



L-862S Stop Bar Elevated Light

# User Manual

96A0246, Rev. i, 2020/06/26

  
**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 FAA Airfield regulations. The FAA directives that have been taken into consideration in the design are available on written request to ADB SAFEGATE.

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ADB SAFEGATE will correct by repair or replacement per the applicable guarantee above, 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.

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Products of ADB SAFEGATE manufacture 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 sales order contract for a complete warranty description.

### FAA Certified product installed in the United States and purchased or funded with monies through the Airport Improvement Program (AIP) installations guarantee

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 L858(L) Airfield Guidance Signs 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).

ADB SAFEGATE LED light fixtures (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).



## Note

See your sales order contract for a complete warranty description.

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## Liability

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### 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.

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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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# 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.

### 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.
- 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**

### 1.1.4 Material Handling Precautions: Fasteners



#### DANGER

##### Foreign Object Damage - FOD

This equipment may contain fasteners that may come loose - torque properly.

- Only use fasteners of the same type as the one originally supplied with the equipment.
- Use of incorrect combination of gaskets, bolts and nuts can create severe damages to the product installation and create safety risk .
- You need to know what base the light fixture will be installed in, in order to chose the correct gasket, bolts and nuts.
- Bolt type, length, and torque value are determined by type of base, height of spacers used, and clamp force required in FAA Engineering Brief No 83 (latest revision).
- Due to the risk of bolts vibrating loose, do not use any type of washer with the fixing bolts (such as split lock washers) other than an anti-vibration washer. Anti-vibration washers as defined in FAA EB 83 (latest edition) must be used. For installations other than FAA, use the base can manufacturer's recommendations.
- Always tighten the fasteners to the recommended torque. Use a calibrated torque wrench and apply the recommended adhesive type.
- Obey the instructions of the adhesives necessary for the fasteners.

**Failure to follow these warnings may cause the fasteners to loosen, damage the equipment, potentially to loosen the equipment. This can lead to a highly dangerous situation of FOD, with potential lethal consequences.**



#### Note

To minimize the risk of errors, the ADB SAFEGATE Sales Representative will have information on which gasket goes with which base. This information is also provided in the product Data sheets, the User Manuals and the Spare Part Lists.



#### CAUTION

Use of incorrect combination of gaskets, bolts and nuts can create severe damages to the product installation and create multiple safety risks.

To obtain a safe and watertight installation the O-ring and retaining bolt stated in the document must be used.

You need to know what base the light fixture will be installed in, in order to choose the correct gasket, bolts and nuts.

**Failure to follow these cautions can result in equipment damage or aircraft FOD.**

### 1.1.5 Maintenance Safety



#### **DANGER**

##### **Electric Shock Hazard**

This equipment may contain electrostatic devices

- 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.

**Failure to follow these instructions can result in death or equipment damage**

### 1.1.6 Material Handling Precautions, ESD



#### **CAUTION**

##### **Electrostatic Sensitive Devices**

This equipment may contain electrostatic devices

- Protect from electrostatic discharge.
- Electronic modules and components should be touched only when this is unavoidable e.g. soldering, replacement.
- Before touching any component of the cabinet you shall bring your body to the same potential as the cabinet by touching a conductive earthed part of the cabinet.
- Electronic modules or components must not be brought in contact with highly insulating materials such as plastic sheets, synthetic fiber clothing. They must be laid down on conductive surfaces.
- The tip of the soldering iron must be grounded.
- Electronic modules and components must be stored and transported in conductive packing.

**Failure to follow this instruction can result in equipment damage**

### 1.1.7 Arc Flash and Electric Shock Hazard



## DANGER

### Series Circuits have Hazardous Voltages

This equipment produces high voltages to maintain the specified current - Do NOT Disconnect while energized.

- Allow only qualified personnel to perform maintenance, troubleshooting, and repair tasks.
- Only persons who are properly trained and familiar with ADB SAFEGATE equipment are permitted to service this equipment.
- An open airfield current circuit is capable of generating >5000 Vac and may appear OFF to a meter.
- Never unplug a device from a constant current circuit while it is operating; Arc flash may result.
- Disconnect and lock out electrical power.
- Always use safety devices when working on this equipment.
- Follow the recommended maintenance procedures in the product 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 ADB SAFEGATE replacement parts. Using unapproved parts or making unapproved modifications to equipment may void agency approvals and create safety hazards.
- Check the 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 airfield electrical equipment.

