

TECHNICAL INSTRUCTION BOOK

HIGH (ALSF) AND MEDIUM (MALSR) INTENSITY STEADY BURNING SEMI- FLUSH APPROACH LIGHTS

FAA-E-2952 HIGH INTENSITY

FA-23000/1 – Style A White	Serial Numbers	1 – 500
FA-23000/2 – Style B Green	Serial Numbers	1 – 500
FA-23000/3 – Style C Red	Serial Numbers	1 – 500

FAA-E-2968 MEDIUM INTENSITY

FA-23000/4 – Style I White	Serial Numbers	1 – 500
FA-23000/5 – Style II Green	Serial Numbers	1 – 500

Contract Number: DTFAWA-05-C-00038

Manufactured By:

OCEM Acquisition Corp.

d.b.a.

MULTI ELECTRIC MFG., INC.

4223 West Lake Street
Chicago, Illinois 60624

Made For:

US DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

8 NOVEMBER 2006

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Record of Changes

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Figure i-1 Content Assurance Page

SAFETY NOTICES

This equipment is normally used or connected to circuits that may employ voltages which are dangerous and may be fatal if accidentally contacted by operating or maintenance personnel. Extreme caution should be exercised when working with this equipment. While practical safety precautions have been incorporated in this equipment, the following rules must be strictly observed:

KEEP AWAY FROM LIVE CIRCUITS

Operating and maintenance personnel must observe all safety regulations at all times. Do not re-lamp or perform maintenance on internal components with power ON.

- *Personnel must be properly trained on electrical safety and/or Lock Out/Tag Out procedures related to the equipment, prior to any maintenance activities*
- *Live circuit parts shall be de-energized before operating and maintenance personnel work on, or near the parts.*

RESUSCITATION

Maintenance personnel should be trained in First Aid and/or CPR prior to performing any rescue/resuscitation. (Consultant the local safety manager for additional information)

PLACING OUT OF SERVICE

*In case of dismantling, placing out of service, or scrapping, the user shall follow all the required precautions for component and material elimination, according to **local rules**.*

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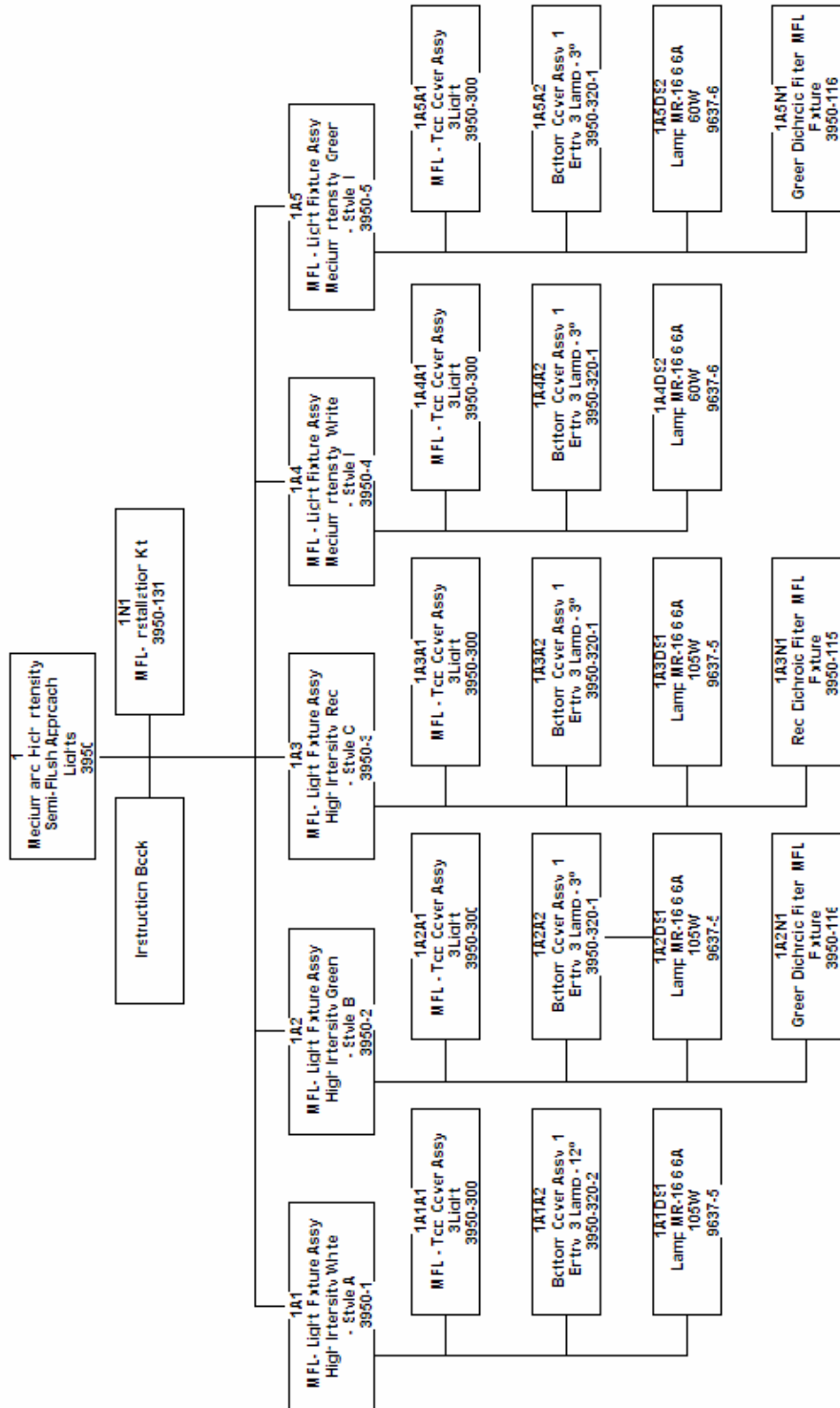


Figure i-2 – Family Tree



Figure i-3 – STEADY BURNING SEMI-FLUSH APPROACH LIGHTS

1.0 GENERAL INFORMATION & REQUIREMENTS

The high intensity, chemical resistant, steady-burning, semi-flush approach light unit designed for use in an approach lighting system with sequenced flashing lights (ALSF-2). It is built in accordance with FAA-E-2952, and is available in three styles:

- Style A:** White, unidirectional approach light (MULTI P/N 3950-1). Uses three 105W/6.6A MR-16 lamps.
- Style B:** Green, unidirectional (threshold) approach light (MULTI P/N 3950-2). Uses three 105W/6.6A MR-16 lamps.
- Style C:** Red, unidirectional approach light (MULTI P/N 3950-3). Uses three 105W/6.6A MR-16 lamps.

The medium intensity, chemical resistant, steady-burning, semi-flush approach light unit designed for use in a Medium Intensity Approach Lighting System with Runway Alignment Indicator Lights (MALSR). It is built in accordance with FAA-E-2968, and is available in two styles:

- Style I:** White, unidirectional approach light (MULTI P/N 3950-4). Uses three 60W/6.6A MR-16 lamps.
- Style II:** Green, unidirectional (threshold) approach light (MULTI P/N 3950-5). Uses three 60W/6.6A MR-16 lamps.

The lights described in this manual are manufactured to be powered through isolating transformers with a 6.6A secondary and L-823 receptacle.

Table 1-1 – Equipment Specification

Manufacturer:	O.C.E.M. Acquisition Corp. d.b.a. Multi Electric Mfg., Inc. 4223 W Lake Street Chicago, IL 60624 1T9K5
Type: High Intensity Medium Intensity	FA – 23000/1 White Style A FA – 23000/2 Green Style B FA – 23000/3 Red Style C FA – 23000/4 White Style I FA – 23000/5 Green Style II
Specification: Medium Intensity High Intensity	FAA-E-2968 FAA-E- 2952
NSN: FA – 23000/1 FA – 23000/2 FA – 23000/3 FA – 23000/4 FA – 23000/5	6210-01-549-0803 6210-01-549-1538 6210-01-549-1858 6210-01-549-1860 6210-01-549-1866
Input Watts: FA – 23000/1 FA – 23000/2 FA – 23000/3 FA – 23000/4 FA – 23000/5	315 W 315 W 315 W 180 W 180 W
Input Current:	6.6A – 50/60 Hz
Output: FA – 23000/1 FA – 23000/2 FA – 23000/3 FA – 23000/4 FA – 23000/5	12,000 Candelas Minimum 10,000 Candelas Minimum 6,000 Candelas Minimum 10,000 Candelas Minimum 8,000 Candelas Minimum
Temperature Range:	-55°C to +55°C
Humidity Range:	0 to 100%

Table 1-2 – Equipment and Accessories Supplied

Quantity	Nomenclature	FAA Number	Dimensions	Weight	Volume
500	High Intensity Steady Burning Semi-Flush Approach Lights – White	FA-23000/1	<u>Uncrated:</u> Diam. 12” 30.5cm Height 4.78” 12cm	16 lbs 7.26 kg	541 in ³ 8865 cm ³
			<u>Crated:</u> Length 12.75” 32.4cm Width 12.75” 32.4cm Height 5.5” 14cm	17 lbs 7.7 kg	894 in ³ 14,650 cm ³
500	High Intensity Steady Burning Semi-Flush Approach Lights – Green	FA-23000/2	<u>Uncrated:</u> Diam. 12” 30.5cm Height 4.78” 12cm	16 lbs 7.26 kg	541 in ³ 8865 cm ³
			<u>Crated:</u> Length 12.75” 32.4cm Width 12.75” 32.4cm Height 5.5” 14cm	17 lbs 7.7 kg	894 in ³ 14,650 cm ³
500	High Intensity Steady Burning Semi-Flush Approach Lights – Red	FA-23000/3	<u>Uncrated:</u> Diam. 12” 30.5cm Height 4.78” 12cm	16 lbs 7.26 kg	541 in ³ 8865 cm ³
			<u>Crated:</u> Length 12.75” 32.4cm Width 12.75” 32.4cm Height 5.5” 14cm	17 lbs 7.7 kg	894 in ³ 14,650 cm ³
500	Medium Intensity Steady Burning Semi-Flush Approach Lights – White	FA-23000/4	<u>Uncrated:</u> Diam. 12” 30.5cm Height 4.78” 12cm	16 lbs 7.26 kg	541 in ³ 8865 cm ³
			<u>Crated:</u> Length 12.75” 32.4cm Width 12.75” 32.4cm Height 5.5” 14cm	17 lbs 7.7 kg	894 in ³ 14,650 cm ³
500	Medium Intensity Steady Burning Semi-Flush Approach Lights – Green	FA-23000/5	<u>Uncrated:</u> Diam. 12” 30.5cm Height 4.78” 12cm	16 lbs 7.26 kg	541 in ³ 8865 cm ³
			<u>Crated:</u> Length 12.75” 32.4cm Width 12.75” 32.4cm Height 5.5” 14cm	17 lbs 7.7 kg	894 in ³ 14,650 cm ³

Table 1-3 – Equipment Required But Not Supplied

Quantity	Nomenclature
1	3/8" SAE drive torque ratchet
1	9/16" SAE 6 or 12 point 3/8" Drive socket
1	4 mm hex wrench T style, minimum length of wrench to be 4 inches (for removing lower cover or lamp support plate)
1	3 mm hex wrench T style, minimum length of wrench to be 4 inches (for all other screws requiring hex wrench)
1	Needle-nose pliers (for disconnecting lamp wires)
1	Schrader valve extractor
1 Set	(2) slotted 3/8" x 8" screwdrivers, or (2) pry bars or (2) M12 - lifting bolts
Optional	3 mm hex bit for 3/8" drive
Optional	4 mm hex bit for 3/8" drive
1	Alcohol Cleaning Solvent or equal
1	Replacement Parts Kit, Multi Part Number 3950-130
AR	Dry Oil Free Compressed Air
Optional	Stainless Steel Load Transfer Ring — Multi Electric PN: 3950-133
Optional	Ductile Iron Load Transfer Ring — Multi Electric PN 3950-143
1	Tube Epoxy Grout P606 or equal.
AR	Mounting Spacers and Load Transfer Rings

Note:

Use insulated tools when working near energized circuit parts.

