PWA Installation

See Figure 7-7.

1. Position Heater PWA in Base Casting and install four (4) mounting screws, washers, and lockwashers from Heater PWA and install Heater PWA.
2. Torque screws to 5 inch pounds.
3. If other component(s) were removed, install component(s) per appropriate procedure.
4. If no other component(s) were removed, install Cover onto Base Casting per 7.3.24.

7.3.18 Driver PWA and Transformer Installation

See Figure 7-7.

1. Position Driver PWA (with mounting bracket) and Transformer, in Base Casting. Install two (2) mounting screws, washers, and lockwashers on Driver PWA mounting bracket, torque screws to 18 inch pounds. Install two (2) mounting screws, washers, and lockwashers on transformer bracket, torque screws to 18 inch pounds
2. If other component(s) were removed, install component(s) per appropriate procedure.
3. If no other component(s) were removed, install Cover onto Base Casting per 7.3.24.
7.3.19  Prism and Prism Seal Installation

See Figure 7-6.

1. Coat Prism Seal with light coat of soapy water and insert Prism into Prism Seal.
2. Insert Prism and Prism Seal into Cover. Ensure Prism Seal is even around the top edge of the Cover.
3. Install LED Mount Plate per 7.3.21.

7.3.20  LED PWA Installation

See Figure 7-5 and Figure 7-9.

1. Install wires from LED PWA through hole in LED Mount Plate.
2. Install connector on LED PWA wires.
3. Position LED PWA on LED Mount Plate and install two (2) screws.
4. Torque screws to 3 inch pounds.
5. Install LED Mount Plate per 7.3.21.

![Figure 7-9 LED PWA, LED Mount Plate, and Spacer](image)

7.3.21  LED Mount Plate and Spacer Installation

1. Install Spacer on LED Mount Plate and position LED Mount Plate on Cover. Install six (6) bolts, washers, and lockwashers See Figure 7-4.
2. Torque bolts to 20 inch pounds using a ‘star’ pattern.
3. If other component(s) were removed, install component(s) per appropriate procedure.
4. If no other component(s) were removed, install Cover onto Base Casting per 7.3.24.
7.3.22 Heater (Arctic Kit) Installation (If installed)

See Figure 7-4.

1. Apply epoxy adhesive (3M, DP460NS or equivalent) to inside band of heater.
2. Position Heater on LED Plate as shown in Figure 7-4 and let adhesive cure for 12 hours.
3. Install Cover onto Base Casting per 7.3.24.

7.3.23 Cover O-Ring Installation

See Figure 7-4.

1. Position O-Ring into channel in Cover (a light coating of silicone grease may be used on the seal to hold the O-Ring in place and for conditioning).
2. If other component(s) were removed, install component(s) per appropriate procedure.
3. If no other component(s) were removed, install Cover onto Base Casting per 7.3.24.

7.3.24 Installing Cover Onto Base Casting

See Figure 7-3.

**CAUTION**

ESD practices must be followed when any maintenance is performed on the internal components of the 852 Light Fixture.

**CAUTION**

Use caution when placing the light fixture upside down as not to damage the lens on the top of the casting.

**CAUTION**

Ensure the service loop wire [from the Light Engine Assy to the Driver PWA and Heater (if installed)] is not pinched between the Cover and Base Casting.
1. Place 852 Cover upside down on a clean dry surface that will not damage the lens on top of the casting.

   Connections of all components are detailed below although all components and wiring may not have been disconnected to perform maintenance. Use only steps needed below to connect components and verify other components are connected properly.

2. If Heater (Arctic Kit) installed do the following steps, if no Heater installed go to Step 3.
   a. Connect LED PWA connector P1 to J1 on Driver PWA.
   b. Connect one connector from the L832 cable to E1 on the Driver PWA and connect the other connector to E1 on the Heater PWA.
   c. Connect cable from E2 on the Driver PWA to E2 on the Heater PWA.
   d. Connect the 2 wire-3 pin Connector cable from J2 on the Driver PWA to J1 on the Heater PWA.
   e. Connect P1 and P2 from Heater to E3 and E4 on the Heater PWA.
   f. Go to Step 4.

3. If Heater (Arctic Kit) is NOT installed, do the following steps.
   a. Connect LED PWA connector P1 to J1 on Driver PWA.
   b. Connect Connectors from the L832 cable to E1 and E2 on the Driver PWA.
   c. Go to Step 4.

4. Position the Cover on the Base Casting.
5. Install six (6) bolts, washers, and lockwashers securing base casting to cover.
6. Torque bolts to 36 inch pounds using a ‘star’ pattern
7. Do leak check per 7.3.25.
8. Install 852 light fixture in base can per 7.3.26.

7.3.25 852 Light Fixture Leak Check

After any maintenance on the fixture and prior to installation of the fixture into the base can, perform the leak check using the below steps.