**Failure to follow these instructions can result in death or equipment damage**



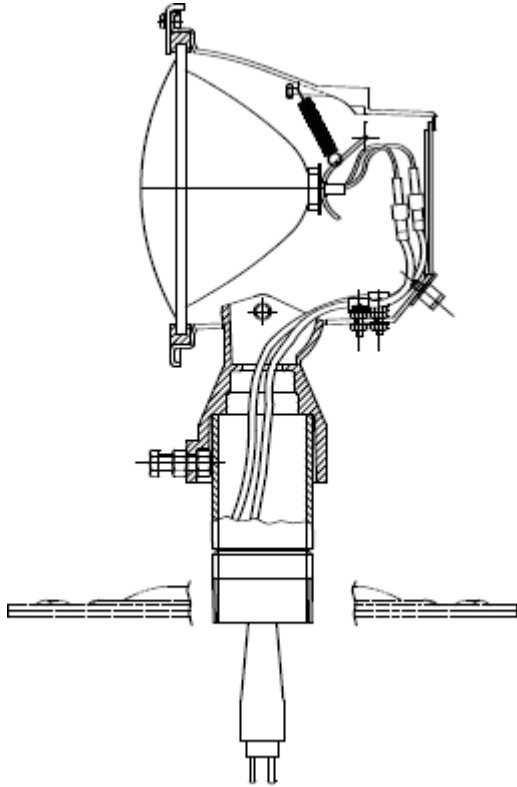
## 2.0 Elevated Stop Bar Light Introduction

See [Figure 1](#) for the standard L-862S light fixture for installation on a base plate with a 2 NPT threaded hub.

This section describes the L-862S elevated stop bar fixture. The ADB Safegate L- 862S light fixtures are installed in-line with in-pavement stop bar lights on each side of the taxiway. Refer to FAA specification AC 150/5340-30.

USES: For SMGCS operations (Cat. III) below 600 feet RVR on all lighted taxiways at runway hold lines in conjunction with L-852S in-pavement stop bar light.

**Figure 1: Figure 1 L-862S Stop Bar**



The L-862S light fixture consists of the following:

- A traffic signal red lens
- Lens retaining ring
- Inner spring clip to hold lamp

Frangible column that threads into a 2 NPT tapped hole in a 12-inch-diameter L-867 base cover plate

The cast aluminum head and base assembly can be mounted on a standard

L-867 base plate or on a steel stake. Base mounting is easier to maintain and provides added protection for the equipment. Stake-mounted lights require transformers, cables, and connectors that are designed for direct earth burial.



### Note

Refer to [Table 1](#) for mounting heights.



## Note

The measurements in [Table 1](#) are taken from the grade to the top of the light fixture.

**Table 1: Mounting Heights**

Type	Height (in.)	Height (mm)
Standard (FAA minimum)	14	355.6
Standard	24	610
Standard (FAA maximum)	30	762

The L-862S light fixture is available only with unidirectional red lens.

## 2.1 L-862S Light Fixture: Required Equipment

Refer to [Table 2](#) for required equipment that is supplied. Refer to [Table 3](#) for required equipment that is not supplied. Refer to the *Parts* section for ordering information.

**Table 2: Required Equipment Supplied**

Description	Quantity
L-862S light fixture (includes lamp, frangible coupling, and L-823 cordset)	1
Instruction manual	1 per order

**Table 3: Required Equipment Not Supplied**

Description	Quantity
Torque wrench (0200 inch-pounds) with 9/16 socket	1
Screwdriver, #2 Phillips	1
L-867 base, 12 or 16 inches in diameter. Used only when base mounted.	1
Stake assembly, 30-inch galvanized steel. Used only when stake mounted.	1
L-830 isolation transformer for series circuit. Refer to <a href="#">Table 4</a> for the appropriate transformer.	1
Single conductor (primary) connector kit	1
Two-conductor (secondary) plug connector kit	1
Two-conductor (secondary) receptacle connector kit	1
Loctite Grade AV or equivalent	As required

**Table 4: Isolation Transformers**

When you use this series circuit...	Then use this isolation transformer...
6.6 A	L-830-18
	L-830-6
20 A	L-830-19
	L-830-7

## 2.2 Specifications

This subsection provides specifications for the L-862S light fixtures.

### 2.2.1 Input

6.6 amps

### 2.2.2 Lamp

150 W/6.6 A PK30d

### 2.2.3 Rated Lamp Life

500 hours (minimum)

### 2.2.4 Lens Color

Traffic signal red

### 2.2.5 Environmental Operating Conditions

The L-862S light fixture is designed to operate under the conditions presented below for temperature, wind, altitude, and relative humidity.

