

NAME P/N QTY	CRIT	FAILURE MODE & CAUSES	FAILURE EFFECT	RATIONALE FOR ACCEPTANCE
PRESSURE TRANSDUCER FEEDWATER SUPPLY, ITEM 132B ----- SV767793-7 (1)	2/2	132BFM03 Loss of output, zero pressure indication.	END ITEM: Continuous zero water pressure reading.	A. Design - -5 Conrac and -7 Gulton: All electrical joints are coated with epoxy and insulated leadwires are used to provide wire strain relief and prevent an open circuit. All linkage/resistive element attaching screws are potted in place to prevent shifting. The vacuum cavity is hermetically sealed in an all metal/glass, welded/brazed case.
----- SV767793-8 (1)		Electrical open in the resistive coil, electrical leads, or the connector. Contamination entrained between wiper and coil. A loosening of the linkage due to wearout or shock loading which prevents the wiper from contacting coil.	GFE INTERFACE: Sensor 132A provides comparative reading. False CWS warning that reserve water supply is on-line. Loss of consumables management.	B. Test - Testing - Component Acceptance Test - The sensor is subjected to random vibration testing (6.1 grms) to insure there are no workmanship or material problems that would cause an open circuit. The sensor is subjected to calibration testing at high and low temperature (30 to 120 degrees F) to insure there are no defects that thermal expansion/contraction would uncover. The sensor circuit continuity is measured to insure there are no open circuits.
			MISSION: Terminate EVA.	PDA Test - The sensor is calibration checked as assembled on the shear plate to insure the output voltage is within spec limits.
			CREW/VEHICLE: None.	Certification Testing - Certified for a useful life of 20 years (ref. EMUM1-0084).
			TIME TO EFFECT /ACTIONS: Seconds.	C. Inspection - The sensor is visually inspected prior to case assembly to ensure the unit was assembled per print and that there are no workmanship problems.
			TIME AVAILABLE: N/A	D. Failure History - RDR H-EMU-132-C005 (3-9-84) Zero volts output due to fatigue crack in bellows due to excessive full scale cycles. Unit passed 40,000 cycles but failed before 50,000 cycles. Cert endurance test requirements were changed from 50,000 to 25,000 cycles since 50,000 is above the upper life limit requirement of the material (EC 42806-101-3). The 25,000 cycles represent more than four times the expected number of cycles to be encountered during the sensor's 15 year life.
			TIME REQUIRED: N/A	E. Ground Turnaround - Tested for non-EET processing per FEMU-R-001, Transducer and DCM Gage Calibration Check. FEMU-R-001 Para 8.2 EMU Preflight KSC Checkout for EET processing.
			REDUNDANCY SCREENS: A-N/A B-N/A C-N/A	F. Operational Use - Crew Response - PreEVA: Trouble-shoot problem if failure can be determined to be sensor, continue EVA prep. Otherwise EMU go for SCU ops. EVA: When CWS data confirms activation of reserve water tank, 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

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		132BFM03		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-132 FEEDWATER SUPPLY PRESSURE SENSOR  
CRITICAL ITEM LIST (CIL)

EMU CONTRACT NO. NAS 9-97150

Prepared by: *J. Cannon* 3/20/02  
HS - Project Engineering

Approved by: *RMB* 3/20/02  
NASA-SSA  
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*M. Smyke*  
HS - Reliability

*Will Edm*  
NASA-SSA

*Alan Pugh for RMB*  
HS - Engineering Manager

*J. Frazier*  
NASA-SSA

*Jung G. Son*  
NASA-MOD

*John Ohm*  
NASA-Crew

*B. Fisher*  
NASA-Program Manager