



L-852N (Navy) LED and Incandescent, Type VII and VIII

Spare Parts

SP_2080, Rev. B, 2024/01/15

ADB 
SAFEGATE

A.0 Disclaimer / Standard Warranty

CE certification

The equipment listed as CE certified means that the product complies with the essential requirements concerning safety and hygiene. The European directives that have been taken into consideration in the design are available on written request to ADB SAFEGATE.

ETL certification

The equipment listed as ETL certified means that the product complies with the essential requirements concerning safety and C22.2 No.180:13 (R2018) regulations. The CSA directives that have been taken into consideration in the design are available on written request to ADB SAFEGATE.

All Products Guarantee

ADB SAFEGATE will correct by repair or replacement per the applicable guarantee below, at its option, equipment or parts which fail because of mechanical, electrical or physical defects, provided that the goods have been properly handled and stored prior to installation, properly installed and properly operated after installation, and provided further that Buyer gives ADB SAFEGATE written notice of such defects after delivery of the goods to Buyer. Refer to the Safety section for more information on Material Handling Precautions and Storage precautions that must be followed.

ADB SAFEGATE reserves the right to examine goods upon which a claim is made. Said goods must be presented in the same condition as when the defect therein was discovered. ADB SAFEGATE further reserves the right to require the return of such goods to establish any claim.

ADB SAFEGATE's obligation under this guarantee is limited to making repair or replacement within a reasonable time after receipt of such written notice and does not include any other costs such as the cost of removal of defective part, installation of repaired product, labor or consequential damages of any kind, the exclusive remedy being to require such new parts to be furnished.

ADB SAFEGATE's liability under no circumstances will exceed the contract price of goods claimed to be defective. Any returns under this guarantee are to be on a transportation charges prepaid basis. For products not manufactured by, but sold by ADB SAFEGATE, warranty is limited to that extended by the original manufacturer. This is ADB SAFEGATE's sole guarantee and warranty with respect to the goods; there are no express warranties or warranties of fitness for any particular purpose or any implied warranties of fitness for any particular purpose or any implied warranties other than those made expressly herein. All such warranties being expressly disclaimed.

Standard Products Guarantee

Products manufactured by ADB SAFEGATE are guaranteed against mechanical, electrical, and physical defects (excluding lamps) which may occur during proper and normal use for a period of two years from the date of ex-works delivery, and are guaranteed to be merchantable and fit for the ordinary purposes for which such products are made.



Note

See your applicable sales agreement for a complete warranty description.

Replaced or repaired equipment under warranty falls into the warranty of the original delivery. No new warranty period is started for these replaced or repaired products.

FAA Certified products manufactured by ADB SAFEGATE

ADB SAFEGATE L858 Airfield Guidance Signs are warranted against mechanical and physical defects in design or manufacture for a period of 2 years from date of installation, per FAA AC 150/5345-44 (applicable edition).

ADB SAFEGATE LED products (with the exception of obstruction lighting) are warranted against electrical defects in design or manufacture of the LED or LED specific circuitry for a period of 4 years from date of installation, per FAA EB67 (applicable edition). These FAA certified constant current (series) powered LED products must be installed, interfaced and powered with and through products certified under the FAA Airfield Lighting Equipment Program (ALECP) to be included in this 4 (four) year warranty. This includes, but is not limited to, interface with products such as Base Cans, Isolation Transformers, Connectors, Wiring, and Constant Current Regulators.



Note

See your sales order contract for a complete warranty description.

Replaced or repaired equipment under warranty falls into the warranty of the original delivery. No new warranty period is started for these replaced or repaired products.

Liability



WARNING

Use of the equipment in ways other than described in the catalog leaflet and the manual may result in personal injury, death, or property and equipment damage. Use this equipment only as described in the manual.

ADB SAFEGATE cannot be held responsible for injuries or damages resulting from non-standard, unintended uses of its equipment. The equipment is designed and intended only for the purpose described in the manual. Uses not described in the manual are considered unintended uses and may result in serious personal injury, death or property damage.

Unintended uses, includes the following actions:

- Making changes to equipment that have not been recommended or described in this manual or using parts that are not genuine ADB SAFEGATE replacement parts or accessories.
- Failing to make sure that auxiliary equipment complies with approval agency requirements, local codes, and all applicable safety standards if not in contradiction with the general rules.
- Using materials or auxiliary equipment that are inappropriate or incompatible with your ADB SAFEGATE equipment.
- Allowing unskilled personnel to perform any task on or with the equipment.

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This manual could contain technical inaccuracies or typographical errors. The author reserves the right to revise this manual from time to time in the contents thereof without obligation of the author to notify any person of such revision or change. Details and values given in this manual are average values and have been compiled with care. They are not binding, however, and the author disclaims any liability for damages or detriments suffered as a result of reliance on the information given herein or the use of products, processes or equipment to which this manual refers. No warranty is made that the use of the information or of the products, processes or equipment to which this manual refers will not infringe any third party's patents or rights. The information given does not release the buyer from making their own experiments and tests.