### 2.2.6 Temperature

±55 °C (-67 °F to +131 °F)

### 2.2.7 Wind

Velocities up to 300 mph (482 kph)

### 2.2.8 Altitude

Sea level to 10,000 feet (3048 m)

### 2.2.9 Relative Humidity

Up to 100 %

### 2.2.10 Exposed Materials

Protected with aviation yellow gloss alkyd enamel paint

### 2.2.11 Photometric Data

This subsection provides the following photometric data for the L-862S light fixture: minimum beam coverage, minimum average intensity, and lamp current and percent brightness.

### 2.2.12 Minimum Beam Coverage

+7 degrees horizontal

± 4 degrees vertical

### 2.2.13 Minimum Average Intensity

Refer to [Table 5](#) for minimum average intensity.

**Table 5: Minimum Average Intensity**

Lens	Input Power	Minimum Average Intensity (Candelas)
Traffic signal red	6.6 A	2,000

2.2.14 Lamp Current and Percent Brightness

Refer to [Table 6](#) for lamp current and percent brightness.

Table 6: Lamp Current and Percent Brightness

Lamp Current (Amperes)	Percent Brightness
6.6	100
5.2	25
4.1	5
3.4	1.2
2.8	0.15



## 3.0 Installation

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### WARNING

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

---

This section provides instructions for installing the L-862S light fixture. Refer to the airport project plans and specifications for the specific installation instructions.

### 3.1 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 might lead to detection of equipment damage.

If you note any damage to any equipment, file a claim with the carrier immediately. The carrier may need to inspect the equipment.

### 3.2 Installation Instructions

This subsection describes procedures for installing the L-862S light fixture. Installing the light fixture involves placing the light fixtures, mounting the base, installing the base, and installing the light fixture.

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### Note

Check the packing list with the parts list to verify that all parts are present before proceeding. Refer to the [Parts](#) section.

---

### 3.3 Light Fixture Placement

L-862S elevated stop bar lights are installed with the in-pavement stop bar lights on each side of the taxiway. They are located not more than 10 feet (3 m) from the defined edge of the taxiway. For airports that perform any snow removal operations, if taxiway edge lights are present, the elevated stop bar light should not be installed closer to the taxiway edge than the line of taxiway edge lights. This is to help prevent the elevated stop bar light from being struck by snow removal equipment.

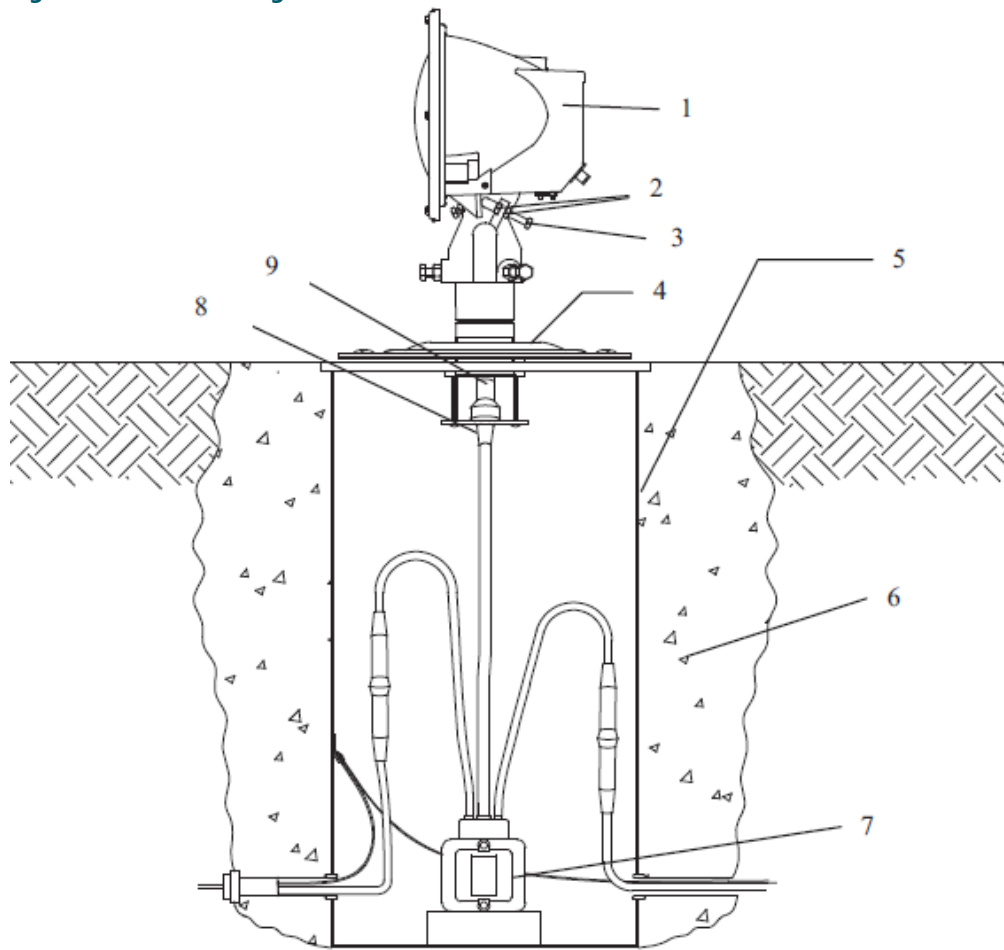
To avoid conflicts with taxiway edge lights or undesirable spots, the elevated stop bar lights may be moved up to 10 feet (3 m) farther from the runway, but may not be moved toward the runway. Refer to FAA specification AC 150/5340-30.