2.0 TECHNICAL DESCRIPTION

The light unit assembly (Fig. 2-1) consists of three main components: a dome, a lower cover, and the optical system.

2.1 Dome

The dome (Fig. 2-1, no. 1) is constructed of treated drop-forged aluminum, and contains three light windows to seat the prisms. The dome is provided with six through-holes for fastening the light unit to the base, and two pry-bar slots on opposite sides of the dome to facilitate light unit removal. Alternatively, two M12 lifting bolts may be used to lift the unit from the base by inserting them into the two threaded through-holes on the dome. The dome is equipped with an alignment pin to ensure proper positioning of the lower cover.

2.2 Lower Cover

The lower cover (Fig. 2-1, no. 2) is a treated aluminum casting fastened to the dome by means of three screws (Fig. 2-1, no. 21), an expanded PTFE strip (Fig. 2-1, no. 20), and an O-ring (Fig. 2-1, no. 19) to ensure the unit is watertight. The lower cover contains the MR-16 lamps (Fig. 2-1, no. 13), which are inserted into the lamp holders (Fig. 2-1, no. 12) and wired to the terminal strips (Fig. 2-1, no. 29). The power lead (Fig. 2-1, no. 22) is attached to the outside of the lower cover with a bushing, and is equipped with an L-823 plug with two 0.7 meter (30 inch) single-pole Teflon leads for connection to an isolation transformer. The other end of the power lead is terminated inside the lower cover with two rounded male terminals (Fig. 2-2, no. 1). An external valve (with a removable cap, Fig. 2-2, no. 6) is also provided on the outside of the lower cover for leak tests, and to provide a means for alleviating any built-up pressure inside the unit.

2.3 Optical System

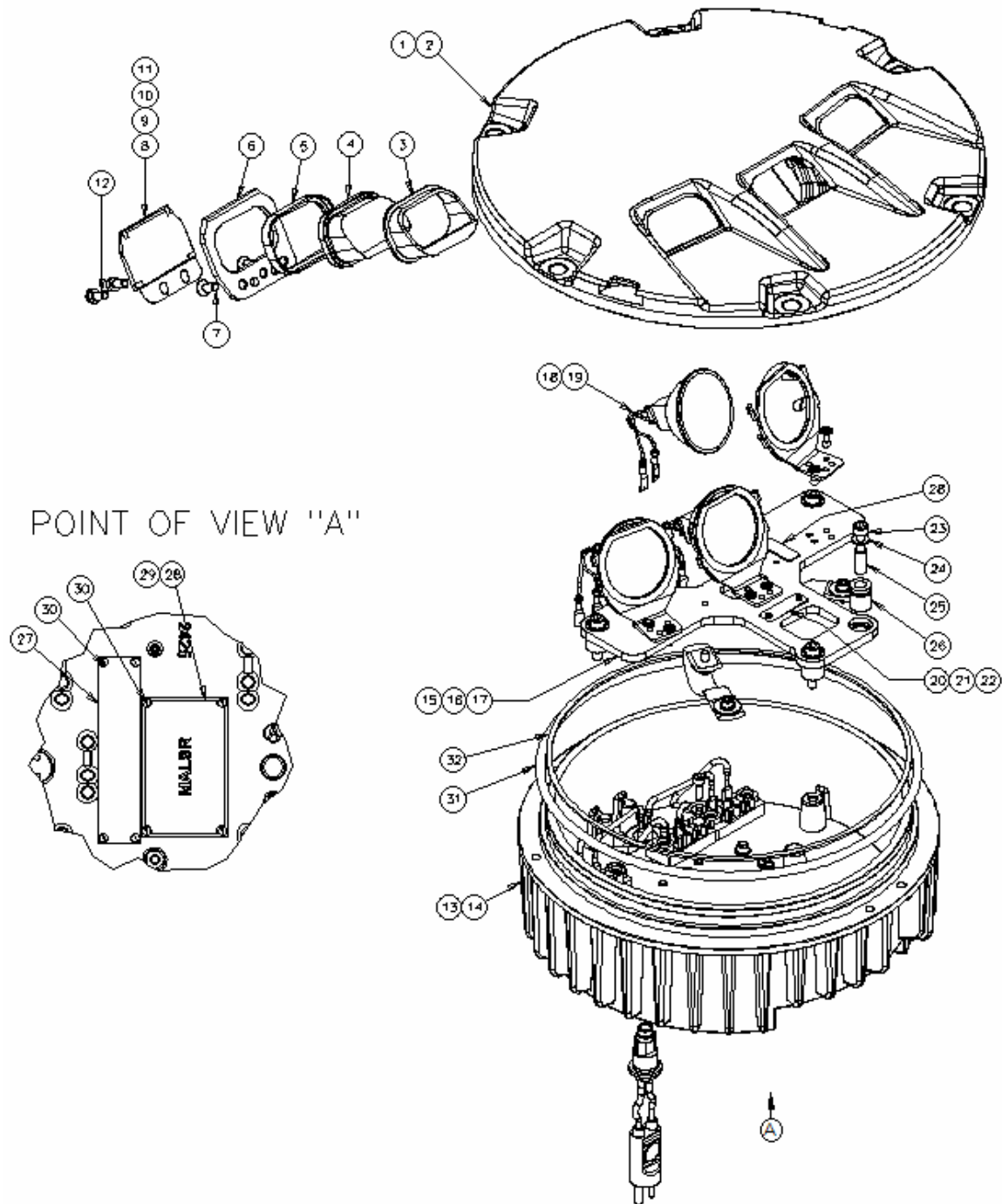
The optical system consists of three prisms (Fig. 2-1, no.4), lamps, and, if necessary, colored filters (Fig. 2-1, no. 8). Each glass prism is clamped into the light dome by means of a mounting plate (Fig. 2-1, no. 6) and two gaskets (Fig. 2-1, no.'s 3 and 5). The mounting plate is fastened to the inside of the light dome with three screws (Fig. 2-1, no. 7). The nylon gasket is placed between each plate and associated prism to avoid direct contact between the glass and metal. The lamps (Fig. 2-1, no. 13) are 105W/6.6A (for High Intensity models), or 60W/6.6A (for Medium models) tungsten-halogen type lamps with Dichroic reflectors, and are secured to stainless steel lamp holders with spring clips (Fig. 2-1, no. 12). These lamp holders are mounted on an aluminum lamp support plate (Fig. 2-1, no. 11) which is attached to the lower cover using four vibration-damping blocks with screws, spacers, and washers (Fig. 2-1, no.'s 14 through 18). Two copper plates (Fig. 2-1, no. 28) are provided between the lamp support plate assembly and the lower cover for improved heat dissipation. A label (Fig. 2-1, no. 26) is affixed to the lamp plate identifying the part number of the plate and the type of lamps used in the fixture.

2.3.1 Dichroic Filters

When required, a red or green Dichroic filter is placed on the rear side of each prism, mounted on a stainless steel filter support. Each filter support is fixed to the dome by means of two screws (Fig. 2-1, no. 10). Lamps and colored filters are factory installed; they may be field replaced if so desired (see paragraphs 6.2).

2.3.2 Lamp Wiring

Each lamp has a pair of wires equipped with male spade-lug terminals which mate with the pair of female terminals on each of the terminal strips. A second set of wires (Fig. 2-2, no. 2), having rounded female terminals on one end and female spade-lug terminals on the other, are connected between each of the rounded male terminals at the end of the power lead and one of the male terminals on each of the outermost terminal strips. A pair of wires (Fig. 2-2, no. 3) provides the series connection between the lamps.

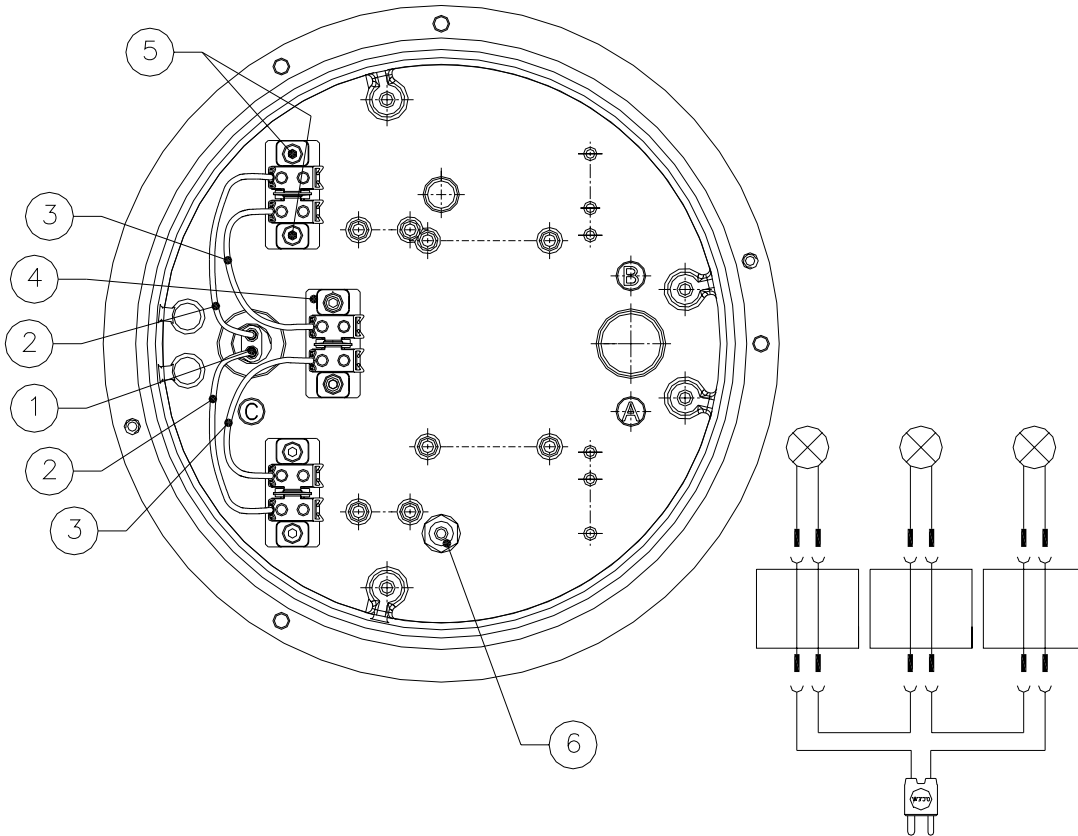


Note: Items 8, 9 & 10 are for Red or Green Light output. Omit for White Light and
 "View Point A" is similar for both ALSF and MALS applications

FIGURE 2-1 – LIGHT UNIT (ASSEMBLY VIEW)

Table 2-1 – Fixture Configuration List

FAA Type Number: FA-23000		/1 Qty.	/2 Qty.	/3 Qty.	/4 Qty.	/5 Qty.
No.	Description					
1	Dome	1	1	1	1	1
2	Complete lower cover (see figures 2)	1	1	1	1	1
3	Prism gasket	3	3	3	3	3
4	Prism	3	3	3	3	3
5	Prism nylon holder	3	3	3	3	3
6	Optical assembly mounting plate	3	3	3	3	3
7	Corrosion-resistant HSFH screw	9	9	9	9	9
8	Filter	-	3	3	-	3
9	Screen/filter support	-	3	3	-	3
10	Corrosion-resistant CH screw	-	6	6	-	6
11a	Lamp support plate 12° Divergence	1	-	-	-	-
11b	Lamp support plate 3° Divergence		1	1	1	1
12	Lamp holder with spring	3	3	3	3	3
13a	Lamp 105W	3	3	3	-	-
13b	Lamp 60W	-	-	-	3	3
14	Vibration damping block	4	4	4	4	4
15	Spacer	4	4	4	4	4
16	Corrosion-resistant HSCH screw	4	4	4	4	4
17	5mm corrosion-resistant lock washer	4	4	4	4	4
18	5mm corrosion-resistant flat washer	4	4	4	4	4
19	6850 silicone O-ring	1	1	1	1	1
20	Gore-Tex gasket tape	1	1	1	1	1
21	HSCH corrosion-resistant screw	3	3	3	3	3
22	Power lead with L-823 plug and bushing	1	1	1	1	1
23	2056 Viton O-ring	1	1	1	1	1
24	STYLE label	1	1	1	1	1
25	RECCOMENDATION label	1	1	1	1	1
26	LAMP label	1	1	1	1	1
27	CH screw	8	8	8	8	8
28	Heat dissipation plate	2	2	2	2	2
29	Terminal strip with hardware	3	3	3	3	3



- 1 - Power lead with plug and bushing
- 2 - Insulated wire (from power lead)*
- 3 - Insulated wire (jumper)*
- 4 - Terminal strips
- 5 - Fastening screws (for terminal strips)
- 6 - Pressure valve

* Note: Items 2 & 3 will be constructed by the tech in the field not a TI parts list item for ordering

FIGURE 2-2 – LOWER COVER (INSIDE VIEW)

3.0 OPERATION

3.1 Scope

This section contains all of the procedures necessary to enable operating personnel to use the equipment efficiently and effectively in accomplishing the designated task.

