RELIANCE L-810(L) OBSL-L Steady Burning LED Obstruction Light Single with Optional IR Content

User Manual

96A0476, Rev. G, 2020/06/29

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.

All Products Guarantee

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.

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 furthers 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 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.

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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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 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

1.1.5 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

2.0 Reliance Steady Burning LED Obstruction Light, L-810(L) OBSL-L

Reliance Steady Burning LED Obstruction Light with optional IR content.

2.1 Introduction to the Manual

This manual shows the information necessary to:

- Install
- Carry Out Maintenance
- Carry Out Troubleshooting on the OBSL-L.

2.1.1 How to work with the manual

1. Familiarize yourself with the structure and content.
2. Carry out the actions completely and in the given sequence.

2.2 Reliance OBSL-L Introduction

This section describes the L-810(L) Single (Figure 1) Reliance IL OBSL-L steady burning obstruction light.

2.2.1 Obstruction Light

Compliance with Standards

FAA:	L-810(L) AC 150/5345-43 (Current Edition) and the FAA Engineering Briefs No. 67 and No. 98. ETL Certified.
ICAO:	Annex 14, Vol. 1, para. 6.3, Type A & B
T/C:	Canadian Standard 621, Tables 13-3 and 13-4; Canadian Standard 621 Figures 13-2

Uses

FAA L-810(L), ICAO, T/C	Steady-burning red light fixture marking all fixed obstructions to eliminate air navigational hazards.

Electrical Supply

Single OBSL-L with heater	VA Load
120 VAC: 120 VAC with IR:	24.21 VA 27.2 VA
Single OBSL-L without heater	**VA Load**
95-277 VAC 95-277 VAC with IR:	9.21 VA 12.2 VA
12 VDC: 12 VDC with IR:	6.47 VA 9.51 VA
24 VDC: 24 VDC with IR:	6.44 VA 9.49 VA
48 VDC: 48 VDC with IR:	6.63 VA 9.59 VA

2.2.2 L-810 Obstruction Light: Required Equipment

Refer to Table 1 for required equipment that is supplied. Refer to Table 2 for required equipment that is not supplied. Refer to the Reliance Steady Burning LED Obstruction Light, OBSL Parts section for part numbers.

Table 1: Required Equipment Supplied

Description	Quantity	Note
L-810(L) obstruction light	1	
Instruction manual	1	A

Table 2: Required Equipment Not Supplied

Description	Quantity	Note
Wire, input power – 18AWG	As required	
Wire, Ground – 18AWG	As required	

3.0 Reliance Steady Burning LED Obstruction Light Installation

WARNING

Electric Shock
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.
- 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 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 these warnings may result in serious injury or equipment damage.

3.1 Introduction to OBSL-L installation

This section provides instructions for installing the L-810(L) obstruction lights. 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 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.

3.3 Installation Procedure

This subsection provides installation instructions for L-810(L) obstruction light fixtures.

Use appropriately strong conduit to mount the the OBSL

3.4 Placement

The placement and number of L-810 light fixtures required to adequately mark an obstruction for any approaching aircraft is determined by:

- Height, size, and shape of obstruction.
- Area in which an obstruction is located.
- FAA regulations. Refer to
  - Advisory Circular 150/5345-43
  - Advisory Circular 150/5340-30
  - Advisory Circular 70/7460-1
- ICAO Regulations:
  - Annex 14, Volume 1, Aerodrone Design and Operations
- Transport Canada:
  - Standard 621 Obstruction Marking and Lighting