1. Remove Air Schrader Valve cap.
2. Connect air source (nitrogen preferred or clean dry air) to the Air Schrader Valve and pressurize to 20 ±0.5 PSI. Disconnect air source.
3. Install Air Schrader Valve cap, torque finger tight.
4. Immerse fixture completely under a container filled with water and check for leaks.
7.3.26 Installing 852 Light Fixture Into Base Can

1. Ensure CCR is OFF.

WARNING

High Voltage may be present from the Isolation Transformer and arcing may occur if the plug is connected without shutting off power first. Ensure power from CCR to Isolation Transformer is OFF.

2. Connect the 852 light fixture plug to the isolation transformer in the base can. See Figure 7-1.
3. Ensure the light is positioned correctly in relationship to the runway.
4. Install six (6) bolts, washers, and lockwashers on cover to the base can.
5. Turn on CCR and perform check per 4.4.
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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-852T Taxiway In-Pavement LED Light, shown in Table 8-1. Kit parts are shown in Table 8-2.

8.2 Name of Part and Description

A brief electrical or mechanical description of each component is given in this column.

8.3 Part Number

This column gives the designation assigned to a component.

8.4 Ordering Information

Use the part numbering scheme in 8.4.1 to order the fixtures and the information in Table 8-1 through Table 8-2 to order components.

8.4.1 L-852T Taxiway In-Pavement LED Light Fixture

```
852T - L - X

<table>
<thead>
<tr>
<th>Fixture Type</th>
<th>LED</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>11.25” Mounting Bolt Circle</td>
</tr>
<tr>
<td>1</td>
<td>Arctic Kit - 11.25” Mounting Bolt Circle</td>
</tr>
<tr>
<td>2</td>
<td>No Arctic Kit - 10.25” Mounting Bolt Circle</td>
</tr>
<tr>
<td>3</td>
<td>Arctic Kit - 10.25” Mounting Bolt Circle</td>
</tr>
</tbody>
</table>
```
Figure 8-1 L-852T Taxiway In-Pavement LED Light
Table 8-1 L-852T Parts List

Note: The following components and their part numbers are shown for reference only. Table 8-2 lists the only parts available for purchase.

<table>
<thead>
<tr>
<th>Figure/Item</th>
<th>Part Name/Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table 8-1</td>
<td>L-852T Taxiway In-Pavement LED Light</td>
</tr>
<tr>
<td>Item 1</td>
<td>Cover, 852 Omni Casting</td>
</tr>
<tr>
<td></td>
<td>11.25” Mounting Bolt Circle</td>
</tr>
<tr>
<td></td>
<td>10.25” Mounting Bolt Circle</td>
</tr>
<tr>
<td>Item 2</td>
<td>O-Ring, EPDM 8-3/8 OD x 8 ID X 3/16</td>
</tr>
<tr>
<td>Item 3</td>
<td>Seal, Rubber, Prism, 852 Omni</td>
</tr>
<tr>
<td>Item 4</td>
<td>Prism, 852 Omni</td>
</tr>
<tr>
<td>Item 5</td>
<td>Spacer, 852 Omni</td>
</tr>
<tr>
<td>Item 6</td>
<td>PWA, LED, 852T</td>
</tr>
<tr>
<td>Item 7</td>
<td>Plate, LED Mount</td>
</tr>
<tr>
<td>Item 8</td>
<td>Heater</td>
</tr>
<tr>
<td>Item 9</td>
<td>PWA, Driver, In-Pavement, 852</td>
</tr>
<tr>
<td>Item 10</td>
<td>PWA, Heater, 852T</td>
</tr>
<tr>
<td>Item 11</td>
<td>Base, 852 Casting</td>
</tr>
<tr>
<td>Item 12</td>
<td>Valve, Air, Schrader, 1/8</td>
</tr>
<tr>
<td>Item 13</td>
<td>Tuff Seal, RSR Series, 2 Hole</td>
</tr>
<tr>
<td>Item 14</td>
<td>Transformer</td>
</tr>
<tr>
<td>Item 15</td>
<td>Bracket, Board Mnt, L852</td>
</tr>
<tr>
<td>Item 16</td>
<td>Cable (L-823)</td>
</tr>
</tbody>
</table>
## Table 8-2 L-852T Renewal Parts

<table>
<thead>
<tr>
<th>Used On</th>
<th>Part Name/Description</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Figure 8-1</td>
<td>L-852T Taxiway In-Pavement LED Light</td>
<td>See paragraph 8.4.1</td>
</tr>
</tbody>
</table>
| 852T    | Replacement Kit, Cable 852  
Includes Cable (16), O-Ring (2), Tuff Seal 2 Hole (13), and Connectors              | K1-02-0003-001       |
| 852T    | Prism Assy  
Includes Prism (4), Seal (3), O-Ring (2), and Spacer (5)                           | K1-02-0004-001       |
| 852T    | LED PWA, 852T  
Includes LED PWA (6), Mount Plate (7), Spacer (5), Screws, Washers, and O-Ring (2) | K1-02-0005-002       |
| 852T    | Valve, Air, Schrader, 1/8 (12)                                                       | A1-05-0553-001       |