



NAME P/N QTY	CRIT	FAILURE MODE & CAUSES	FAILURE EFFECT	RATIONALE FOR ACCEPTANCE
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113CFM01A

H-EMU-113-C015 (3/22/00) - During shut off valve leakage test following completion of 5-year operational cycles, Item failed leakage. Valve leakage caused by failure of valve sapphire ball to completely seal on the seat due to contamination. Contamination from copper flaking off copper plated spring in shutoff valve. Supplier (Carelton Technologies) used copper plated wire for valve spring. Copper plating has no effect on function or life of spring. Plating did not flake off until after 35,000 cycles (11 times actual worst case number of 20-year cycles). Unlikely to flake off in flight units. ECs 182135-409 and 182135-409-01 per CCBD H7054 create new Monel spring configuration for PLSS and SOP regulators without platings or coatings on springs.

E. Ground Turnaround -  
Tested for non-EET processing per FEMU-R-001, High Pressure O2 Leakage. None for EET processing.

F. Operational Use -  
Crew Response -  
PostEVA: If water tanks cannot be refilled on orbit, terminate water recharge. EMU go for SCU ops on subsequent EVA.  
Training - No training specifically covers this failure mode.  
Operational Considerations -  
Flight rules define EMU go to remain on SCU available for rescue if required. EVA checklist procedures verify hardware integrity and operational status prior to EVA. Real Time Data System allows ground monitoring of EMU systems.

EXTRAVEHICULAR MOBILITY UNIT  
SYSTEMS SAFETY REVIEW PANEL REVIEW  
FOR THE  
I-113 PRIMARY PRESSURE CONTROL MODULE  
CRITICAL ITEM LIST (CIL)

EMU CONTRACT NO. NAS 9-97150

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