

SAA09G505-003
REV. B
B/L: 72.60
SYS: ECS/SLF/SL5

AUG 11 1980

Critical Item: Temperature Switch

Find Number: A125581

Criticality Category: 15

SAA No: 09G505-003

System/Area: ECS/SLF/SL5

NASA

PMN/ S70-0534/

Part No:

Name: Portable Purge Unit

Mfg/ Durrum Bush/Penn Controls

Drawing/

Part No: CAT 231

Sheet No: 79K06061/1

A19AAF

Function: Disables compressor when seal oil temperature is outside of pre-determined settings.

Critical Failure Mode: Contacts fail open. FN No. 09G505-003.020

Failure Cause: Structural failure/contamination.

Failure Effect: Loss of ability to regulate temperature and pressure of compressor oil. Pressure switch (A107946) disables compressor. Interlock stops 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 Designed for use with refrigerant-12 environment -30°F to 225° design.
- o Cutout Temperature: A125581 > 210°F
- o "Trip-Free" manual reset.
- o Single-pole/single-throw contacts which open on temperature fall or increase, depending on application.

880720sw13-296

Temperature Switch A125581 (Continued)

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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 DMI S0028 and S0026.

Inspection:

- o The contact points are inspected monthly for electrical overheating or arcing (DMI No. VC572).

Failure History:

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

Operational Use:

- o The purge unit is monitored for any indication of malfunction. If found defective, the switch can be repaired locally.