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PRINT DATE: 10/26/95

**FAILURE MODES EFFECTS ANALYSIS (FMEA) - CRITICAL HARDWARE
NUMBER: M5-6MR-0025-X**

SUBSYSTEM NAME: ORBITER DOCKING SYSTEM

REVISION: 1 SEP 30, 1995

	PART NAME VENDOR NAME	PART NUMBER VENDOR NUMBER
LRU	: MPCA-1	V070-764400
LRU	: MPCA-2	V070-764430
SRU	: REMOTE POWER CONTROLLER	MC450-0017-X200

PART DATA

**EXTENDED DESCRIPTION OF PART UNDER ANALYSIS:
REMOTE POWER CONTROLLER, TYPE III, CLASS B, 20 AMP - PFCU POWER MN A AND
MN C POWER CIRCUIT.**

**REFERENCE DESIGNATORS: 40V76A25RPC37
40V76A25RPC38
40V76A26RPC18
40V76A26RPC31**

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

**FUNCTION:
THE REMOTE POWER CONTROLLERS PROVIDE POWER DISTRIBUTION AND CIRCUIT
PROTECTION ACTIVATION OF THE PFCU POWER MN A MN C PYROTECHNIC "FIRE"
CIRCUITS.**

**FAILURE MODES EFFECTS ANALYSIS (FMEA) - NONCRITICAL FAILURE MODE
NUMBER: M5-6MR-0025-01**

(B) INTERFACING SUBSYSTEM(S):

DEGRADED REDUNDANCY FOR PYROTECHNIC SEPARATION CAPABILITY. LOSS OF ONE OF TWO PYROTECHNIC SEPARATION "FIRE" CURRENT BUSES. LOSS OF ONE OF TWO PYRO CIRCUIT PROTECT BUSES TO THE PFCU.

(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 FOURTHREE FAILURES. 1) RPC FAILS. DEGRADED REDUNDANCY FOR PYROTECHNIC SEPARATION. 2) RPC IN THE REDUNDANT CIRCUIT FAILS OPEN. LOSS OF PYROTECHNIC FIRING CAPABILITY. LOSS OF PYROTECHNIC UNDOCKING CAPABILITY. 3) ONE OF TWELVE HOOKS FAILS TO OPEN (REF. M8-1MR-BM001-04.) LOSS OF CAPABILITY TO IMPLEMENT NOMINAL SEPARATION. LOSS OF NOMINAL AND PYROTECHNIC SEPARATION CAPABILITY. LOSS OF NOMINAL AND PYROTECHNIC SEPARATION CAPABILITY. PERFORM EVA TO REMOVE 96 BOLTS HOLDING DOCKING BASE TO EXTERNAL AIRLOCK. 4) FAILURE OF EVA TO REMOVE BOLTS. LOSS OF ALL UNDOCKING CAPABILITY.

- TIME FRAME -

TIME FROM FAILURE TO CRITICAL EFFECT: DAYS

TIME FROM FAILURE OCCURRENCE TO DETECTION: MINUTES

TIME FROM DETECTION TO COMPLETED CORRECTIVE ACTION: MINUTES

TIME REQUIRED TO IMPLEMENT CORRECTIVE ACTION LESS THAN TIME TO EFFECT?
YES

HAZARDS: DM20HA04(F)00S-18.

INABILITY TO SAFELY SEPARATE ORBITER FROM DOCKING MODULE OR MIR.

- APPROVALS -

PRODUCT ASSURANCE ENGINEERING
PRODUCT ASSURANCE MANAGER

:R. BLACKWELL
:T. NGUYEN

R. Blackwell
T. Nguyen