3-2 Introduction

The High Intensity and Medium Intensity Semi-flush lights are installed on an L868 base. The light unit forms the output portion of a system (typically an ALSF-II or a MALSR).

3-3 Operating Procedures

The light unit, is an integral part of a system and is energized and controlled by that system. The system controls determine whether or not the light unit is illuminated, as well as the level of illumination. Please refer to the instruction books supplied with these systems for operating procedures of those systems.

4.0 STANDARDS AND TOLERANCES

4.1 Scope

This section provides a list of essential operating standards and tolerances which are referenced in the maintenance procedures paragraphs in Section 6. The parameters and operating tolerances listed in table 4-1 are based on equipment specifications, manufacturing requirements, standard procedures, and the use of standard test equipment. Equipment standards and tolerances are applicable to the equipment when considered as a whole.

4.2 Definition Of Terms

The terms "Standards" and "Tolerances" as used in Table 4-1 are defined as follows:

4.2.1 Standard

The standard shall be the optimum value assigned to an essential parameter of the equipment and shall be compatible with the system as a whole and the design capability of the equipment involved.

4.2.2 Initial Tolerance/Limit

The initial tolerance/limit shall be the maximum deviation from the standard value of the parameter, or the range, which is permissible when the equipment is accepted for use in the National Airspace System at the time of initial commissioning, or after any readjustment, modification, or modernization.

4.2.3 Operating Tolerance/Limit

The operating tolerance / limit shall be the maximum deviation from the standard value of the parameter, or the range, within which an equipment may continue to operate on a commissioned basis without adjustment or corrective maintenance, and beyond which remedial action by maintenance personnel is mandatory.

Table 4.1 – Standards And Tolerances

Parameter	Reference Paragraph	Standard	Tolerance Limit	
			Intitial	Operating
Bolts	6.13.4	Torque to 18-19 ft-lbs (213 – 228 in-lbs)	Same	Same
Light Output	6.13.1	Normal Brightness	Same	Same
Load Transfer Ring: (If used)	6.13.1	No Visible Cracks	Same	Same
Prism	6.13.1	Clean and free of chips or cracks	Same	Same
Top Casting	6.13.1	No Visible Cracks	Same	Same
Color: Approach Threshold End	6.13.1	White Green Red	Same	Same

5.0 PERIODIC MAINTENANCE

5.1 Scope

This section contains maintenance performance checks and other maintenance task schedules. It enumerates all maintenance activities that must be done on a recurring basis to ensure optimum performance, minimize service interruptions, and avoid major breakdowns. This includes activities that are to be performed at irregular intervals, as well as those to be performed on a fixed schedule. It stipulates the schedules for accomplishing these activities. The schedules reflect the maximum permissible intervals between successive accomplishments to ensure that performance of the equipment is reliable and within prescribed tolerances.

5.2 Performance Checks

This part lists all required tests, measurements, and observations of normal operating controls and functions which are necessary to determine whether the equipment is operating within its established tolerances or limits. Cross reference to the pertinent paragraph within Sections 4 and 6 are included in Table 5-1.

5.3 Other Maintenance Tasks

This part lists all tasks other than those listed under performance checks, which are necessary to prevent deterioration of equipment, and which will ensure reliable operation of the system and equipment. Cross references to the pertinent paragraph within Sections 4 and 6 are included in Table 5-2.

Table 5-1 – Performance Checks		
Performance Check	Reference Paragraph	
	Standards and Tolerances	Maintenance Procedures
Energize Circuit and Observe:		
Light Output	Table 4-1	6.13.1
Light Color	Table 4-1	6.13.1

Table 5-2 – Other Maintenance Checks		
Performance Check	Reference Paragraph	
	Standards and Tolerances	Maintenance Procedures
<u>Check Daily:</u>		
Damaged Casting	Table 4-1	6.13.1
Damaged Prism	Table 4-1	6.13.1
Debris in Light Channel	Table 4-1	6.13.2
<u>Weekly Check:</u>		
Cleaning	Table 4-1	6.2.1, 6.13.2
<u>Quarterly Checks:</u>		
Bolts	Table 4-1	6.13.4
Lamp	Table 4-1	

6.0 MAINTENANCE PROCEDURES

The preferred method of maintenance involves removing each light unit periodically, and bringing it to the maintenance shop for servicing. As an alternative, the light unit may be serviced in the field. However, it is recommended that field servicing be limited to cleaning the prisms and replacing the lamps.

6.1 REMOVING LIGHT UNIT FROM BASE AND OPENING LIGHT UNIT

CAUTION:

Prior to any maintenance activities, the technician shall follow proper electrical safety procedures to ensure that power to the light units has been disconnected.

Remove the light unit from the base by unscrewing the six locking screws and washers. Raise the light unit by using two lifting tools (such as pry bars or screwdrivers) inserted in the slots provided on the dome. Alternatively, a pair of M12 lifting bolts may be inserted into the two threaded holes to aid in removal. Disconnect the L-823 plug on the light unit's power lead from the isolation transformer. Prior to opening the light unit, equalize the pressure in fixture by depressing the Schrader (Item Number 5) pressure valve. Open the light unit by unscrewing the three locking screws (Fig. 2-1, no. 21). To remove the lower cover, thread two of the locking (Jack) screws into the two threaded holes on the lower cover until it pushes away from the dome.

Every time the light unit is opened, inspect the following:

- Check to make sure the prisms and filters are clean and damage-free. If they are dirty or damaged, take corrective maintenance as described in paragraphs 6.2 and 6.3.
- Inspect all components inside the light unit for damage or signs of corrosion and replace all affected components as necessary.
- Inspect the O-rings between the base and light unit and between the dome and lower cover. Replace them, if necessary, as described in paragraph 6.6.
- Check the power lead and plug for damages. If damaged, replace as described in paragraph 6.7.

6.2 Cleaning glass prisms and filters

6.2.1 Cleaning outside prism surfaces

It is not necessary to remove the light unit in order to clean the outer surfaces of the prisms. Using compressed air or an appropriate soft brush, remove all accumulated debris from the light channels. Clean the outer surfaces of the prisms with a mild detergent solution.

6.2.2 Cleaning filters and inside prism surfaces

Normally, cleaning of the filters and inner surfaces of the prisms is not required because the unit is watertight. However, if such servicing is necessary, begin by removing the light unit from the base and opening it, as described in paragraph 6.1. Remove the filters and supports by unscrewing the associated screws (Fig. 2-1, no. 10). Clean the prism and filter surfaces with isopropyl alcohol or other non-abrasive glass cleaner and clean cotton cloth. Dry the surfaces thoroughly prior to reinstallation. Reinstall the filters and supports, tightening the screws to a torque of approximately 33.6 in-lbs. Follow the reassembly procedure in paragraph 6.10.

6.3 Prisms

If a prism is broken, leaks or is badly pitted or scarred it is recommended to replace the fixture.

WARNING:

Do not perform a pressure test on the light unit until at least 15 minutes have elapsed after applying lubricant compound to any component within the unit.

6.4 Pressure Test

The assembly should be given a 10-15 psi air pressure test to verify that the O ring seals have sealed after reassembly. This can be done by connecting an external air pressure line to the valve provided on the lower cover and applying pressure. IF no seal is present, check for O-ring crease or rollover. If required replace the O-ring as specified in Section 6.6. Immerse the assembly under water, so air losses will be easily viewed in the form of gas bubbles if something is damaged or some part of the assembly is incorrect. Repair or replace damaged parts as necessary. The light unit is now ready to be field installed. After pressure test and installation observe fixture for signs of moisture.

6.5 Re-lamping

Remove the light unit from the base and open the light unit, as described in paragraph 6.1. Removal of each lamp is achieved by simply disconnecting the lamp wire terminals from the terminal strip on the lower cover and sliding the lamp out of the lamp holder. Needle-nose pliers may be needed to disconnect the lamp wires, take care not to damage the terminal block

CAUTION:

Avoid skin contact with the quartz bulb as this may seriously shorten the lamp life. If the quartz bulb has been touched, wipe it clean with a piece of lens cleaning tissue or similar material moistened with isopropyl alcohol.

Insert the new lamp into position in the lamp holder, with the “UP↑” mark printed on the lamp assembly pointing upwards. Connect the lamp wire terminals to the terminal strip fixed on the lower cover assembly. Reassemble the fixture following the instructions of paragraph 6.10.

6.6 O-Rings

6.6.1 O-ring Examination

Every time an O-ring sealed assembly is taken apart, the O-ring should be replaced with a new one. Remove the light unit from the base and open the light unit, as described in paragraph 6.1. The Light Assembly is equipped with the following gaskets:

- one O-ring between the dome and lower cover (Fig. 2-1, no. 19)

6.6.2 O-ring Replacement

Remove the old O-ring from its seat on the lower cover. Clean the seat and the mating flange surface on the dome by carefully scraping off any remnants of the old O-ring and accumulated dirt. Take care not to damage these surfaces. Position a new O-ring on the seat on the lower cover. A light covering of silicon grease shall be applied to the O-ring before installing the O-ring. Follow the reassembly procedure in paragraph 6.10.

6.7 Power Lead with Plug And Bushing

NOTE:

This is not an onsite repairable item.

6.7.1 Removing a Damaged Power Lead

Remove the light unit from the base and open the light unit, as described in paragraph 6.1. Inside the lower cover, disconnect the pair of wires with rounded female terminals from the rounded male terminals on the bushing of the damaged power lead. Remove the damaged power lead by unscrewing its threaded bushing from the outside of the lower cover.

6.7.2 Installing a New Power Lead with L-823 Plug and Bushing

Before installing the new power lead, ensure that the threaded hole in the lower cover surface is clean. Place the O-Ring (Fig. 2-1, no.23) around the bushing. Place a drop of anti-seize compound on the threads of the bushing on the new power lead. Thread the bushing into the hole on the lower cover, and connect the pair of wires inside the cover to the bushing. Follow the reassembly procedure in paragraph 6.10. The completed assembly should then be given an air pressure test as explained in paragraph 6.3.3.

