NAME P/N QTY	CRIT	FAILURE MODE & CAUSES	FAILURE EFFECT	RATIONALE FOR ACCEPTANCE
		362FM09		
EVC MODE SELECTOR SWITCH, ITEM 362 ---------- SV767786-2 (1)	3/2RB	Electrical short to ground, any switch circuit. Wire chafing, contamination inside switch case.	END ITEM: Short to ground of either inlet power supplies. GFE INTERFACE: The primary or secondary SSER current limiter would trip. MISSION: None for single failure. SSER automatically draws secondary SSER power if primary power is lost. Terminate EVA with loss of secondary power. CREW/VEHICLE: None. TIME TO EFFECT /ACTIONS: Seconds. Use remaining portion of redundant SSER. 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 tests performed during DCM assembly. PDA: Switch continuity and output voltage are checked after completion of Vibration Acceptance testing (VAT) (6.1 grms) and again upon completion of Thermal Vacuum Acceptance testing, (70 to 130 F). These tests verify the integrity of the switch wiring and connections. PDA is per SEMU-60-015. Certification: Certified for a useful life of 15 years. C. Inspection - Switches are 100% checked for current leaks to ground 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 to the insulation. 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. 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 Condsierations - 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

Prepared by: ______________________
HS - Project Engineering

____
HS - Reliability

______________________ 4/24/02
HS - Engineering Manager

Approved by: ______________________ 6/20/02
NASA – ~~EVA~~/SSM LSS

____
NASA – EMU/SSM

______________________ 6/26/02
NASA – S & MA

______________________ 6/27/02
NASA – MOD

______________________ 7/1/02
NASA – Crew

______________________ 7-1-02
NASA – Program Manager