TABLE OF CONTENTS

1.0 Safety	1
1.1 Safety Messages	1
1.1.1 Introduction to Safety	2
1.1.2 Intended Use	3
1.1.3 Material Handling Precautions: Storage	3
2.0 L-852N Fixture Introduction	5
2.1 Incandescent & LED Runway Centerline and Simulated Carrier Deck Light	5
3.0 L-852N Parts	9
3.1 Schematic Drawings and Part Numbers	9
3.1.1 LED Spare Components	9
3.1.2 Incandescent Spare Parts	12
A.0 SUPPORT	17
A.1 ADB SAFEGATE Website	17
A.2 Recycling	18
A.2.1 Local Authority Recycling	18
A.2.2 ADB SAFEGATE Recycling	18

1.0 Safety

Introduction to Safety

This section contains general safety instructions for installing and using ADB SAFEGATE equipment. Some safety instructions may not apply to the equipment in this manual. Task- and equipment-specific warnings are included in other sections of this manual where appropriate.

1.1 Safety Messages

HAZARD Icons used in the manual

For all HAZARD symbols in use, see the Safety section. All symbols must comply with ISO and ANSI standards.

Carefully read and observe all safety instructions in this manual, which alert you to safety hazards and conditions that may result in personal injury, death or property and equipment damage and are accompanied by the symbol shown below.



WARNING

Failure to observe a warning may result in personal injury, death or equipment damage.



DANGER - Risk of electrical shock or ARC FLASH

Disconnect equipment from line voltage. Failure to observe this warning may result in personal injury, death, or equipment damage. ARC Flash may cause blindness, severe burns or death.



WARNING - Wear personal protective equipment

Failure to observe may result in serious injury.



WARNING - Do not touch

Failure to observe this warning may result in personal injury, death, or equipment damage.



CAUTION

Failure to observe a caution may result in equipment damage.



ELECTROSTATIC SENSITIVE DEVICES

This equipment may contain electrostatic devices.

Qualified Personnel



Important Information

The term **qualified personnel** is defined here as individuals 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. It is the responsibility of the company operating this equipment to ensure that its personnel meet these requirements.

Always use required personal protective equipment (PPE) and follow safe electrical work practice.

1.1.1 Introduction to Safety

CAUTION

Unsafe Equipment Use

This equipment may contain electrostatic devices, hazardous voltages and sharp edges on components

- Read installation instructions in their entirety before starting installation.
- Become familiar with the general safety instructions in this section of the manual before installing, operating, maintaining or repairing this equipment.
- Read and carefully follow the instructions throughout this manual for performing specific tasks and working with specific equipment.
- Make this manual available to 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.
- 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.
- Protect components from damage, wear, and harsh environment conditions.
- Allow ample room for maintenance, panel accessibility, and cover removal.
- Protect equipment with safety devices as specified by applicable safety regulations
- If safety devices must be removed for installation, install them immediately after the work is completed and check them for proper functioning prior to returning power to the circuit.



Failure to follow this instruction can result in serious injury or equipment damage

Additional Reference Materials



Important Information

- IEC - International Standards and Conformity Assessment for all electrical, electronic and related technologies.
 - IEC 60364 - Electrical Installations in Buildings.
 - CSA - C22.2 No.180:13 (R2018) Series isolating transformers for airport lighting
 - FAA Advisory: AC 150/5340-26 (current edition), Maintenance of Airport Visual Aid Facilities.
 - Maintenance personnel must refer to the maintenance procedure described in the ICAO Airport Services Manual, Part 9.
 - ANSI/NFPA 79, Electrical Standards for Metalworking Machine Tools.
 - National and local electrical codes and standards.
-

1.1.2 Intended Use



CAUTION

Use this equipment as intended by the manufacturer

This equipment is designed to perform a specific function, do not use this equipment for other purposes

- Using this equipment in ways other than described in this manual may result in personal injury, death or property and equipment damage. Use this equipment only as described in this manual.

Failure to follow this instruction can result in serious injury or equipment damage

1.1.3 Material Handling Precautions: Storage



CAUTION

Improper Storage

Store this equipment properly

- If equipment is to be stored prior to installation, it must be protected from the weather and kept free of condensation and dust.

Failure to follow this instruction can result in equipment damage

2.0 L-852N Fixture Introduction



WARNING

Read the instructions in their entirety before starting installation.



This manual provides instructions for the ADB Safegate L852N Light Fixture.

2.1 Incandescent & LED Runway Centerline and Simulated Carrier Deck Light

Compliance with Standards

FAA:	Manufactured to applicable requirements in AC 150/5345-46 (Current Edition), and the FAA Engineering Brief No. 67.
US Navy:	NAVAIR 5150AAA-2, WP 006-04, WP 004-06

Uses

FAA L-852N

- Provides visual guidance for simulated carrier deck landings and manufactured to resist damage from aircraft tail hooks.
- For runway centerline applications that have a large percentage of the landings by aircraft equipped with arresting hooks — available in uni- and bidirectional configurations — are resistant to arresting hook damage.