6.8 Vibration-damping block

If it is necessary to replace the vibration-damping blocks due to aging or damages, begin by removing the light unit from the base and opening it as described in paragraph 6.1. It is recommended to replace all four of the vibration-damping blocks and associated spacers. Disconnect all of the lamp wires from the terminal strips. Remove the entire lamp support (with lamp holders and lamps) by unscrewing the four associated screws (Fig. 2-1, no. 16). Remove the spacers (Fig. 2-1, no. 15) and the vibration-damping blocks (Fig. 2-1, no. 14). Mount the new vibration-damping blocks in their seats and insert new spacers. Re-attach the entire lamp support assembly to the lower cover by tightening the four screws. Reconnect the lamp wires to the terminal strip. Reassemble the fixture by following the instructions of paragraph 6.10.

6.9 Pressure valve

If a leak is found in the pressure valve during an air pressure test, inspect the valve carefully to find where the leak is occurring. If the leak is between the valve and the lower cover, make sure the valve body is tightened securely to the lower cover from the inside of the light unit. If the leak is between the valve core and the valve body, then replace the pressure valve.

6.9.1 Replacing The Pressure Valve

To replace the valve, begin by opening the light unit as described in paragraph 6.1. Remove the valve cap. Unscrew the valve body and gasket from the inside of the lower cover by clamping the hexagonal end of the valve body. Screw the new valve on the lower cover until it is secure. Ensure the valve core is tightened to the valve body, and screw on the valve cap. Reassemble the fixture, following the instructions of paragraph 6.10.

6.10 REASSEMBLING THE UNIT

Before re-assembling the unit, lubricate the O-Ring (Fig. 2-1, no. 19) with a silicone based lubricant and ensure that the O-ring is properly positioned between the dome and lower cover. Apply one drop of anti-seize compound to each of the three screws (Fig. 2-1, no. 21) before installation. Mount the lower cover on the dome validating the alignment pin (paragraph 2.1) and then secure it to the dome with the three locking screws. Perform a pressure test per paragraph 6.3.1 on the fixture. The light unit is now ready to be field installed.

6.11 Cleanliness and workmanship

Service life of the light unit depends upon the entire assembly being waterproof. All surfaces must be clean, dry, and free of all foreign matter if the fixture is to operate for an extended period without requiring maintenance. Refer to Section 8 for a list of recommended spare parts, and Figure 2-1 for location of these parts.

6.12 Terminal Block Replacement

To replace the terminal blocks, begin by opening the light unit as described in paragraph 6.1. Using a pair of long nose pliers remove the leads connected to the terminal block. Using a 3mm hex wrench, remove the two mounting screws (Refer to Figure 2-2 similar to call out 5) for the terminal block being replaced. Mount a new terminal block using the screws previously removed. Tighten the mounting screws using the 3mm hex wrench until hand tight. Reattach the leads to the terminal block using a long nose pliers if needed. Reassemble the fixture, following the instructions of paragraph 6.10.

6.13 Maintenance program

In order to ensure maximum light fixture life, the installed units should be subject to a maintenance program in accordance with the following:

6.13.1 Daily operational check

Light units should be checked for proper operation and any physical damage on a daily basis. The lights should be energized and visually inspected. If any lamps are out in any light fixture, the location of the fixture should be recorded, and the lamps should be replaced as described in paragraph 6.5, at a time when the circuit is de-energized.

6.13.2 Cleaning

Regular cleaning of in-pavement lighting fixtures is necessary to ensure that they operate at maximum efficiency. The exterior of the prisms should be cleaned periodically as per paragraph 6.2.1. Weather and location will typically dictate the regularity and type of cleaning needed to maintain the cleanliness of the fixtures. Debris should be removed from the window wells as required.

6.13.3 Monthly Inspections

This light unit is designed to prevent both ground and surface water from entering. If the lights are not properly maintained (e.g., screws not properly tightened, gaskets in bad condition) water may enter the fixture and create serious problems. To prevent this from occurring, it is recommended that each fixture be inspected for the presence of water at least once a month. More frequent inspection is desirable during and following a rainy season.

6.13.4 Screw Torque

The six light unit locking screws should be checked for proper torque at least once every three months as per paragraphs 9.5.1 or 9.5.2. If a light unit is serviced, it should be checked more frequently during the two to four week period following reinstallation.

6.13.5 Leak Testing

If any fixture contains water, remove the water, then clean and dry the entire fixture. Perform a pressure test as per paragraph 6.3.1 on the fixture to find the leak. Inspect and clean the O-ring seating surfaces. The O-ring should be replaced, and the fixture repaired and reinstalled as specified in paragraph 6.6.2.

7.0 CORRECTIVE MAINTENANCE

Issues with a light unit may arise occasionally which can be easily resolved in the field or maintenance shop. A troubleshooting chart is provided below to assist with the diagnosis and resolution of such issues.

Table 7-1 – Troubleshooting Chart

SYMPTOM	POSSIBLE CAUSE, RESOLUTION
All lamps are out	<ul style="list-style-type: none"> ▪ One or more lamps have burned out in the fixture. Replace lamps as necessary. See paragraph 6.5. ▪ Lamp wire(s) are damaged or disconnected. If disconnected, restore the connection. If any wires are damaged, the lamps must be replaced according to paragraph 6.5. Ensure that the lamp wires are not touching any part of the lamp itself. ▪ The power lead and/or plug is damaged or has been disconnected, either internally or at the isolation transformer. Restore the connection, or replace the lead and plug if damaged. See paragraph 6.7. ▪ The internal wiring is damaged or has been disconnected. Replace any damaged wires, and check to make sure wiring is in agreement with Figure 2-2. ▪ The isolation transformer which the fixture is connected to has failed. Replace with the appropriate transformer. See section 9.
Some, but not all , lamps are out	<ul style="list-style-type: none"> ▪ The internal wiring is incorrect. Wiring must be in agreement with Figure 2-2.
Water inside the unit	<ul style="list-style-type: none"> ▪ The O-ring between the dome and lower cover has failed and must be replaced. See paragraph 6.7. ▪ The valve has a leak. See paragraph 6.9. ▪ A prism has cracked, or a prism gasket has failed. Replace according to paragraph 6.3. ▪ The bushing around the power lead has a leak. Replace power lead and plug according to paragraph 6.7. ▪ If the above have been checked and a leak is still occurring, perform a pressure test as described in paragraph 6.3.1 to determine where the leak is occurring. Contact Multi Electric for assistance.
Cracked or damaged prism	<ul style="list-style-type: none"> ▪ Prisms should not crack under normal operating conditions; this may be a sign that something else is wrong with the light unit. The prism may be replaced by following the directions of paragraph 6.3, however, a complete overhaul of the light unit is recommended. Contact Multi Electric for assistance.

8.0 SPARE PARTS

Table 8-1 provides a complete list of parts for the inset approach lighting fixture.

Table 8-1 –Parts List

Ref. Desig.	Indent.	Name of Part / Description	CAGE	JAN/MIL Mfrs Part No.	Notes
1	A	MFL Light Fixture Assy	1T9K5	3950	
1A1	B	High Intensity Approach Light, White	1T9K5	3950-1	
1A1A1	C	MFL - Top Cover Assy, 3 Light	1T9K5	3950-300	
1A1A1N1	D	Top Cover, 3 Light Windows	1T9K5	3950-302	
1A1A1N2	D	Prism Retainer	1T9K5	3950-104	
1A1A1N3	D	Prism Gasket	1T9K5	3950-118	
1A1A1N4	D	Prism	1T9K5	3950-114	
1A1A1N5	D	Prism Holder, Nylon	1T9K5	3950-119	
1A1A1N6	D	SCREW SOCKET, FLAT HD, M5X0,5X12, 18-8 SS	00X69	FSHS-M5x0,5x12-T188	
1A1A1N7	D	Alignment Pin	1T9K5	3950-111	
1A1A2	C	MFL - Bottom Cover Assy 12°	1T9K5	3950-320-2	
1A1A2A1	D	Lower Cover Assy, 1 Entry, 3 Lamps	1T9K5	3950-301	
1A1A2A1N1	E	Insulation Strip with Hardware	1T9K5	3950-109	
1A1A2A1N2	E	SCREW, CAP, SOCKET HD, M4x0.7x12, 18-8 SS	00X69	SHCS-M4x12-T188	
1A1A2A1N3	E	LOCKWASHER, SPLIT, REG DUTY, M4, 18-8 SS	00X69	SPLW-R-M4-T188	
1A1A2A1N4	E	Pressure Valve & Cap Assy	1T9K5	3950-112	
1A1A2A1N5	E	Cable Lead with Terminal Bushing & Plug	1T9K5	3950-121	
1A1A2A1A1	E	Jumper Assy, L=100, .250F QD Terminals	1T9K5	3950-108	
1A1A2A1A1N1	F	Wire, 14AWG, STRANDED - TEFLON, 600V	16482	MIL-W-16878/4	
1A1A2A1A1N2	F	TERMINAL, FEMALE, 14-18 AWG, .250, QUICK DISCT.	1C7K4	35725-2411	
1A1A2A1A2	E	Jumper Assy, L=100, .250F QD - RND Terminal	1T9K5	3950-107	
1A1A2A1A2N1	F	Wire, 14AWG, STRANDED - TEFLON, 600V	16482	MIL-W-16878/4	
1A1A2A1A2N2	F	TERMINAL, FEMALE, 14-18 AWG, .250, QUICK DISCT.	1C7K4	35725-2411	
1A1A2A1A2N3	F	TERMINAL, SNAP PLUG RCPT, NON INSUL. 14AWG	1C7K4	BB-1122	
1A1A2A1N6	E	One Entry Lower Cover	1T9K5	3950-113	
1A1A2A1N7	E	O-RING 2056 VITON	OCEM	758.2035	
1A1A2A2	D	Lamp Support Plate Assy, 3 Lamp, 12° Divergence	1T9K5	3950-312	
1A1A2A2A1	E	Lamp Holder with Spring	1T9K5	3950-103	
1A1A2A2A1N1	F	Lamp Holder Semi-Flush Approach Light	1T9K5	3950-102	
1A1A2A2A1N2	F	Lampholder Spring	1T9K5	3950-120	
1A1A2A2N1	E	Plate, Lamp Support, Semi-Flush Approach Light Fixture	1T9K5	3950-101	
1A1A2A2N2	E	Heat Disipation Plate	1T9K5	3950-128	

