

NAME P/N QTY	FAILURE MODE & CAUSES	CRIT	FAILURE EFFECT	RATIONALE FOR ACCEPTANCE
MODULE HOUSING PLATE, ITEM 175 ----- SV817800-1 ()	175FM01 Blocked filter or orifice flow path when temperature control valve (Item 321) is in full HOT position (no flow to LCVG).	2/2	END ITEM: Blockage of all flow through the water transport loop and dead heading of the pump. Termination of coolant water/gas trap flow to separator and closing of Item 125 valve.	A. Design - The 203 micron filter screen is constructed from stainless steel sheet metal per AISI 304L and silver brazed per AMS-4774. It contains 250 holes of .008 inch diameter each, providing a .020 inch diameter downstream orifice. Bypass plate SV822141 is made from AISI 346 stainless steel. Bypass plate SV817800 is made from A-347 stainless steel. The filter retaining parts are made from AISI 346 stainless steel. The filter can be removed as required. All materials are compatible with water to prevent the potential generation of corrosion particles. B. Test - Acceptance: The SV817800-1 module housing plate is subjected to proof, leakage and flow tests prior to shipment. With an inlet pressure of 7.0 +/- .25 psid across ports T6 and T4 of the plate, the flow through the orifice shall be 15 +/- 1.5 lbs/hr.
OR CONNECTOR PLATE AND PIN - PLSS ITEM 175 ----- SV822141-1 ()	Contamination, particulate debris.		GFE INTERFACE: Termination of coolant water/gas trap flow to separator and closing of Item 125 valve. Once the Item 125 valve closes, unable to purge oxygen from the coolant loop through the gas trap. Possible loss of pump prime, resulting in a loss of coolant flow to the LCVG and to the sublimator.	PDA: A flow/delta P test is performed across the LCVG bypass plate T6 to T4. The flow shall be a minimum of 12 pph with a pressure drop of 7.0 psid. Certification: Filter is certified for a useful life of 20 years. (ref EMUM-1349) C. Inspection - A cleanliness level of HS3150 EMI50 is maintained during assembly and testing of the plate. This level requires mandatory inspection for verification. D. Failure History - B-EMU-100-A014 (1/10/01) - During processing, low water flow during SEMU LCVG Bypass Flow Test observed. Low flow due to partial blockage of orifice in LCVG Bypass Plate. Inadequate cleaning and passivation of bore and orifice following EDM/drilling. Op sheets updated to improve cleaning and passivation. Field units to be reworked. E. Ground Turnaround - Tested for non-EET processing per FEMU-R-001, Cooling Control Valve and Common Connector Flow/Delta P Test. None for EET processing. F. Operational Use - Crew Response - PreEVA: When detected during scheduled status checks, discontinue use of EMU. Consider use of third EMU if available. EVA: When cooling is desired, come out of LCVG bypass. If cooling cannot be re- established, terminate EVA. For subsequent EVAs, go for EVA without LCVG bypass. Special Training - Standard training covers this failure mode. Operational Considerations - Generic EVA Checklist, JSC-48023, procedures Section 3 (EMU Checkout) and 4 (EVA
			MISSION: Terminate EVA due to loss of cooling during hot missions. CREW/VEHICLE: None.	
			TIME TO EFFECT	

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/ACTIONS: Prep) verify hardware integrity and systems operational status prior to EVA.
Minutes. Flight rule A15.1.1-8 of "Space Shuttle Operational Flight Rules", NSTS-12820
defines operational EVA CWS as at least able to monitor a valid status list.
TIME AVAILABLE: Real Time Data System allows ground monitoring of EMU systems.
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-175 CONNECTOR PLATE AND PIN
 CRITICAL ITEM LIST (CIL)
 EMU CONTRACT NO. NAS 9-97150

Prepared by: *[Signature]* 4/10/02
 HS - Project Engineering

Approved by: *[Signature]* 4/14/02
 NASA - SSA/SSM

M. Smyden 4/10/02
 HS - Reliability

RMB [Signature] 4/16/02
 NASA - EMU/SSM

R. Mumford 4/10/02
 HS - Engineering Manager

[Signature] 5/2/02
 NASA - S & MA

Roger L. Jettledge 5-3-02
 NASA - MOD

[Signature] 5/7/02
 NASA - Crew

[Signature] 5-10-02
 NASA - Program Manager