

SAA09G505-003
REV. B
B/L: 72.60
SYS: ECS/SLF/SLS
AUG 11 1988

Critical Item: Pressure Switch

Find Number: A107946

Criticality Category: 1S

SAA No: 09G505-003

System/Area: ECS/SLF/SLS

NASA

PMN/ S70-G534/

Part No: N/A

Name: Portable Purge Unit

Mfg/

Drawing/

Part No: Johnson Controls/P70-MA-30

Sheet No: 79K06061/1

Function: Disables compressor when oil and head differential pressures are below predetermined setting (28 psig cut-in, 20 psig cut-out).

Critical Failure Mode: Contacts fail open. FM No. 09G505-003.004

Failure Cause: Structural failure, contamination.

Failure Effect: Compressor limit switches disable compressor, compressor/blower interlock disables blower. Loss of air flow 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 Switch is designed for use in commercial refrigeration systems.
- o Design of unit is compatible with use in R-12 refrigerant environment.
- o Contacts protected by enclosure.

Test:

- o The OMRSD, File VI will require that operation of the purge unit is verified prior to each use.
- o The purge unit is powered up and verified operational approximately three hours prior to Orbiter landing per OMI S0028 and S0026.

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Pressure Switch A107946 (Continued)

Inspection:

- o The contact points are inspected monthly for electrical overheating or arcing (OMI V6C72).

Failure History:

- o No PRACA failure history identified.
- o No GIDEP failure history identified.

Operational Use:

- o There is nothing that can be done immediately to mitigate the effects of the failure.
- o The purge unit is monitored for any indication of malfunction.
- o The switch can be manually bypassed once the failure is detected.

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