

CRITICAL ITEMS LIST

ASSY NOMENCLATURE REDUCER ASSEMBLY

SYSTEM: CREW ESCAPE SYSTEM

REVISION: A

ASSY P/N: 8825071

SUBSYSTEM: EMERGENCY OXYGEN SYSTEM

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FMEA		NAME, QTY & DRAWING REF DESIGNATION	CRIT'Y	FAILURE MODE AND CAUSE	FAILURE EFFECT OR IMPACT	RATIONALE FOR ACCEPTANCE
REF	REV					
532		PRESSURE GAUGE, (2) 8825071	VI	Mode: External leakage Cause: • Defective seal • Piece part failure	Loss of half or all available oxygen	<p>1. Design Features.</p> <ul style="list-style-type: none"> a. MIL-F-27730 teflon tape is applied to the male pipe thread on the pressure gauge b. The fitting and base are CRES stainless steel c. Maximum operating pressure is 3000 psi. d. Operating temperature range -65°F to +200°F e. Burst pressure is greater than 2 1/2 times maximum operating pressure f. The pressure gauge is designed per MIL-G-7601B. <p>2. Testing and Analysis to Detect Failure Mode.</p> <ul style="list-style-type: none"> a. <u>Acceptance Testing</u> <ul style="list-style-type: none"> (1) 3000 psi high pressure and 250 psi low pressure system leak test for 24 hours (2) Calibrated by supplier, applied pressure of 2800 - 3000 psi and gauge shall read 2100 psi, ± 100 psi to 0 psi (3) Functional test during charge/discharge cycle (4) Bourdon tube and base are leak tested at 3000 psi b. <u>Certification Testing</u> <ul style="list-style-type: none"> (1) The pressure gauge is qualified in accordance with MIL-G-7601B (2) The gauge is cycle tested at 1800 psi, for a minimum of 100 cycles

EXPEDITE PROCESSING

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REF	REV					
532		PRESSURE GAUGE, (2) BB25071	1/1	Mode: External leakage Cause: • Defective seal • Piece part failure	Loss of half or all available oxygen	<p>(3) Hydrostatically leak tested at a minimum of 4500 psi for 5 minutes.</p> <p>(4) Shock tested to 100 G</p> <p>(5) Sinusoidal vibration tested, 10 G to 2000 Hz and double amplitude of not less than 0.18 inches for 3 hours.</p> <p>(6) The system was live jumped at the Naval Weapons Center 12 jumps from 25,000 feet, 4 jumps from 12,000 feet, 12 jumps from 10,000 feet, and 8 water drop jumps.</p> <p><u>Turnaround Testing</u> (in accordance with PIA 23029)</p> <p>a. System test 3000 psi high pressure system test for 24 hours</p> <p>b. Cycle test during charge/discharge cycle</p> <p>B. Inspection:</p> <p>a. 100 percent DCAS inspection on all parts</p> <p>b. Cleaned and inspected for cleanliness to level 100A in accordance with JSEM 5122, Contamination Control Plan</p> <p>c. Functional check during charge/discharge cycle</p> <p>d. Particle count prior to reassemble after cleaning</p> <p>e. Each gauge is examined to determine conformance with MIL-G-7601B</p> <p>f. Bourdon tube and base are pressured to 3000 psi to ensure no leakage</p>

EXPEDITE PROCESSING

CRITICAL ITEMS LIST

ASSY NOMENCLATURE: REDUCER ASSEMBLY

SYSTEM: CREW ESCAPE SYSTEM

REVISION: A

ASSY P/N: 8825871

SUBSYSTEM: EMERGENCY OXYGEN SYSTEM

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FMEA		NAME, QTY & DRAWING REF DESIGNATION	CNTY	FAILURE MODE AND CAUSE	FAILURE EFFECTION END ITEM	RATIONALE FOR ACCEPTANCE
REF	REV					
532		PRESSURE GAUGE, (2) 8825871	1/1	Mode: External leakage Cause: • Defective seal • Piece part failure	Loss of half or all available oxygen	<p><u>Turnaround Inspection</u> (in accordance with FIA 23029)</p> <ul style="list-style-type: none"> a. 24-hour leak/decay check, inspect gauges to ensure no pressure decay b. Functional check during charge/discharge cycle c. Visually inspected. d. Packing inspection <p>4. Failure History:</p> <p>None. This pressure gauge is used in the B-1 instructor bailout emergency oxygen system flown by the Air Force and Dryden Flight Research Center</p> <p>5. Operational Use:</p> <ul style="list-style-type: none"> a. Operational effect of failure: Possible loss of crewmember b. Crew action: None. c. Crew training: Not applicable d. Mission constraints: None. Mission would be terminated prior to use of emergency O₂ system e. In-flight checkout: The crew could inspect emergency O₂ gauges during flight, but could not repair or replace defective equipment

EXPEDITE
 PROCESSING