Features

- Incandescent or LED version available.
- Low LED wattage: Single 3 W LED with only 14 VA maximum fixture load for unidirectional applications, making L-852N LED fixtures more than twice as efficient as traditional 45 W unidirectional fixtures.
- Narrow light channel and hardened stainless steel top cover to resist tail hook damage. Stainless steel for the top cover conforms to ASTM A747 with a Rockwell Hardness of C40 \pm 5.
- Low protrusion above ground (\leq 0.375 inch) reduces vibrations caused by aircraft landing gear in both the light fixture and the landing gear. Protrusion is 25% lower than traditional L-852N (0.5 inch) fixtures.
- Smooth outer surface of light cover and low protrusion height prevent tire damage and minimize risk of snowplow damage

- Average LED life of uni- and bidirectional fixtures is 100,000 hours under high-intensity conditions and more than 200,000 hours under actual operating conditions, which significantly reduces ongoing maintenance costs and periodic re-lamping expenses, resulting in lower life cycle costs
- Very low power rating for LED lights contributes to a lower life cycle cost. Limits cost for supporting equipment, such as isolation transformers and CCRs, to strict minimum.
- Can be installed on existing 6.6 A or 20 A series circuits with no modifications to existing CCR or isolation transformer
- Operates on either 3- or 5-step ferroresonant or thyristor CCRs that are designed in compliance with FAA requirements
- LED photometric performance will be maintained longer due to a cleaner lens. Lower lens temperature prevents the "baking effect" that causes contaminants to stick to the lens surface.
- Smart electronics control current to LED, so light output matches existing incandescent fixtures.
- Many components are common to all F-Range lights, which reduces spare parts stock
- Field replaceable L-823 cord sets are mechanically clamped to the bottom cover and provide a watertight seal without the use of sealing compounds or resins
- Outer prisms are mechanically clamped to light cover. Prism replacement is fast, easy, and does not require sealing compound, resin, or setting jigs.
- No optical adjustment required after replacement of any optical components
- Plug for pressure-testing of fixture after maintenance
- Resists corrosion without the use of environmentally damaging coatings
- Narrow light channel in front of prism window protects prism from damage and prevents rubber buildup thereby maintaining optimal light output
- Designed to exceed lightning protection requirements of ANSI/ IEEE C62.41-1991 Category C1
- Rugged lightning protection complies with ANSI/IEEE C62.41-1991 Location Category C2 given in FAA Eng. Brief 67. Category C2 is defined as a 1.2/50µs - 8/20 µs combination wave, with a peak voltage of 10,000 V and a peak current of 5,000 A.
- Includes a UL 467 rated ground lug, which accepts an AWG 6 earth ground wire



Note

Front cover image: 10-inch model shown

Operating Conditions

Temperature:	-40 °F to +131 °F / -40 °C to +55°C
Altitude:	Sea level to 10,000 feet / 3,050 m
Humidity:	0 to 100%

Power Supply

L-852N LED fixture is designed to work with any FAA-compliant transformer up to 100 W without affecting the performance or lifetime of the light fixture or transformer. See data sheet 3033 for more details on recommended isolation transformers specified below.

L-852N LED Isolation Fixture Transformer	Fixture Load
Unidirectional 10/15 W	14 VA
Bidirectional ¹ 20/25 W	17 VA
Bidirectional ² 10/15 W per side	14 VA per side (28 VA total)

Notes

¹ One cord set

L-852N LED Isolation Fixture Transformer

Fixture Load

² One cord set per side (2 total)

Figure 1: 12-inch model shown



Installation

The light assembly is designed for connection to a 6.6 A series lighting circuit via an L-830 (60 Hz) or L-831 (50 Hz) isolation transformer. When required, multiple fixtures can be connected in series using an appropriately-sized isolation transformer.

L-852N fixtures can be installed on 10- or 12-inch diameter deep base cans.

Figure 2: 12-inch model with optional snow plow ring shown



Dimensions

10-inch fixture	
Outside diameter:	9.98 in / 25.35 cm
Bolt-circle diameter (L-868A ¹):	9.25 in / 23.5 cm
12-inch fixture	
Outside diameter:	11.94 in / 30.33 cm
Bolt-circle diameter (L-868B):	11.25 in / 28.58 cm
Packaging	
In cardboard box:	13 × 13 × 7 in / 33 × 33 × 17.8 cm
Weight	
10-inch fixture	18.5 lb / 8.4 kg
12-inch fixture	28.5 lb / 12.9 kg

Notes

¹ Refers to older style 10-inch L-868A base can compliant to AC 150/5345-42C. 10-inch base cans are no longer specified in the current FAA Advisory Circular.

