

CRITICAL ITEMS LIST

ASSY NOMENCLATURE: MAIN PARACHUTE REEFING CUTTERS
ASSY P/N: SR1102420087

SYSTEM: CREW ESCAPE SYSTEM

REVISION:

SUBSYSTEM: PERSONAL PARACHUTE ASSY

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FMEA		NAME, QTY & DRAWING REF DESIGNATION	CRIT'Y	FAILURE MODE AND CAUSE	FAILURE EFFECT OR END ITEM	RATIONALE FOR ACCEPTANCE
REF	REV					
451		REEFING CUTTERS, (2) SR1102420087	2/1R	4.5.1 Mode: Reefing cutter activation failure or activates late Cause: • defective material • contamination	Main chute remains reefed if second cutter fails	<p>1. DESIGN FEATURES TO MINIMIZE FAILURE MODES</p> <ul style="list-style-type: none"> a. The cutters are activated when the suspension lines pull the firing pin b. Either cutter will cut the reefing line in a 2-second time delay c. The force to activate the cutter is 17 ± 9 pounds. d. The loading from the suspension line is 45 pounds nominal <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) Random sampling for lot acceptance functional test at -65°F, 160°F, and 70°F. Acceptance testing is not required by the specification (2) Pull force test at 17 ± 9 pounds. (3) Delay time test at 2.0 ± 0.4 seconds 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: 10/

BY: J. D. SCHLOSSEK

DATE: 07/89

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4.5.1		REEFING CUTTERS, (2) SK1102420007	2/1R	4.5.1 Mode: Reefing cutter activation failure or activates late Cause: • defective material • contamination	Main chute remains reefed if second cutter fails	(5) Eight live jumps at 110 knots, 4 at 10,000 feet, 4 at 6,000 feet. (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 livings at JSC TTA facility c. <u>Turnaround Test</u> (In accordance with PIA 23028) The PPA will be unpacked, inspected, and repacked prior to each flight. 3. <u>INSPECTION</u> a. Visual inspection of all parts for defects b. Verify pull test is within 17 ± 9 pounds c. Verify time delay test is within 2.0 ± 0.4 seconds. d. Visual inspection of final assembly e. Verification of the physical and chemical test report <u>Turnaround Inspection</u> (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. J. ALLISON, M. HEAR

SUPERSEDING DATE: 10/2/88

APPROVED BY: J. D. SCHLOSSER

DATE: 8/7/89

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4.5.1		REEFING CUTTERS, (2) SK1102420007	2/1R	4.5.1 Mode: Reefing cutter activation failure or activates late Cause: a defective material a contamination	Main chute remains reefed 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 - None. c Crew Training - Not applicable d Mission Constraints - None. Mission would be terminated prior to use of this equipment e In-Flight Checkout - None.

PREPARED BY: R. L. ALLISON, M JIERR

SUPERSEDED DATE: 10/2/99

APPROVED BY: J. O. SCHLOSSER

DATE: 07/09