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Table 8-1 –Parts List

Ref. Desig.	Indent.	Name of Part / Description	CAGE	JAN/MIL Mfrs Part No.	Notes
1A1A2A2N3	E	SCREW, CAP, SOCKET HD, M4x10, 18-8 SS	00X69	SHCS-M4x10-T188	
1A1A2A2N4	E	WASHER, FLAT, REG DUTY, ØM4, 3x16x1, 18-8 SS	00X69	FLTW-R-M4, 3x16x1-T188	
1A1A2A2N5	E	WASHER, SPLI, REG DUTY, M4, 18-8 SS	00X69	SPLW-R-M4-T188	
1A1A2A2N6	E	RIVET Ø3, 20x10 aisi 304	00X69	RIVET-M3, 20x10-T188	
1A1A2A2N7	E	Lamp Suport Label	1T9K5	3950-126	
1A1A2A1N1	D	Vibration Damping Block	1T9K5	3950-117	
1A1A2A1N2	D	LOCKWASHER, SPLIT, REG. DUTY, M5, 18-8 SS	00X69	SPLW-R-M5-T188	
1A1A2A1N3	D	WASHER, FLAT, REG. DUTY, ØM5x10x1, 18-8 SS	00X69	FLTW-R-M5x10x1-T188	
1A1A2A1N4	D	SCREW, CAP, SOCKET HD, M5x0.5x25, 18-8 SS	00X69	SHCS-M5x0,5x25-T188	
1A1N1	C	Gore-Tex 3x1,5 Gasket Tape 27 inches	1T9K5	3950-129-1	
1A1N2	C	O-Ring HTV Silicone	1T9K5	3950-110	
1A1DS1	C	Lamp, MR-16 105W 6.6A	1T9K5	9637-05	
1A1N3	C	Screw, Machine Cheese HD, M0.5x10, 18-8 SS	00X69	CHMS-M5x0,5x10-T188	
1A1N4	C	Identification Label, FAA-E-2952 ALSF	1T9K5	3950-106	
1A1N5	C	Screw, Machine Cheese HD, M3x0.5x5 lg, 18-8 SS	00X69	CHMS-M3x0,5x5-T188	
1A1N6	C	Instalation Recommendation Plate, MFL Fixture	1T9K5	3950-127	
1A1N7	C	Screw, Cap SOCKET HD, M5x0.5x16, 18-8 SS	00X69	SHCS-M5x0.5x16-T118	
1A1N8	C	MFL-105W Lamp Label	1T9K5	3950-125	
1A1N9	C	RIVIT Ø3X8 CRES	00X69	RMSS-Ø3X8	
1A1A3	C	MFL-Installation Kit	1T9K5	3950-131	
1A1A3N1	D	HEX HD BOLT, 3/8-16x1.5, 410 - BLACK OXIDE	1T9K5	HHMS-0616-24-410B	
1A1A3N2	D	LOCKWASHER 3/8, NORDLOCK	1PUD1	NL 3/8	
1A1A3N3	D	LUBRICANT, ANTI-SEIZE MIL-T-22361	39428	10105K41	
1A1A4	C	MFL-Replacement Kit - ALS	1T9K5	3950-130-1	
1A1A4N1	D	HEX HD BOLT, 3/8-16x1.5, 410 BLACK OXIDE	1T9K5	HHMS-0616-24-410B	
1A1A4N2	D	LOCKWASHER 3/8, NORDLOCK	1PUD1	NL 3/8	
1A1A4N3	D	LUBRICANT, ANTI-SEIZE, MIL-T-22361	39428	10105K41	
1A1A4N4	D	LUBRICANT, SILICONE	39428	1408K39	
1A1A4N5	D	O-RING, 6850 SILICONE	1T9K5	3950-110	
1A1A4N6	D	GORE-TEX 3x1.5 Gasket Tape	1T9K5	3950-129-1	
1A1A4DS1	D	LAMP, MR16 105W, 6.6A	1T9K5	9637-05	
1A2	B	High Intensity Approach Light, Green	1T9K5	3950-2	

Table 8-1 –Parts List

Ref. Desig.	Indent.	Name of Part / Description	CAGE	JAN/MIL Mfrs Part No.	Notes
1A2A1	C	MFL - Top Cover Assy, 3 Light	1T9K5	3950-300	
1A2A1N1	D	Top Cover, 3 Light Windows	1T9K5	3950-302	
1A2A1N2	D	Prism Retainer	1T9K5	3950-104	
1A2A1N3	D	Prism Gasket	1T9K5	3950-118	
1A2A1N4	D	Prism	1T9K5	3950-114	
1A2A1N5	D	Prism Holder, Nylon	1T9K5	3950-119	
1A2A1N6	D	SCREW SOCKET, FLAT HD, M5X0,5X12, 18-8 SS	00X69	FSHS-M5x0,5x12-T188	
1A2A1N7	D	Alignment Pin	1T9K5	3950-111	
1A2A2	C	MFL - Bottom Cover Assy 3°	1T9K5	3950-320-1	
1A2A2A1	D	Lower Cover Assy, 1 Entry, 3 Lamps	1T9K5	3950-301	
1A2A2A1N1	E	Insulation Strip with Hardware	1T9K5	3950-109	
1A2A2A1N2	E	SCREW, CAP, SOCKET HD, M4x0.7x12, 18-8 SS	00X69	SHCS-M4x12-T188	
1A2A2A1N3	E	LOCKWASHER, SPLIT, REG DUTY, M4, 18-8 SS	00X69	SPLW-R-M4-T188	
1A2A2A1N4	E	Pressure Valve & Cap Assy	1T9K5	3950-112	
1A2A2A1N5	E	Cable Lead with Terminal Bushing & Plug	1T9K5	3950-121	
1A2A2A1A2	E	Jumper Assy, L=100, .250F QD Terminals	1T9K5	3950-108	
1A2A2A1A2N1	F	Wire, 14AWG, STRANDED - TEFLON, 600V	16482	MIL-W-16878/4	
1A2A2A1A2N2	F	TERMINAL, FEMALE, 14-18 AWG, .250, QUICK DISCT.	1C7K4	35725-2411	
1A2A2A1A2	E	Jumper Assy, L=100, .250F QD - RND Terminal	1T9K5	3950-107	
1A2A2A1A2N1	F	Wire, 14AWG, STRANDED - TEFLON, 600V	16482	MIL-W-16878/4	
1A2A2A1A2N2	F	TERMINAL, FEMALE, 14-18 AWG, .250, QUICK DISCT.	1C7K4	35725-2411	
1A2A2A1A2N3	F	TERMINAL, SNAP PLUG RCPT, NON INSUL. 14AWG	1C7K4	BB-1122	
1A2A2A1N6	E	One Entry Lower Cover	1T9K5	3950-113	
1A2A2A1N7	E	O-RING 2056 VITON	OCEM	758.2035	
1A2A2A2	D	Lamp Support Plate Assy, 3 Lamp, 3° Divergence	1T9K5	3950-303	
1A2A2A2A1	E	Lamp Holder with Spring	1T9K5	3950-103	
1A2A2A2A1N1	F	Lamp Holder Semi-Flush Approach Light	1T9K5	3950-102	
1A2A2A2A1N2	F	Lampholder Spring	1T9K5	3950-120	
1A2A2A2N1	E	Plate, Lamp Support, Semi-Flush Approach Light Fixture	1T9K5	3950-101	
1A2A2A2N2	E	Heat Disipation Plate	1T9K5	3950-128	
1A2A2A2N3	E	SCREW, CAP, SOCKET HD, M4x10, 18-8 SS	00X69	SHCS-M4x10-T188	
1A2A2A2N4	E	WASHER, FLAT, REG DUTY, ØM4, 3x16x1, 18-8 SS	00X69	FLTW-R-M4, 3x16x1-T188	

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Table 8-1 –Parts List

Ref. Desig.	Indent.	Name of Part / Description	CAGE	JAN/MIL Mfrs Part No.	Notes
1A2A2A2N5	E	WASHER, SPLI, REG DUTY, M4, 18-8 SS	00X69	SPLW-R-M4-T188	
1A2A2A2N6	E	RIVET Ø3, 20x10 aisi 304	00X69	RIVET-M3, 20x10-T188	
1A2A2A2N7	E	Lamp Suport Label	1T9K5	3950-126	
1A2A2A1N1	D	Vibration Damping Block	1T9K5	3950-117	
1A2A2A1N2	D	LOCKWASHER, SPLIT, REG. DUTY, M5, 18-8 SS	00X69	SPLW-R-M5-T188	
1A2A2A1N3	D	WASHER, FLAT, REG. DUTY, ØM5x10x1, 18-8 SS	00X69	FTW-R-M5x10x1-T188	
1A2A2A1N4	D	SCREW, CAP, SOCKET HD, M5x0.5x25, 18-8 SS	00X69	SHCS-M5x0,5x25-T188	
1A2N1	C	Gore-Tex 3x1,5 Gasket Tape 27 inches	1T9K5	3950-129-1	
1A2N2	C	O-Ring HTV Silicone	1T9K5	3950-110	
1A2DS1	C	Lamp, MR-16 105W 6.6A	1T9K5	9637-05	
1A2N3	C	Green Dichroic Filter, MFL Fixture	1T9K5	3950-116	
1A2N4	C	Gore-Tex 3x1,5 Gasket Tape 1.5 inches	1T9K5	3950-129-2	
1A2N5	C	Filter Suport, MFL Fixture	1T9K5	3950-123	
1A2N6	C	Screw, Machine Cheese HD, M0.5x10, 18-8 SS	00X69	CHMS-M5x0,5x10-T188	
1A2N7	C	Identification Label, FAA-E-2952 ALSF	1T9K5	3950-106	
1A2N8	C	Screw, Machine Cheese HD, M3x0.5x5 lg, 18-8 SS	00X69	CHMS-M3x0,5x5-T188	
1A2N9	C	Instalation Recommendation Plate, MFL Fixture	1T9K5	3950-127	
1A2N10	C	Screw, Cap SOCKET HD, M5x0.5x16, 18-8 SS	00X69	SHCS-M5x0.5x16-T118	
1A2N11	C	MFL-105W Lamp Label	1T9K5	3950-125	
1A2N12	C	RIVIT Ø3X8 CRES	00X69	RMSS-Ø3X8	
1A2A3	C	MFL-Installation Kit	1T9K5	3950-131	
1A2A3N1	D	HEX HD BOLT, 3/8-16x1.5, 410 - BLACK OXIDE	1T9K5	HHMS-0616-24-410B	
1A2A3N2	D	LOCKWASHER 3/8, NORDLOCK	1PUD1	NL 3/8	
1A2A3N3	D	LUBRICANT, ANTI-SEIZE MIL-T-22361	39428	10105K41	
1A2A4	C	MFL-Replacement Kit - ALS	1T9K5	3950-130-1	
1A2A4N1	D	HEX HD BOLT, 3/8-16x1.5, 410 BLACK OXIDE	1T9K5	HHMS-0616-24-410b	
1A2A4N2	D	LOCKWASHER 3/8, NORDLOCK	1PUD1	NL 3/8	
1A2A4N3	D	LUBRICANT, ANTI-SEIZE, MIL-T-22361	39428	10105K41	
1A2A4N4	D	LUBRICANT, SILICONE	39428	1408K39	
1A2A4N5	D	O-RING, 6850 SILICONE	1T9K5	3950-110	
1A2A4N6	D	GORE-TEX 3x1.5 Gasket Tape	1T9K5	3950-129-1	
1A2A4DS1	D	LAMP, MR16 105W, 6.6A	1T9K5	9637-05	