3.5 Wiring

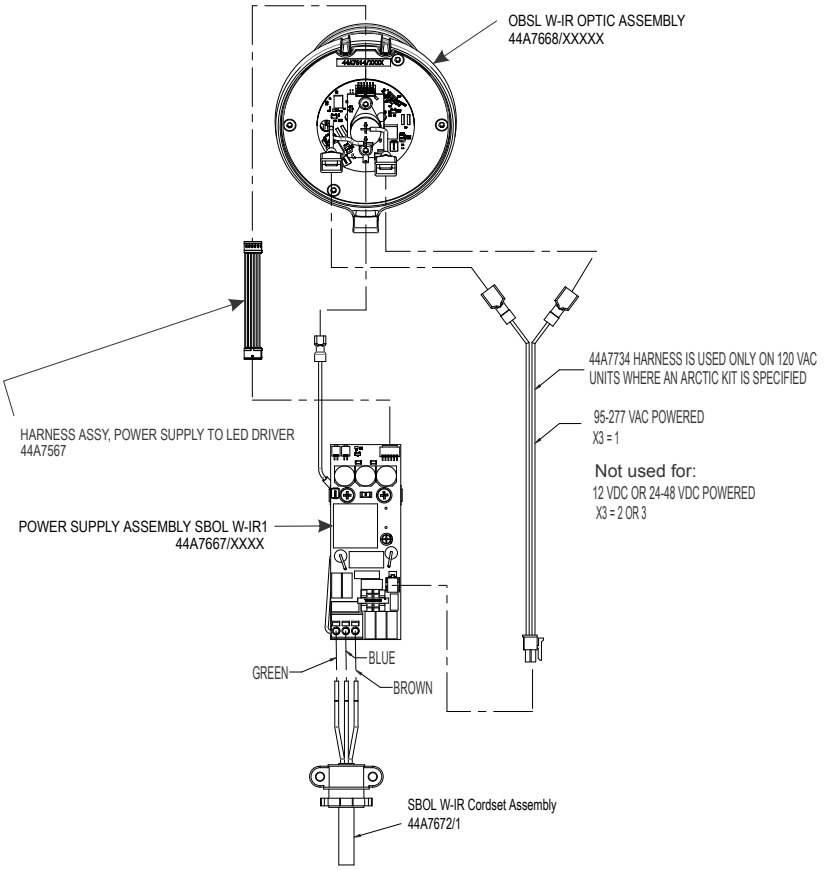
To connect the wiring for the OBSL-L perform the following procedure:

Feed two 18 AWG wires for power input and one 18AWG ground wire through on-site conduit. Make connection to power source through the terminal blocks used with the OBSL-L Single L-810(L).

All wiring to be in accordance with site plans or local electrical codes.

Wire specific fixtures as follows:

Figure 1: Single Wiring Connections



4.0 Maintenance and Repair

To keep the Reliance Steady Burning LED Obstruction Light L-810 obstruction light fixtures operating efficiently, follow a preventive maintenance schedule. Refer to Table 3

Table 3: L-810 Obstruction Light Fixture Maintenance

Interval	Maintenance Task	Action
Daily	Check visually for failure.	Replace the LED or Power Module if necessary. **Note** During replacement, clean lens and check all wiring for defects.
Annually	When obstruction lights are mounted on disconnect hangers, check lowering devices.	Clean and lubricate all lowering devices such as wire guides, pulleys, all fittings, supports, and cables. Clean the contact surfaces of the electrical disconnect.

4.1 Replacing the LED Optical Assembly Components

To replace a broken or cracked glassware or LED mounting assembly, unlatch the lock ring and remove the glassware assembly from the top of the obstruction light housing. See Figure 2.

Disconnect the LED light assembly connections to the power supply.

Remove the four flat head screws that hold the LED assembly place and then lift off the glassware. Remove the rubber seals and discard the broken or cracked glassware.

