ADB Airfield Solutions

Operation Manual

96A0415

Retain for future use.

Rev. i, 9/9/14

FAA: L-861(L) and L-861E(L) AC 150/5345-46 (Current Edition) and the FAA Engineering Brief No. 67. ETL Certified.

ICAO: Annex 14, Vol. I, par. 5.3.9.7 to 5.3.9.9

T/C: Transport Canada TP 312 Par. 5.3.10.11 to 5.3.10.13

CE: Complies with the requirements of the EMC Directive 2004/108/EC.

EMIL-L LED Elevated Runway Edge Light

L-861 & L-861E, Medium Intensity

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1.0 Safety

This section contains general safety instructions for installing and using ADB Airfield Solutions 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 To use this equipment safely:

WARNING

Read installation instructions in their entirety before starting installation.

- Refer to the FAA Advisory Circular AC 150/5340-26, Maintenance of Airport Visual Aids Facilities, for instructions on safety precautions.
- Observe all safety regulations. To avoid injuries, always disconnect power before making any wiring connections or touching any parts. Refer to FAA Advisory Circular AC 150/5340-26.
- 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.
- Allow ample room for maintenance, panel accessibility, and cover removal.
- Protect components from damage, wear, and harsh environment conditions.
- 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.

1.1.1 Additional Reference Materials:

- NFPA 70B, Electrical Equipment Maintenance.
- NFPA 70E, Electrical Safety Requirements for Employee Workplaces.
- ANSI/NFPA 79, Electrical Standards for Metalworking Machine Tools.
- OSHA 29 CFR, Part 1910, Occupational Health and Safety Standards.
- National and local electrical codes and standards.

1.1.2 Qualified Personnel

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 practices.

1.1.3 Intended Use

WARNING

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.

ADB Airfield Solutions cannot be responsible for injuries or damages resulting from nonstandard, unintended applications of its equipment. This equipment is designed and intended only for the purpose described in this manual. Uses not described in this manual are considered unintended uses and may result in serious personal injury, death or property and equipment damage. Unintended uses may result from taking the following actions:

- Making changes to equipment that are not recommended or described in this manual or using parts that are not genuine ADB Airfield Solutions replacement parts.
- Failing to make sure that auxiliary equipment complies with approval-agency requirements, local codes and all applicable safety standards.
- Using materials or auxiliary equipment that are inappropriate or incompatible with ADB Airfield Solutions equipment.
- Allowing unqualified personnel to perform any task.

1.1.4 Storage

CAUTION

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 injury or equipment damage.

1.1.4.1 Operation

WARNING

- Only qualified personnel, physically capable of operating the equipment and with no impairments in their judgment or reaction times, should operate this equipment.
- Read all system component manuals before operating this equipment. A thorough understanding of system components and their operation will help you operate the system safely and efficiently.
- Before starting this equipment, check all safety interlocks, fire-detection systems, and protective devices such as panels and covers. Make sure all devices are fully functional. Do not operate the system if these devices are not working properly. Do not deactivate or bypass automatic safety interlocks or locked-out electrical disconnects or pneumatic valves.
- 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.
- Route electrical wiring along a protected path. Make sure they will not be damaged by moving equipment.
- Never operate equipment with a known malfunction.
- Do not attempt to operate or service electrical equipment if standing water is present.
- Use this equipment only in the environments for which it is rated. Do not operate this equipment in humid, flammable, or explosive environments unless it has been rated for safe operation in these environments.
- Never touch exposed electrical connections on equipment while the power is ON.

1.1.4.2 Material Handling Precautions

CAUTION

This equipment may contain electrostatic sensitive 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 should 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.

1.1.4.3 Action in the Event of a System or Component Malfunction

WARNING

- Do not operate a system that contains malfunctioning components. If a component malfunctions, turn the system OFF immediately.
- Disconnect and lock out electrical power.
- Allow only qualified personnel to make repairs. Repair or replace the malfunctioning component according to instructions provided in its manual.

1.1.4.4 Maintenance and Repair

WARNING

Allow only qualified personnel to perform maintenance, troubleshooting, and repair tasks.

- Only persons who are properly trained and familiar with ADB Airfield Solutions equipment are permitted to service this equipment.
- 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 Airfield Solutions replacement parts. Using unapproved parts or making unapproved modifications to equipment may void agency approvals and create safety hazards.
- Check interlock systems periodically to ensure their effectiveness.
- Do not attempt to service electrical equipment if standing water is present. Use caution when servicing electrical equipment in a high-humidity environment.
- Use tools with insulated handles when working with electrical equipment.

2.0 EMIL

L-861 & L-861E LED Elevated Runway Edge Light.

2.1 About this manual

The manual shows the information necessary to:

- Install and maintain the L-861 & L-861E LED Elevated Runway Edge Light (EMIL).

2.1.1 How to work with the manual

1. Become familiar with the structure and content.
2. Carry out the actions completely and in the given sequence.

2.1.2 Record of changes

PAGE	REV	DESCRIPTION	EC NO.	CHECKED	APPROVED	DATE
	A	New				
all	**B**	Updated after field tests		**ER**	**GM**	**9/10/10**
3-4	**C**	Updated leveling procedure		**ER**	**DR**	**8/10/11**
All	**D**	Update entire manual		**DR**	**ER**	**2/28/13**
	E	Add aiming device info				
11, 13, 14, 16	**F**	Update troubleshooting info and diagrams		**DR**	**ER**	**3/6/13**
13, 15, 16	**G**	Updated Parts	**3816**	**DR**	**ER**	**5/01/13**
11,12,13	**H**	Inserted lens replacement procedure		**DB**	**RW**	**9/23/13**
11, 12, 15-19	**i**	Updated for new RED Enhanced		**RW**	**ER**	**5/25/14**

2.1.3 Icons used in the manual

For all WARNING symbols see the Safety section.

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.

