

NAME P/N QTY	CRIT	FAILURE MODE & CAUSES	FAILURE EFFECT	RATIONALE FOR ACCEPTANCE
WATER SHUTOFF VALVE, ITEM 137 ----- SV767660-10 (1)	2/2	137FM06 Electrical short to ground. Contamination in the electrical connector or faulty lead.	END ITEM: Continuous current draw. The current is limited in the DCM electronics (350) to 0.7 amps. Loss of control of Item 137. GFE INTERFACE: Increase in battery discharge rate until the feedwater valve current limiter trips. MISSION: Reduction in EV time available. Return to vehicle when CWS indicates that there are 30 minutes EVA time remaining. CREW/VEHICLE: None. TIME TO EFFECT /ACTIONS: Pre/Post EVA: Minutes. EVA: Hours. Return to the vehicle when the CWS indicates that there are 30 minutes EV time remaining. TIME AVAILABLE:	A. Design - The feedwater shutoff valve is powered through a 0.7 +/- 0.2 ampere solid state circuit breaker located in the DCM. This current limitation is sufficiently low to protect harness wiring in the event of a short. B. Test - Vendor Acceptance Test (Kaiser-Eckel Valve Co.) - Current draw test is conducted with 21 VDC. Current shall not exceed 0.5 amps. PDA Test - None performed. Certification Test - Certified for a useful life of 20 years (ref. EMUM-1030). C. Inspection - Verify cleanliness in electrical connector. All external lead wires associated with the item are inspected during source inspection and again during PLSS assembly. D. Failure History - None. E. Ground Turnaround - Tested for non-EET processing per FEMU-R-001, Item 137 Feedwater Shutoff Valve Functional Verification. None for EET processing. Shorts not affecting valve operation may not be detected. F. Operational Use - Crew Response - PreEVA: No response, single failure not detected. PostEVA: If water detected in airlock, perform dump of feedwater tanks. EMU go for SCU without fan for next EVA. EVA: When CWS data confirms minimum primary limiting consumable remaining, terminate EVA. Training - Standard EMU training covers this failure mode. Operational Considerations - Flight rules require termination of EVA when minimum primary consumables remain. EVA checklist procedures verify hardware integrity and systems operational status prior to EVA. Real Time Data Systems allows ground monitoring of EMU systems.

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137FM06

Minutes.

TIME REQUIRED:
Minutes.

REDUNDANCY
SCREENS:
A-N/A
B-N/A
C-N/A

EXTRAVEHICULAR MOBILITY UNIT
SYSTEMS SAFETY REVIEW PANEL REVIEW
FOR THE
I-137 FEEDWATER SHUTOFF VALVE
CRITICAL ITEM LIST (CIL)

EMU CONTRACT NO. NAS 9-97150

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