

NAME P/N QTY	CRIT	FAILURE MODE & CAUSES	FAILURE EFFECT	RATIONALE FOR ACCEPTANCE
MULTIPLE CONNECTOR (HUT HALF) ITEM 102 ----- A/L 9694-08 (1)	2/2	102FM26A Fails to disengage. Contamination in coupling, defective housing material.	END ITEM: Connector remains in mated position. GFE INTERFACE: Unable to separate HUT from LCVG, or MWC jumper. MISSION: Loss of use of one EMU. Terminate EVA Prep. CREW/VEHICLE: None. TIME TO EFFECT /ACTIONS: Minutes. Don and doff HUT with LCVG MWC engaged. TIME AVAILABLE: N/A. TIME REQUIRED: N/A.	A. Design - The HUT MWC is designed to automatically lock to the LCVG MWC side when the catch slide is engaged by the steel pin located on the front surface of the LCVG MWC. When activated, the latch plate automatically slides sideways, two engagement dogs on the latch plate are captured in the LCVG MWC housing groove and the automatic lock is captured by the latch keeper. The redundant lock-lock slide is manually activated. The automatic lock is fabricated from stainless steel for strength and endurance. The lock compression spring is a standard AISI type 302 stainless steel spring. All sliding surfaces of the latch plate and locks are coated with a dry film lubricant (Dow Corning 321) for ease of operation. The proper selection of materials including 6061 T6 aluminum for the housing and latch keeper, 302 stainless for the springs and 17-4 ph for the latch, in concept with correct tolerancing and machining of the components precludes acceptance of defective materials. B. Test - Acceptance: An engagement force verification test is performed on each MWC per airlock ATP 9694-08 prior to acceptance by ILC. PDA: During PDA, an engagement force verification test is performed on the MWC per ILC Document 0111-70028J (Pivoted HUT) or 0111-710112 (Planar HUT). Certification: The MWC was successfully tested (manned) during SSA certification to duplicate operational life. (Ref. Em 83-1083, ILC Report 0111-70027 and EM 98-0008). The following usage reflecting requirements of significance to the MWC was documented during certification: Requirement S/AD Actual ----- ---- ----- MWC Actuation Cycles 300 1080 Pressure Hours 458 916 Pressure Cycles 300 600
A-N/A B-N/A C-N/A				C. Inspection - At Airlock, visual inspection and dimensional verification is performed per ATP 9694-08. During PDA, the connector subjected to visual inspection and five engagement cycles per ILC Document 0111-70028J (Pivoted HUT) or 0111-710112 (Planar HUT). It is also inspected for cleanliness to VC level. D. Failure History - None. E. Ground Turnaround - Inspected for non-EET processing per FEMU-R-001, Pre-Flight Inspections and Final Structural and Leakage, SSA Connector Verification. FEMU-R-001 Para 8.2 EMU Preflight KSC Checkout for EET processing. Every 6 months the MWC is disassembled, inspected, cleaned, lubricated. Following reassembly gas and

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		102FM26A		<p>water (Structural and leakage) tests and subjective engagement evaluation are performed at the SEMU or EMU level.</p> <p>F. Operational Use - Crew Response -</p> <p>Pre/post-EVA : If detected during LCVG connection to HUT, troubleshoot problem. Attempt to don/doff LCVG and HUT with MWC connected. If troubleshooting fails, EMU no-go for EVA. Use 3rd EMU and spare LCVG if available.</p> <p>Training - No training specifically covers this failure mode. Operational Considerations - EVA checklist procedures verify hardware integrity and systems operational status prior to EVA. EMU checkout during EVA prep.</p>

EXTRAVEHICULAR MOBILITY UNIT
SYSTEMS SAFETY REVIEW PANEL REVIEW
FOR THE
I-102 HARD UPPER TORSO (HUT)
CRITICAL ITEM LIST (CIL)
EMU CONTRACT NO. NAS 9-97150

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