CAUTION

- Failure to observe a caution may result in equipment damage.

2.2 Introduction

This section provides an introduction to the L-861 & L-861E LED Elevated Runway Edge Light.

Compliance with Standards

FAA:
Designed according to L-861(L) and L-861E(L) AC 150/5345-46 (Current Edition) and the FAA Engineering Brief No. 67 “Light Sources other than Incandescent and Xenon for Airport Lighting and Obstruction Lighting Fixtures.” ETL Certified.

ICAO: Annex 14, Vol. I, par. 5.3.9.7 to 5.3.9.9

T/C: Transport Canada TP 312 Par. 5.3.10.11 to 5.3.10.13

CE: Complies with the requirements of the EMC Directive 2004/108/EC.

Uses

FAA L-861(L)

- Runway edge
- Visual runways or non-precision IFR runways

FAA L-861E(L)

- Runway threshold/end
- Visual runways or non-precision IFR runways

ICAO & T/C

- Runway edge
- Runway threshold/end

2.2.1 Features

- Average LED life of 56,000 hours under high-intensity conditions and more than 150,000 hours under typical operating conditions, resulting in significant reduction or even elimination of ongoing maintenance costs and periodic re-lamping expenses.
- Single-latch, stainless steel clamp allows easy removal and replacement of top cover and lens.
- A gasket is used between the lens and the top cover and also between the top and bottom fixture head assemblies to form a watertight seal.
- EMIL with arctic option (U.S. Patent 7192155 B2) uses a thermostatically controlled heater to prevent ice and snow buildup from obscuring light output. Melts ice similar to traditional incandescent fixtures.
- Three screws allow a 4° leveling adjustment of the fixture after installation.
- Fixture comes standard with a 1.5-inch coupling, but is available with a 2-inch coupling and in alternative thread patterns.
- Sealed entry at cord set to optical assembly interface prevents insect entry.
- For additional features common to all of ADB’s elevated LED fixtures, see catalog sheet 3043.

Operating Conditions

Temperature:	-40°F to +131°F (-40°C to +55°C)
Wind:	Withstands wind velocities up to 300 mph (480 kph)

2.2.2 Electrical Supply, Current Driven

6.6 A through an L-830-1 (for 60 Hz) or L-831-1 (for 50 Hz) isolation transformer. EMIL LED lights have been designed to work with any IEC or FAA-compliant transformer up to 30/45 W without affecting performance or lifetime of the light or the transformer. See catalog sheet 1215 for more details on recommended isolation transformers specified below.

	Fixture Load	Isolation Transformer	Isolation Transformer Load	CCR Load
EMIL L-861(L)				
W/out heater	**19.6 VA**	**20/25 W**	**7.6VA**	**27.2 VA**
With heater	**42 VA**	**30/45 W**	**12VA**	**54 VA**
EMIL L-861E(L) - Bidirectional				
W/out heater	**11.8 VA**	**10/15 W**	**6.2 VA**	**18 VA**
With heater	**33 VA**	**30/45 W**	**14 VA**	**47 VA**
EMIL L-861E(L) - Unidirectional				
W/out heater	**9.9 VA**	**10/15 W**	**6.1 VA**	**16 VA**
With heater	**31 VA**	**30/45 W**	**14 VA**	**45 VA**

Packaging

Assembled Fixtures	Dimensions of Cartons		Indiv. Weight
	Individual	9 Per Box	
14-inch OAH	6.5 x 6.5 x 20.5 in	19.5 x 19.5 x 20.5 in	5 lb
	17 x 17 x 52 cm	50 x 50 x 52 cm	2.3 kg
24-inch OAH	6.5 x 6.5 x 31 in	19.5 x 19.5 x 31 in	6.25 lb
	17 x 17 x 79 cm	50 x 50 x 79 cm	2.8 kg
30-inch OAH	6.5 x 6.5 x 37 in	19.5 x 19.5 x 37 in	7 lb
	17 x 17 x 94 cm	50 x 50 x 94 cm	3.2 kg

2.3 Installation

WARNING

Read the instructions in their entirety before starting installation.

This section provides instructions for installing the L-861 & L-861E LED Elevated Runway Edge Light (EMIL) fixture. Refer to the airport project plans and specifications for the specific installation instructions.

2.3.1 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.

2.3.2 Placement

This subsection describes the placement of the L-861 and L-861E light fixtures.

L-861 Light Fixture Placement

Follow the guidelines below when placing the L-861 light fixture.

- The L-861 light fixture is normally positioned a maximum of 20 feet (6.096 m) off the edge of the hard surface of the runway, and in a straight line with all other light fixtures on the same side of the runway.
- The longitudinal spacing of the light fixtures should not exceed 200 feet (60.96 m).

L-861E Light Fixture Placement

Follow the guidelines below when placing the L-861E light fixture.

- The L-861E light fixture is normally positioned along the runway theshold.
- See the site plans for your airport for exact placement and spacing.

2.3.2.1 Base Mounting

L-861 light fixtures can be mounted on an L-867 base plate with a diameter and bolt-hole corresponding to either a 12-inch (304.8 mm) diameter L-867B base or a 16-inch (406.4 mm) diameter L-867D base plate per FAA AC 150/5345-46. The base plate is designed to receive a frangible coupling using a female thread. The standard coupling thread is 1-1/2 -12 UNF, optional thread is 2-11.5 NPT, and 2-11 TPI (ICAO application). A gasket is supplied with the base plate to form a watertight seal between the base plate and the L-867 light base per FAA AC 150/5345-46.

