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Critical Item: Circuit Breaker

Find Number: CB-13, Panel 2      System/Area: EPSP, Payload Canister Transporter Set 2

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

NASA      Manufacture: Square "D"  
Part No: None

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

Function: Provides overload protection for engine control panels #1 and #2.

Critical Failure Mode: Premature Trip (FMN 09FT06-029.007)

Cause: Internal Part Failure

Failure Effect: Loss of 60 Hz power to engine control panels #1 and #2, premature shut down of EPS system, loss of power to I&CS and ECS. Unable to combat a hazardous condition which could result in loss of life and/or payload.

Acceptance Rationale

Design:

- | o Component Specifications   | <u>Rated</u> | <u>Actual</u> |
|--|--------------|---------------|
| AC Voltage   | 240          | 208           |
| o Breaker set to trip at 60A and loaded at 13A.  |              |               |
| o Breaker trip is detectable by I&CS. Fifteen (15) minute backup battery power.                                |              |               |
| o Breaker is a standard commercial item.   |              |               |
| o This component is qualified through regular usage in this application and by analysis of loads and voltages. |              |               |

Test:

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

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Inspection:

- o OMI E6412 is being prepared to incorporate the File VI OMRSO 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.