CIL

EMU CRITICAL ITEMS LIST

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Date: 4/24/2002

NAME P/N QTY	CRIT	FAILURE MODE & CAUSES	FAILURE EFFECT	RATIONALE FOR ACCEPTANCE
			FAILORE EFFECT	KATIOWADE FOR ACCETIANCE
EMUPH SEMU HARNESS, 12 VOLT		800FM02Z Short in harness.	END ITEM: Loss of electrical power to thermofoil	A. Design - The cable is constructed of 3 insulated high strength 24 gauge copper alloy wires P/N M27500-24TN3S06, which are then bound in Teflon tape. Attachment to the TMG is achieved by whipstitching the cables, limiting relative motion between the cable and the TMG to resist abrasion.
(1) LEFT (1) RIGHT 0800-112418 (2)		Short in wiring or connector, degraded insulation or contamination.		
			heaters. GFE INTERFACE: Loss of active heating in glove finger tip area. MISSION: Terminate EVA.	The connectors are LEMO series K connectors which are environmental connectors with triple wall construction to provide water and dust resistance. The LEMO connectors utilize a "QuickLok" feature that assures connection when the lock is engaged. The locking mechanism is protected By a rugged outer shell, eliminating accidental disconnections and damage to the locking mechanism, cable, or contacts. The connectors have a contact arrangement of five pins and are mechanically keyed with an alignment key on the shell which prevents errors in alignment. The contact terminations are crimps, performed per NHB 5300.4 3(H).
			CREW/VEHICLE: None. TIME TO EFFECT /ACTIONS: Minutes.	A crafted metal collet type strain relief is provided to secure the cable aroun its circumference preventing accidental damage to the connection if the cable i stressed. In addition, a shrink tubing strain relief is placed over the end of the LEMO connector at the junction of the cable to the connector to provide additional strain relief. The connectors meet the electrical requirements for both voltage and current derating per MIL-STD-975. B. Test - Acceptance: See Inspection.
			TIME AVAILABLE: N/A	
			TIME REQUIRED: N/A REDUNDANCY SCREENS: A-PASS B-N/A C-PASS	PDA: The connectors undergo 100% visual inspection when received from the vendor. Crimp joints are visually inspected by Government Quality Assurance Inspectors when fabricated. In addition, the cable assemblies are visually inspected and electrical continuity, insulation verification and electrical bond testing are performed during PDA.
				Certification: The system was successfully tested (manned) during certification testing to duplicate operational usage (Ref. Planar HUT/PLSS/DCM ORU TMG Cert. Test Report, ILC Doc. 0111-712768). The following usage reflecting requirements of significance to the glove assembly was documented during certification testing.
				Requirements: S/AD Actual
				Shoulder Adduction/Abduction848417200Shoulder Lateral/Medial40928400Shoulder Flexion/Extension743015200Shoulder Rotation2934858800
				Electrical verification tests conducted at each of seven Interim Test Points determined that the cable was functional throughout certification testing.
				C. Inspection - The connectors undergo 100% visual inspection when received from vendor. In addition, the cable assemblies are visually inspected and electrical continuity, insulation verification and electrical bond testing are performed during PDA.

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		800FM02z		

D. Failure History -E. Ground Turnaround -Heater functional test and heater circuit quantitative resistance test.

F. Operational Use -1. Crew Response -Pre-EVA/Post EVA: Troubleshoot problem. If no success, terminate EVA.

EVA: If loss of fingertip heating occurs in one glove, turn off power to the glove, terminate EVA. If loss of fingertip heating occurs in both gloves, turn off power from battery, terminate EVA.

2. Special Training - None.

3. Operational Considerations - Not Applicable.

EXTRAVEHICULAR MOBILITY UNIT

SYSTEMS SAFETY REVIEW PANEL REVIEW

FOR THE

I-800 SEMU HARNESS

CRITICAL ITEM LIST (CIL)

EMU CONTRACT NO. NAS 9-97150

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R. Mun HS - Engineering ford 4/24/02 Manager

Approved by: NASA - SSA/SSM

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NASA Program Manager

EXTRAVEHICULAR MOBILITY UNIT

SYSTEMS SAFETY REVIEW PANEL REVIEW

FOR THE

I-800 SEMU HARNESS

CRITICAL ITEM LIST (CIL)

EMU CONTRACT NO. NAS 9-97150

Prepared by: Approved by: ARSA - SSA/SSM

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