LIFESAVING SYSTEMS CORPORATION

LSC Test Report Number: F-730-930-T1
Revision: A

Static Load Test Report

P/N: #930-T1



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PURPOSE:

The purpose of this report is to verify the #930-T1 release device can withstand the static load requirements per FAA TSO-C167. Successful completion will confirm the device demonstrates the suitability and safety for use during helicopter hoist operations, including the deployment and recovery of persons (Human External Cargo).

To meet static load requirements of FAA TSO-C167 the entire harness must withstand certain directional loads. Since the #930-T1 release device is only attached at the end of the hoist strap, the load path shall remain the same though the harness as previously tested during initial compliance. Only the #930-T1 release device is tested in this report. The webbing used to mount the device in the pull tester shall be the same webbing as the harness's hoist strap. Hence, simulating the exact hoist strap configuration and assuring an equal level of safety.

TEST FACILITY:

Testing and inspection were performed at Lifesaving Systems Corporation's (LSC) manufacturing facility located in Apollo Beach, Florida by LSC personnel.

REFERENCES:

NFPA 1983	*Standard on Life Safety Rope and Equipment for Emergency Services, 2001 Edition*

SUMMARY OF TESTS PERFORMED & RESULTS:

Section	*Test Description*	*Results*
2.3	Static Load Test	The #930-T1 can withstand an upright 5,000lb load without ultimate failure or damage that would cause the safety of the user to be compromised. The secondary v-ring can withstand a 2,250lb load without failure in the upright and head down orientation.

SECTION 1- TEST CONDITIONS & EQUIPMENT:

1.1 ENVIRONMENTAL CONDITIONS

Load test shall be performed at a temperature of 75 ± 5°F, and a relative humidity of 50 ±15%.

1.2 TOLERANCES

The load cell tolerances shall be maintained within all applicable specified tolerances.

- 2000lbf ± 2lbf
- 4000lbf ± 3lbf
- 6000lbf ± 4lbf

1.3 INSTRUMENTS AND EQUIPMENT

LSC Tool No.	*Test Equipment*	*Description*	*Cal. Date*	*Cal. Due*
88	Cell, Load	Force Measurement: 10,000lb	7/03/2020	7/03/2021

1.4 CALIBRATION

The instruments and equipment are calibrated according to manufacturer's specifications and calibration is traceable to the National Institute of Standards and Technology (NIST). Calibration records are maintained on file at Lifesaving Systems Corp. Photograph of the load cell calibration sticker can be found in Section 3 of this report.

SECTION 2- STATIC LOAD:

2.1 SINGE V-RING ATTACHMENT- UPRIGHT

A force shall be applied to the #930-T1 with one V-ring attachment, increasing to 22k/N (4,946 lbf) over a period of 2 minutes, ±0.25 minute. This force shall be held for 1 minute, ±0.25 minute and then tension shall be completely released over a maximum of 1 minute. The force shall be reapplied immediately and shall be increased to 22 k/N (4,946 lbf) as before and held for 5 minutes, ±0.25 minute before release.

The #930-T1 shall be inspected to determine pass/fail. The device shall be considered to be damaged to the point of failing this test if any load-bearing material is torn or otherwise destroyed, if the Quad-LOK becomes nonfunctional, or any other condition exists that would cause the safety of the user to be compromised.

2.2 DUAL SPLIT V-RING ATTACHMENT- UPRIGHT AND HEAD DOWN

A force shall be applied to the #930-T1 with one V-ring in the upright orientation and the other V-ring in the head down orientation, increasing to 10k/N (2,248 lbf) over a period of 2 minutes, ±0.25 minute. This force shall be held for 1 minute, ±0.25 minute and then tension shall be completely released over a maximum of 1 minute. The force shall be reapplied immediately and shall be increased to 10k/N (2,248 lbf) as before and held for 5 minutes, ±0.25 minute before release.

