

EMU CRITICAL ITEMS LIST

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NAME P/N QTY	CRIT	FAILURE MODE & CAUSES	FAILURE EFFECT	RATIONALE FOR ACCEPTANCE
ELECTRICAL POWER HARNESS, ITEM 151 BY789151-4 (1)	Z/1R	151FN17) P9 connector disengages from battery connector. CAUSE: Worn snap ring and/or snap ring groove. Distorted snap ring shape.	END ITEM: P9 connector detaches from battery connector. RFE INTERFACE: Loss of battery power. MISSION: Terminate EVA, Loss of use of one EMU. CREW/VEHICLE: None for single failure. Possible loss of crewman with loss of SOP.	A. Design - The snap ring that holds the P9 connector in place on the PLSS is captured within a counterbored washer that prevents it from coming out of the connector groove once assembled. B. Test - Component Acceptance Test - The P9 connector on the Item 151 harness is subjected to a visual examination during the EOP portion of acceptance testing to insure there is not any damage which would prevent proper installation at the PLSS level. PDA Test - The P9 connector as assembled to the PLSS is fit checked and functionally checked to a battery during PDA testing to insure proper P9 connector mounting. Certification Test - This item has completed the 15 year structural vibration and shock certification requirements during 10/85. EC's 42806-527-2 (insulation resistance check during Pull Test) and 42806-865 (remove clamp applices) have been incorporated and certified by test since this configuration was certified. During harness manufacturing the following inspections are performed: The P9 connector is visually inspected at incoming inspection as a detail and after assembly of the adapter ring to insure it meets the specified requirements. D. Failure History - The following MDR's were issued for the Item 151 due to improper P9 connector installation: J-EMU-151-001 (2-11-82) - During visual examination, it was found that the P9 connector was loose as attached to the PLSS and would not allow proper mating to the battery. This was due to a missing snap ring which is supposed to lock the connector in place on the PLSS structure. The corrective action replaced the harness with a new design configuration, per EC 42806-194, to prevent the snap ring from moving out of place once assembled.

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	Z/YR	IS1FH171		<p>E. Ground Turnaround - Tested per FEMU-R-001, pre-flight X-state verification with flight battery.</p> <p>F. Operational Use - Crew Response - PreEVA/PostEVA: Trouble shoot problem. Consider third EMU if available. If no success, EMU go for SCU standby. EVA: When loss of fan, comm and CDS data occurs, open halonet purge valve and deactivate EMU power. Terminate EVA. Training - Standard training covers this failure mode. Operational Considerations - EVA checklist procedures verify hardware integrity and system operational status prior to EVA. Real Time Data System allows ground monitoring of EMU systems. Flight rules define go/no go criteria related to EMU battery power.</p>