NAME P/N QTY	CRIT	FAILURE MODE & CAUSES	FAILURE EFFECT	RATIONALE FOR ACCEPTANCE
FEEDWATER VALVE SWITCH, ITEM 367 --- SV767795-3 (1)	2/2	367FM01: No power to feedwater valve open solenoid when switch is in the valve open position. CAUSE: Electrical open in the wire leads or connections, linkage mechanism fractured.	END ITEM: Feedwater switch does not send current to V71 valve open solenoid. GFE INTERFACE: Unable to open feedwater valve if valve is closed. Unable to place the sublimator on line during EVA. CWS would issue H2O IS OFF message since no voltage would be detected. MISSION: During start of EVA, unable to open feedwater valve. Terminate EVA. 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 incased in a hermetically sealed case backfilled with dry nitrogen. Contact is accomplished through a roller type contact . This minimizes switching forces. Operating force is 4 +/- 2 lbs. The switch is designed to withstand a a toggle force of 25 lbs. without degradation. The lead wires (M22759/12) are soldered to the external switch terminals per NHB5300.4 (3A-1). This area is then potted with stycast to provide strain relief for the leads. The wirebundle is designed to withstand a pull force of 8 lbs. without damage or degradation. B. Test - Component Acceptance Test - Vender 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 four separate in-process tests during DCN Item 350 assembly. PDA Test - Proper operation is verified during DCN PDA which includes continuity, functional, and operating torque tests. The switch is vibrated and exposed to thermal cycles during PDA as part of the DCN. Certification Test - The item completed the 15 year structural vibration and shock cert requirements during 1983. The item is cycle certified by similarity to the Item 368 switch which has completed 127,400 cycles during 8/85. This is 86 times the Item 367 cycle cert requirement of 1,472. EC 42806-599-7 added a lead to the switch for the redesigned DCN. This created the -2 switch configuration. Switch certification was not affected.

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C. Inspection -
The external lead wires are inspected for damage as part of the source inspection for the part and again during assembly of the DCM. To preclude failure due to internal contamination, the switches are assembled by the vendor in a Class 100,000 clean room. The switches flushed internally using chlorothene NG and Genesolve D to remove contaminants prior to case welding. After welding, the switches are vacuum baked and backfilled 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.

B. Failure History -
None.

E. Ground Turnaround -
Switch operation is verified per FEMU-R-001, PLSS and DCM Electrical Checkout, 157 Activation.

F. Operational Use -
Crew Response - EVA: When CWS data confirms loss of feedwater and cooling is insufficient, terminate EVA.
Training - Standard training covers this failure mode.
Operational Considerations - Flight rules define go/no go criteria related to thermal control. Real Time Data System allows ground monitoring of EMU systems.