

NAME P/N QTY	CRIT	FAILURE MODE & CAUSES	FAILURE EFFECT	RATIONALE FOR ACCEPTANCE
PRIMARY OXYGEN PRESSURE SENSOR, ITEM 112 ----- SV778528-1/-2 (1)	2/1RB	112FM06 Electrical short. Contamination in the electrical connector or in sensor reference cavity, faulty solder joints.	END ITEM: Loss of sensor output voltage. GFE INTERFACE: Increase in battery power consumption. The current is limited in the DCM DC/DC converter to 1.8 +/- 0.25 amps. Shutdown of the DC/DC converter. Loss of CWS, tones and DCM display. MISSION: None for single failure. Terminate EVA with loss of DCM display, CWS and ability to monitor the operational integrity of the EMU. Loss of use of one EMU. CREW/VEHICLE: None for single failure. Possible loss of crew with loss of CCC, oxygen or vent flow. TIME TO EFFECT /ACTIONS: Minutes. TIME AVAILABLE:	A. Design - -1 Conrac and -2 Gulton: The wiper/coil assembly and wiring are sealed in a protective metal case and solder joints are encased in potting for additional strain relief. To protect the electrical circuit from any contamination which would cause a short circuit. All soldering of lead wires is performed per NHB5300(3A-1). B. Test - Component Acceptance Test - The sensor is subjected to random vibration (6.1g rms) testing to ensure there are no workmanship or material problems that would cause shorting. The sensor is subjected to calibration testing at low and high temperature (32 degrees F to 120 degrees F) to ensure there are no workmanship problems that would cause a short circuit between the sensor circuit and the case. The sensor is calibration checked during acceptance testing to ensure there are no short circuits which affect the sensor's accuracy. PDA Test - The sensor is calibration checked, as assembled on the shear plate, to ensure there are no short circuits which affect the sensor's accuracy. Certification Testing - Certified for a useful life of 25 years (Ref. EMUM-1434). C. Inspection - The sensor is visually inspected prior to case assembly to verify that the unit has no workmanship problems due to bad solder joints or contamination. The sensor is calibration checked in the assembly process. D. Failure History - None. E. Ground Turnaround - Tested for non-EET processing per FEMU-R-001, Transducer and DCM Gauge Calibration Check. FEMU-R-001 Para 8.2 EMU Preflight KSC Checkout for EET processing. F. Operational Use - Crew Response - PreEVA: Trouble shoot, if no success, consider EMU 3 if available. EMU no go for EVA. EVA: When loss of CWS, tones and displays detected, terminate EVA. Training - Standard EMU training covers this mode. Operational Considerations - Flight rules define and operational CWS as at least able to monitor a valid status list. EVA checklist procedures verify hardware integrity and systems operational status prior to EVA. Real Time Data System allows ground monitoring of EMU systems.

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112FM06

Hours.

TIME REQUIRED:
Minutes.

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

EXTRAVEHICULAR MOBILITY UNIT
SYSTEMS SAFETY REVIEW PANEL REVIEW
FOR THE
I-112 PRIMARY OXYGEN PRESSURE SENSOR
CRITICAL ITEM LIST (CIL)

EMU CONTRACT NO. NAS 9-97150

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