Note

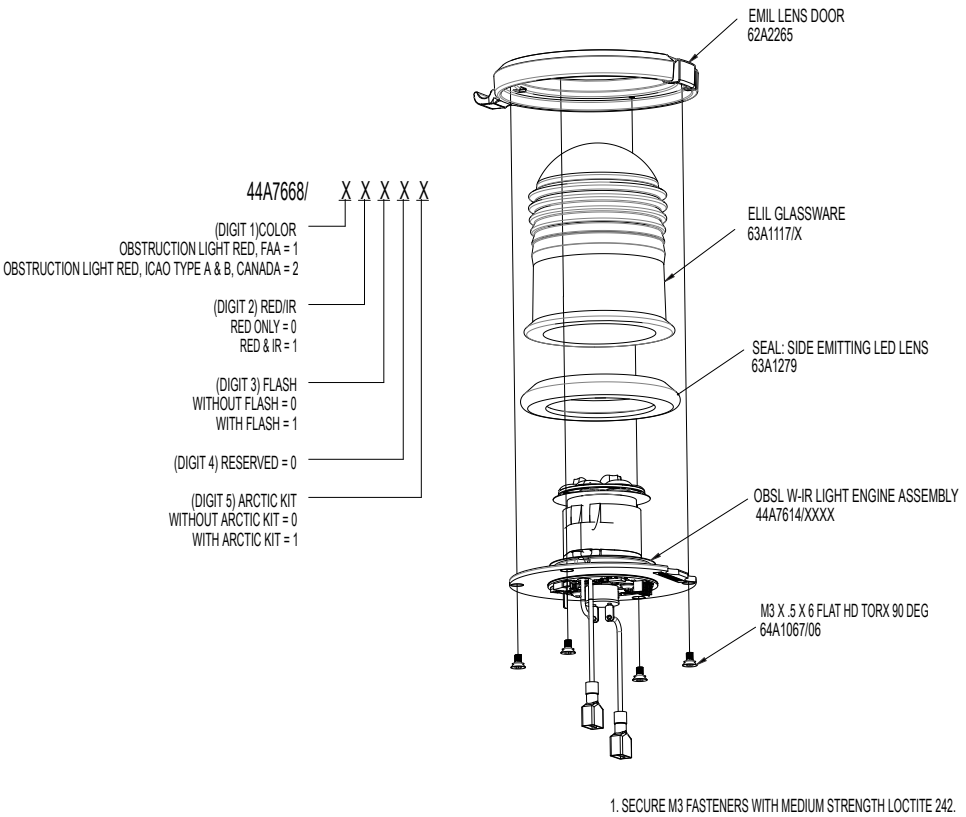
When replacing the glassware or LED mounting assembly, ADB recommends replacing the lens seal to insure optimum sealing.

Note

The individual LEDs are not replaceable. The entire LED mounting assembly must be replaced.

Reassemble the components in reverse order. Apply Loctite 242 to the threads. Torque the four flat head screws to 22-25 in-lbs. Reinstall the lens assembly onto the housing of the fixture.

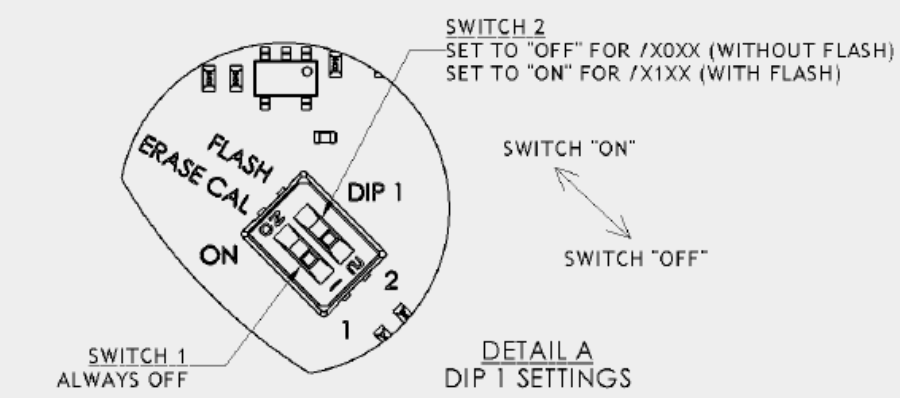
Figure 2: Optical Assembly



Reinstall the repaired fixture back at the site location.

4.2 Light Engine Assembly Calibration

Figure 3: LED Light Engine Dip Switches for Flashing



When replacing the power supply it is best to reset the LED Light Engine of the Optical Assembly. See Figure 3. To erase the calibration on the light engine, place SW1 on DIP1 to the ON position, and apply power to the unit. When the calibration is fully erased, the light will blink at 120 flashes per minute. Remove power from the unit. Place SW1 DIP1 back into the OFF position.

At completion of the calibration the LED will flash off/on 8 times over a 2 second span to indicate success. Resume normal operation.

4.3 Replacing LED Power Supply Assembly Components

Disconnect the power to the light assembly and remove the entire assembly from the location site. Unlatch the optic assembly from the top of the obstruction light assembly.

See Figure 4 .

