NAME P/N QTY	CRIT	FAILURE MODE & CAUSES	FAILURE EFFECT	RATIONALE FOR ACCEPTANCE
FAN SWITCH ITEM 366 --------- SV771BB7-3 (1)	2/2	366FN06A: CL1V switch fails in valve closed position. CAUSE: Contact welding due to arcing or hermetic seal failure and exposure to vacuum, jamming or shorting due to contamination. CL1V "Open" Contact fails Open.	END ITEM: Coolant loop isolated from water reservoir. OPE INTERFACE: Unable to purge gas from coolant loop or pump during startup. MISSION: Loss of use of one EMU. CREW/VEHICLE: None.	A. Design - The stationary contacts are part of the external terminal lugs. No interconnecting wiring to fail. Each switch position has dual contacts for redundancy. Switching mechanism and contacts are encased in a hermetically sealed welded case backfilled with dry nitrogen. Contact is accomplished through a roller type contact. This keeps switching forces to a minimum. The lead wires (MS22759/12) are soldered to the external switch terminals per MMS300.4 (3A-1). This area is then potted with a stycast to provide strain relief for the leads. The wire bundle is designed to withstand a pull force of 8 lbs. without damage or degradation. B. Test - Component Acceptance Test - Vendor acceptance tests include 500 actuation cycles, contact resistance, insulation resistance, and dielectric withstanding voltage tests. In-Process Test - Switch operation and continuity are verified during separate in-process tests during DCN Item 350 assembly. PDA Test - Proper operation is verified during DCN PDA which includes continuity, functional test, and operating force. The switch is vibrated (6.1 grms) and exposed to thermal cycles (70 to 130 F) during PDA as part of the DCN. Certification Test - The item completed the 15 year structural vibration and shock cert requirement during 10/85. The item is cycle certified by similarity to the Item 368 switch. The Item 368 switch has completed 127,800 cycles during 8/85 which is about 31 times the cycle cert requirement of 4,140 cycles. EC42806-599-7 added a lead to the Fan Switch for the redesigned DCN. This created the -2 switch configuration. Switch certification was not affected. C. Inspection - The external lead wires are inspected for damage as part of source inspection for the part and again during assembly of

NAME P/N QTY	CRIT	FAILURE MODE & CAUSES	FAILURE EFFECT	RATIONALE FOR ACCEPTANCE
	2/2	366FM06A:		the DCR. To preclude failure due to internal contamination, the switches are assembled by the vendor in a Class 100,000 clean room. The switches are flushed internally using chlorothane NU and Benesolve D to remove contaminants prior to case welding. After welding the switches are vacuum baked and back filled with GN2 to a pressure of 3-5 psig and sealed. Leak checks are performed during subsequent processing to verify seal integrity. Two X-ray inspections are performed, prior to run-in cycling and after vibration, to verify absence of weld splatter and loose pieces, and to verify contact alignment. D. Failure History - None. E. Ground Turnaround - Failure would be detected per JEMU-R-601, Water Servicing and Gas Removal. F. Operational Use - Crew Response - EVA: No response, single failure undetectable by crew or ground. Special Training - Standard training covers this failure mode. Operational Considerations - For single failure, no constraints.