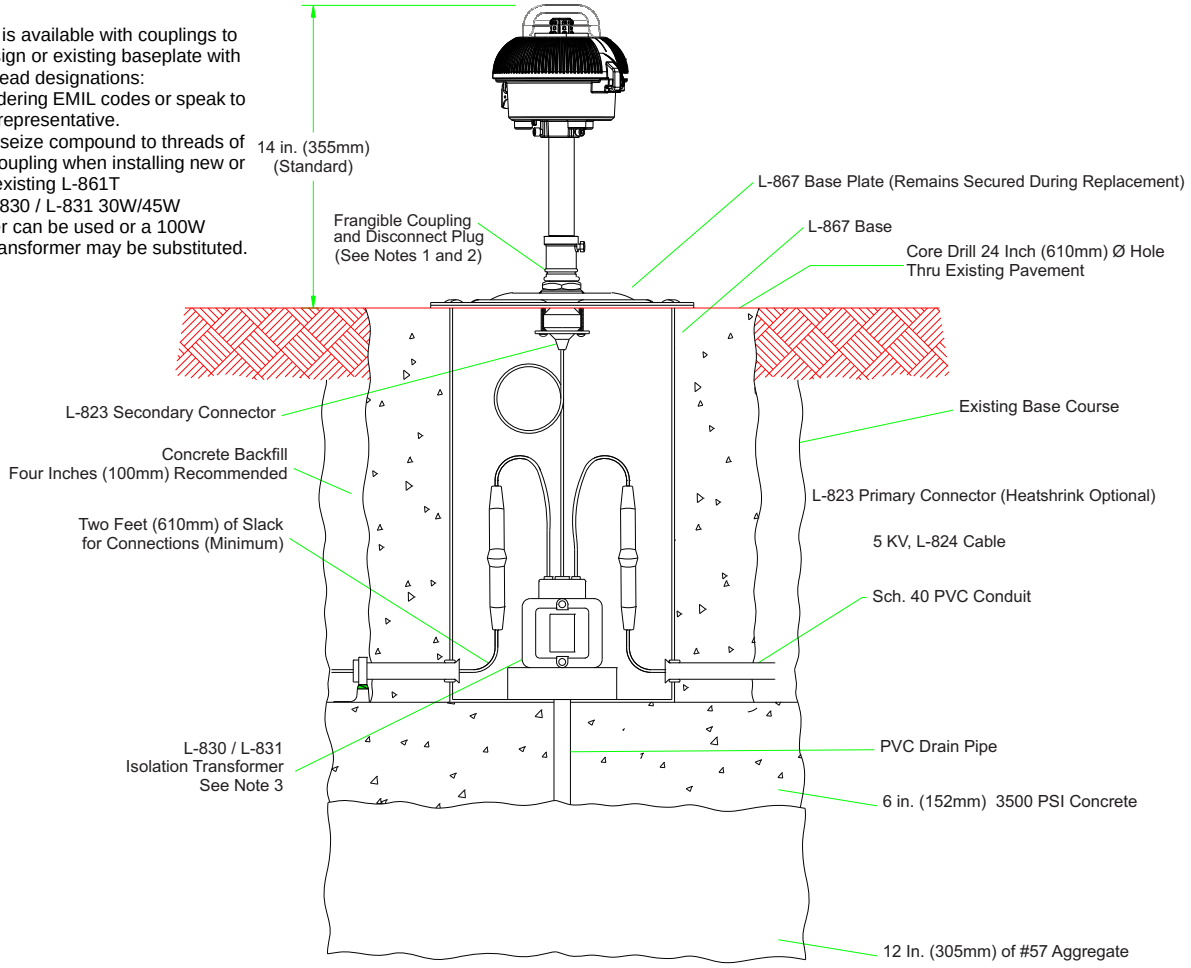
NOTE: Install the base according to FAA Advisory Circular AC 150/5340-30 and site plans.

See Figure 1. The L-861 light fixtures can be mounted on an L-867 base mated with a base plate with a diameter and bolt-hole corresponding to either a 12-inch- or 16-inch- (304.8 or 406.4 mm) diameter L-867 base. The base plate is designed to receive a frangible coupling using a female thread.

Figure 1: Base Mounting

NOTES:

1. The L-861 is available with couplings to fit new design or existing baseplate with various thread designations: See the ordering EMIL codes or speak to your ADB representative.
2. Apply anti-seize compound to threads of frangible coupling when installing new or replacing existing L-861T
3. Existing L-830 / L-831 30W/45W transformer can be used or a 100W isolation transformer may be substituted.



Installation Notes

1. Loosen set screw located on frangible coupling
2. Back frangible coupling out of base plate or stake hub
3. Unplug existing L-861 from L-823 connection
4. Replace with L-861 LED, EMIL/XXXX

2.3.2.2 Light Base Mounting

To install the base, perform the following procedure:

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

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

2. Orient the cable entrance hubs of the light base in the proper direction according to site plans.
3. Level the light base so that the mounting flange surface is level in all directions.

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

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

1. 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.
2. Hand screw the entire L-861 fixture onto the base plate. Finish tightening the fixture by using a wrench on the flat areas of the frangible coupling.
3. Place the assembled base plate/fixture close to the base can.
4. Connect the fixture leads to the isolation transformer.
5. You may wish to meg each parallel circuit wire with respect to each other and with respect to earth ground and document the values.
6. Bolt the base plate with the base plate gasket to the L-867 base using six 3/8–16 stainless steel bolts. Apply a drop of Loctite number 243 to each bolt thread, and use a torque wrench to torque bolts down to 100/110 inch-pounds (11.3 N•m).

2.3.3 Light Fixture Leveling

Level the light fixture only after mounting the aiming device on the light base.