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Table 8-1 –Parts List

Ref. Desig.	Indent.	Name of Part / Description	CAGE	JAN/MIL Mfrs Part No.	Notes
1A3	B	High Intensity Approach Light, Red	1T9K5	3950-3	
1A3A1	C	MFL - Top Cover Assy, 3 Light	1T9K5	3950-300	
1A3A1N1	D	Top Cover, 3 Light Windows	1T9K5	3950-302	
1A3A1N2	D	Prism Retainer	1T9K5	3950-104	
1A3A1N3	D	Prism Gasket	1T9K5	3950-118	
1A3A1N4	D	Prism	1T9K5	3950-114	
1A3A1N5	D	Prism Holder, Nylon	1T9K5	3950-119	
1A3A1N6	D	SCREW SOCKET, FLAT HD, M5X0,5X12, 18-8 SS	00X69	FSHS-M5x0,5x12-T188	
1A3A1N7	D	Alignment Pin	1T9K5	3950-111	
1A3A2	C	MFL - Bottom Cover Assy 3°	1T9K5	3950-320-1	
1A3A2A1	D	Lower Cover Assy, 1 Entry, 3 Lamps	1T9K5	3950-301	
1A3A2A1N1	E	Insulation Strip with Hardware	1T9K5	3950-109	
1A3A2A1N2	E	SCREW, CAP, SOCKET HD, M4x0.7x12, 18-8 SS	00X69	SHCS-M4x12-T188	
1A3A2A1N3	E	LOCKWASHER, SPLIT, REG DUTY, M4, 18-8 SS	00X69	SPLW-R-M4-T188	
1A3A2A1N4	E	Pressure Valve & Cap Assy	1T9K5	3950-112	
1A3A2A1N5	E	Cable Lead with Terminal Bushing & Plug	1T9K5	3950-121	
1A3A2A1A3	E	Jumper Assy, L=100, .250F QD Terminals	1T9K5	3950-108	
1A3A2A1A3N1	F	Wire, 14AWG, STRANDED - TEFLON, 600V	16482	MIL-W-16878/4	
1A3A2A1A3N2	F	TERMINAL, FEMALE, 14-18 AWG, .250, QUICK DISCT.	1C7K4	35725-2411	
1A3A2A1A3	E	Jumper Assy, L=100, .250F QD - RND Terminal	1T9K5	3950-107	
1A3A2A1A3N1	F	Wire, 14AWG, STRANDED - TEFLON, 600V	16482	MIL-W-16878/4	
1A3A2A1A3N2	F	TERMINAL, FEMALE, 14-18 AWG, .250, QUICK DISCT.	1C7K4	35725-2411	
1A3A2A1A3N3	F	TERMINAL, SNAP PLUG RCPT, NON INSUL. 14AWG	1C7K4	BB-1122	
1A3A2A1N6	E	One Entry Lower Cover	1T9K5	3950-113	
1A3A2A1N7	E	O-RING 2056 VITON	OCEM	758.2035	
1A3A2A2	D	Lamp Support Plate Assy, 3 Lamp, 3° Divergence	1T9K5	3950-303	
1A3A2A2A1	E	Lamp Holder with Spring	1T9K5	3950-103	
1A3A2A2A1N1	F	Lamp Holder Semi-Flush Approach Light	1T9K5	3950-102	
1A3A2A2A1N2	F	Lampholder Spring	1T9K5	3950-120	
1A3A2A2N1	E	Plate, Lamp Support, Semi-Flush Approach Light Fixture	1T9K5	3950-101	
1A3A2A2N2	E	Heat Disipation Plate	1T9K5	3950-128	
1A3A2A2N3	E	SCREW, CAP, SOCKET HD, M4x10, 18-8 SS	00X69	SHCS-M4x10-T188	

Table 8-1 –Parts List

Ref. Desig.	Indent.	Name of Part / Description	CAGE	JAN/MIL Mfrs Part No.	Notes
1A3A2A2N4	E	WASHER, FLAT, REG DUTY, ØM4, 3x16x1, 18-8 SS	00X69	FLTW-R-M4, 3x16x1-T188	
1A3A2A2N5	E	WASHER, SPLI, REG DUTY, M4, 18-8 SS	00X69	SPLW-R-M4-T188	
1A3A2A2N6	E	RIVET Ø3, 20x10 aisi 304	00X69	RIVET-M3, 20x10-T188	
1A3A2A2N7	E	Lamp Suport Label	1T9K5	3950-126	
1A3A2A1N1	D	Vibration Damping Block	1T9K5	3950-117	
1A3A2A1N2	D	LOCKWASHER, SPLIT, REG. DUTY, M5, 18-8 SS	00X69	SPLW-R-M5-T188	
1A3A2A1N3	D	WASHER, FLAT, REG. DUTY, ØM5x10x1, 18-8 SS	00X69	FLTW-R-M5x10x1-T188	
1A3A2A1N4	D	SCREW, CAP, SOCKET HD, M5x0.5x25, 18-8 SS	00X69	SHCS-M5x0,5x25-T188	
1A3N1	C	Gore-Tex 3x1,5 Gasket Tape 27 inches	1T9K5	3950-129-1	
1A3N2	C	O-Ring HTV Silicone	1T9K5	3950-110	
1A3DS1	C	Lamp, MR-16 105W 6.6A	1T9K5	9637-05	
1A3N3	C	Red Dichroic Filter, MFL Fixture	1T9K5	3950-115	
1A3N4	C	Gore-Tex 3x1,5 Gasket Tape 1.5 inches	1T9K5	3950-129-2	
1A3N5	C	Filter Suport, MFL Fixture	1T9K5	3950-123	
1A3N6	C	Screw, Machine Cheese HD, M0.5x10, 18-8 SS	00X69	CHMS-M5x0,5x10-T188	
1A3N7	C	Identification Label, FAA-E-2952 ALSF	1T9K5	3950-106	
1A3N8	C	Screw, Machine Cheese HD, M3x0.5x5 lg, 18-8 SS	00X69	CHMS-M3x0,5x5-T188	
1A3N9	C	Instalation Recommendation Plate, MFL Fixture	1T9K5	3950-127	
1A3N10	C	Screw, Cap SOCKET HD, M5x0.5x16, 18-8 SS	00X69	SHCS-M5x0.5x16-T118	
1A3N11	C	MFL-105W Lamp Label	1T9K5	3950-125	
1A3N12	C	RIVIT Ø3X8 CRES	00X69	RMSS-Ø3X8	
1A3A3	C	MFL-Installation Kit	1T9K5	3950-131	
1A3A3N1	D	HEX HD BOLT, 3/8-16x1.5, 410 - BLACK OXIDE	1T9K5	HHMS-0616-24-410B	
1A3A3N2	D	LOCKWASHER 3/8, NORDLOCK	1PUD1	NL 3/8	
1A3A3N3	D	LUBRICANT, ANTI-SEIZE MIL-T-22361	39428	10105K41	
1A3A4	C	MFL-Replacement Kit - ALS	1T9K5	3950-130-1	
1A3A4N1	D	HEX HD BOLT, 3/8-16x1.5, 410 BLACK OXIDE	00X69	HHMS-0616-24-410b	
1A3A4N2	D	LOCKWASHER 3/8, NORDLOCK	1PUD1	NL 3/8	
1A3A4N3	D	LUBRICANT, ANTI-SEIZE, MIL-T-22361	39428	10105K41	
1A3A4N4	D	LUBRICANT, SILICONE	39428	1408K39	
1A3A4N5	D	O-RING, 6850 SILICONE	1T9K5	3950-110	
1A3A4N6	D	GORE-TEX 3x1.5 Gasket Tape	1T9K5	3950-129-1	

Table 8-1 –Parts List

Ref. Desig.	Indent.	Name of Part / Description	CAGE	JAN/MIL Mfrs Part No.	Notes
1A3A4DS1	D	LAMP, MR16 105W, 6.6A	1T9K5	9637-05	
1A4	B	Medium Intensity Approach Light, White	1T9K5	3950-4	
1A4A1	C	MFL - Top Cover Assy, 3 Light	1T9K5	3950-300	
1A4A1N1	D	Top Cover, 3 Light Windows	1T9K5	3950-302	
1A4A1N2	D	Prism Retainer	1T9K5	3950-104	
1A4A1N3	D	Prism Gasket	1T9K5	3950-118	
1A4A1N4	D	Prism	1T9K5	3950-114	
1A4A1N5	D	Prism Holder, Nylon	1T9K5	3950-119	
1A4A1N6	D	SCREW SOCKET, FLAT HD, M5X0,5X12, 18-8 SS	00X69	FSHS-M5x0,5x12-T188	
1A4A1N7	D	Alignment Pin	1T9K5	3950-111	
1A4A2	C	MFL - Bottom Cover Assy 12°	1T9K5	3950-320-2	
1A4A2A1	D	Lower Cover Assy, 1 Entry, 3 Lamps	1T9K5	3950-301	
1A4A2A1N1	E	Insulation Strip with Hardware	1T9K5	3950-109	
1A4A2A1N2	E	SCREW, CAP, SOCKET HD, M4x0.7x12, 18-8 SS	00X69	SHCS-M4x12-T188	
1A4A2A1N3	E	LOCKWASHER, SPLIT, REG DUTY, M4, 18-8 SS	00X69	SPLW-R-M4-T188	
1A4A2A1N4	E	Pressure Valve & Cap Assy	1T9K5	3950-112	
1A4A2A1N5	E	Cable Lead with Terminal Bushing & Plug	1T9K5	3950-121	
1A4A2A1A4	E	Jumper Assy, L=100, .250F QD Terminals	1T9K5	3950-108	
1A4A2A1A4N1	F	Wire, 14AWG, STRANDED - TEFLON, 600V	16482	MIL-W-16878/4	
1A4A2A1A4N2	F	TERMINAL, FEMALE, 14-18 AWG, .250, QUICK DISCT.	1C7K4	35725-2411	
1A4A2A1A2	E	Jumper Assy, L=100, .250F QD - RND Terminal	1T9K5	3950-107	
1A4A2A1A2N1	F	Wire, 14AWG, STRANDED - TEFLON, 600V	16482	MIL-W-16878/4	
1A4A2A1A2N2	F	TERMINAL, FEMALE, 14-18 AWG, .250, QUICK DISCT.	1C7K4	35725-2411	
1A4A2A1A2N3	F	TERMINAL, SNAP PLUG RCPT, NON INSUL. 14AWG	1C7K4	BB-1122	
1A4A2A1N6	E	One Entry Lower Cover	1T9K5	3950-113	
1A4A2A1N7	E	O-RING 2056 VITON	OCEM	758.2035	
1A4A2A2	D	Lamp Support Plate Assy, 3 Lamp, 12° Divergence	1T9K5	3950-312	
1A4A2A2A1	E	Lamp Holder with Spring	1T9K5	3950-103	
1A4A2A2A1N1	F	Lamp Holder Semi-Flush Approach Light	1T9K5	3950-102	
1A4A2A2A1N2	F	Lampholder Spring	1T9K5	3950-120	
1A4A2A2N1	E	Plate, Lamp Support, Semi-Flush Approach Light Fixture	1T9K5	3950-101	
1A4A2A2N2	E	Heat Disipation Plate	1T9K5	3950-128	

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Table 8-1 –Parts List

Ref. Desig.	Indent.	Name of Part / Description	CAGE	JAN/MIL Mfrs Part No.	Notes
1A4A2A2N3	E	SCREW, CAP, SOCKET HD, M4x10, 18-8 SS	00X69	SHCS-M4x10-T188	
1A4A2A2N4	E	WASHER, FLAT, REG DUTY, ØM4, 3x16x1, 18-8 SS	00X69	FLTW-R-M4, 3x16x1-T188	
1A4A2A2N5	E	WASHER, SPLI, REG DUTY, M4, 18-8 SS	00X69	SPLW-R-M4-T188	
1A4A2A2N6	E	RIVET Ø3, 20x10 aisi 304	00X69	RIVET-M3, 20x10-T188	
1A4A2A2N7	E	Lamp Suport Label	1T9K5	3950-126	
1A4A2A1N1	D	Vibration Damping Block	1T9K5	3950-117	
1A4A2A1N2	D	LOCKWASHER, SPLIT, REG. DUTY, M5, 18-8 SS	00X69	SPLW-R-M5-T188	
1A4A2A1N3	D	WASHER, FLAT, REG. DUTY, ØM5x10x1, 18-8 SS	00X69	FLTW-R-M5x10x1-T188	
1A4A2A1N4	D	SCREW, CAP, SOCKET HD, M5x0.5x25, 18-8 SS	00X69	SHCS-M5x0,5x25-T188	
1A4N1	C	Gore-Tex 3x1,5 Gasket Tape 27 inches	1T9K5	3950-129-1	
1A4N2	C	O-Ring HTV Silicone	1T9K5	3950-110	
1A4DS1	C	Lamp, MR-16 60W 6.6A	1T9K5	9637-06	
1A4N4	C	Identification Label, FAA-E-2952 ALSF	1T9K5	3950-106	
1A4N5	C	Screw, Machine Cheese HD, M3x0.5x5 lg, 18-8 SS	00X69	CHMS-M3x0,5x5-T188	
1A4N6	C	Instalation Recommendation Plate, MFL Fixture	1T9K5	3950-127	
1A4N7	C	Screw, Cap SOCKET HD, M5x0.5x16, 18-8 SS	00X69	SHCS-M5x0.5x16-T118	
1A4N8	C	MFL-105W Lamp Label	1T9K5	3950-125	
1A4N9	C	RIVIT Ø3X8 CRES	00X69	RMSS-Ø3X8	
1A4A3	C	MFL-Installation Kit	1T9K5	3950-131	
1A4A3N1	D	HEX HD BOLT, 3/8-16x1.5, 410 - BLACK OXIDE	1T9K5	HHMS-0616-24-410B	
1A4A3N2	D	LOCKWASHER 3/8, NORDLOCK	1PUD1	NL 3/8	
1A4A3N3	D	LUBRICANT, ANTI-SEIZE MIL-T-22361	39428	10105K41	
1A4A4	C	MFL-Replacement Kit - ALS	1T9K5	3950-130-1	
1A4A4N1	D	HEX HD BOLT, 3/8-16x1.5, 410 BLACK OXIDE	1T9K5	HHMS-0616-24-410b	
1A4A4N2	D	LOCKWASHER 3/8, NORDLOCK	1PUD1	NL 3/8	
1A4A4N3	D	LUBRICANT, ANTI-SEIZE, MIL-T-22361	39428	10105K41	
1A4A4N4	D	LUBRICANT, SILICONE	39428	1408K39	
1A4A4N5	D	O-RING, 6850 SILICONE	1T9K5	3950-110	
1A4A4N6	D	GORE-TEX 3x1.5 Gasket Tape	1T9K5	3950-129-1	
1A4A4DS1	D	LAMP, MR16 60W, 6.6A	1T9K5	9637-06	
1A5	B	Medium Intensity Approach Light, Green	1T9K5	3950-5	
1A5A1	C	MFL - Top Cover Assy, 3 Light	1T9K5	3950-300	