3.0 L-852N Parts

Ordering Code

44A6777 - X X X X

Lamp and Monitoring

- 1 = 30 W incandescent without monitoring
- 2 = 6.6 A 60 Hz, LED without monitoring
- 3 = 6.6 A 60 Hz, LED with monitoring
- 4 = 6.6 A 50 Hz, LED without monitoring
- 5 = 6.6 A 50 Hz, LED with monitoring

Color

- 1 = Unidirectional White
- 2 = Bidirectional White/Red
- 3 = Unidirectional Red
- 4 = Bidirectional White/White

Size and Cord Set

- 1 = Unidirectional 10-inch, 1 cord set
- 2 = Bidirectional 10-inch, 1 cord set
- 3 = Bidirectional 10-inch, 2 cord sets
- 4 = Unidirectional 12-inch, 1 cord set
- 5 = Bidirectional 12-inch, 1 cord set
- 6 = Bidirectional 12-inch, 2 cord sets

Film Disc

- 1 = With film disc cutout¹
- 2 = Without film disc cutout

Note

¹ Film disc cutout is only used on incandescent option

3.1 Schematic Drawings and Part Numbers

To order parts, call ADB Safegate Customer Service or your local representative.

This section provides a schematic drawing of each L852N type, along with a list of part numbers, ordering codes and spare components. Refer to the appropriate section for the fixture type.

3.1.1 LED Spare Components

Description	Part No.
Cable clamp	4071.50.090
Cord set without monitoring	73A0136-23
Inner cover, L-852N	62A2168-2
Narrow beam LED lamp assembly, white	48A0444-WHT/495MA
Narrow beam LED lamp assembly, red	48A0444-RED/640MA
O-ring, inner cover seal	63A1285
O-ring, pressure release screw	63B0267-011
Pressure release screw	60A2602
Prism, narrow beam	63A0993-2
Prism clamp	4071.50.360
Prism gasket sleeve	4071.50.030
Prism keeper plate	4071.50.052
Seal, prism keeper plate	63A0986

Description	Part No.
Ground Lug	72A0401
Power Supply Dual Driver	44A7292-00-2
Power Supply Single Driver	44A7292-00-1

