

CRITICAL ITEMS LIST
 1: CR-PLSS/E

ITEM P/N QTY	CRIT	FAILURE MODE & CAUSES	FAILURE EFFECT	RATIONALE FOR ACCEPTANCE
VALVE, PILOT ITEM 125 SV76400-1 121	2/2	325FM041 FAILS TO OPEN, REDUCED FLOW.	END ITEM; BLOCKAGE OF WATER FLOW PATH THROUGH VALVE SEAT.	A. DESIGN - THE PLUNGER HAS A LARGE LENGTH TO DIAMETER RATIO AND SHORT TEFLON COATED RIBBING SURFACES TO REDUCE PLUNGER STICKION FORCES. PISTON CLEARANCES ARE LARGER THAN THE LARGEST PARTICLE THAT CAN PASS THROUGH THE FILTER BUS PREVENTING CLOGGING AND JAMMING. THE FILTER SCREEN MATERIAL IS 431 304L OR 314L, BUNTING MESH 0.0045 IN. DIAMETER MESH, PLAIN WEAVE. TEFLON COATING ON THE VALVE SEAT MINIMIZED STICKION BETWEEN THE SEAT AND ELASTOMERIC SEAL.
FC78-1		CAUSE: CLOGGING OF THE INLET FILTER, PLUNGER STICKS.	GPE INTERFACE; UNABLE TO PURGE AIR FROM THE COOLANT LOOP THROUGH THE GAS TRAP, POSSIBLE LOSS OF PUMP PRIME, RESULTING IN A LOSS OF COOLANT FLOW TO THE LCDU AND TO THE SUBLIMATOR.	B. TEST - COMPONENT ACCEPTANCE TEST PER: AT-E-126 - THE TEST FITTINGS AND INTERFACING HOSES ARE CLEANED TO H5150 LEVEL AND SO. THE TEST RIG H2O CIRCUIT IS CLEANED TO H5150 LEVEL WHILE THE GAS CIRCUIT IS CLEANED TO H5150 LEVEL. THE ITEM IS CHECKED FOR OPENING AND CLOSING BY PRESSURIZING THE INLET TO 5-9.5 PSID H2O AND PRESSURIZING THE SENSE PORT TO 2-5 PSID H2. THE VALVE SHALL OPEN ABOVE 5 PSID H2 AND THE VALVE SHALL CLOSE BELOW 2 PSID H2. AN ACTUATING FORCE TEST IS PERFORMED BY PRESSURIZING THE INLET TO 47-49 PSID. THE FORCE TO ACTUATE THE VALVE SHALL BE 3-9 LBS. THE PILOT SENSE PORT IS LEAKAGE TESTED TO PREVENT LOSS OF REFERENCE PRESSURE BY PRESSURIZING THE PORT TO 40-50 PSID AND BUBBLING FOR BUBBLE FORMATION WHILE SUBMERGED IN WATER FOR 5 MINUTES. SECONDLY THE ITEM IS INTERNAL LEAKAGE TESTED BY PRESSURIZING THE INLET AND OUTLET (SEP. IN) TO 14.9-19.1 PSIA OVER A 30 MINUTE PERIOD. LEAKAGE FROM PILOT PORT SHALL NOT EXCEED 1.0 SEC/MM. AS MEASURED WITH AN INVERTED BEAKER IN WATER. A PRESSURE DROP TEST IS DONE DURING AT-EMU-126. PRESSURE DROP SHALL NOT EXCEED 0.2 PSID. AT A FLOW OF 0.0-0.6 LBS./HR. WATER.
			MISSION: BERTH/NAVY EVA FOR NOB MISSIONS DUE TO LOSS OF COOLING.	C. TEST -
			CREW/VEHICLE: NONE.	THE FORCE TO MANUALLY ACTIVATE THE VALVE IS 3-9 LBS. WITH THE VENT CIRCUIT CHARGED TO 4.2-4.4 PSID AND THE WATER CIRCUIT CHARGED TO 14.6-19.7 PSID. THERE ARE NO ADDITIONAL TESTS AT THE PDA LEVEL TO DETERMINE PERFORMANCE, BY VERIFYING THAT THE VALVE OPENS WITH 2-5 PSID ARE APPLIED TO SENSE PORT.

