CRITICAL ITEMS LIST

ASSY NOMENCLATURE: *OXYGEN REGULATOR* | ASSY P/N: F241-1700-1 | SYSTEM: *CREW ESCAPE SYSTEM* | SUBSYSTEM: *LAUNCH ENTRY SUIT* | REVISION: | PAGE 7 OF 60

FMEA REF	FMEA REV	NAME, QTY & DRAWING REF DESIGNATION	CRIT'Y	FAILURE MODE AND CAUSE	FAILURE EFFECT ON END ITEM	RATIONALE FOR ACCEPTANCE
3.1.1		OXYGEN REGULATOR [1], 18951G-02	1/1	3.1.1 Mode: Fails open Cause: • defective material • contamination • defective diaphragm	Excessive consumption of EOS 10-minute supply	1. DESIGN FEATURES TO MINIMIZE FAILURE MODE a. The regulator is in use by the Air Force b. The cover and body are cast aluminum. c. The diaphragm and packings are silicone elastomer. d. Internal parts are stainless steel and phosphor bronze. e. A screen filter is installed on the inlet port to prevent contamination of the regulator. 2. TEST OR ANALYSIS TO DETECT FAILURE MODE a. Acceptance Testing. (1) Leakage test at 2 inches of H_2O at 120 psig, leakage allowed (0.9 -) 65 inches H_2O) (2) Flow test: 0 slpm at 55 psig; 90 slpm at 55 psig; 0 slpm at 90 psig; and 90 slpm at 90 psig (3) Flow test at altitude: 0 alpm (40,000 feet) at 50 psig; 90 alpm (40,000 feet) at 50 psig; 0 alpm (43,000 feet) at 50 psig; 90 alpm (43,000 feet) at 50 psig; 0 alpm (40,000 feet) at 90 psig; 90 alpm (40,000 feet) at 90 psig, 0 alpm (43,000 feet) at 90 psig, and 90 alpm (43,000 feet) at 90 psig b. Certification Test. (1) High altitude chamber test, Brooks Air Force Base (a) Unmanned test series of gradual ascents and descents from ground level to 100,000 feet and rapid decompressions

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CRITICAL ITEMS LIST

ASSY NOMENCLATURE: *OXYGEN REGULATOR* ASSY P/N: *F241-1700-1*

SYSTEM: *CREW ESCAPE SYSTEM* SUBSYSTEM: *LAUNCH ENTRY SUIT*

REVISION

FMEA REF	FMEA REV	NAME, QTY & DRAWING REF DESIGNATION	CRIT'Y	FAILURE MODE AND CAUSE	FAILURE EFFECT ON END ITEM	RATIONALE FOR ACCEPTANCE
3.1.1		OXYGEN REGULATOR (1), 18951G-82	1/1	3.1.1 Mode: Fails open Cause: • defective material • contamination • defective diaphragm	Excessive consumption of EQS 10-minute supply	(b) Manned test series. 1 Gradual ascents and descents to 100,000 feet. 2 Rapid decompression to 90,000 feet 3 Endurance runs rapid decompression to 100,000 feet for 37 minutes. (2) Live jumped at Naval Weapons Center (a) At 200 knots, 25,000 feet, four jumps. (b) At 110 knots, 10,000 feet, four jumps. (c) At 110 knots, 6,000 feet, four jumps (d) At 170 knots, 15,000 feet, four jumps. (e) At 185 knots, 20,000 feet, four jumps (f) Water drop at 30 feet per second (fps), two jumps. (g) Water drop at 27 fps, two jumps c Turnaround Test. (In accordance with PIA 23033) (1) Leak test at 120 psig (leakage allowable 0.9 - 1.65 in H_2O). (2) Regulator positive pressure test. at 55 psig, 0 lpm, at 55 psig, 135 lpm, pressure should be equal to or greater than 0.1 in H_2O; at 110 psig, 135 lpm, pressure should be equal to or greater than 0.1 in H_2O; at 110 psig, 0 lpm, pressure should be (0.9 - 1.65 in H_2O); at 140 ± 10 psig, 45 lpm, pressure should be equal to or greater than 0.0 in H_2O; at 140 ± 20 psig, 0 lpm, pressure should be (0.9 - 1.65 in H_2O). J. INSPECTION a Visual inspection of parts for defects. b One hundred percent visual inspection during assembly of regulator. c Verify regulator operates within leakage specifications

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ATTACHMENT 1 II
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CRITICAL ITEMS LIST

ASSY NOMENCLATURE: *OXYGEN REGULATOR* | SYSTEM: *CREW ESCAPE SYSTEM* | REVISION:

ASSY P/N: *F241-1700-1* | SUBSYSTEM: *LAUNCH ENTRY SUIT* |

FMEA REF	FMEA REV	NAME, QTY & DRAWING REF DESIGNATION	CRIT'Y	FAILURE MODE AND CAUSE	FAILURE EFFECT ON: END ITEM	RATIONALE FOR ACCEPTANCE
3.1.1		OXYGEN REGULATOR (1), 88951G-02	I/1	3.1.1 Mode: Fails open Cause: • defective material • contamination • defective diaphragm	Excessive consumption of EOS 10-minute supply	d. Verify regulator operates within positive pressure test specifications. e. Verify parts and regulator are cleaned to level 300 in accordance with JSCM 5322, "Contamination Control Requirements Manual." Turnaround Inspection (In accordance with PIA 23033) a. Visual inspection of parts for defects. b. One hundred percent visual inspection during assembly of regulator. c. Verify regulator operates within leakage specifications. d Verify regulator operates within positive pressure test specifications e. Verify parts and regulator are cleaned to level 300 in accordance with JSCM 5322 4. FAILURE HISTORY None. This regulator is used by the Air Force in high altitude suits for high performance aircraft and Dryden Flight Research Center. 5. OPERATIONAL USE 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 emergency use of the O_2 regulator. e. In Flight Checkout - None. Crew cannot disassemble, repair, or replace a defective regulator

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