Figure 3: LED L-852N Assembly

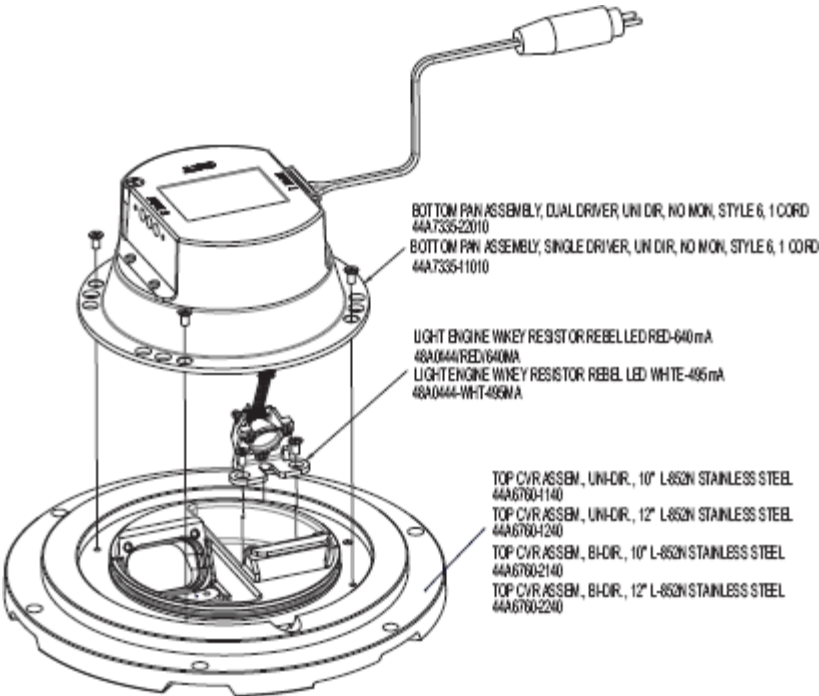


Figure 4: L-852N LED Light Engine Connection Diagram

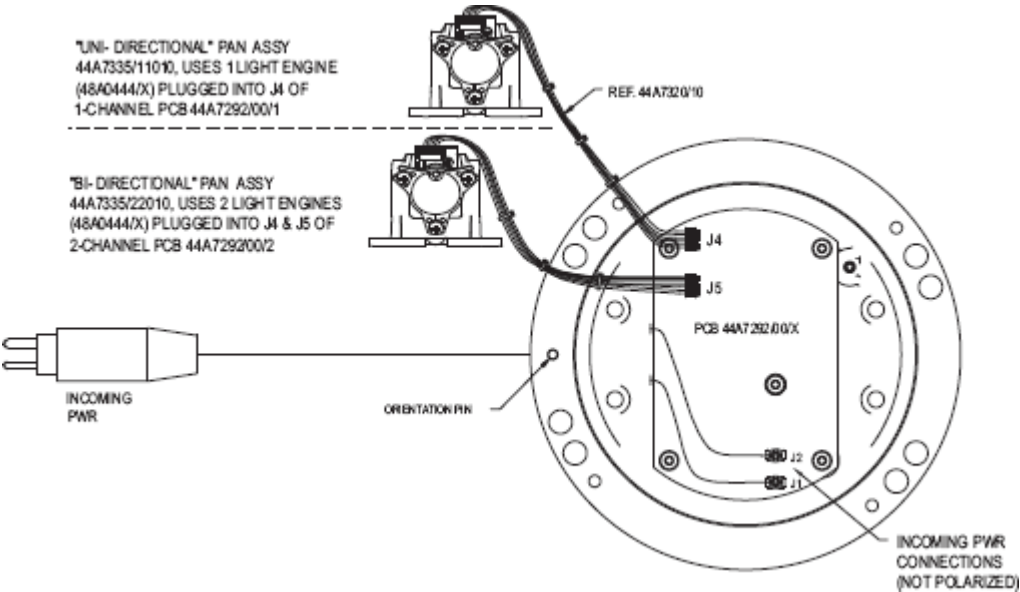


Figure 5: Wiring Diagrams for the Heaters

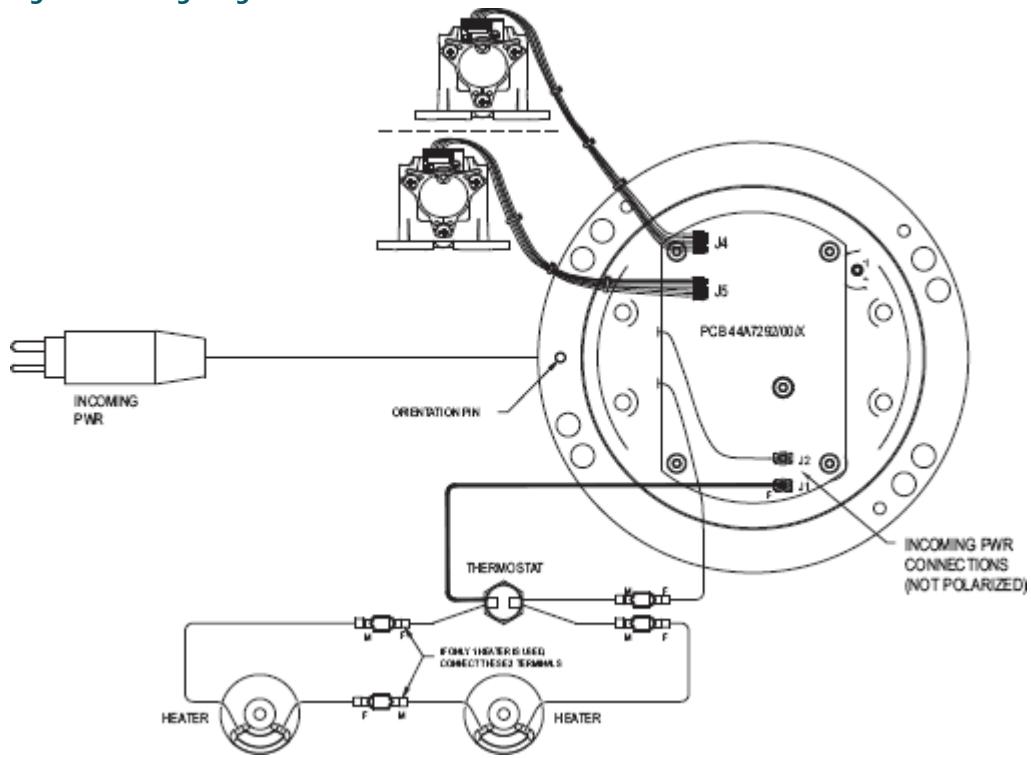
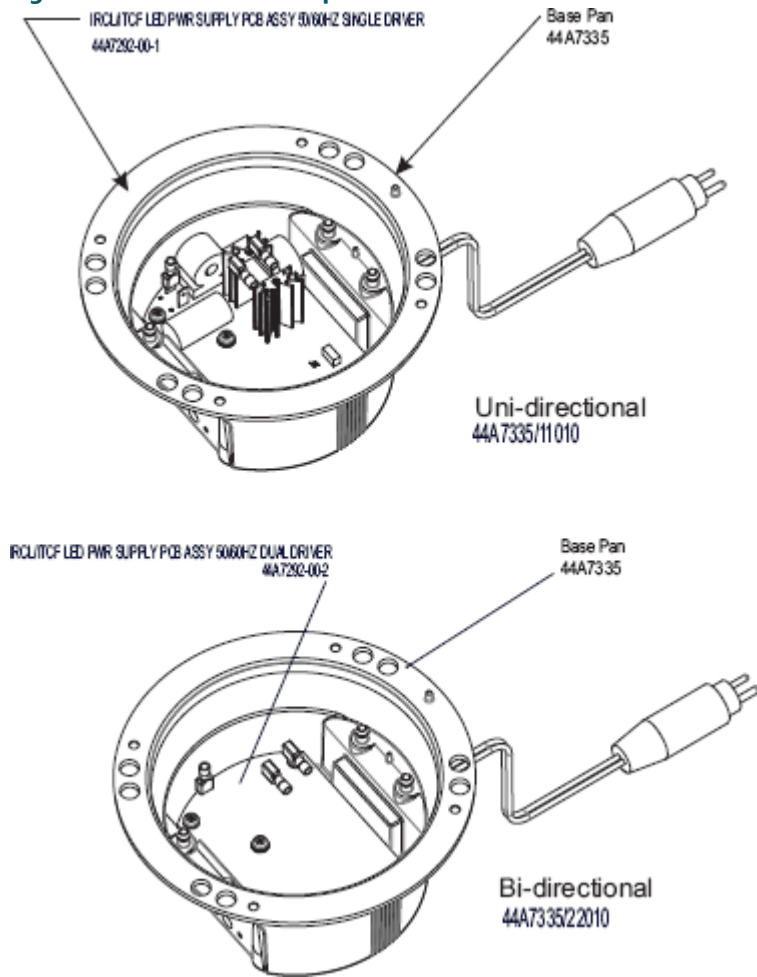


