NAME P/N QTY	CRIT	FAILURE MODE & CAUSES	FAILURE EFFECT	RATIONALE FOR ACCEPTANCE
POWER MODE SELECTOR SWITCH, ITEM 364 --- SV778596-4 (1)	2/1R	364FM10: Power switch fails open at common terminal (T6). CAUSE: Cold solder joint, severed lead wire, contamination on contact, broken contact.	END ITEM: Loss of SCU and battery power connection to fan and DC/DC converter. SFE INTERFACE: Unable to power fan and DC/DC converter from either SCU or battery. MISSION: Terminate EVA. Discontinue use of affected EMU. CREW/VEHICLE: None for single failure. Possible loss of crewman with loss of SOP.	A. Design - Each of the three switches is sealed in a dry nitrogen filled, hemetically sealed case. The switches are per MIL-S-8805/46 with the 10 amp contacts silver potted. Microswitch contacts are rated for 10 amps. Actual current drew is 3.8 amps. The external solder terminals are designed to withstand an axial pull of 8 lbs without degradation. Switch contacts are nickel silver to prevent oxidation of contacts. Microswitch actuator overtravel is adjusted to .007 inch minimum to ensure the common contact arm rotates completely over to the normally open contact. B. Test - Component Acceptance Test - Switch operation and continuity are verified during vendor acceptance tests. The switch is also subjected to 500 run-in cycles and an axial pull test on the handle to verify that it will not come loose during normal use. In-Process Test - Operation and integrity of the switch are verified during four separate in-process tests during initial Item 350 assembly. These tests include continuity and output voltage. The switch is cycled during these tests. PQA Test - The switch is subjected to Acceptance/PQA testing as part of Item 350. Tests include continuity, operating torque, vibration, thermal cycling, and thermal vacuum. The switch is also cycled during Item 350 Acceptance/PQA electrical functional tests. Certification Test - The item completed the 15 year structural vibration and shock certification requirement during 10/83. The item completed 5,464 inductive and 8,516 resistive cycles during 1/81 which fulfilled the cycle certification requirement of 5,464 and 8,500 respectively. Class I engineering change 42806-386 (Toggle Handle Pull Test) has been incorporated since this configuration was certified.

NAME P/N QTY	CRIT	FAILURE MODE & CAUSES	FAILURE EFFECT	RATIONALE FOR ACCEPTANCE
	2/1R	364PMYO:		

C. Inspection -
To preclude failure due to internal contamination, the switches are assembled by the vendor in an environmentally controlled room. Assembly and processing is per MIL-S-8805/46. The switches receive inprocess cycling and leak checks. The entire item 364 x-ray inspected for an acceptability of brazing.
The solder terminals on the switch are visually checked as part of source inspection for the part.
The terminals are also inspected after lead wires are soldered on during DCM assembly. Solder joints are inspected per NHB5300.4 (3A-1).

D. Failure History -
None.

E. Ground Turnaround -
Tested per FEMU-R-001 EMU checkout in Orbiter V1103-02 EMU Performance Checks.

F. Operational Use -
Pre/PostEVA: Troubleshoot problem. If no success, consider third EMU if available. EMU no go for EVA.
EVA: Deactivate EMU battery power, open helmet purge valve, terminate EVA.
Training - Standard EMU training covers this failure mode.
Operational Considerations - EVA checklist procedures verify hardware integrity and systems operational status prior to EVA. Flight rules define go/no go criteria related to SCU and battery power. Real Time Data System allows ground monitoring of EMU systems.