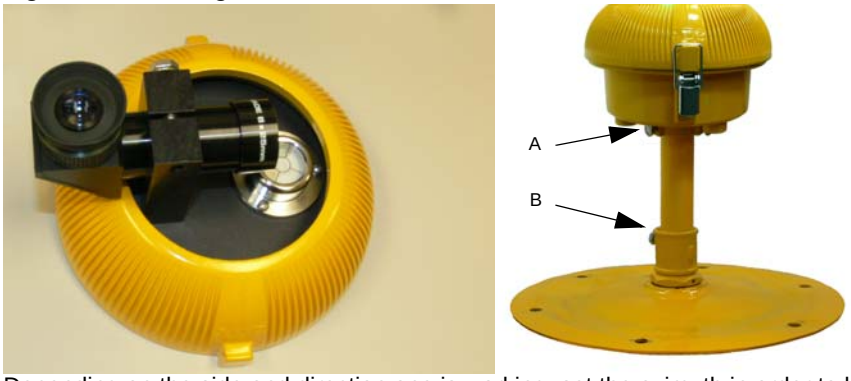
The equipment is aligned in azimuth by looking at a reference mark through the alignment tool. Depending on the position of the equipment, the reference mark may be another light in the same row or a stick installed for this purpose.

Usually, for runway edge lights another light of the same row is used. For threshold / runway end lights, a stick can be installed in the prolongation of the line of the threshold / runway end lights.

To level the light fixture, perform the following procedure:

1. Remove power to the light circuit.
2. Remove the glassware assembly and unplug the power connector.
3. Install the Aiming Device. See Figure 2. (3 phillips screws on the bottom of the Aiming Device allow the rotation to the desired position for reference.)
4. Slightly loosen the three hex screws at the bottom of the housing (A).
5. Using the bubble level on top of the Aiming Device, adjust the housing until level.
6. Tighten the three hex screws finger tight.

Figure 2: Aiming Device



Depending on the side and direction one is working, set the azimuth in order to look in the direction of the reference mark.

2.3.3.1 Align the Equipment

1. Loosen the retaining bolt (B).
2. From the top down, look into the Aiming Device Eyepiece and turn the equipment until it aligns with the reference mark.
3. While maintaining the fixture in this position, tighten (B).
4. Check the level again.
5. Carefully tighten the hex screws (A) of the support (gradually, going round) while keeping the light in the right position. Make sure the light is firmly fixed.
6. Check the Alignment again.

NOTE: In order to avoid repeating a possible mistake, it is advisable that the final check be made by another operator, or in a different order, than the original alignment.

2.3.3.2 Final check using the alignment tool

1. From the top down, look into the Aiming Device Eyepiece and check that it aligns with the reference mark.
2. Examine the bubble level. See Figure 2.

If the alignment is not correct or if the equipment is not level, align or level the equipment.

3. Tighten all screws and nuts holding the light in place with the proper tools.
4. Remove Aiming Device.
5. Re-connect the cord and install the glassware assembly.

2.4 Maintenance

2.4.1 Safety for Maintenance and Repair

WARNING

Allow only qualified personnel to perform maintenance, troubleshooting, and repair tasks.

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

2.4.1.1 Maintenance Schedule

To keep the L-861/L-861E light fixtures operating efficiently, follow a preventive maintenance schedule. Refer to Table 1. Refer to FAA AC 150/5340-26 for additional recommendations.

Table 1: L-861/L-861E Light Fixture Maintenance

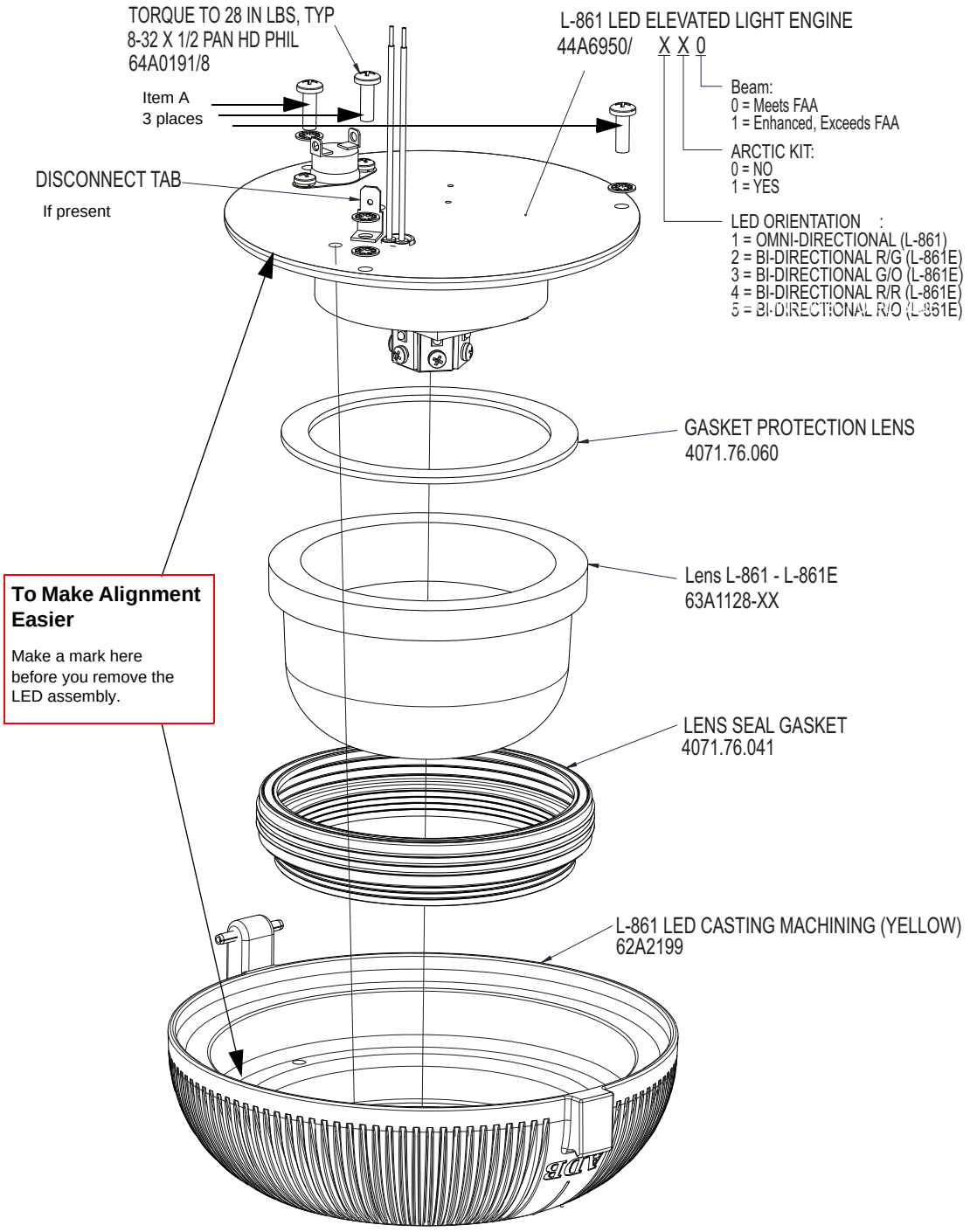
Interval	Maintenance Task	Action
Daily	Inspect for outages	Repair as necessary
	Check cleanliness of lenses	Clean as necessary
Weekly	Check for vegetation.	Remove vegetation. Use weed killer.
Monthly	Check for misaligned fixture.	Straighten, level, and align.
Annually	Check for improper ground elevation.	Grade so frangible point is approximately 1 inch (25.4 mm) above ground elevation.
	Check for improper light elevation.	Maintain same elevation for all light fixtures.
	Check for corrosion present or paint loose or chipped.	Scrape and repaint. Touch up paint as necessary.
	Check gaskets/seal for leakage	Replace gasket/seal if torn or damaged
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. Refer to the optional snow flag kit in *Optional Parts* in the *catalog sheet*.