Figure 6: LED Base Pan Components



3.1.2 Incandescent Spare Parts

Table 1: Incandescent Spare Parts

Description	Part No.
Bottom Medium Pan	44A6759-XXXXX
O-ring, inner cover seal	63A1285
Top Cover	44A6760-XXXX
Optical Support	44A2137-1
Optical Assembly	44A4810-3XP
Lamp Holder Assembly	1411.22.001
Lamp MR16 w/ female leads, 30W	44A5911
Film Disc Spring	4071.50.130
Film Disc Cutout 30/80V	47A0118
O-ring, pressure release screw	63B0267-011
Pressure release screw	60A2602
Cordset Style 1	44A7387-10
Prism, narrow beam	63A0993-2
Prism clamp	4071.50.360

Table 1: Incandescent Spare Parts (Continued)

Description	Part No.
Prism gasket sleeve	4071.50.030
Prism keeper plate	4071.50.052
Seal, prism keeper plate	63A0986
Ground Lug	72A0401

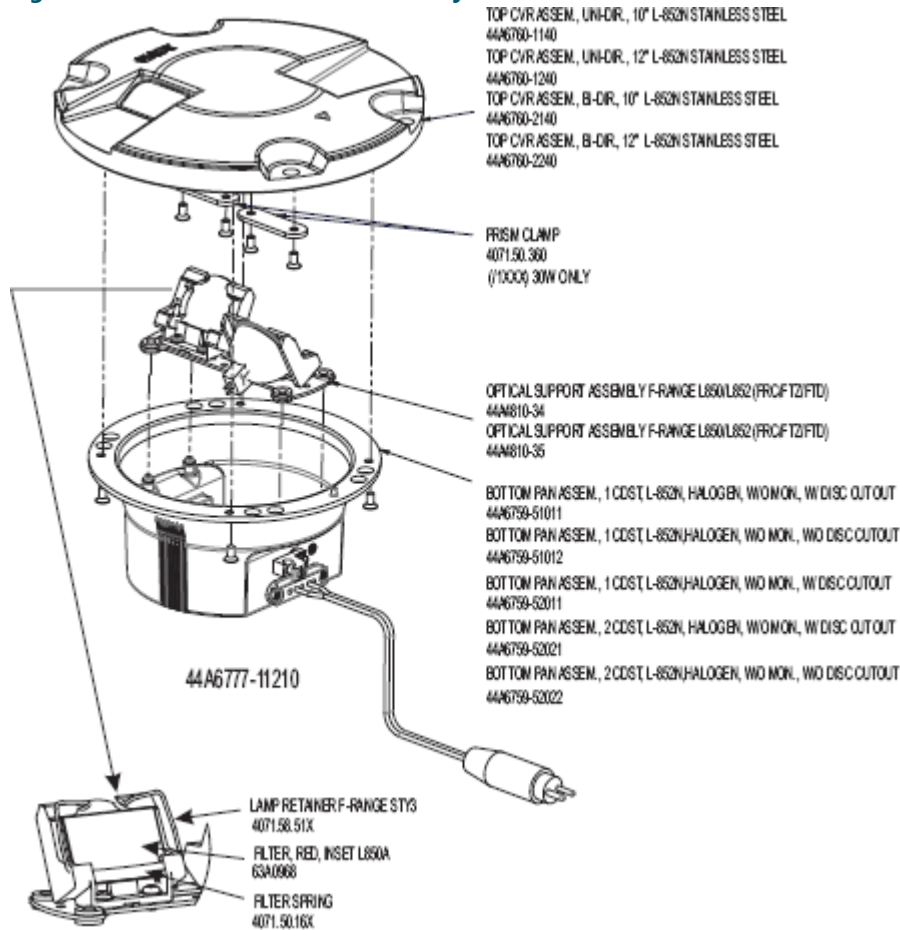
Figure 7: Incandescent L-852N Assembly


Figure 8: 44A4810/3XP Optical Assembly

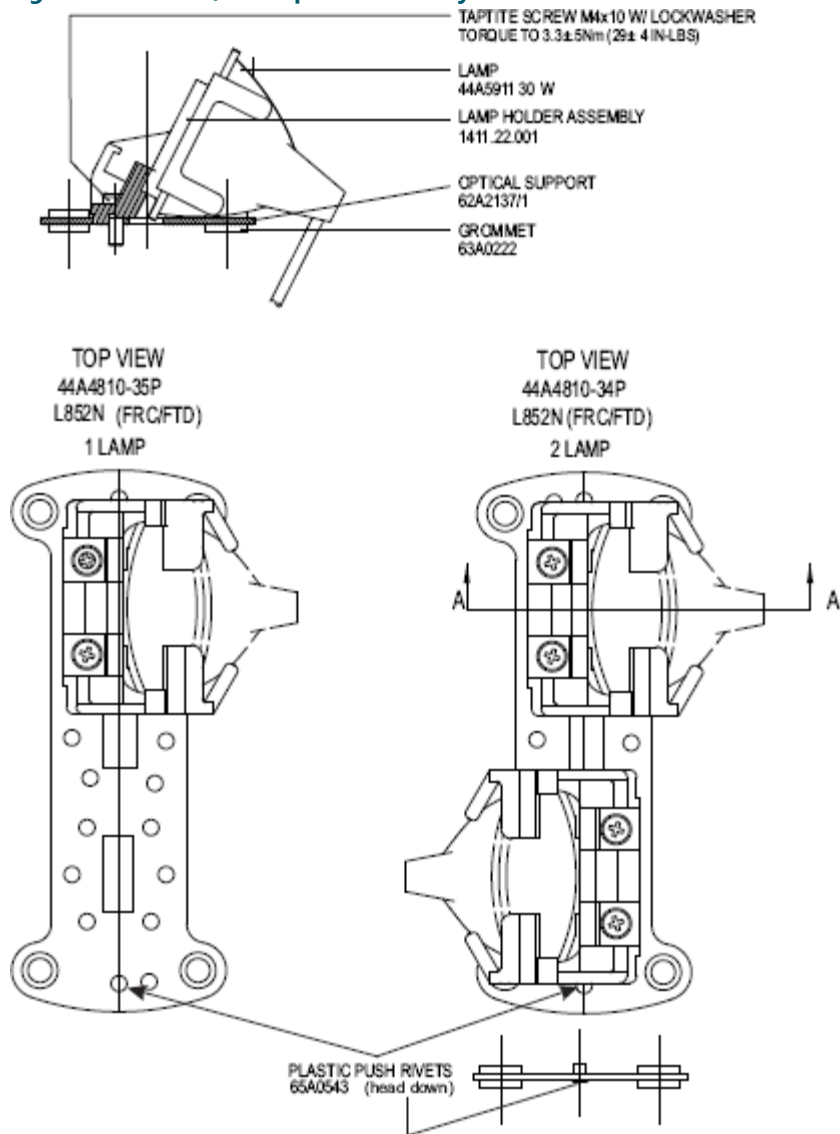
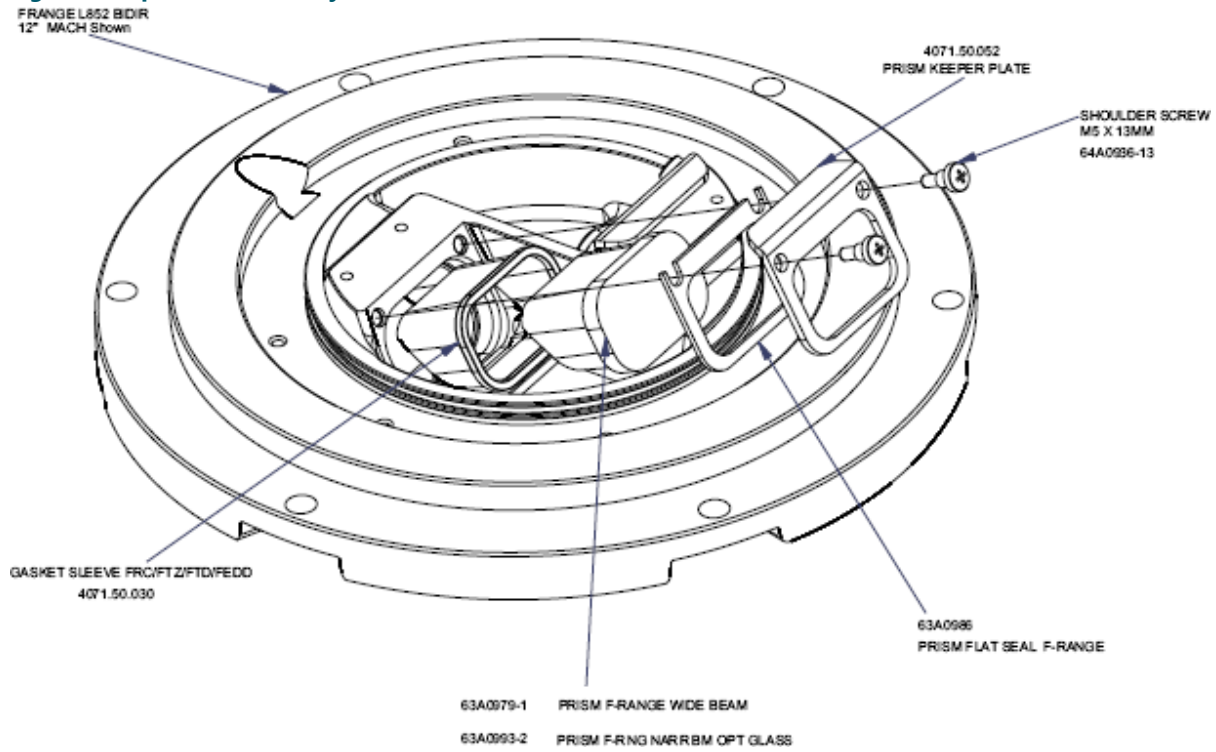