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Table 8-1 –Parts List

Ref. Desig.	Indent.	Name of Part / Description	CAGE	JAN/MIL Mfrs Part No.	Notes
1A5A1N1	D	Top Cover, 3 Light Windows	1T9K5	3950-302	
1A5A1N2	D	Prism Retainer	1T9K5	3950-104	
1A5A1N3	D	Prism Gasket	1T9K5	3950-118	
1A5A1N4	D	Prism	1T9K5	3950-114	
1A5A1N5	D	Prism Holder, Nylon	1T9K5	3950-119	
1A5A1N6	D	SCREW SOCKET, FLAT HD, M5X0,5X12, 18-8 SS	00X69	FSHS-M5x0,5x12-T188	
1A5A1N7	D	Alignment Pin	1T9K5	3950-111	
1A5A2	C	MFL - Bottom Cover Assy 3°	1T9K5	3950-320-1	
1A5A2A1	D	Lower Cover Assy, 1 Entry, 3 Lamps	1T9K5	3950-301	
1A5A2A1N1	E	Insulation Strip with Hardware	1T9K5	3950-109	
1A5A2A1N2	E	SCREW, CAP, SOCKET HD, M4x0.7x12, 18-8 SS	00X69	SHCS-M4x12-T188	
1A5A2A1N3	E	LOCKWASHER, SPLIT, REG DUTY, M4, 18-8 SS	00X69	SPLW-R-M4-T188	
1A5A2A1N4	E	Pressure Valve & Cap Assy	1T9K5	3950-112	
1A5A2A1N5	E	Cable Lead with Terminal Bushing & Plug	1T9K5	3950-121	
1A5A2A1A5	E	Jumper Assy, L=100, .250F QD Terminals	1T9K5	3950-108	
1A5A2A1A5N1	F	Wire, 14AWG, STRANDED - TEFLON, 600V	16482	MIL-W-16878/4	
1A5A2A1A5N2	F	TERMINAL, FEMALE, 14-18 AWG, .250, QUICK DISCT.	1C7K4	35725-2411	
1A5A2A1A5	E	Jumper Assy, L=100, .250F QD - RND Terminal	1T9K5	3950-107	
1A5A2A1A5N1	F	Wire, 14AWG, STRANDED - TEFLON, 600V	16482	MIL-W-16878/4	
1A5A2A1A5N2	F	TERMINAL, FEMALE, 14-18 AWG, .250, QUICK DISCT.	1C7K4	35725-2411	
1A5A2A1A5N3	F	TERMINAL, SNAP PLUG RCPT, NON INSUL. 14AWG	1C7K4	BB-1122	
1A5A2A1N6	E	One Entry Lower Cover	1T9K5	3950-113	
1A5A2A1N7	E	O-RING 2056 VITON	OCEM	758.2035	
1A5A2A2	D	Lamp Support Plate Assy, 3 Lamp, 3° Divergence	1T9K5	3950-303	
1A5A2A2A1	E	Lamp Holder with Spring	1T9K5	3950-103	
1A5A2A2A1N1	F	Lamp Holder Semi-Flush Approach Light	1T9K5	3950-102	
1A5A2A2A1N2	F	Lampholder Spring	1T9K5	3950-120	
1A5A2A2N1	E	Plate, Lamp Support, Semi-Flush Approach Light Fixture	1T9K5	3950-101	
1A5A2A2N2	E	Heat Disipation Plate	1T9K5	3950-128	
1A5A2A2N3	E	SCREW, CAP, SOCKET HD, M4x10, 18-8 SS	00X69	SHCS-M4x10-T188	
1A5A2A2N4	E	WASHER, FLAT, REG DUTY, ØM4, 3x16x1, 18-8 SS	00X69	FLTW-R-M4, 3x16x1-T188	
1A5A2A2N5	E	WASHER, SPLI, REG DUTY, M4, 18-8 SS	00X69	SPLW-R-M4-T188	

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Table 8-1 –Parts List

Ref. Desig.	Indent.	Name of Part / Description	CAGE	JAN/MIL Mfrs Part No.	Notes
1A5A2A2N6	E	RIVET Ø3, 20x10 aisi 304	00X69	RIVET-M3, 20x10-T188	
1A5A2A2N7	E	Lamp Suport Label	1T9K5	3950-126	
1A5A2A1N1	D	Vibration Damping Block	1T9K5	3950-117	
1A5A2A1N2	D	LOCKWASHER, SPLIT, REG. DUTY, M5, 18-8 SS	00X69	SPLW-R-M5-T188	
1A5A2A1N3	D	WASHER, FLAT, REG. DUTY, ØM5x10x1, 18-8 SS	00X69	FLTW-R-M5x10x1-T188	
1A5A2A1N4	D	SCREW, CAP, SOCKET HD, M5x0.5x25, 18-8 SS	00X69	SHCS-M5x0,5x25-T188	
1A5N1	C	Gore-Tex 3x1,5 Gasket Tape 27 inches	1T9K5	3950-129-1	
1A5N2	C	O-Ring HTV Silicone	1T9K5	3950-110	
1A5DS1	C	Lamp, MR-16 60W 6.6A	1T9K5	9637-06	
1A5N3	C	Green Dichroic Filter, MFL Fixture	1T9K5	3950-116	
1A5N4	C	Gore-Tex 3x1,5 Gasket Tape 1.5 inches	1T9K5	3950-129-2	
1A5N5	C	Filter Suport, MFL Fixture	1T9K5	3950-123	
1A5N6	C	Screw, Machine Cheese HD, M0.5x10, 18-8 SS	00X69	CHMS-M5x0,5x10-T188	
1A5N7	C	Identification Label, FAA-E-2952 ALSF	1T9K5	3950-106	
1A5N8	C	Screw, Machine Cheese HD, M3x0.5x5 lg, 18-8 SS	00X69	CHMS-M3x0,5x5-T188	
1A5N9	C	Instalation Recommendation Plate, MFL Fixture	1T9K5	3950-127	
1A5N10	C	Screw, Cap SOCKET HD, M5x0.5x16, 18-8 SS	00X69	SHCS-M5x0.5x16-T118	
1A5N11	C	MFL-105W Lamp Label	1T9K5	3950-125	
1A5N12	C	RIVIT Ø3X8 CRES	00X69	RMSS-Ø3X8	
1A5A3	C	MFL-Installation Kit	1T9K5	3950-131	
1A5A3N1	D	HEX HD BOLT, 3/8-16x1.5, 410 - BLACK OXIDE	1T9K5	HHMS-0616-24-410B	
1A5A3N2	D	LOCKWASHER 3/8, NORDLOCK	1PUD1	NL 3/8	
1A5A3N3	D	LUBRICANT, ANTI-SEIZE MIL-T-22361	39428	10105K41	
1A5A4	C	MFL-Replacement Kit - ALS	1T9K5	3950-130-1	
1A5A4N1	D	HEX HD BOLT, 3/8-16x1.5, 410 BLACK OXIDE	1T9K5	HHMS-0616-24-410b	
1A5A4N2	D	LOCKWASHER 3/8, NORDLOCK	1PUD1	NL 3/8	
1A5A4N3	D	LUBRICANT, ANTI-SEIZE, MIL-T-22361	39428	10105K41	
1A5A4N4	D	LUBRICANT, SILICONE	39428	1408K39	
1A5A4N5	D	O-RING, 6850 SILICONE	1T9K5	3950-110	
1A5A4N6	D	GORE-TEX 3x1.5 Gasket Tape	1T9K5	3950-129-1	
1A5A4DS1	D	LAMP, MR16 60W, 6.6A	1T9K5	9637-06	

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TABLE 8-2 – List of Manufacturers

Cage	Manufacturer	Cage	Manufacturer
00X69	Mutual Screw & Supply 68 W Passaic Street Rochelle Park, NJ 07662	16482	Belden Wire & Cable Company, Inc. 2200 US Hwy 27S Richmond, IN 47374
1C7K4	Molex Inc. 5224 Katrine Ave. Downers Grove, IL 60515	1PUD1	Nord Lock, Inc. 6524 Schamber Dr. Muskegon, MI 49444
1T9K5	OCEM Acquisition Corp. d.b.a. Multi Electric Mfg., Inc. Chicago, Il 60624-1787	39428	McMaster Carr Chicago, Il 60680-4355
OCEM	O.C.E.M. S.p.A. Via 2 Agosto 1980 n. 11 40016 San Diorgio di Piano Bologna – Italy		

9.0 INSTALLATION

9.1 Scope

This section contains the necessary step-by-step procedures for the installation, integration and checkout of the equipment.

9.2 Unpacking Instructions

Remove the box containing the light fixture from any skid, pallet or super container. Use a suitable knife slice through the sealing tape on the box being careful not to harm the contents. Remove the fixture and instruction book from the box. Be sure to retain the box for future use. When installation is complete the instruction book should be transferred to the maintenance authority on sight for future reference.

9.3 Sight Information

The semi-flush approach light is the output device for an approach lighting system. As such it is the final portion of the system to be installed. The successful operation of the light unit is dependent on the integrity of the other parts of the system supplied and installed by others.

9.3.1 Light Base Installation

Ascertain that the L868-B base has been installed per the manufacturers' directions. The base must be properly installed, aligned and leveled. The base must be free of water and clean. It is important that the top flange is clean, free of grease and other foreign materials.

9.3.2 Load Transfer Ring

When used the Load Transfer ring should be installed according to the manufacturer's specifications. The base must be recessed to allow sufficient clearance for the Load Transfer ring. The space between the ring and the pavement should be filled with P606 Epoxy grout or equivalent.

9.3.3 Light Base Electrical

The electrical circuit should be preconfigured with either a voltage transformer or a series circuit isolation transformer containing an L823 secondary receptacle. The primary shall be connected to the power circuit. Refer to the system drawings and instruction book to determine the proper wiring of the isolation transformers.

9.4 Isolation Transformers

An isolation transformer is required for the installation and operation of each fixture.