2.4.1.2 EMIL Lens Replacement

Before starting, read the entire procedure. A # 2 Phillips screw driver and, a Sharpie or equivalent is required.

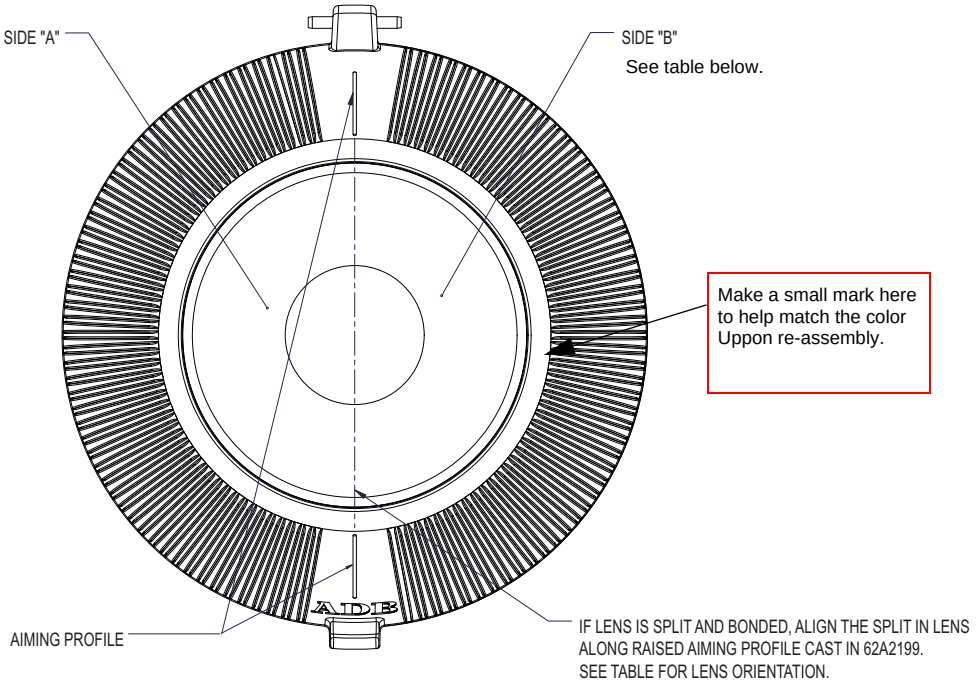
1. Follow your airport's established lockout-tagout procedures to turn off the circuit of the fixture to be repaired.
2. Open the EMIL fixture by pulling the latch open. Lift the top open from the latch.

Figure 3: The EMIL Top Assembly



3. Disconnect the LED assembly from the PCB.
4. Disconnect the heaters from the PCB if used.
5. Using a Sharpie or equivalent, make note of the orientation of the lens with respect to the colors. For example make a small “R” for red next to the lens on the yellow surface of the top cover.
6. Unhinge the top assembly and place on a non-abrasive surface.
7. With a sharpie or equivalent, make a dash to make reassembly easier across the edge of the LED assembly and the inside edge of the top cover. This will make aligning the LED assembly correctly with the lens and cover.
8. Remove the 3 screws retaining the LED assembly. See Figure 3 item A.
9. Remove the gasket protecting the lens base. p/n 4071.76.060.
   Replace the gasket if damaged.
10. Press firmly on the lens top to dislodge the lens and the lens seal gasket.
11. Remove the lens (p/n 63A1128-XX) from the lens seal gasket. p/n 4071.76.041.
    Replace the gasket if damaged.