### 3.4 Base Mounting

This subsection provides installation instructions for mounting the L-867 light base.

See [Figure 2](#). The L-862S light fixtures (1) can be mounted on an L-867 light base (3) with a 2-inch hub mated with a base plate (2) with a diameter and bolt-hole circle corresponding to either a 12-inch (304.8-mm) or 16-inch (406.4-mm) L-867 base. The base plate has a female thread to receive a frangible column. A gasket is used with the base plate to form a watertight seal between the base plate and the L-867 base.

### Figure 2: Base Mounting/Installation



1. L-862S Stop Bar	4. Base Plate	7. L-830 Transformer
2. Hex Bolt (for Vertical Alignment)	5. L-867 Base	8. L-830 Transformer Secondary Female Plug
3. Locking Hex Nut	6. Four Inches Concrete Backfill Recommended	9. L-823 Cordset Secondary Male Plug

To install the L-867 base, perform the following procedure:

1. See [Figure 2](#).

Install the L-867 light base (5) 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 having a drain hole to prevent water accumulation.

2. Orient the cable entrance hubs of the base in the proper directions.
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 (10.16 cm) of concrete backfill (4) 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.

## 3.5 Base Installation

To prepare the base for installation of the light fixtures, perform the following procedure:

1. See [Figure 2](#).

Connect the primary power line to the appropriate L-830 isolation transformer (7). Refer to [Table 4](#) for the appropriate transformer.



### Note

Use a brick to raise the isolation transformer so that it is about 3 inches (76.2 mm) above the bottom surface of the L-867 base plate (5) to avoid the possibility of the transformer being partially immersed in water in case water accumulates under the level of the ducts or pipes.

2. After you have connected the transformer, check the continuity of the series loop.
3. 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 mm) on each side of the joint.
4. Clamp the female secondary plug from the L-830 transformer to the L-867 base plate retainer clamp.
5. Bolt the base plate (5) with the base plate gasket to the L-867 base using six 3/8-16 stainless steel bolts.  
Apply a drop of Loctite Grade AV to each bolt thread and use a torque wrench to torque bolts to 100 inch-pounds (11.3 Nt-m).