Lift the LED power supply assembly out of the fixture housing and locate and pull off the two disconnects on the PCB assembly. Connect the new LED assembly leads to the PCB.

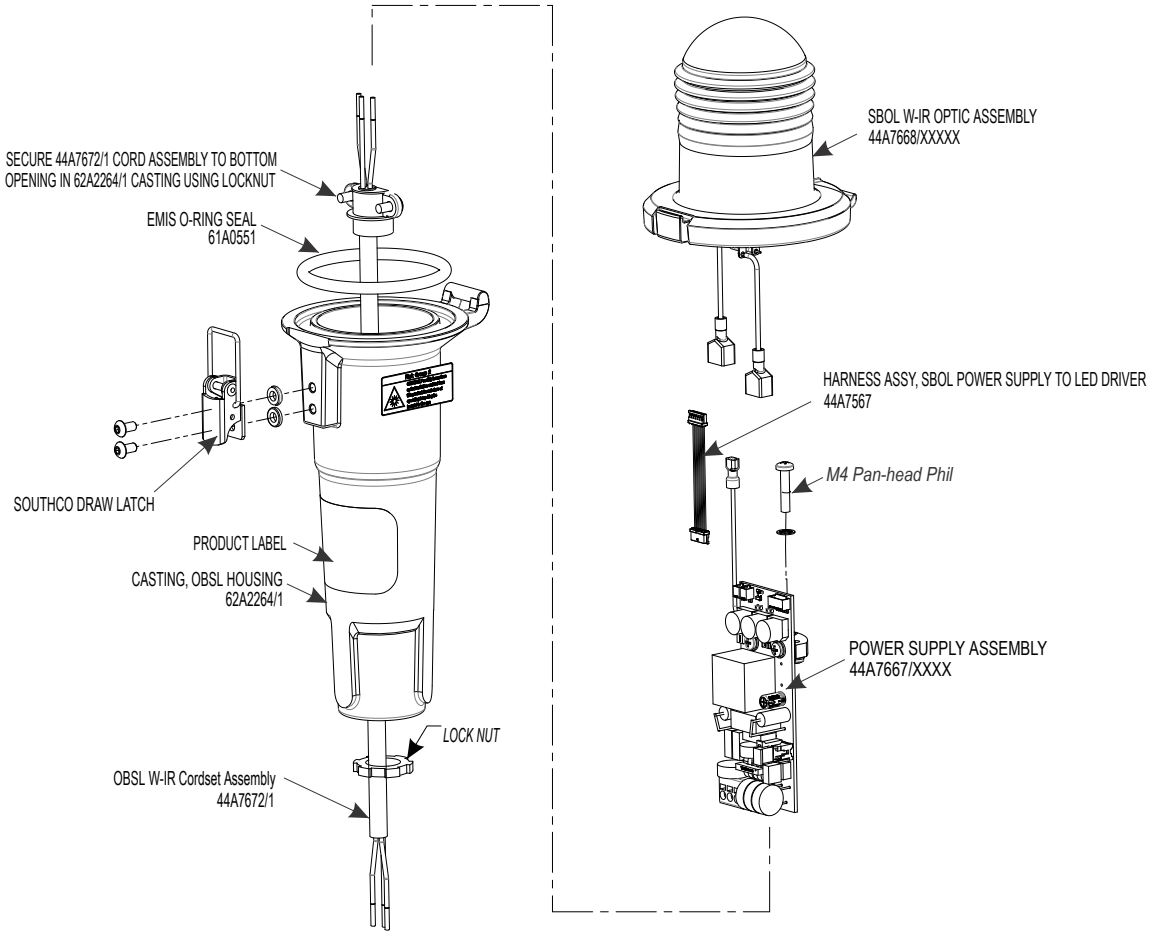
See Figure 4 .

Note

Insure that the leads do not become pinched when placing the LED power supply back into the housing and the optical assembly is latched back onto the housing.

Reinstall the optical assembly on to the top of the housing. Reinstall the repaired fixture back at the site location.

Figure 4: LED OBSL-L Assembly (exploded view)



4.3.1 Replacing LED Power Supply Assembly

1. Dxwisconnect the power to the light assembly and remove the entire assembly from the location site. Unlatch and remove the glassware assembly from the top of the obstruction light assembly. See Figure 4 .
2. Lift off the LED Mounting Assembly and disconnect the LED leads. Remove the locking nut at the base, holding the cordset (if used). Next,remove the M4 Pan-head Phillips Screws that secure the Power Supply Assembly to the OBSL housing.