Figure 4: Split Lens Alignment



44A6980/701

FOR SPLIT COLOR LENSES		
PART NO	LENS SIDE "A"	LENS SIDE "B"
44A6980/3X0	WHITE	YELLOW
44A6980/4X0	WHITE	DIFFUSED RED
44A6980/5X0	YELLOW	DIFFUSED RED
44A6980/6X0	YELLOW	OBSCURED
44A6980/7X0 44A6980/FX0	RED	GREEN
44A6980/9X0 44A6980/HX0	RED	OBSCURED
44A6980/0X0	GREEN	OBSCURED
44A6980/AX0	WHITE	OBSCURED

12. Place the new lens into the lens seal gasket. p/n 4071.76.041.
13. Align the colors per the Aiming Profile as shown in Figure 4.
14. Press this assembly (p/n 63A1128-XX and p/n 4071.76.041) into the top cover until it is seated correctly. See Figure 4.
15. Install the gasket protecting the lens base. p/n 4071.76.060.
16. Install the 3 screws retaining the top cover assembly. See Figure 3 item A.
17. Connect the heaters to the PCB if used.
18. Connect the LED assembly to the base PCB and close the unit.
19. Connect the hinge of the top assembly.
20. Close the latch firmly.

Turn on the circuit of the fixture that was repaired after all other work is complete.

2.4.2 Troubleshooting

This section contains troubleshooting information for the L-861 & L-861E light fixtures. 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 Airfield Solutions representative for help.

Refer below for troubleshooting procedures for the L-861 & L-861E LED Elevated Runway Edge Light (EMIL).

Table 2: Troubleshooting Process

Problem	Possible Cause	Corrective Action
1. LED will not turn on.	Defective LED	Replace LED Assembly.
	Loose connection(s)	Tighten wires.
	Transformer on series circuit bad	Replace the transformer.
	Jumper P2 of power supply set to wrong frequency.	Set to proper frequency. See: Figure 6.
2. Moisture present in fixture.	Broken lens or faulty gasket.	Open up and dry light fixture. Inspect lens for cracks. Replace gasket. Replace the LED assembly and any damaged parts.
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 Spare Parts List in the catalog sheet.

2.5 Parts

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

2.5.1 Ordering Codes

Ordering Code EMIL-

LED Color
1 = Omnidirectional White (L-861)
2 = Omnidirectional Yellow (L-861)
3 = Bidirectional White/Yellow (L-861)
4 = Bidirectional White/Red (L-861)
5 = Bidirectional Yellow/Red (L-861)
9 = Unidirectional Green/Obscure (L-861E)[1]
B = Unidirectional Yellow/Obscure (L-861)[1]
C = Unidirectional White/Obscure (L-861)
E = Bidirectional Red/Green (L-861E)[6]
F = Bidirectional Red/Red (L-861E)[6]
G = Bidirectional Red/Obscure (L-861E)[6]

Fixture Height
1 = 14-inch OAH with 1.5-inch coupling, 12 TPI
2 = 24-inch OAH with 1.5-inch coupling, 12 TPI
3 = 30-inch OAH with 1.5-inch coupling, 12 TPI
4 = 14-inch OAH with 2-inch coupling, 11.5 TPI
5 = 24-inch OAH with 2-inch coupling, 11.5 TPI
6 = 30-inch OAH with 2-inch coupling, 11.5 TPI
7 = 14-inch OAH with 2-inch coupling, 11 TPI[3]
8 = 24-inch OAH with 2-inch coupling, 11 TPI[3]
9 = 30-inch OAH with 2-inch coupling, 11 TPI[3]
A = 14-inch OAH without coupling[2,4]
B = 20-inch OAH with 1.5-inch coupling, 12 TPI
C = 18-inch OAH with 1.5-inch coupling, 12 TPI
D = 18-inch OAH with 2-inch coupling, 11.5 TPI
E = 18-inch OAH with 2-inch coupling, 11 TPI[3]
F = 18-inch OAH without coupling[2,4]

Power
1 = Current Driven, 60 Hz
2 = Current Driven, 50 Hz[5]

Arctic Option
0 = Without arctic option
1 = With arctic option

Cord Set
0 = Standard Configuration
E = External

Notes
[1] For the yellow/green fixture on a threshold bar in displaced threshold applications, use one green/obscure L-861E(L) and one yellow/obscure L-861(L). Requires a 2-hub base plate Part No. 2835-2 (for 1.5” coupling) or 2832-2 (for 2” coupling) mounted on an L-867D base can.
[2] Not submitted for ETL testing
[3] Normally used in metric applications
[4] Configuration sold with no column and no coupling
[5] All 50 Hz EMIL fixtures carry the CE mark
[6] Optics for red side enhanced to provide a beam much wider than FAA requirements.