Figure 9: Top Cover Assembly



Appendix A: SUPPORT

Our experienced engineers are available for support and service at all times, 24 hour/7 days a week. They are part of a dynamic organization making sure the entire ADB SAFEGATE is committed to minimal disturbance for airport operations.

ADB SAFEGATE Support

Live Technical Support – Americas

If at any time you have a question or concern about your product, just contact ADB SAFEGATE's technical service department. Trained in all areas of system issues, troubleshooting, quality control and technical assistance, our highly experienced Technical support specialists are available 24 hours a day, seven days a week to provide assistance over the phone.

ADB SAFEGATE Americas Technical Service & Support (US & Canada): +1-800-545-4157

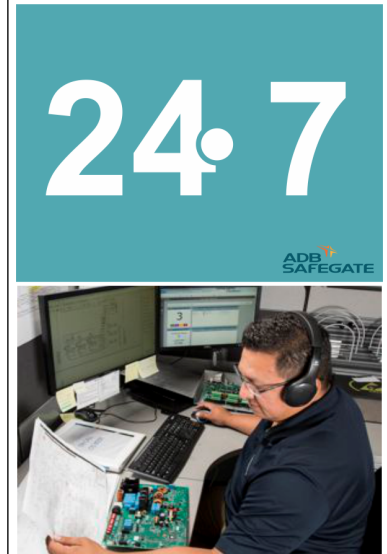
ADB SAFEGATE Americas Technical Service & Support (International): +1-614-861-1304

During regular business hours, you can also Chat with a Service Technician. We look forward to working with you!

Before You Call

When you have an airfield lighting or system control system problem, it is our goal to support airfield maintenance staff as quickly as possible. To support this effort, prior to calling, please ensure the following:

- Review the product's manual and troubleshooting guide.
- Be located with the product ready to troubleshoot.
- Have all necessary information available: airport code/company name, customer id number, contact phone number/email address, product/part number.
- Have a *True RMS* meter available and any other necessary tools.



Note

For more information, see www.adbsafegate.com, or contact ADB SAFEGATE Support via email at support@adbsafegate.com or

Europe: +32 2 722 17 11

Americas: +1 614 861 1304. Press 3 for technical service or press 4 for sales support.

China: +86 (10) 8476 0106

Middle East and Africa: +971 4 452 7575

A.1 ADB SAFEGATE Website

The ADB SAFEGATE website, www.adbsafegate.com, offers information regarding our airport solutions, products, company, news, links, downloads, references, contacts and more.

A.2 Recycling

A.2.1 Local Authority Recycling

The disposal of ADB SAFEGATE products is to be made at an applicable collection point for the recycling of electrical and electronic equipment. The correct disposal of equipment prevents any potential negative consequences for the environment and human health, which could otherwise be caused by inappropriate waste handling. The recycling of materials helps to conserve natural resources. For more detailed information about recycling of products, contact your local authority city office.

A.2.2 ADB SAFEGATE Recycling

ADB SAFEGATE is fully committed to environmentally-conscious manufacturing with strict monitoring of our own processes as well as supplier components and sub-contractor operations. ADB SAFEGATE offers a recycling program for our products to all customers worldwide, whether or not the products were sold within the EU.

ADB SAFEGATE products and/or specific electrical and electronic component parts which are fully removed/separated from any customer equipment and returned will be accepted for our recycling program.

All items returned must be clearly labeled as follows:

- For *ROHS/WEEE* Recycling
- Sender contact information (Name, Business Address, Phone number).
- Main Unit Serial Number.

ADB SAFEGATE will continue to monitor and update according for any future requirements for *EU directives* as and when *EU member states* implement new *regulations* and or *amendments*. It is our aim to maintain our *compliance plan* and assist our customers.

Company Addresses

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