3. Lift the power supply assembly out of the fixture housing.
    - Locate and disconnect the incoming power and the 44A7734 arctic kit harness cables (if used). See Figure 5.
    - The cordset wires are shown in Figure 1
4. Re-connect the power leads to the new power supply assembly and reconnect the LED leads to the PCB. If present, reconnect the 44A7734 artic kit harness.
5. Insert the PCB assembly back into the housing and secure with the M4 Pan-head Phillips Screws. Torque to 12-15 in-lb (1.4 - 1.7 N·m).
6. Reinstall 44A7668 optic assembly and reconnect the leads per Figure 1

> **Note**
> Insure that the two LED leads do not become pinched when placing the LED assembly back into the housing. Latch the Glassware Assembly back onto the housing.

7. Reinstall the repaired fixture back at the site location.

4.4 Aiming the Photocell

To aim the Photocell:

1. Open the electronics enclosure and loosen the lock nut holding the photocell.
2. Adjust the photocell to the proper direction, (towards the nearest pole) such as, the North Pole.
3. Tighten the lock nut.
4. Close up the electronics enclosure

5.0 Troubleshooting

Problem	Possible Cause	Corrective Action
1. LED not lighting	Defective electronic module	Replace the electronic module.
	Loose wire connections	Tighten wire connections.
	Deteriorated wire insulation	Replace wires.
	Moisture present in fixture	Open and dry the fixture. Inspect the glassware for cracks. Replace the electronic module, seals, and damaged glassware assembly.
2. LED too dim	Dirty Glassware	Clean the glass lens.
	LED or electronic module failed	Replace the LED or the electronic module.
3. Ice forming on lens	Defective or missing arctic kit	Remove the glassware assembly and check to see if heating element is installed. If missing or defective install new arctic kit. See Wiring and Figure 5.
4. Light is flickering	At the base of the Light Engine, ensure dip switch 1 is in the OFF position	See: Figure 3
5. Light is not flashing or, is flashing when not supposed to	At the base of the Light Engine, ensure dip switch 2 is in the correct position	See: Figure 3

6.0 Reliance Steady Burning LED Obstruction Light, OBSL Parts

To order parts, call ADB Safegate Customer Service Center or your local representative. Use the accompanying illustrations, part number callouts and descriptions to identify and order parts correctly.

Ordering Code

OBSL - X X X X X X X X X

Specification
1 = Obstruction Light Red, FAA
2 = Obstruction Light Red, ICAO, Type A & B, Canada[3]

Mounting
1 = Single, bottom mount 1"-11.5 NPT

Power
1 = 95-277 VAC, ±10%, 50/60 Hz[1]
2 = 24-48 VDC
3 = 12 VDC

Control
0 = No control

Alarm
0 = No alarm contact

Photocell
0 = No photocell

IR
0 = Without IR
1 = IR and visible light output

Arctic Option
0 = Without arctic option
1 = With arctic option[2]

Flashing
0 = No flash
1 = Flashing (30 flashes per minute)[3]

Notes
1 Fixture (without heater) is designed to operate from 95 VAC (min.) to 277 VAC (max.), 50/60 Hz.
2 When powered by a parallel circuit, heater is designed for use at only 120 VAC, ±10%, 50/60 Hz.
3 Not ETL Certified.

6.1 OBSL-L Spare Components

Description	Part No.	Note
Glassware, Clear, ICAO	63A1117-C	Figure 6
Glassware, Red, FAA	63A1117-R	Figure 6
Lens Attaching Door	62A2265	Figure 6
OBSL-L Light Assembly	44A7668-XXXXX	Figure 6
Seal, Side Emitting Lens	63A1279	Figure 6
Cordset	44A7672/1	Figure 5
O-Ring Seal	61A0551	Figure 6
Power Supply Assembly AC, W-IR	44A7667/AC00	Figure 5
Power Supply Assembly 12VDC, W-IR	44A7667/D100	Figure 5

Description	Part No.	Note
Power Supply Assembly 24-48 VDC, W-IR	44A7667/D200	Figure 5
Harness Assy, Power Supply To LED Driver	44A7567	Figure 5
LED Light Engine	44A7614/XXXX	See: Table 4.

