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PRINT DATE: 10/26/85

**FAILURE MODES EFFECTS ANALYSIS (FMEA) - NONCRITICAL HARDWARE  
NUMBER: M5-6MR-0030-X**

**SUBSYSTEM NAME: ORBITER DOCKING SYSTEM**

**REVISION: 1 SEP 30, 1985**

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	<b>PART NAME VENDOR NAME</b>	<b>PART NUMBER VENDOR NUMBER</b>
<b>LRU</b>	: DOCKING SYSTEM POWER PANEL	V828-730150
<b>SRU</b>	: CIRCUIT BREAKER	MC454-0026-2030

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**PART DATA**

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**EXTENDED DESCRIPTION OF PART UNDER ANALYSIS:**  
CIRCUIT BREAKERS, 3 AMP - DEPRESS VENT & VENT ISOL SYS 1 MN A. DEPRESS  
VENT & VENT ISOL SYS 2 MN B.

**REFERENCE DESIGNATORS:** 36V73A7A3CB2  
36V73A7A3CB3  
36V73A7A3CB7  
36V73A7A3CB8

**QUANTITY OF LIKE ITEM: 4**  
(FOUR)

**FUNCTION:**  
PROVIDE OVERLOAD PROTECTION TO THE ORBITER MN A AND MN B BUSES FROM  
THE DEPRESS AND VENT ISOL SYS 1 AND SYS 2 CIRCUITS.

**REFERENCE DOCUMENTS:** 1) ECN 104-25012A. ODS ELECTRICAL CHANGE NOTICE.  
2) CKB=468-312-001 \_ J"P. SCHEMATIC DIAGRAM -  
ANDROGYNOUS PERIPHERAL DOCKING SYSTEM (APDS)  
CONTROL PANEL PU-APSS SCHEMATIC.  
3) V828-733002. SCHEMATIC DIAGRAM - D&C PANEL A7A3  
AFT STATION  
4) VS70-853104 ODS INTEGRATED SCHEMATIC.  
5) 33Y.5212.005. "P. APOS CONTROL UNIT ELECTRICAL  
SCHEMATIC.

**FAILURE MODES EFFECTS ANALYSIS (FMEA) - NONCRITICAL FAILURE MODE  
NUMBER: M5-6MR-0030- 01**

REVISION# 1 SEP 30, 1995

SUBSYSTEM NAME: ORBITER DOCKING SYSTEM  
LRU: MC454-0026-2030  
ITEM NAME: CIRCUIT BREAKER

CRITICALITY OF THIS  
FAILURE MODE: 1R3

FAILURE MODE:  
FAILS OPEN, FAILS TO CONDUCT, FAILS TO CLOSE

MISSION PHASE:  
OO ON-ORBIT

VEHICLE/PAYLOAD/KIT EFFECTIVITY: 104 ATLANTIS

CAUSE:  
A) PIECE PART FAILURE, B) CONTAMINATION, C) VIBRATION, D) MECHANICAL SHOCK,  
E) PROCESSING ANOMALY, F) THERMAL STRESS

CRITICALITY 1/1 DURING INTACT ABORT ONLY? NO

CRITICALITY 1R2 DURING INTACT ABORT ONLY (AVIONICS ONLY)? NO

REDUNDANCY SCREEN A) PASS  
B) PASS  
C) PASS

PASS/FAIL RATIONALE:  
A)  
B)  
C)

METHOD OF FAULT DETECTION:  
INDICATOR (VISUAL CUE) DESIGNATORS DS3 AND DS6.

MASTER MEAS. LIST NUMBERS: V64X0141E  
V64X0142E  
V64X0143E  
V64X0144E  
V64X0145E  
V64X0146E  
V64X0147E  
V64X0148E

CORRECTING ACTION:  
NONE

REMARKS/RECOMMENDATIONS:  
NONE.

FAILURE MODES EFFECTS ANALYSIS (FMEA) - NONCRITICAL FAILURE MODE  
NUMBER: M5-8MR-0030-01

- FAILURE EFFECTS -

(A) SUBSYSTEM:

LOSS OF CAPABILITY TO ACTIVATE ONE OF TWO DE-PRESSURIZATION OR ISOLATION VALVE CIRCUITS.

(B) INTERFACING SUBSYSTEM(S):

NO EFFECT.

(C) MISSION:

NO EFFECT.

(D) CREW, VEHICLE, AND ELEMENT(S):

FIRST FAILURE - NO EFFECT.

(E) FUNCTIONAL CRITICALITY EFFECTS:

POSSIBLE LOSS OF CREW OR VEHICLE AFTER FOUR FAILURES. 1) ONE OF TWO ASSOCIATED CIRCUIT BREAKERS FAILS OPEN. DEGRADED DE-PRESSURIZATION ACTIVATION REDUNDANCY. 2) REMAINING REDUNDANT CIRCUIT BREAKER FAILS OPEN RESULTING IN LOSS OF DEPRESSURIZATION CAPABILITY. 3) CRITICALITY 1 CONDITION OCCURS WHICH REQUIRES AND EVA. INABILITY TO PERFORM CONTINGENCY EVA RESULTING IN POSSIBLE LOSS OF CREW OR VEHICLE.

- TIME FRAME -

TIME FROM FAILURE TO CRITICAL EFFECT: DAYS

TIME FROM FAILURE OCCURRENCE TO DETECTION: MINUTES

TIME FROM DETECTION TO COMPLETED CORRECTIVE ACTION: N/A MINUTES

TIME REQUIRED TO IMPLEMENT CORRECTIVE ACTION LESS THAN TIME TO EFFECT?  
N/A YES

HAZARDS: DM20HA04(F)006-18.

INABILITY TO SAFELY SEPARATE ORBITER FROM DOCKING MODULE OR MIR.

- APPROVALS -

PRODUCT ASSURANCE ENGINEERING  
DESIGN ENGINEERING

:R. BLACKWELL  
:T. NGUYEN

*[Signature]*  
*[Signature]*