

CIL
CRITICAL ITEMS LIST
FIELD CILS/I

NAME P/N QTY	CRIT	FAILURE MODE & CAUSES	FAILURE EFFECT	WATERLINE FOR ACCEPTANCE
REGULATOR, SCU WATER SUPPLY ITEM 419 S4772150-6 (1)	2/2	419FMO1: FAILS TO CLOSE, REGULATES HIGH CAUSE: SEAT CONTAMINATION BINDING, BALL SPRING RELAXES, HOUSING SEAL FAILURE.	INO ITEM: OPEN FLOW PATH THROUGH REGULATOR PERMITTING HIGHER PRESSURE FLOW. DTE INTERFACE: WATER TANK PRESSURE MAY INCREASE TO 25 PSI. MISSION: DISCONTINUE USE OF FAILED SCU. CREW/VEHICLE: NONE.	A. DESIGN - CONTAMINATION IS LIMITED BY A 2 MICRON UPSTREAM FILTER. THERE ARE TWO RADIAL SEALS TO PREVENT INTERNAL LEAKAGE. THESE SEALS ARE ELASTOMERIC (FLUOR-SULCON OR SILICON) TO PROVIDE COMPATIBLITY TO THE SURFACES BEING SEALED. THE BALL CARRIER AND PISTON CLEARANCES ARE GREATER THAN THE INLET FILTRATION. THE PISTON IS FINED AND THE BALL CARRIER HAS LOCAL GUIDES TO MINIMIZE THE POTENTIAL FOR COMPANIMATE FORMING. THE BALL SPRING IS DESIGNED FOR 1040 CYCLE LIFE TO PREVENT ANY OUTPUT LOAD CHANGE. B. TEST - COMPONENT ACCEPTANCE: A PERFORMANCE TEST IS RUN DURING AT-E-419. THE REGULATOR MUST REGULATE THE OUTLET PRESSURE BETWEEN 0.0 AND 15.0 PSIG FOR INLET PRESSURES OF 10.0 - 40.1 PSIG. THE REGULATOR MUST ALSO BE CAPABLE OF FLOWING 2.0 - 35 LB/HR OF WATER DURING THIS TEST. AN INTERNAL LEAKAGE TEST IS ALSO PERFORMED DURING AT-E-419. IN THE FLOW DIRECTION THE INLET PRESSURE IS 30.0 - 40.2 PSIG AND OUTLET IS 15.3 - 22.7 PSIG WHILE LEAKAGE PERMITTED IS LIMITED TO 0.755 CC/MIN. MAX. PDA: REGULATOR PERFORMANCE IS CHECKED DURING SERJ-40-005. WITH AN INLET PRESSURE OF 40-41 PSIG AND FLOW SET AT 0.5 - 2.5 LBS/HR, THE REGULATOR OUTLET PRESSURE MUST BE MAINTAINED FROM 0-35 PSIG. WITH AN INLET PRESSURE OF 10.7 - 10.9 PSIG AND A FLOW OF 30-36 LBS/HR, THE REGULATOR OUTLET PRESSURE MUST BE 0 - 10.9 PSIG. AN INTERNAL LEAKAGE TEST IS ALSO PERFORMED DURING SERJ-40-005 IN THE FLOW DIRECTION THE INLET PRESSURE IS 30.0 - 40.2 PSIG AND OUTLET IS 15.3 - 22.7 PSIG WHILE LEAKAGE PERMITTED IS LIMITED TO 0.755 CC/MIN MAX. IN THE CHECK DIRECTION THE INLET PRESSURE IS 17.3 - 12.7 PSIG. THE OUTLET PRESSURE IS 10.0 - 27.2 PSIG AND THE LEAKAGE IS LIMITED TO 0.755 CC/MIN MAX.

CRL
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8/5/88 SUPERSEDES 4/4/88

NAME P/N QTY	CRET	FAILURE MODE & CAUSES	FAILURE EFFECT	NATIONALITY FOR ACCEPTANCE
REGULATOR, SCU WATER SUPPLY ITEM 419 SV772190-6 111	1/2	4191901: FAILS TO CLOSE, REGULATES HIGH.		<p>B. TEST - (CONTINUED) CERTIFICATION: THE ITEM COMPLETED 450 PRESSURIZATION/FLOW CYCLES DURING TESTING ON 1/24 TO FULFILL VIB FLIGHT REQUIREMENTS FOR 85 YEARS. NO CHANGES HAVE BEEN MADE TO THE CONFIGURATION SINCE THAT TIME.</p> <p>C. INSPECTION - A CLEANLINESS LEVEL OF MS160 ENDED IS MAINTAINED DURING ASSEMBLY AND TESTING OF THE REGULATOR THIS CLEANLINESS LEVEL REQUIRES A IMMEDIATE INSPECTION FOR VERIFICATION. THE PISTON AND HOUSING ARE 100% INSPECTED TO MEET DIMENSIONAL AND SURFACE FINISH REQUIREMENTS, ALONG WITH INTERFACING SURFACES BEING PROPERLY COATED WITH TEFLO. THE SPRING IS 100% INSPECTED TO MEET DIMENSIONAL AND FORCE DISPLACEMENT REQUIREMENTS. THE INTERFACING SURFACES BETWEEN HOUSING AND VALVE ARE 100% INSPECTED TO MEET DIMENSIONAL AND SURFACE FINISH REQUIREMENTS. THE "O" SEALS ARE INSPECTED FOR SURFACE CHARACTERISTICS PER SYMS 5432; 80% FOR CLASSES I & II, AT LEAST A 1.5 AQI FOR CLASS III.</p> <p>D. FAILURE HISTORY - N-EMU-419-802 44-0-079 - INTERNAL LEAKAGE OF THE WATER SUPPLY REGULATOR DUE TO CONTAMINATION LOCKED IN THE SEALING EDGE OF THE VESPEL BALLSEAT. NO SPECIFIC SOURCE OF THE CONTAMINATION COULD BE FOUND. THEREFORE NO CORRECTIVE ACTION WAS TAKEN.</p> <p>E. GROUPS MAINTAINED - TESTED PER FEHM-N-001, UNDER SCW CHECKOUT.</p> <p>F. OPERATIONAL USE - ERM RESPONSE - POSTEVA (RECHARGE) TROUBLESHOOT PROBLEM. IF NO SUCCESS, USE OTHER SCU TO PERFORM EMU WATER DUMP AND CHARGE. SPECIAL TRAINING - STANDARD ERM TRAINING COVERS THIS FAILURE MODE. OPERATIONAL CONSIDERATIONS - EVA CHECKLIST PROCEDURES VERIFY HARDWARE INTEGRITY AND SYSTEMS OPERATIONAL STATUS PRIOR TO EVA.</p>
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