SDA-44-001F
 Page 770

CIL
 CRITICAL ITEMS LIST
 FILE: CIL-0453/2

NAME P/N QTY	CRIT	FAILURE MODE & CAUSES	FAILURE EFFECT	RATIONALE FOR ACCEPTANCE
VALVE, PITOT ITEM 325 SV749450-1 110	2/2	B25FN04; FAILS TO OPEN, REDUCED FLOW.		<p>B. TEST - (CONTINUED) *CERTIFICATION TEST - THE ITEM COMPLETED 4,000 PRESSURE AND 1,027 MANUAL CYCLES DURING 3/85 AND AN ADDITIONAL 4000 CYCLES DURING 9/84, FOR A TOTAL OF 5,027 MANUAL CYCLES. THIS FULFILLS THE CYCLE CERTIFICATION REQUIREMENTS OF 3,976 AND 1,051 RESPECTIVELY. NO CLASS 2 ENGINEERING CHANGES HAVE BEEN INCORPORATED SINCE THIS TIME.</p> <p>C. INSPECTION - A CLEANLINESS LEVEL OF MS3150 LEVEL EM50 IS MAINTAINED DURING ASSEMBLY AND TESTING OF THE VALVE. A MANDATORY INSPECTION IS REQUIRED TO VERIFY THIS LEVEL.</p> <p>CAUSE - PLUNGER STICKS. THE INTERFACING SURFACES BETWEEN THE VALVE PLUNGER AND THE VALVE BODY ARE 100% INSPECTED TO MEET DIMENSIONAL AND SURFACE FINISH REQUIREMENTS. THE VALVE PLUNGER IS 100% INSPECTED FOR BEING PROPERLY TEFLON COATED. THE VALVE SEAT ON THE PLUNGER IS 100% INSPECTED FOR BEING PROPERLY TEFLON COATED. A MANDATORY INSPECTION IS REQUIRED TO VERIFY THIS LEVEL. AN IMPROCESS TEST IS RUN TO CYCLE THE VALVE BY OPENING AND CLOSING IT TO VERIFY PROPER PLUNGER DISPLACEMENT.</p> <p>CAUSE - DIAPHRAGM LEAKAGE. THE SEALING INTERFACES BETWEEN THE VALVE HOUSING AND THE VALVE BODY ARE 100% INSPECTED TO MEET DIMENSIONAL AND SURFACE FINISH REQUIREMENTS. THE DIAPHRAGM IS 100% INSPECTED TO MEET DIMENSIONAL AND SURFACE FINISH REQUIREMENTS. ALONG WITH BEING VISUALLY INSPECTED FOR DEFECTS. AN IMPROCESS TEST IS RUN TO CHECK FOR INTERNAL LEAKAGE AROUND THE DIAPHRAGM, NO LEAKAGE IS ALLOWED.</p> <p>CAUSE - EXTERNAL LEAKAGE. THE SEALING INTERFACES BETWEEN THE VALVE MODULE HOUSING AND THE VALVE HOUSE ARE 100% INSPECTED TO MEET DIMENSIONAL AND</p>

CRITICAL ITEMS LIST
 131E: CIL-PASS/2

NAME P/N QTY	CRIT	FAILURE MODE & CAUSES	FAILURE EFFECT	RATIONALE FOR ACCEPTANCE
VALVE, FITOP ITEM 125 SV769480-3 (1) FC78-3 E	2/2	125FITOP: FAILS TO OPEN, REDUCED FLOW.		<p>C. INSPECTION - (CONTINUED) SURFACE FINISH REQUIREMENTS. THE SEALING INTERFACES BETWEEN THE VALVE HOUSING AND THE PUSH BUTTON SHAFT ARE 100% INSPECTED TO MEET DIMENSIONAL AND SURFACE FINISH REQUIREMENTS. THE O-SEALS ARE 100% INSPECTED TO MEET DIMENSIONAL AND SURFACE FINISH REQUIREMENTS. AN INPROCESS TEST IS RUN TO CHECK FOR EXTERNAL LEAKAGE PAST THE VALVE HOUSING SEAL AND PAST THE PUSH BUTTON SHAFT SEAL. NO LEAKAGE IS ALLOWED.</p> <p>D. FAILURE HISTORY - NONE.</p> <p>E. GROUND TURNAROUND - TESTED PER FEMU-R-COI WATER SERVICING, LEAKAGE AND GAS REMOVAL.</p> <p>F. OPERATIONAL USE - CREW RESPONSE - PRE-EVA: BRIGADE SHOOT PROBLEM, IF NO SUCCESS, CONSIDER EMU 3 IF AVAILABLE. EMU GO FOR SCU WITHOUT FAN. EVA: FOR INSUFFICIENT CREWMAN COOLING, TERMINATE EVA. TRAINING - CREWMAN ARE TRAINED FOR ONE MAN EVA SCENARIO. OPERATIONAL CONSIDERATIONS - FLIGHT RULES DEFINE GO/NO GO CRITERIA RELATED TO EMU THERMUM CONTROL. FLIGHT RULES DEFINE EMU AS GO TO REMAIN ON SCU (AVAILABLE FOR RESCUE IF REQUIRED). EVA CHECKLIST AND FOP PROCEDURES VERIFY HARDWARE INTEGRITY AND SYSTEMS OPERATIONAL STATUS PRIOR TO EVA. REAL TIME DATA SYSTEM ALLOWS GROUND MONITORING OF EMU SYSTEMS.</p>