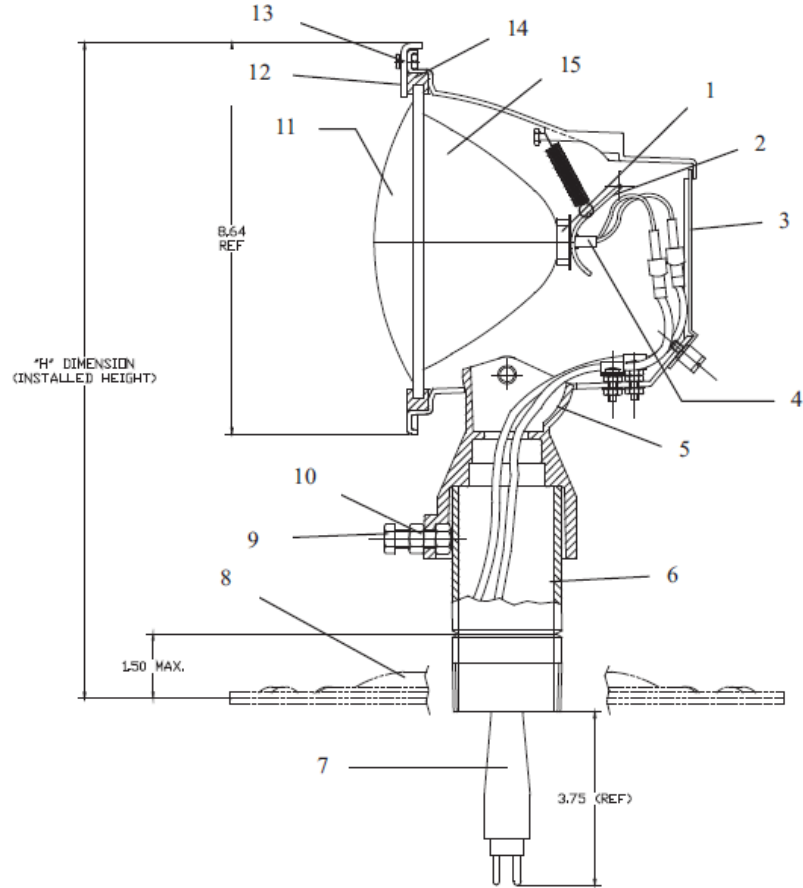
### 3.6 Light Fixture Installation



**CAUTION**

See [Figure 3](#). Do not tighten the hex nuts (10) and hex bolts (9) until the frangible column (6) is threaded into the L-867 light base flange (8). If you attach the slip fitter (5) to the frangible column (6) before threading the frangible column into the light base (8), you may twist the cordset (7) off the socket or break the socket prongs. Refer to [Base Mounting](#) and [Optional Stake Installation](#).

**Figure 3: L-862S Light Fixture Assembly**



1. Spacer	5. Slip Fitter	9. Hex Bolts	13. Screw
2. Lamp Retaining Bracket	6. Frangible Column	10. Hex Nuts	14. Gasket
3. Back Door	7. L-823 Cordset	11. Lens	15. Reflector
4. Lamp	8. Base Plate	12. Lens Retaining Ring	16.

To install the L-862S light fixture, perform the following procedure:

1. See [Figure 3](#).  
Put the L-823 cordset (7) through the frangible column (6).
2. See [Figure 2](#).  
Insert the L-823 male plug (9) into the secondary female plug (8) from the L- 830 transformer (7).
3. See [Figure 3](#).  
Screw the frangible column (6) into the female thread on the L-867 base plate (8).



## CAUTION

Do not tighten the hex nuts (10) and hex bolts (9) until the frangible column (6) is threaded into the L-867 light base flange (8). If you attach the slip fitter(s) (5) to the frangible column (6) before threading the frangible column into the light base (8), you may twist the cordset (7) off the socket or break the socket prongs. Refer to [Base Mounting](#) and [Optional Stake Installation](#).

4. Secure the light fixture head to the frangible column (6) by tightening the three hex bolts (9) and locking the fixture into place by tightening three hex nuts (10).
5. Align the light fixture horizontally and vertically by performing the following procedure:
  - a) Align the light fixture head horizontally by loosening three hex bolts (9) and three hex nuts (10). Rotate the head to provide the desired horizontal alignment. After aligning the light fixture horizontally, tighten and apply Loctite to the hex bolts (9) and hex nuts (10).
  - b) See [Figure 2](#).  
Align the light fixture head vertically by loosening two hex bolts (2) and two hex nuts (3). Rotate the head to provide the desired vertical alignment. After aligning the light fixture vertically, tighten and apply Loctite to the hex bolts (2) and hex nuts (3).



## Note


Horizontal and vertical alignment parameters are specified in AC 150/5340-30.

## 3.7 Optional Stake Installation

This subsection provides instructions for optional stake mounting. The light fixture is mated with a 30-inch (762-mm) steel stake with a fitting attached at the top to receive the male thread of the frangible coupling. Stake mounting requires transformers, cables, and connectors that are designed for direct earth burial.

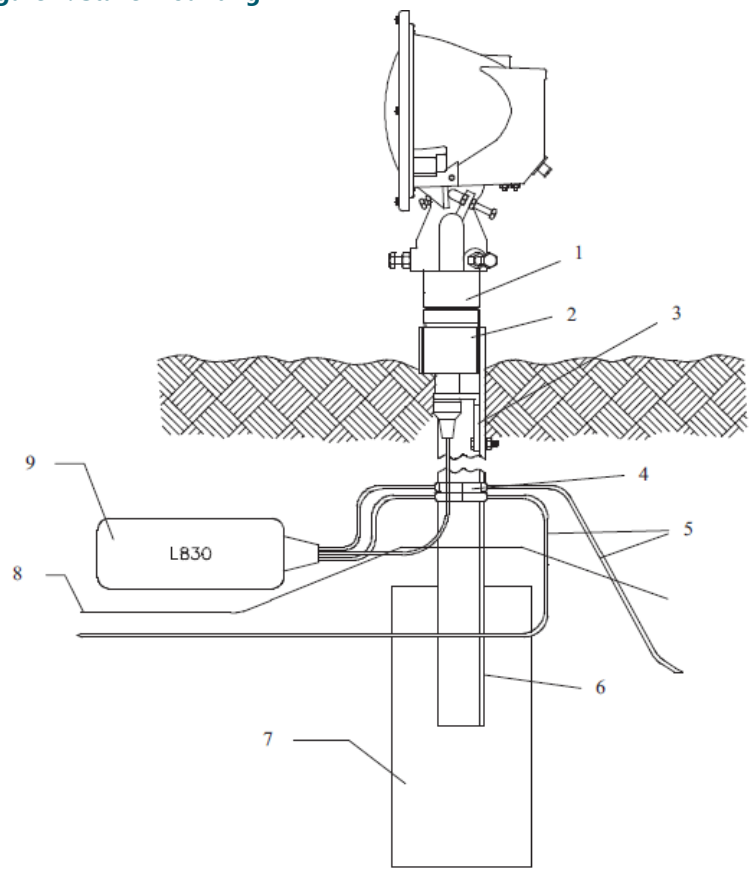
To install a stake, perform the following procedure:

1. See [Figure 4](#).  
Install the stake (6) in 6-inch (152.4-mm) diameter holes at a depth of 30 inches (762 mm) so that the mounting hub of the stake is level.




**CAUTION**  
Do not drive stakes. Driving a stake may damage the stake and cause light fixture misalignment. Refer to FAA specification AC 150/5340-30.

Figure 4: Stake Mounting




1. Frangible Column and Disconnect Plug	4. Connectors	7. Concrete Anchor (Recommended 6 x 6 x 12-in.)
2. Stake Hub	5. 5 KV, L-824 Cable	8. Optional Bare Copper Counterpoise Wire
3. Cable Connector Support	6. Metal Stake (30 in.)	9. L-830 Transformer

2. Make electrical connections as required and backfill around the stake with thoroughly compacted earth that has passed through a 1-inch (25.4-mm) sieve.



**Note**  
Backfill with concrete in case of unstable soil conditions.

3. Install the top of the stake even with ground level and maintain within 1 degree of the vertical.



**Note**  
In areas where frost may cause heaving, anchor the stake with concrete and use a permeable backfill material such as sand around the buried electrical components. Cover the top surface with an impervious material to reduce moisture penetration.

4. Insert the male L-823 plug from the light fixture into the secondary receptacle of the transformer.

**CAUTION**

When installing the light fixture on the stake, avoid twisting wires. Twisting wires may damage wire connections, create a fire hazard, and adversely affect equipment performance.

---

5. Install the frangible column (1) into the stake hub (2).

6. Align the light fixture horizontally and vertically.

Refer to Step 5 in [Light Fixture Installation](#).





## 4.0 Maintenance

To keep L-862S light fixtures operating efficiently, follow a preventive maintenance schedule. Refer to [Table 7](#). Refer to FAA AC 150/5340-26 for more detailed information.

**Table 7: L-862S Light Fixture Maintenance**

Interval	Maintenance Task	Action
Daily	Check for burned out lamp.	After turning off power, replace burned-out lamps. Refer to <a href="#">Repair</a> .
	Check for dim lamp.	After turning off power, replace burned-out lamps. Check isolation transformer on series circuit. Refer to <a href="#">Repair</a> .
	Check for broken lens.	Replace lens or lens assembly.
Weekly	Check for vegetation.	Remove vegetation. Use weed killer.
	Check for dirty lens.	Clean with glass cleaner.
Monthly	Check for misaligned fixture.	Straighten, level, and align.
	Check for dirt on fixture drain holes.	Clean drain holes.
Semi-Annually	Check for improper ground elevation.	Grade so frangible point is level with ground elevation.
	Check for improper light elevation.	Maintain the same elevation for all light fixtures.
	Check for moisture present in light housing or on L-867 base.	Check drain holes and clamps for dirt. Clean drain holes and clamps, if necessary. Check lens for cracks. If damaged, replace. Use water pump to remove water from the base.
	Check for corrosion or loose or chipped paint.	Scrape and repaint.
Annually	Check for cracks, corrosion, and shorts.	Repair or replace.
	Check for dirty contacts.	After turning off the power, clean contacts.
	Check for loose wire connections.	Tighten wire connections.
Unscheduled	Make prediction of heavy snowfall, if necessary.	Use red flags or sticks to mark the location of fixtures to facilitate snow removal and lessen the chance of damage to fixtures by snow removal equipment.

### 4.1 Troubleshooting



#### WARNING

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

De-energize the circuit and lock out the circuit or regulator so that the circuit cannot be energized by remote means before attempting to service the fixture.

Refer to [Table 8](#). This section contains troubleshooting information. This information covers only the most common problems that you may encounter. If you cannot solve the problem with the information given here, contact your local ADB SAFEGATE representative for help.