2.5.2 Parts Lists

Figure 5: EMIL Assembly

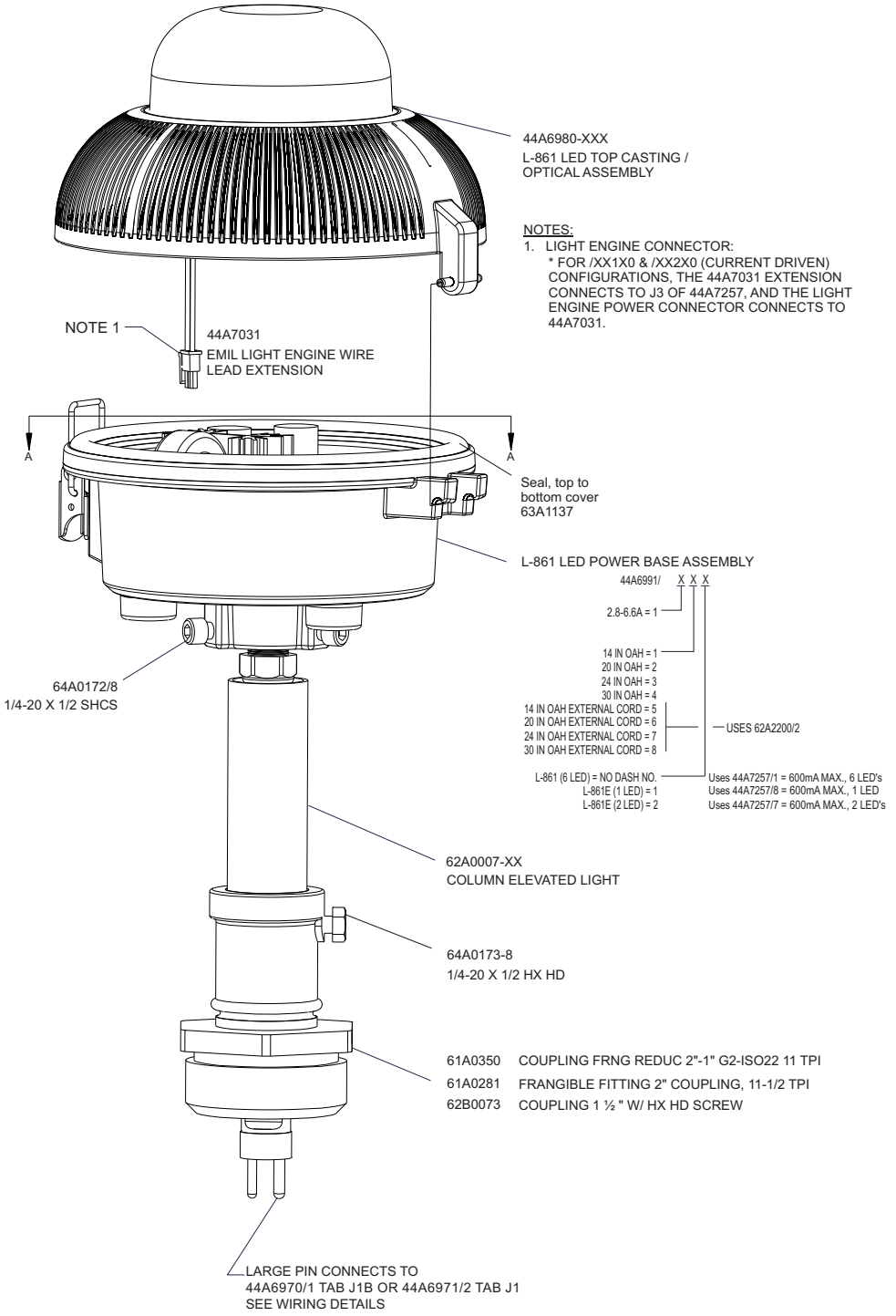
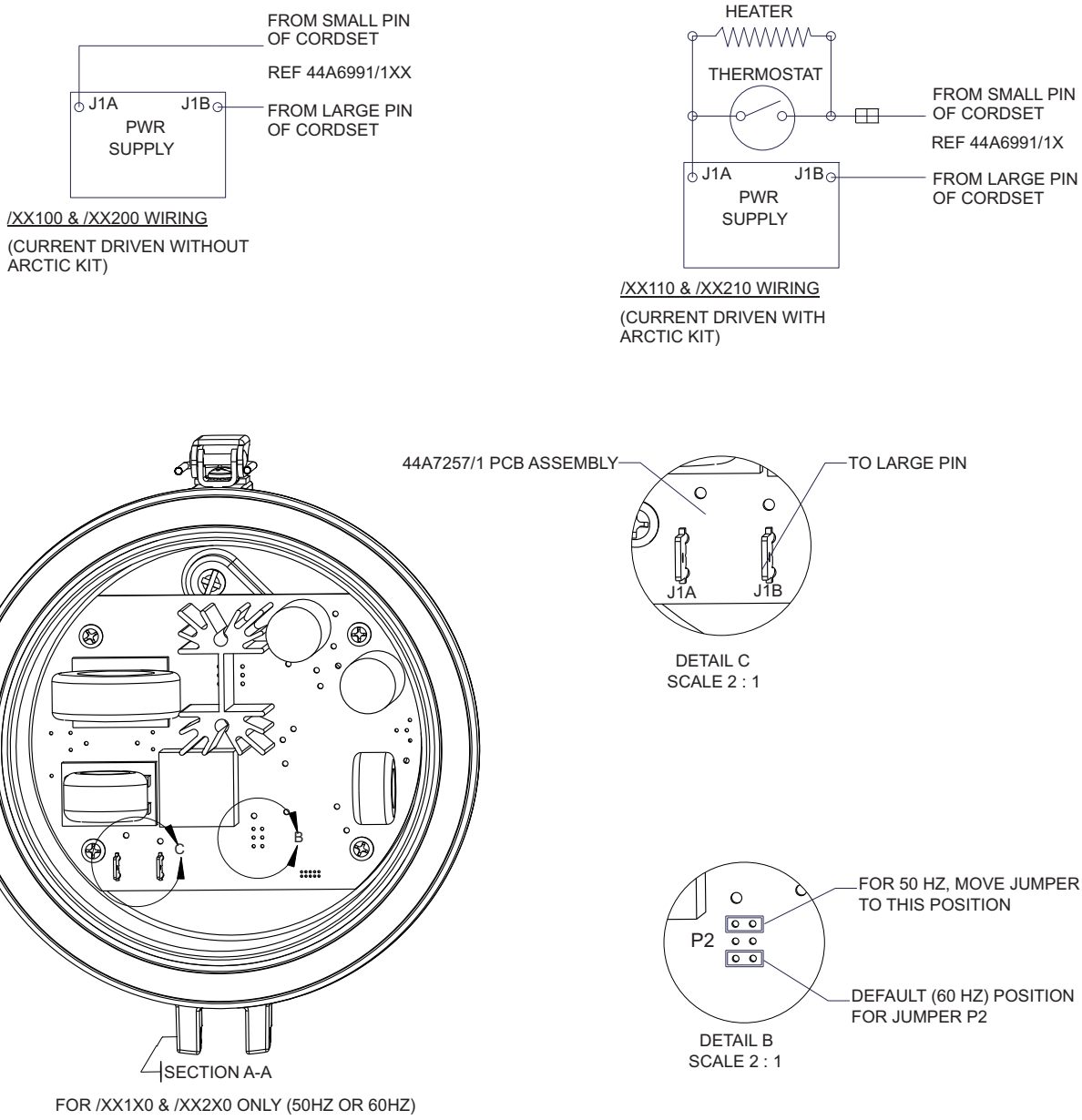