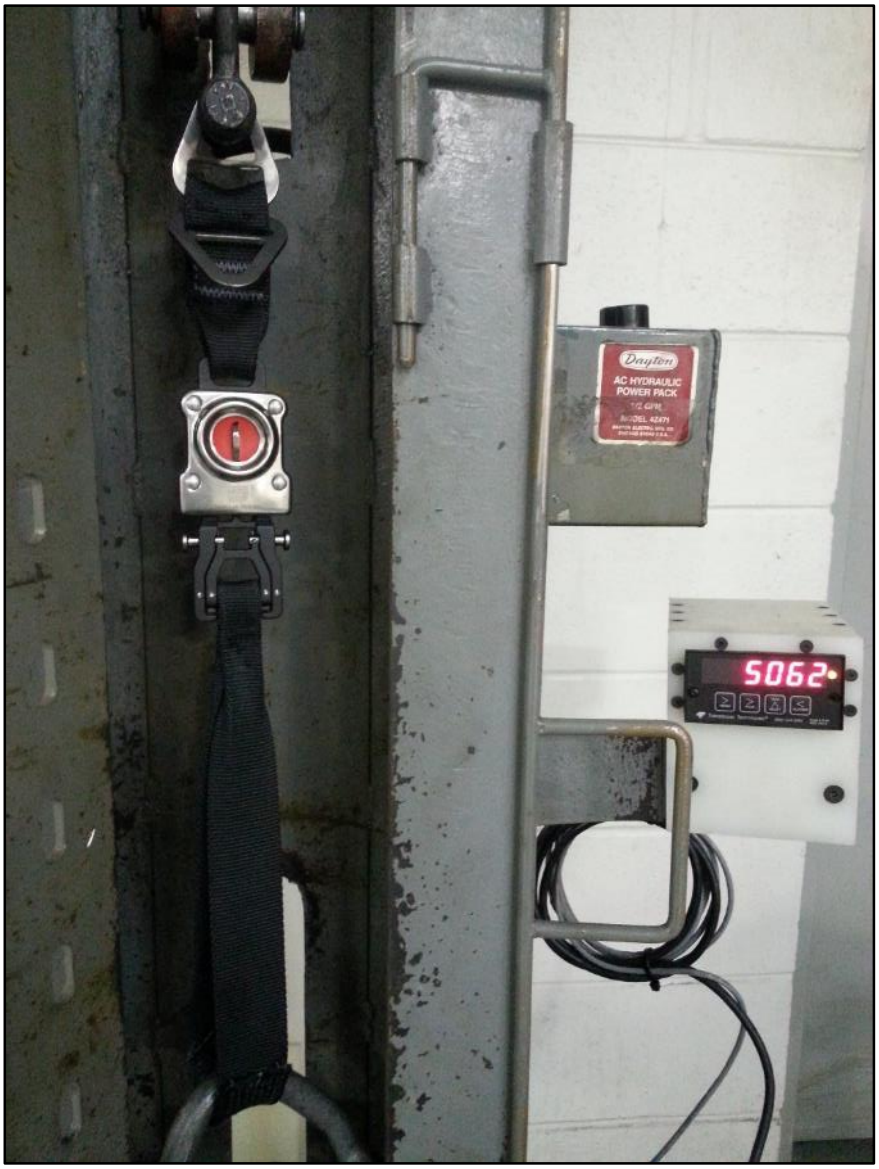
The #930-T1 shall be inspected to determine pass/fail. The device shall be considered to be damaged to the point of failing this test if any load-bearing material is torn or otherwise destroyed, if the Quad-LOK becomes nonfunctional, or any other condition exists that would cause the safety of the user to be compromised.

2.3 ANALYSIS OF RESULTS

Table1.

Pull Test	Target Load (lbf)	Load Cell Reading (lbf)	Pass/Fail	Comments
#1 - Upright (single V-ring)	4,946	5,062	PASS	V-ring deformation is not significant enough that would cause the safety of the user to be compromised at this load. No webbing or stitching failure Device is functional
#2 - Upright & Head Down	2,248	2,392	PASS	No material deformation of lower V-ring. No webbing or stitching failure

SECTION 3: PHOTOGRAPHS



Pull Test #1: Upright

Load: 5,062lbf



Pull Test #2: Upright and Head Down

Load: 2,392lbf



Photograph from initial harness load testing for reference.

Note: #930-T1 will be inline on the hoist strap in the new configuration. Load path shall remain the same.



Load Cell: Calibration Sticker