NAME P/N QTY	CRIT	FAILURE MODE & CAUSES	FAILURE EFFECT	RATIONALE FOR ACCEPTANCE
PRESSURE GAGE, 11EN 203E --- SVP09062-3 (1)	1/1	213EPN05A: External gas leakage. CAUSE: Seal failure.	END ITEM: Leakage of emergency O2 supply to ambient. OFE INTERFACE: Premature depletion of SOP. MISSION: Abort EVA. CREW/VEHICLE: Possible loss of crewman with excessive leakage.	A. Design - The gauge to regulator seal is a radial silicone O-seal with a teflon backup ring on one side and a delta kel-F back up ring on the other. The seal design configuration dimension and rigidness of assembly provide squeeze under all load conditions. The maximum expected number of gauge operating pressure cycles during the life of this item is 175, and proof pressure cycles is 25. B. Test - Component Acceptance Test - The regulator manufacturer, CTI, performs an external leakage test to assure seal integrity. Gauge tests performed by the manufacturer, Kratos, would detect a defective material heat treatment or braze. The sensing tube is subjected to a 15,000 psi stress proof test, 11,200 psi proof test, 7,400 psi calibration test and an external leakage test. The gauge is then tested by the regulator manufacturer, CTI. The gauge is subjected to a 11,200 psi proof test, a 7,400 psi calibration test and an external leakage test. PDA Test - The item is proof pressure tested at 10,960 - 11,380 psig GN2 for 5 minutes minimum, and then visually inspected for evidence of distortion, cracks, or other defects. Sequentially, the item is externally leak tested with a 2% He and 98% N2 gas mixture at a pressure of 5600 - 6200 psig in a chamber vacuum. Leakage must not exceed 5.55 x 10-5 scc/sec He (5.55 x 10-5 scc/sec He max represents total end item (SOP) leakage). The accuracy of the item is checked by pressurizing it to 7400 psig and then comparing it with a known pressure. The two pressures must agree within 400 psi. Upon completion of PDA testing, the item is visually final inspected for damage to external surfaces, mounting points and general appearance. Certification Test - The item completed 100 proof and 1200 operating cycles during 4/79 to fulfill the cycle certification of 25 and 300 cycles respectively. The item completed a 14,000 psi test during 4/79 which fulfilled the burst requirement. The item completed the 15 year structural vibration and shock certification requirement during 10/80. No Class I ECO's have

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	1/1	215EFHB3A:		been incorporated since this configuration was certified. C. Inspection - A trial assembly is performed on all details and then they are visually inspected. The running and final torque of all threaded connections are verified by Vendor and DCAS inspection. There is 100% inspection, including proof pressure and leakage test of all the elements exposed to the high pressure medium during vendor acceptance testing per drawing SV77B475. D. Failure History - None. E. Ground Turnaround - Tested per REMU-H-001, SOP External Leakage. F. Operational Use - Crew Response - EVA: Since EVA termination is required as soon as SOP is flowing, crew would abort EVA when excessive SOP usage is detected. Training - Standard EMU training covers this failure mode. Operational Considerations - EVA checklist procedures verify hardware integrity and systems operational status prior to EVA. Flight rules define go/no go criteria related to EMU pressure integrity and regulation. Flight rules define EMU as lost for loss of operational SOP. Real Time Data System allows ground monitoring of EMU systems.