

CRITICAL ITEMS LIST

ASSY NOMENCLATURE: DROGUE CHUTE

SYSTEM: CREW ESCAPE SYSTEM

REVISION:

ASSY P/N: SK1102436087

SUBSYSTEM: PERSONAL PARACHUTE ASSY.

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| FMEA | | NAME, QTY & DRAWING REF DESIGNATION | CRIT'Y | FAILURE MODE AND CAUSE | FAILURE EFFECT ON END ITEM | RATIONALE FOR ACCEPTANCE |
|-------|-----|--|--------|---|---|---|
| REF | REV | | | | | |
| 2.1.1 | | SUSPENSION LINES, (12) SK1102436087 | 2/1R | 2.1.1 Mode: Lines break Cause: • excessive load • defective material | Possible canopy collapse if two or more lines break | <p>1. DESIGN FEATURES TO MINIMIZE FAILURE MODES</p> <ul style="list-style-type: none"> a. The lines are nylon and are certified to MIL-C-5040, type II. b. The breaking strength is 400 pounds. c. The maximum load is 1,200 pounds total at 225 knots, distributed over 12 suspension lines d. The thread is type E, class A, in accordance with V-T-295C. e. The thread breaking strength is 9 pounds. f. The lines are stitched at 8-12 stitches per inch to the canopy and riser over 4.5 inches. <p>2. TEST OR ANALYSIS TO DETECT FAILURE MODE</p> <ul style="list-style-type: none"> a. <u>Acceptance Test.</u> <ul style="list-style-type: none"> (1) The suspension line material is lot tensile tested per roll to a minimum breaking strength of 400 pounds (2) Each roll sample is elongation tested for elasticity. (3) The thread is tensile tested per roll to a minimum of 85 pounds. b. <u>Certification Test.</u> <ul style="list-style-type: none"> (1) Four dummy drops at 110 knots, 2 at 10,000 feet, 2 at 25,000 feet. (2) Four live water drop jumps. (3) One 300 knot wind blast test. (4) Four dummy drops at 225 knots, 2 at 10,000 feet, 2 at 25,000 feet |

PREPARED BY: R. L. ALLISON, M. HERR

SUPERSEDING DATE: 101

BY: J. O. SCHLOSSER

DATE: 8/7/89

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| 2.1.1 | | SUSPENSION LINES, (12) SK1102436087 | 2/1R | 2.1.1 Mode: Lines break Cause: • excessive load • defective material | Possible canopy collapse if two or more lines break | <p>(5) Eight live jumps at 110 knots, 4 at 10,000 feet, 4 at 6,000 feet.</p> <p>(6) Four live jumps at 170 knots, 15,000 feet.</p> <p>(7) Four live jumps at 185 knots, 20,000 feet.</p> <p>(8) Four live jumps at 200 knots, 25,000 feet.</p> <p>c. <u>Turnaround Test</u> (In accordance with PIA 23028) The PPA will be unpacked, inspected, and repacked prior to each flight</p> <p>3. <u>INSPECTION</u></p> <p>a. Verify suspension lines break at a minimum of 400 pounds.</p> <p>b. Visually inspect nylon lines for defects</p> <p>c. Visually inspect stitching to verify the number of stitches per inch and for any defects</p> <p>d. Verify the breaking strength of thread.</p> <p><u>Turnaround Inspection</u>. (In accordance with PIA 23028)</p> <p>a. The PPA is unpacked, inspected, and repacked prior to each flight.</p> <p>b. Visually inspect nylon lines for defects</p> <p>c. Visually inspect stitching to verify the number of stitches per inch and for any defects</p> |

PREPARED BY: R. L. ALLISON, M. HERR

SUPERSEDING DATE 1

ED BY: J. O. SCHLOSSER

DATE: 8/7/89

CRITICAL ITEMS LIST

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SYSTEM: **CREW ESCAPE SYSTEM**

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| REF | REV | | | | | |
| 2 | 1 | SUSPENSION LINES, (12) SK1102436007 | 2/1R | 2.1.1 Mode: Lines break Cause: • excessive load • defective material | Possible canopy collapse if two or more lines break | <p>4. FAILURE HISTORY</p> <p>None. Nylon suspension lines are used on Department of Defense parachute systems.</p> <p>5. OPERATIONAL USE</p> <p>a. Operational Effect of Failure - Possible loss of life if two or more lines break</p> <p>b. Crew Action - None.</p> <p>c. Crew Training - Not applicable.</p> <p>d. Mission Constraints - None. Mission would be terminated prior to use of this hardware.</p> <p>e. In-Flight Checkout - None</p> |

PREPARED BY: **R. L. ALLISON, M. HERR**

SUPERSEDI DATE: **10/24/00**

APPROVED BY: **J. O. SCHLOSSER**

DATE: **01/18/99**