

NAME P/N QTY	CRIT	FAILURE MODE & CAUSES	FAILURE EFFECT	RATIONALE FOR ACCEPTANCE
EVC MODE SELECTOR SWITCH, ITEM 362 ----- SV767786-2 (1)	3/2RB	362FM06 Electrical open, ALT position, primary power contacts. Severed contact spring or plunger.	END ITEM: Loss of one of two power supplies for SSER alternate DC/DC power supply. GFE INTERFACE: None for single failure. Loss of one of two redundant power supplies to ALT mode DC/DC power supply. MISSION: None for single failure. Terminate EVA with loss of secondary power contacts. CREW/VEHICLE: None. TIME TO EFFECT /ACTIONS: Seconds. TIME AVAILABLE: Days. TIME REQUIRED: Days. REDUNDANCY SCREENS: A-PASS B-FAIL C-PASS	A. Design - The lead wires (M22759/12) for the switch are soldered to the external switch terminals per NHB5300. 4 (3A-1). This area is then potted with stycast to provide strain relief for the leads. The wire bundle is designed to withstand a pull force of 8 lbs. without damage or degradation. The switching mechanism, ball bearing, and contacts are encased in a hermetically sealed housing backfilled with dry nitrogen to prevent failure due to contamination or corrosion. B. Test - Component Acceptance: Continuity test through switch and leads and a contact resistance test are performed as part of the vendor acceptance tests for the Item. DCM In-Process Switch continuity and output voltage are checked during In-process test performed during DCM Assembly. PDA: Switch continuity and output voltage are checked after completion of vibration acceptance testing (VAT) (6.2 grms) and again upon completion of Thermal Vacuum Acceptance testing (70 to 130 F). These tests verify the integrity of the switch wiring and connection. PDA is per SEMU-60-015. Certification: Certified for a useful life of 15 years. C. Inspection - Switches are 100% leak checked as part of vendor in process testing. The lead wires are inspected during source inspection for the part and again during DCM assembly for damage and wear inspection. An open circuit is also precluded via inspection of soldering at the switch (prior to potting per NHB5300. 4 (3A-1). All switch lead wires are pull tested after insertion into connectors during DCM assembly to insure proper locking of their crimp contacts. D. Failure History - None. E. Ground Turnaround - None. Invasive test. DCM PDA will detect this failure. F. Operational Use - Crew Response - Pre-EVA/EVA : No response, single failure undetectable by crew or ground. Special Training - No training specifically covers this failure mode. Operational Considerations - For single failure, no constraints.

EXTRAVEHICULAR MOBILITY UNIT
SYSTEMS SAFETY REVIEW PANEL REVIEW
FOR THE
I-362 EVC MODE SELECTOR SWITCH
CRITICAL ITEM LIST (CIL)
EMU CONTRACT NO. NAS 9-97150

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