**Table 8: L-862S Light Fixture Troubleshooting**

Problem	Possible Cause	Corrective Action
Lamps not turning on	Defective lamp	Replace lamp. Refer to <a href="#">Lamp Replacement</a> .
	Loose wire connection(s)	Tighten wire connection(s).
	Isolation transformer bad	Replace transformer.
	Deteriorated wire insulation	Replace wires.
	Moisture present in fixture	Open up and dry. Inspect lens for cracks. Replace lamp and any damaged parts. Refer to <a href="#">Lamp Replacement</a> or <a href="#">Lens, Reflector, and Gasket Replacement</a> .

## 4.2 Repair



### WARNING

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

This section provides instructions for replacing lamps for the L-862S light fixtures.

### 4.2.1 Lamp Replacement



### WARNING

De-energize the circuit and lock out the circuit or regulator so that the circuit cannot be energized by remote means before attempting to service the fixture.

To replace a lamp, perform the following procedure:

1. See [Figure 3](#).  
Unscrew the back door (3) and take it off the light fixture.
2. Pull up the lamp retaining bracket (2) until it latches against the top edge of the opening in the head.
3. Take out the lamp (4) and spacer (1).
4. Put the spacer on the new lamp.



### CAUTION

Touching quartz lamps with bare fingers may seriously shorten lamp life. If the lamp is accidentally touched with bare fingers, clean with a tissue moistened with isopropyl alcohol.

5. Put the lamp and spacer back in the fixture.
6. Position the inner spring clip against the lamp.
7. Reinstall the back door.

### 4.2.2 Lens, Reflector, and Gasket Replacement

To replace the lens, gasket, or reflector, perform the following procedure:

1. Remove the lamp per the lamp replacement procedure.  
Refer to [Lamp Replacement](#) in this section.
2. See [Figure 3](#).

- 
- Remove the four screws (13) that hold the lens retaining ring (12) to the light fixture. Retain the four nuts.
  3. Remove the lens (11), reflector (15), and gasket (14) as one unit by reaching through the back door opening and pushing it out.
  4. Disassemble the lens (11), reflector (15), and gasket (14) and replace components as required.
  5. Reverse steps 1 through 4 to reassemble.
- 



### CAUTION

See Figure 5. Reflector and gasket are stamped TOP. Align the stamps and install aligned with top hole in head assembly flange. If the reflector and gasket are not aligned correctly, the lamp will not be properly oriented and the lamp photometric performance will diminish.

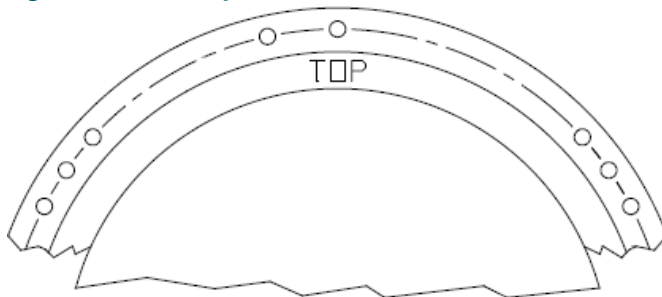
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### Note

Figure 5 does not show the lens retaining ring.

**Figure 5: TOP Stamped on Reflector and Gasket**





## 5.0 Parts

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

### 5.1 L-862S Light Fixture Part Numbering System

Figure 6 shows how to determine the part number for a particular L-862S light fixture.

**Figure 6: L-862S Light Fixture Part Numbers**

<b>Ordering Code</b>	<b>44A5877-X</b>
<b>Fixture Height</b>	
1 = 14 in (35.6 cm)	
2 = 24 in (61 cm)	
3 = 30 in (76.2 cm)	

