

CIL
CRITICAL ITEMS LIST

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NAME	FAILURE	FAILURE EFFECT	RATIONALE FOR ACCEPTANCE
P/N	NODE &		
QTY	CAUSES		
Switch Assembly 0106-211541-01	2/2 106FH26; Falls closed (will not switch off). CAUSE: Defective toggle switch.	END ITEM: Therмоfoil heaters remain on. GFE INTERFACE: Unable to regulate glove finger tip temperature. Finger tip temperature may increase beyond 110° S/AD limit. MISSION: Unable to regulate glove finger tip temperature. Finger tip temperature may increase beyond 110° S/AD limit. Possible loss of mission due to finger burns. CREW/VEHICLE: Possible finger injury to crewmember.	A. Design - The Active Heated Glove switch is a Honeywell model 206AT11 two-position toggle switch with a hermetically sealed basic switch rated at 3 amps, and vendor certified within the temperature range of -85°F to + 250°F. Vendor data shows the switch has a cycle life in excess of 25,000 cycles when operating under 1.0 amp (nominal AHGA current draw = 0.75 amps). The electrical wires connecting the switch to the battery pack and heaters (via LEMO electrical connectors) are soldered per W81 5300.4 (3A-2) by solder certified technicians. The MIL-W-22759 flight approved 22 AWG wire is looped and secured to an unused terminal on the switch body using monex thread for strain relief. B. Test - Acceptance: Each toggle switch is tested for proper function on Test Preparation Sheet (TPS). PDA: The switch assemblies are visually inspected and the continuity is verified during PDA/PIA and preparation for chamber/flight shipment. Certification: The combination of the toggle switch with the pull tab webbing secured in the TMC pocket was certified to 540 on/off cycles at JSC with no signs of degradation and no failures (ref. SSA 030595-01, "Certification Test Report for the AHGA"). The switch assembly as part of the AHGA has been successfully tested in the 2 ft. Chamber at JSC to -175°F (ref. "Certification Test Report JSC-33233 App. E). C. Inspection - The component switches undergo 100% visual inspection when received from the vendor. The solder joints are visually inspected by solder certified Government Quality Assurance inspectors when fabricated. The switch assemblies are visually inspected and continuity verified during

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NAME P/N QTY	CRIT	FAILURE MODE & CAUSES	FAILURE EFFECT	RATIONALE FOR ACCEPTANCE
Switch Assembly 0106-211541-01 (1)	2/2	106FM26: Fails closed (will not switch off). CAUSE: Defective toggle switch.		<p>D. Failure History - None.</p> <p>E. Ground Turnaround - None. The switch assemblies are certified for single mission usage only.</p> <p>F. Operational Use - 1. Crew Response - Pre-EVA/Post EVA: Troubleshoot problem, if no success do not install battery. Continue EVA prep. EVA - If finger tip temperature causes discomfort, other EV crewman can disconnect battery.</p> <p>2. Special Training - Crewmembers Trained in disconnecting battery connector.</p> <p>3. Operational Considerations - Not Applicable.</p>

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FMEA
 EMU FAILURE MODE, EFFECT ANALYSIS

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NAME P/N QTY	FUNCTION	FAILURE MODE & CAUSES	MISSION PHASE	FAILURE EFFECT	FAILURE DETECTION FLIGHT/GROUND	TIME TO EFFECT/ ACTIONS	CRIT	REMARKS/ HAZARD	REF
Switch Assembly 0106-2115A1 -01 (1)	Provides crewmember manual on/off control.	106FM26; Fails closed (will not switch off). CAUSE: Defective toggle switch.	EVA	END ITEM: Thermofelt heaters remain on. CFE INTERFACE: Unable to regulate glove finger tip temperature. Finger temperature may increase beyond 110° S/AD limit. MISSION: - Unable to regulate glove finger tip temperature. Finger- tip temperature may increase beyond 110° S/AD limit. Possible loss of mission due to finger burns. CREW/VEHICLE: Possible finger in- jury to crewmember.	FLIGHT: Tactile. GROUND: Yes. Continuity Check.	None. TIME AVAILABLE: Minutes. TIME REQUIRED: Minutes.	2/2 A - N/A B - N/A C - N/A	Switch is hermetically sealed. Battery may be disconnected by other EV crewmember.	

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