SAA09EL18-003
REV. C

B/L: 131.80
SYS: Ball/Bar Lights - SLF

JUL 31 1992

Critical Item: "Day-Night" Selector Switch (2 Items Total)

Find Number: S4 (1 ea/Runway)

Criticality Category: 1 (Night Landing Only)

SAA No:	09EL18-003	**System/Area:**	Ball/Bar Lights - SLF
NASA Part No:	None	**PMN/ Name:**	U72-1336 Ball/Bar Lights
Mfg/ Part No:	Electro-Switch 103403	**Drawing/ Sheet No:**	80K51820 8

Function: Utilized to select proper voltage to the Ball Lights and provides proper illumination intensity for specific times of the day.

Critical Failure Mode/Failure Mode No: Contact Fails Open/09EL18-003.016, 09EL18-003.035

Failure Cause: Structural Failure/Contamination/Corrosion

Failure Effect: Loss of power to the Ball Lights. Loss of ability to acquire and maintain the proper inner glideslope during Orbiter landing operations. Possible loss of life/vehicle.

ACCEPTANCE RATIONALE

Design:

Rated	Estimated Operating
Voltage - 0 to 125 volts	119 volts
Current - 40 amps	19 amps

Meets requirements of MIL-S-15291, specification for "Switch Rotary, Snap Action and Detent, Spring Return." Switch functions in a temperature and humidity controlled environment.

Switch is mounted in a NEMA 12 Hoffman Enclosure which is located inside an air conditioned structure.

Life expectancy under electrical load is 25,000 make and break operations.

S050234AB
ATTACHMENT
SHEET 9 of 11

Test: JUL 31 1992

Manufacturers testing includes:

- Overload = 50 cycles of operation of 150% of rating.
- Endurance = 1000 operations at twice full load current.
- Dielectric Voltage Withstand = twice rated plus 1000 VRMS.
- OMI I3134 requires verification of proper operation and equipment setup prior to each Shuttle launch and landing flow.

Inspection:

- Visual inspections for corrosion, contamination and/or physical damage are accomplished annually during performance of OMI I3134 system verification.

Failure History:

- The PRACA database was researched and no failure data was found on this component in the critical failure mode.
- The GIDEP failure data interchange system was researched and no failure data was found on this component in the critical failure mode.

Operational Use:

- Correcting Action:

  There is no action which can be taken to mitigate the failure effect.

- Timeframe:

  Since no correcting action is available, timeframe does not apply.

S050234AB
ATTACHMENT
SHEET 10 OF 11