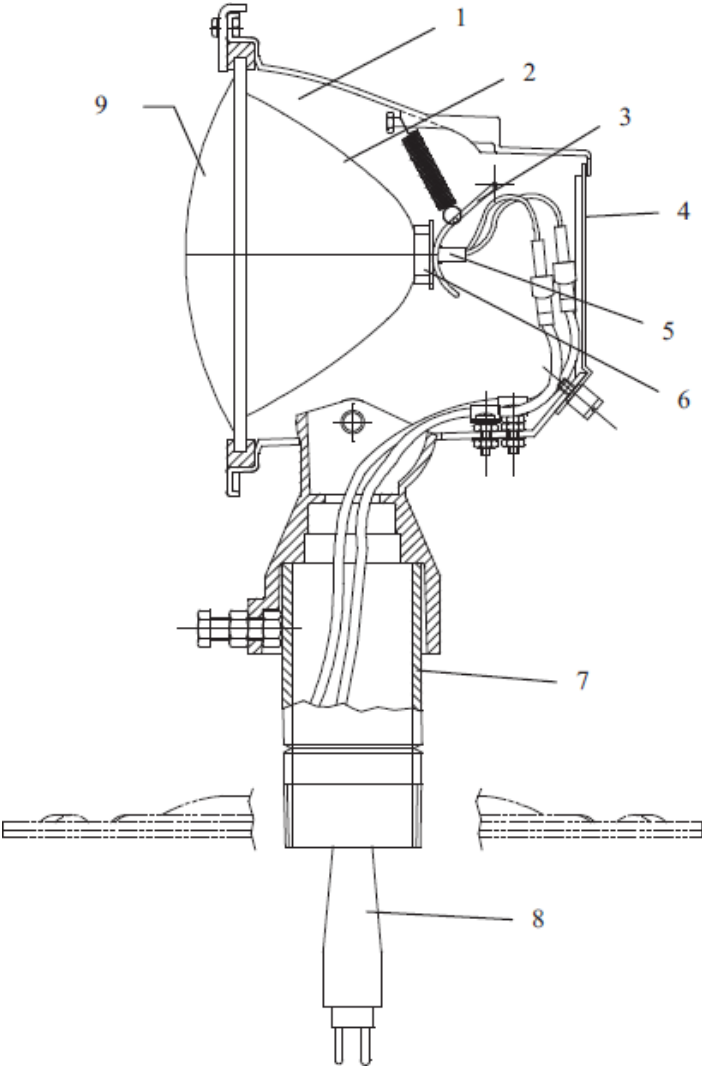
### 5.2 L-862S Light Fixture Parts List

See Figure 7.

Item	Description	Part Number	Quantity	Note
1	Head assembly	1400.21.010	1	
2	Optical assembly	1408.30.060	1	
3	Lamp retaining bracket	65A0163	1	
4	Back door	60A2557	1	
5	Lamp (150 W PK-30d)	48A0353	1	
6	Spacer, L-862S lamp, focalizing	60A2555	1	
7	Frangible column		1	
	Column, 14-in.-diameter	60A2444-1		
	Column, 24-in.-diameter	60A2444-2		
	Column, 30-in.-diameter	60A2444-3		

Item	Description	Part Number	Quantity	Note
8	Cordset, L-823		1	
	Cordset, (for 14-in frangible column)	44A5881-1		
	Cordset, (for 24-in frangible column)	44A5881-2		
	Cordset, (for 30-in frangible column)	44A5881-3		
9	Lens, traffic signal red	63A0958-1	1	

Figure 7: L-862S Light Fixture



## 5.3 Possible Spare Parts

See [Figure 7](#).

Item	Description	Part Number	Quantity	Note
2	Optical assembly	1408.30.060	2	1
3	Lamp retaining bracket	65A0163	2	
5	Lamp (150 W PK-30d)	48A0353	3	
7	Frangible column		2	
	Column, 14-in.-diameter	60A2444-1		
	Column, 24-in.-diameter	60A2444-2		
	Column, 30-in.-diameter	60A2444-3		
9	Lens, traffic signal red	63A0958-1	2	



NS: Not Shown

### Notes

<sup>1</sup> A: If the optical assembly is received with a clear front lens, remove and discard the clear lens.





## 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**

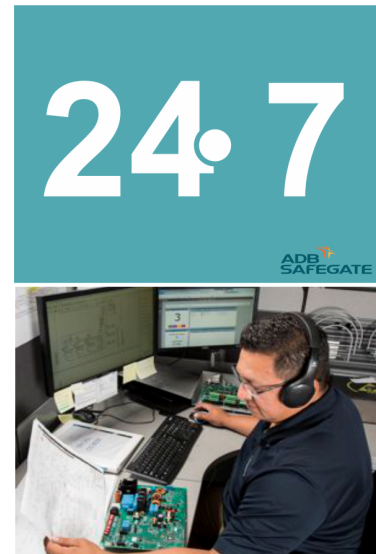
**ADB SAFEGATE Americas Technical Service & Support (International): +1-614-861-1304**

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 we ask that you have the following information ready before calling.

- The *airport code*
- If not with an airport, then company name (prefer customer id number)
- Contact phone number and email address
- Product with part number preferable or product number
- Have you reviewed the product's manual and troubleshooting guide
- Do you have a *True RMS* meter available (and any other necessary tools)
- Be located with the product ready to troubleshoot



For more information, see [www.adbsafegate.com](http://www.adbsafegate.com), or contact ADB SAFEGATE Support via email at [support@adbsafegate.com](mailto:support@adbsafegate.com) or

Brussels: +32 2 722 17 11

Rest of Europe: +46 (0) 40 699 17 40

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

China: +86 (10) 8476 0106

### A.1 ADB SAFEGATE Website

The ADB SAFEGATE website, [www.adbsafegate.com](http://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.

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