9.4.1 Medium Intensity Transformers

Fixtures on MALSR systems are typically powered by multiple (parallel or voltage controlled) circuits; therefore, a 180 W isolation transformers with either a 240 or 120 VAC primaries and

6.6 A secondary are required for the Medium Intensity fixture. Recommended transformers but not supplied are:

Primary Voltage	Recommended Part Number	Manufacturer
240V Primary	VTA180P240S27.3-01	AMERACE
120V Primary	VTA180P120S27.3-01	AMERACE

Note

Refer to the installation drawings provided to determine if a 240V or 120V primary for the isolation transformer is required.

9.4.2 High Intensity Transformers

Fixtures on ALSF systems are typically powered by series circuits; therefore, Standard L830 300W isolation transformers with 6.6A or 20A primaries and 6.6A secondary are required for the ALS fixture. A 500W L830 transformer can be substituted for the 300W with no overall effect on the system.

Note

Refer to the installation drawings provided to determine if a 20A or 6.6A primary is required for the isolation transformer.

9.5 Installation of Light Unit

9.5.1 Installation Direct to Light Base

See Figure 9-1. Prior to installation of a new light unit, ensure that the base is free of any loose debris and the outer surfaces of the fixture and prisms are clean. Connect the L-823 plug on the light unit to the L-823 receptacle on the secondary of the isolation transformer in the light base. Set the unit down into the light base. Two M12 lifting bolts may be inserted into the two threaded holes to ease this process. Secure the properly aligned light unit to the base using six black-oxide coated 410 stainless steel 3/8"-16 x 1.5" hex bolts with 316 stainless steel NordLock[®] washers. Snug bolts down evenly prior to applying final torque. Tighten the bolts in a criss-cross star pattern to a minimum torque of 17.8 ft-lbs. (213 in-lbs). The light unit is now ready for operation. Fill space between the fixture and the pavement with P606 Epoxy grout.

9.5.2 Installation with Load Transfer Ring

See Figure 9-2. Prior to installation of a new light unit, ensure that the Load Transfer ring is free of any loose debris and the outer surfaces of the fixture and prisms are clean. Connect the L-823 plug on the light unit to the L-823 receptacle on the secondary of the isolation transformer in the light base. Place the O ring from the Load Transfer ring in the groove of the ring. Set the unit down on to the ring. Two M12 lifting bolts may be inserted into the two threaded holes to ease this process. Secure the properly aligned light unit to the ring using six new black-oxide coated

410 stainless steel 3/8"-16 x 1.5" hex bolts with 316 stainless steel NordLock[®] washers. Snug bolts down evenly prior to applying final torque. Tighten the bolts in a criss-cross star pattern to a minimum Torque of 17-8 ft-lbs (213 in-lbs). The light unit is now ready for operation.

9.6 Light Fixture Removal

9.6.1 Removal with Direct Mount

When the fixture is directly mounted to the L868 base you must remove the P606 Grout from around the fixture. Next remove the six black-oxide coated 410 stainless steel 3/8"-16 x 1.5" hex bolts with 316 stainless steel NordLock[®] washers and discard them in a proper manor. Use two M12 lifting bolts, two pry bars or two large slotted screw drivers lift the units off the base. Disconnect the L826 plug. Prior to leaving the area, make sure a cover or new fixture is installed on the base.

9.6.2 Removal with Load Transfer Ring

When the fixture has a load transfer ring you must remove any dirt or debris from around the fixture. Next remove the six black-oxide coated 410 stainless steel 3/8"-16 x 1.5" hex bolts with 316 stainless steel NordLock[®] washers and discard them in a proper manor. Use two M12 lifting bolts, two pry bars or two large slotted screw drivers lift the units from the ring. Disconnect the L826 plug. Prior to leaving the area, make sure a cover or new fixture is installed on the base.

9.7 Re-Packing

Place the fixture in the original shipping container/box if available or similar sized container. Add packing material as required to secure the fixture in the box. Seal the box with tape approved for the intended use.

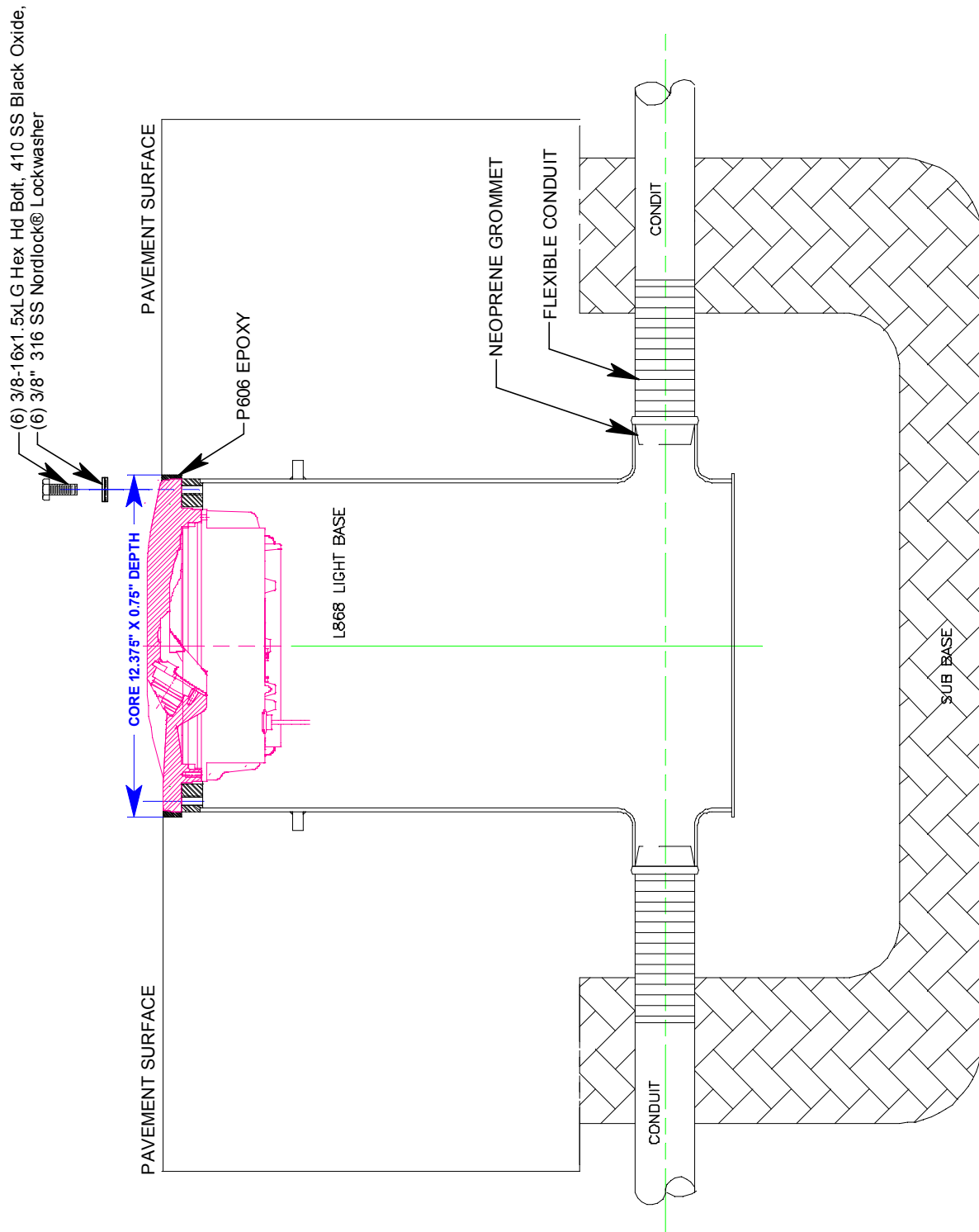
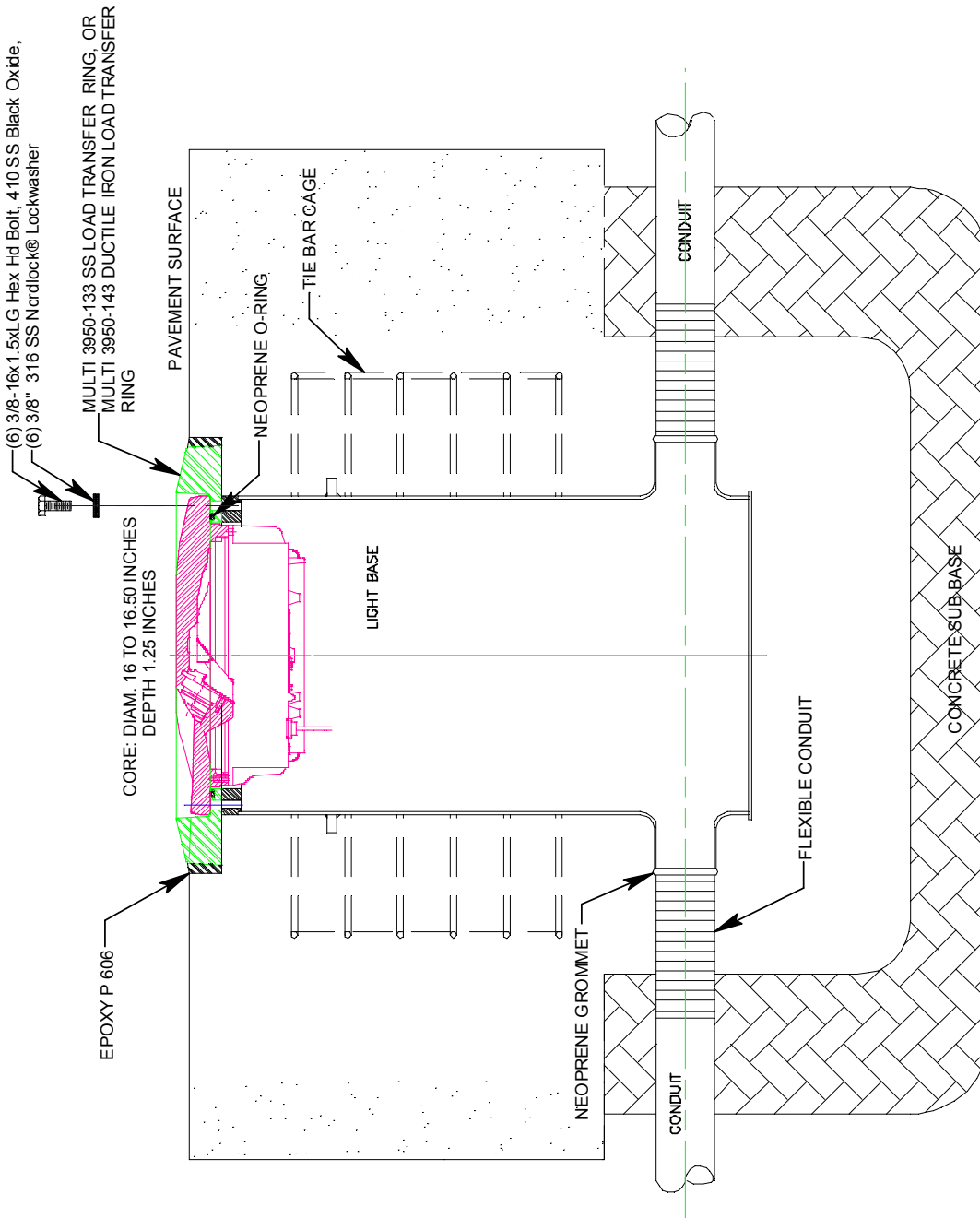


Figure 9-1 – Installation on L868 12 Inch Base



NOTE: IF OVERLAY A 3 INCH EXTENSION IS REQUIRED.

Figure 9-2 – Installation on L868 12 Base with Load Transfer Ring

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