

CIL
 CRITICAL ITEMS LIST
 FILE: CIL-50P/2

NINE P/N QTY	CRIT	FAILURE MODE & CAUSES	FAILURE EFFECT	RATIONALE FOR ACCEPTANCE
ELECTRICAL SCU HARNES ASSEMBLY ITEM 425 SV771761-3 111	2/2	425FH021 ELECTRICAL OPEN, SUIS POWER LINE. CAUSE: CABLE CHAFING AGAINST CONNECTOR SHELL OR SHIELD. IMPROPER CONNECTOR STRAIN RELIEF. FAULTY CONNECTOR BETWEEN THE CONNECTOR AND THE LEAD WIRES.	END ITEM: LOSS OF ABILITY TO POWER THE EMU WITH VEHICLE POWER. GPE INTERFACE: NO EMU POWER. MISSION: LOSS OF USE OF EMU. CRM/VEHICLE: NONE.	A. DESIGN - THE CABLE/CONNECTOR INTERFACES ARE STRAIN RELIEVED TO PREVENT EXCESSIVE CONNECTOR LOADS AND POSSIBLE OPEN CIRCUITS DUE TO FATIGUE. THE MULTIPLE CONNECTOR END IS POTTED WITH RIV AND IS CAPTURED WITHIN A METAL HOUSING FOR STRENGTH. THE VEHICLE CONNECTOR UTILIZES A METAL STRAIN RELIEF TYPE BACKSHELL. THE WIRE IS W20 AND TO PROVIDE THE ELECTRICAL AND MECHANICAL PROPERTIES TO PREVENT CRACKING. CONDUCTORS ARE TIED TOGETHER AT 1-2 INCH INTERVALS AND SWEATED IN A CLOTH OLIFEN LAYER TO HOLD CABLES TOGETHER SO THEY SHARE ANY LOADING AND TO PREVENT IMPACT OR ABRASION OF CONDUCTORS. CRIMPING PER SW16499 (BASED ON MSFC SPEC-Q-1A). B. TEST - COMPONENT ACCEPTANCE TEST - AN ELECTRICAL CONTINUITY TEST IS PERFORMED PER OP. 7D OF SV771761-3 OPERATION STATUS. THE ELECTRICAL RESISTANCE OF EACH CURRENT CARRYING CONDUCTOR IN THE ELECTRICAL HARNES MUST NOT EXCEED 0.2 OHM. PDA TEST - AN ELECTRICAL CONTINUITY TEST IS PERFORMED PER SEMI-60-810, TEST 11.8. CERTIFICATION TEST - THE ITEM COMPLETED THE 15 YEAR STRUCTURAL VIBRATION AND SHOCK CERTIFICATION REQUIREMENT DURING 80/85. ENGINEERING CHANGE 42506-214 (DEFINITION OF MECHANICALLY LOCKED BACKSHELL) HAS BEEN INCORPORATED AND DEEMED TO HAVE NO IMPACT ON CERTIFICATION SINCE THIS CONFIGURATION WAS CERTIFIED.
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CIL
CRITICAL ITEMS LIST
FILE: CIL-SOP/2

NAME P/N QTY	CRIT	FAILURE MODE & CAUSES	FAILURE EFFECT	RATIONALE FOR ACCEPTANCE
ELECTRICAL SCU HARNESS ASSEMBLY ITEM 425 SV771743-1 111	2/2	425FM02; ELECTRICAL OPEN, SUIT POWER LINE.		<p>C. INSPECTION - CRIMPING AND ASSEMBLY IS DONE PER SVHS4909 WITH CALIBRATED CRIMPING TOOLS. VISUAL AND ELECTRICAL INSPECTION OF CONDUCTORS PRIOR TO POSITIONING TO ENSURE THERE ARE NO DAMAGED CONDUCTORS AND THAT THE CONDUCTORS ARE ROUTED PROPERLY. ELECTRICAL TESTING IS ALSO CONDUCTED AFTER POTTING TO INSURE THERE ARE NO OPEN CIRCUITS.</p> <p>D. FAILURE HISTORY - NONE.</p> <p>E. GROUND TYPING - TESTED PER TEMP-B-003, BROTTEN POWER INTERFACE AND OPERATION PER STANDARD POWER UP (V1203-02).</p> <p>F. OPERATIONAL USE - CREW RESPONSE - PRE/POSTEVA; TROUBLESHOOT PROBLEM. IF NO SUCCESS, DISCONTINUE USE OF SCU POWER FUNCTION. OPERATE EVA ON BATTERY POWER. CONSIDER IN-SUIT BATTERY SWAP USING SPARE BATTERY. TRAINING - STANDARD EVA TRAINING COVERS THIS FAILURE MODE. OPERATIONAL CONSIDERATIONS - AT LEAST ONE SPARE EVA BATTERY IS MANIFESTED FOR EACH FLIGHT. EVA CHECKLIST PROCEDURES VERIFY HARDWARE INTEGRITY AND SYSTEMS OPERATIONAL STATUS PRIOR TO EVA.</p>

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