

AUG 11 1988

Critical Item: Circuit Breaker

Find Number: 033

Criticality Category: 1S

SAA No: 09G505-003

System/Area: ECS/SLF/SLS

NASA

PMN/ S70-0534/

Part No: N/A

Name: Portable Purge Unit

Mfg/ General Electric/
Part No: TJK436300WL

Drawing/
Sheet No: 79K06061/1

Function: Protects blower motor from electrical overload.

Critical Failure Mode: Premature trip. FM No. 09G505-003.025

Failure Cause: Structural failure of internal piece part or failure of a discrete component within the device.

Failure Effect: Loss of power to blower results in loss of purge to Orbiter compartments. Loss of ability to monitor purge air for leaks. Possible loss of life or vehicle during a hazardous condition such as leakage of hazardous fluids or gases.

Acceptance Rationale

Design:

- o Meets or exceeds the design requirements of KSC-SPEC-E-0026A.
 - molded-case type
 - manually operated.
 - trip free
 - inverse time actuated
 - thermal overload
 - rated load - 300 A
 - estimated operating load - 160 A

Test:

- o The OMRSO, File V: will require overcurrent trip test after a fault.
- o The purge unit is powered up and verified operational approximately three hours prior to Orbiter landing per OMI S0029 and S0025.

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Circuit Breaker E93 (Continued)

Inspection:

- o The OMRSD, File VI will require inspection for indication of arcing or overheating annually.

Failure History:

- o PRACA failure history indicates that one problem report was written in the Critical failure mode.
 - Wire on circuit breaker was burned, due to loose contact causing premature trip. Component was replaced.
- o No GIDEP failure history identified.

Operational Use:

- o There is nothing that can be done immediately to mitigate the effect of the failure.
- o The surge unit is monitored for any indication of malfunction. If any anomalies are observed, appropriate steps are taken to repair or replace the item.

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