Figure 6: EMIL Base Diagrams

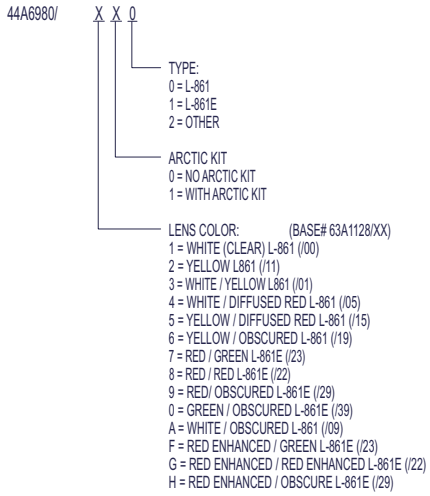


2.5.3 Spare Parts

Table 3: Various Parts

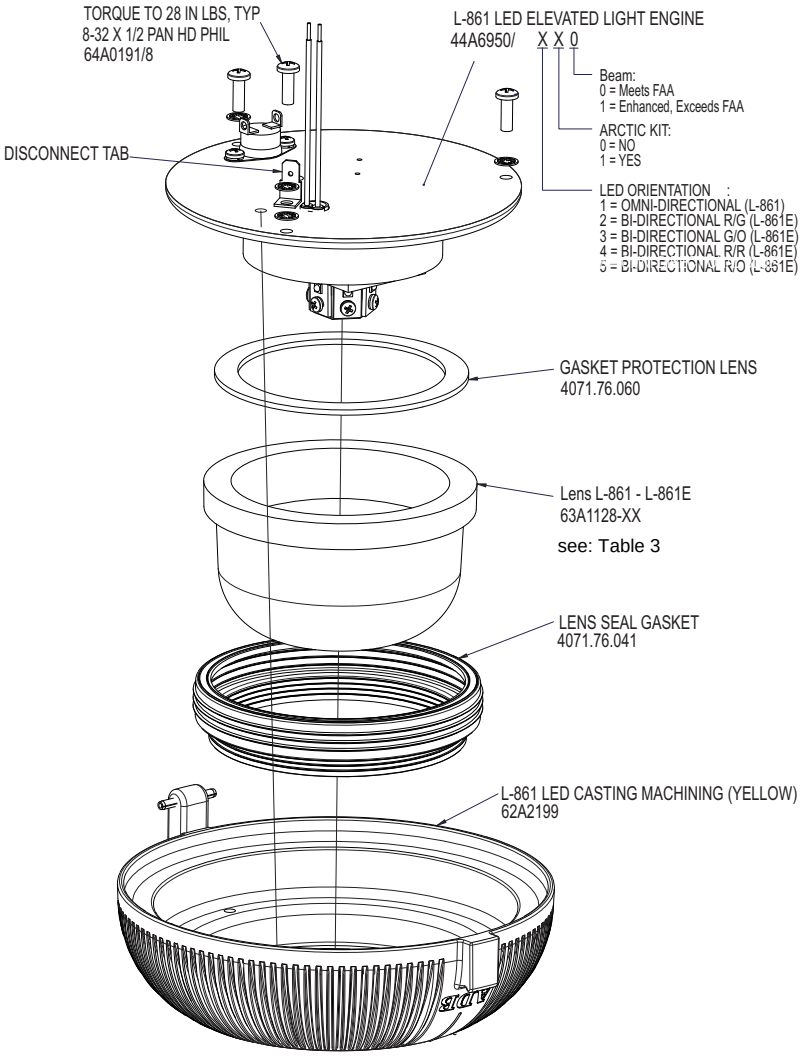
Description	Part No.
Column for 14” OAH	62A0007-7
Column for 18” OAH	62A0007-11
Column for 20” OAH	62A0007-13
Column for 24” OAH	62A0007-17
Column for 30” OAH	62A0007-23
Cord set assembly for 14” OAH	44A7028-14
Cord set assembly for 18” OAH	44A7028-18
Cord set assembly for 20” OAH	44A7028-20
Cord set assembly for 24” OAH	44A7028-24
Cord set assembly for 30” OAH	44A7028-30
Frangible coupling, 1.5 inch, 14” OAH	62B0073
Frangible reducer coupling, 2-1 inch, 11.5 TPI, 14” OAH	61A0281
Frangible reducer coupling, 2-1 inch, 11 TPI, 14” OAH	61A0350
Frangible coupling, 1.5 inch, 24” and 30” OAH	60A4247-1
Frangible reducer coupling, 2-1 inch, 11.5 TPI, 24” and 30” OAH	60A4247-2
Frangible reducer coupling, 2-1 inch, 11 TPI, 24” and 30” OAH	60A4247-3
Gasket, lens protection	4071.76.060
Lens, white (L-861)	63A1128-00
Lens, yellow (L-861)	63A1128-11
Lens, white/yellow (L-861)	63A1128-01
Lens, white/red (L-861)	63A1128-05
Lens, white/obscure (L-861)	63A1128-09
Lens, yellow/red (L-861)	63A1128-15
Lens, yellow/obscure (L-861)	63A1128-19
Lens, red/green (L-861E)	63A1128-23
Lens, red/red (L-861E)	63A1128-22
Lens, red/obscured (L-861)	63A1128-29
Lens, green/obscure (L-861E)	63A1128-39
Seal, lens	4071.76.041
Seal, top to bottom cover	63A1137

Figure 7: L-861 LED Optical Assembly Ordering Codes



NOTE: The optical assembly includes the complete top portion of the fixture including the lens, lens gasket, top casting and, the light engine.

Figure 8: Optical Assembly: LED & Arctic Kit Connectors Not Shown



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