CRITICAL ITEMS LIST

ASSY NOMENCLATURE *PARACHUTE HARNESS* | SYSTEM: *CREW ESCAPE SYSTEM* | REVISION:

ASSY P/N: *SK1102450087* | SUBSYSTEM: *PERSONAL PARACHUTE ASSY.* | PAGE *77* OF *79*

FMEA REF	FMEA REV	NAME, QTY & DRAWING REF DESIGNATION	CRIT'Y	FAILURE MODE AND CAUSE	FAILURE EFFECT ON END ITEM	RATIONALE FOR ACCEPTANCE
7.4.2		EXTRACTION BRIDLE CUTTERS, (2) SK1102450087	2/1R	7.4.2 Mode: Bridle assembly separation cutter fails Cause: • defective material • aerodynamic loads fail to activate cutter • contamination of pyro mix	Parachute remains attached upon water entry if second cutter fails	1. DESIGN FEATURES TO MINIMIZE FAILURE MODE a The cutters are activated from the load on the Kevlar loop moving the cutter pulling the arming pin b. The force to activate the cutter is 35 ± 16 pounds per side c The loading on the bridle is 800 pounds minimum 2. TEST OR ANALYSIS TO DETECT FAILURE MODE a Acceptance Test. (1) Lot acceptance functional test, on a lot of 121 cutters, one unit at -65°F, one unit at 160°F, three units at 70°F (2) Pull force test at 35 ± 16 pounds (3) Delay time test at 1.5 ± 0.3 seconds b. Certification Test. (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 (5) Eight live jumps at 110 knots, 4 at 10,000 feet, 4 at 6,000 feet

PREPARED BY: R.L. ALLISON 81-W40

CRITICAL ITEMS LIST

ASSY NOMENCLATURE: *PARACHUTE HARNESS* SYSTEM: *CREW ESCAPE SYSTEM* REVISION:

ASSY P/N: *SK1102450087* SUBSYSTEM: *PERSONAL PARACHUTE ASSY.* PAGE *78* OF *79*

FMEA REF	FMEA REV	NAME, QTY & DRAWING REF DESIGNATION	CRIT'Y	FAILURE MODE AND CAUSE	FAILURE EFFECT ON END ITEM	RATIONALE FOR ACCEPTANCE
7.4.2		EXTRACTION BRIDLE CUTTERS, (2) SK1102450087	2/1R	7.4.2 Mode: Bridle assembly separation cutter fails Cause: • defective material • aerodynamic loads fail to activate cutter • contamination of pyro mix	Parachute remains attached upon water entry if second cutter fails	(6) Four live jumps at 170 knots, 15,000 feet (7) Four live jumps at 185 knots, 20,000 feet (8) Four live jumps at 200 knots, 25,000 feet (9) Ten firings at JSC TTA facility. c. Turnaround Test. (In accordance with PIA 23028) The PPA will be unpacked, inspected, and repacked prior to each flight 3. INSPECTION a. Visual inspection of all parts for defects. b. Verify pull test is within 35 ± 16 pounds c. Verify time delay test is within 1 S ± 0 3 seconds. d. Visual inspection of final assembly. e Verification of the physical and chemical test reports. Turnaround Inspection (In accordance with PIA 23028) a The PPA will be unpacked, inspected, and repacked prior to each flight b Verify dimensions between cutters during packing of PPA

PREPARED BY: *R. L. ALLISON, M. HERR* SUPERSEDING DATE: 11 'ED BY: *J. O. SCHLOSSER* DATE: *8/7/89*

CRITICAL ITEMS LIST

ASSY NOMENCLATURE: *PARACHUTE HARNESS* | SYSTEM: *CREW ESCAPE SYSTEM* | REVISION:

ASSY P/N: *SK1102450087* | SUBSYSTEM: *PERSONAL PARACHUTE ASSY.* | PAGE *78* OF *79*

FMEA REF	FMEA REV	NAME, QTY & DRAWING REF DESIGNATION	CRIT'Y	FAILURE MODE AND CAUSE	FAILURE EFFECT ON END ITEM	RATIONALE FOR ACCEPTANCE
7.4.2		EXTRACTION BRIDLE CUTTERS, (2) SK1102450087	2/1R	7.4.2 Mode: Bridle assembly separation cutter fails Cause: • defective material • aerodynamic loads fail to activate cutter • contamination of pyro mix	Parachute remains attached upon water entry if second cutter fails	4. FAILURE HISTORY None. The cutters are in fleet use by the Navy 5. OPERATIONAL USE a. Operational Effect of Failure - Possible loss of life if second cutter fails. b Crew Action - Cut suspension lines with shroud cutter. c. Crew Training - Crew is trained to perform the above procedure. d. Mission Constraints - None. Mission would be terminated prior to use of this equipment e. In-Flight Checkout - None

PREPARED BY: *R. E. ALLISON, M. HERR* | SUPERSEDING DATE 10/ | D BY: *F. O. SCHLOSSER* | DATE *8/7/89*