

FMEA
EMU FAILURE MODE, EFFECT ANALYSIS

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01/02/90 SUPERSEDES / /

ANALYST:

NAME P/N DTY	FUNCTION	FAILURE MODE & CAUSE	MISSION PHASE	FAILURE EFFECT	FAILURE DETECTION FLIGHT/GROUND	TIME TO EFFECT/ ACTIONS	CRIT	REMARKS/ HAZARD	REF
SUIT PRESSURE TRANSDUCER, ITEM 114 SV767788-2 (1)	Measures suit pressure (sensor range 0-6 psid).	114F001: Erroneous output voltage (drifts high). CAUSE: Stress relief of the Bourdon tube with time. Failure of the potentiometer linkage due to increased friction. Mechanical shock loading of the linkage which causes misalignment of the resistive element relative to the sliper.	PRE-EVA EVA	EMU ITEM: False indication of high suit pressure. GFE INTERFACE: CWS displays "SUIT P HIGH", "O2 RATE XXX", "SOP RATE XXX" between 4.55 and 5.7 psid. If indicated pressure is greater than 5.7 psid, the CWS displays "BLE V FAIL", "STOP DEPRESS". MISSION: None for single failure. The 112 and 215 sensors will confirm whether a 114 sensor or other component failure exists. Terminate EVA for subsequent failure of 112 or 215 sensor, or other oxygen system failure. CREW/VEHICLE: None for single or double failure. Possible loss of crewman with subsequent loss of SOP.	FLIGHT: Yes. 1. CWS Message: SUIT P HIGH O2 RATE XXX SOP RATE XXX 2. Visual inspection of page 311. GROUND: Yes. FEMU-R-001, Para 7.3.3.2.1.1.19, Transducer & DCM Gage Calibration Check.	None. TIME AVAILABLE: N/A TIME REQUIRED: N/A	5/1R A-PASS B-PASS C-PASS	The redundant paths are the ventilation, pressurization components and the SOP. The CWS status display provides the capability to check the pressure sensor with the suit pressure gauges, continue EVA and periodically check 311 suit pressure reading.	None.

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