

FMEA  
EMU FAILURE MODE, EFFECT ANALYSIS

01/02/90 SUPERSEDES / /

ANALYST:

| NAME<br>P/N<br>QTY  | FUNCTION  | FAILURE<br>MODE &<br>CAUSE   | MISSION<br>PHASE | FAILURE EFFECT  | FAILURE DETECTION<br>FLIGHT/GROUND   | TIME TO<br>EFFECT/<br>ACTIONS    | CRIT                              | REMARKS/<br>HAZARD                           | REF   |
|---|---|--|------------------|---|--|----------------------------------|-----------------------------------|--|-------|
| ELECTRICAL SIGNALS<br>HARNES, ITEM 152<br>SY700152-3<br>(1) | Electrically connects the BCM to the DMB to provide status input signals, digital display signals, +5V, +10V and +/-14.2V power, BEH signals, motor tach signal. Electrically connects the BCM to the EVC to provide connections for hardline signals, mic signals, mic power, earphone signals, and ECB signals. | <b>(527ND):</b><br>Electrical open or short, battery current sensor (HI) or (LO) lines.<br><br><b>CAUSES:</b><br>Cable chaffing against connector shell or shield. Improper connector strain relief. Faulty connection between the connector and the lead wires. | PREEVA<br>EVA    | <b>END ITEM:</b><br>Open or short from battery current sensor (HI) or (LO) lines.<br><br><b>GPE INTERFACE:</b><br>Inaccurate low current reading and amp hour consumable calculation. Loss of battery power monitoring and battery current sensing. If a subsequent short occurred, no warning message would be issued.<br><br><b>MISSION:</b><br>None for single failure. Terminate EVA with loss of power.<br><br><b>CREW/VEHICLE:</b><br>None for single or double failure. Possible loss of crewman with loss of SOP. | <b>FLIGHT:</b><br>Yes. Detected in "Status" Check. Battery current will show zero upon.<br><br><b>GROUND:</b><br>Yes. FEMU-R-001, Para. 7.3.3.2.4.5, EMU Vacuum Performance, Chamber Run Matrix, DCM Display Verification. | None.<br><br>TIME AVAILABLE: N/A | S/R<br>A-PASS<br>B-PASS<br>C-PASS | Redundant paths are the battery and the SOP. | None. |

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ATTACHMENT -  
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