

NAME P/N QTY	CRIT	FAILURE MODE & CAUSES	FAILURE EFFECT	RATIONALE FOR ACCEPTANCE
COMMON MULTIPLE CONNECTOR, ITEM 330 ----- SV778872-26 (1)	2/1R	330FM05  External leakage, uncoupled, water supply.  Failure coupling 0- seal bypass leakage, DCM/SCU interface 0- seal bypass leakage, poppet sticks open, return spring fractures, contamination, seat.	END ITEM: Water leakage to ambient.  GFE INTERFACE: Depletion of the water reservoir. Loss of cooling. Possible helmet fogging.  MISSION: Terminate EVA when the water supply drops below CWS limits.  CREW/VEHICLE: None for single failure. Possible loss of crewman with loss of SOP.  TIME TO EFFECT /ACTIONS: Minutes. If EVA, terminate EVA. Return to the vehicle when the CWS warning is issued. If SCU cannot be connected, repressurize airlock. Open purge valve if helmet defog required.  TIME AVAILABLE: Minutes.	A. Design - The water supply connector has three potential external leak paths in the uncoupled position. Two radial and one face seal using elastomeric o-rings seal these leak paths. The o-rings provide sealing force over the tolerance and environmental ranges of the item. The return spring relaxes slightly, however, testing has shown sufficient cyclic life and return force to meet spec requirements. During charging 2 micron filtration is provided by the Item 416. During discharge contaminant level is limited to PLSS water tank loop levels.  B. Test - Component Acceptance: An external water leakage test is performed on the DCM half, unmated per Air-Lock, Inc. ATP 9619-08. For this leakage test the DCM half is pressurized to 16.5 + 0.5 psig with water. Leakage shall be 0.15 cc/hr maximum for this connector.  PDA: None.  Certification: Certified for a useful life of 15 years.  C. Inspection - An in-process test is performed at H.S./W.L. to engage and disengage the connector ten times in the uncoupled condition. An external leakage test is performed at H.S./W.L. (after cycle test) with the water supply line uncoupled. A cleanliness level of HS3150 EM50A is maintained during testing of the connector. This cleanliness level requires a mandatory inspection point.  D. Failure History - None.  E. Ground Turnaround - Tested per FEMU-R-001, Water Servicing, Leakage, and Gas Removal.  F. Operational Use - Crew Response - EVA: Return to airlock, connect DCM plug to stop leak, continue EVA. Special Training - Standard training covers this failure mode. Operational Considerations - Not applicable.

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330FM05

TIME REQUIRED:  
Seconds.

REDUNDANCY  
SCREENS:  
A-PASS  
B-PASS  
C-PASS

EXTRAVEHICULAR MOBILITY UNIT  
SYSTEMS SAFETY REVIEW PANEL REVIEW  
FOR THE  
I-330 COMMON MULTIPLE CONNECTOR  
CRITICAL ITEM LIST (CIL)  
EMU CONTRACT NO. NAS 9-97150

Prepared by: *J. Auman, Jr. 3/22/02*  
HS - Project Engineering

Approved by: *RMB 4/22/02*  
NASA - SSA/SSM  
235

*M. Snyder*  
HS - Reliability

*W. Blawie*  
NASA - EMU/SSM

*Alan Boyd for KHC*  
HS - Engineering Manager

*Chris 6/26/02*  
NASA - S & MA

*Frank 6/27/02*  
NASA - MOD

*[Signature] 7/1/02*  
NASA - Crew

*Jonathan S. Miller 7-1-02*  
NASA - Program Manager  
for  
Brian Johnson