Figure 5: OBSL Assembly Parts

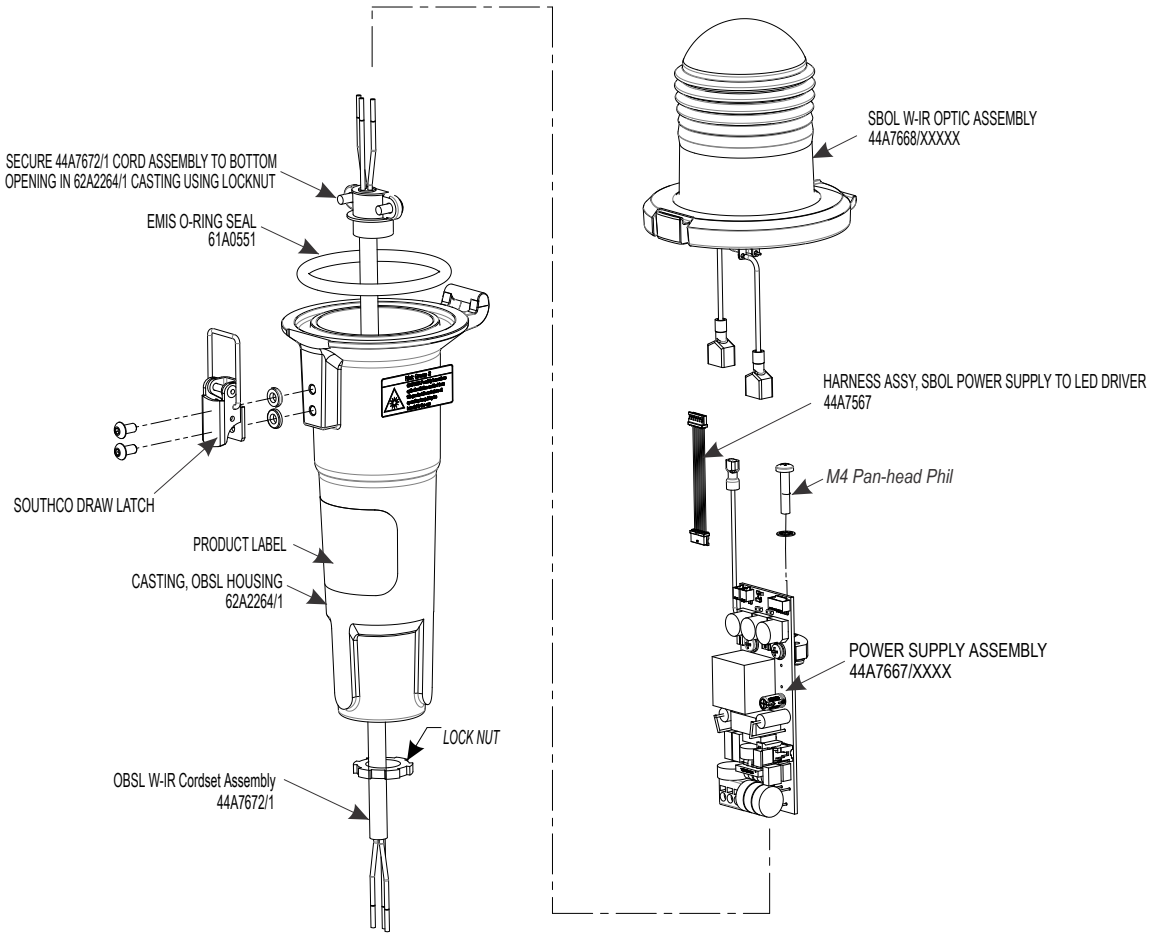


Figure 6: Glassware Assembly Parts

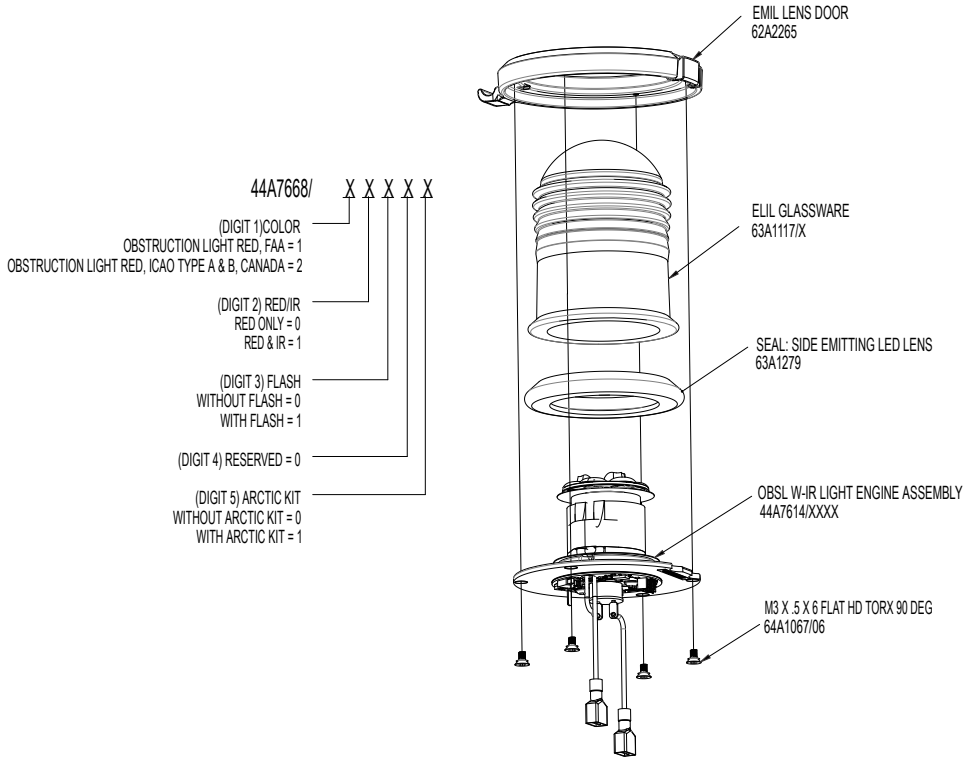


Table 4: LED Light Engine Order Code

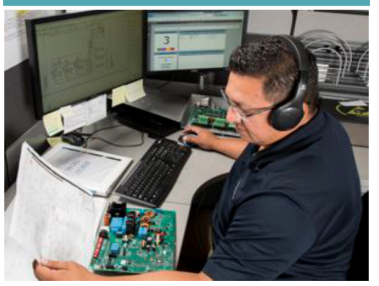
44A7614/	X1	X2	X3	X4
IR Content				
	0 - Red Visible Light Only			
	1 - Red and IR			
Flash Option				
		0 - Without Flash		
		1 - With Flash		
			Not Used (0)	
Arctic Kit (Heater, 120 Vac Only)				
				0 - Without Arctic Kit
				1 - With Arctic Kit (120 Vac Only)

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

Note
For more information, see www.adbsafegate.com, or contact ADB SAFEGATE Support via email at 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, 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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Americas LLC	ADB SAFEGATE, Americas: 977 Gahanna Parkway, Columbus, OH 43230 USA
Contact: Tel.: +1 (614) 861 1304, Fax: +1 (614) 864 2069	Email: sales.us@adbsafegate.com Internet: www.adbsafegate.com

ADB SAFEGATE Sweden AB	ADB SAFEGATE, Sweden: Djurhagegatan 19 SE-213 76 Malmö Sweden
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ADB SAFEGATE Airfield Technologies Ltd. China	ADB SAFEGATE, China: Unit 603, D Block, CAMIC International Convention Center, No 3, Hua Jia Di East road, ChaoYang district, Beijing 100102 P.R. China
Contact: Tel.: +86 (10) 8476 0106, Fax: +86 (10) 8476 0090	Email: china@safegate.com Internet: www.adbsafegate.com

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Contact: Tel.: +49 (621) 87 55 76-0, Fax: +49 (621) 87 55 76-55	Email: marketing@adbsafegate.com Internet: www.adbsafegate.com

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