Critical Item: Circuit Breaker

Find Number: CB-3, Panel 1 System/Area: EPSP, Payload Canister Transporter Set 2

Failure Category: 1S SAA No: 09FT06-029, Rev. A

NASA Part No: None Manufacture: Square "D"

PMN No: S70-1309 Drawing/Sheet No: VEN 829 Sheet 459

Name: Transporter EPS

Function: Provides overload protection to Transformer T1.

Critical Failure Mode: Premature Trip (FMN 09FT06-029.002)

Cause: Internal Part Failure

Failure Effect: Loss of 60 Hz power to panel 2 and I&CS. Eventual loss of capability to detect smoke, fire, hypergols and to vent/smother a payload hypergol leak. Unable to combat a hazardous condition which could result in loss of life and/or payload.

Acceptance Rationale

Design:

- Component Specifications — Rated — Actual
  - AC Voltage — 600 — 480

  Material: molded case, non-interchangeable trip.
- Breaker trip is detectable by I&CS. Fifteen (15) minute backup battery power.
- Breaker set to trip at 40 amps, loaded at 17.5 amps.
- Breaker is a standard commercial item.
- This component is qualified through regular usage in this application and by analysis of loads and voltages.

Test:

- Qualification and acceptance testing and manufacturing/assembly (source) inspection is in accordance with requirements of NASA 79K14547, section 16190.
- File VI OMRSD requirements, implemented by TPS S70-1309-0016 include:
  - Annual CB operation, insulation test and performance test.
  - Time-current test with first use/component replacement.
- File VI OMRSD requires an annual inspection of terminals which is accomplished per TPS S70-1309-0016.

Inspection:
- o OMI E6412 is being prepared to incorporate the File VI OMRSD requirements.

Failure History:
- o There has been no failure history in the critical mode since turnover in October 1983.

Operational Use:
- o Under hazardous conditions refer to OMI E6412, Appendix Z.