LIFESAVING SYSTEMS CORPORATION

LSC Test Report Number: F-730-362
Revision: A

Load Test- Slide Bar Adjustment Hardware

P/N: 362 and 362-H



PROPRIETARY & CONFINDENTIAL

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Document History				
Revision	**Issue Date**	**Description of Revision/Modification**	**Revised by**	**Approved by**
A	06-SEP-2020	Initial Release	-	RJ

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PURPOSE:

The purpose of this report is to show the load strength of the slide bar adjustment hardware part numbers 362 and 362-H. Successful completion shall confirm that the high tensile stainless steel 304 wire can withstand a greater force than the commercial grade stainless steel 304 wire.

ACRONYMS AND ABBREVIATIONS:

LSC – Lifesaving Systems Corp.
N/A – Not Applicable
P/N – Part Number
S/N – Serial Number
Lbf – Pound-Force
N – Newton

TEST FACILITY:

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

MATERIAL ANALYSIS:

#362: Stainless Steel 304 wire

#362-H: High Tensile, AISI Stainless Steel 304L, cold drawn wire (Black Oxide)

SUMMARY OF RESULTS:

Section	Test Description	Results
2.4	Limit Loads	The #362-H distorts at an approximate rate of 50% less than #362 during force loading. The high tensile wire is shown to be stronger.
	Ultimate Failure	The elasticity of #362-H is not as great as #362 so ultimate material failure occurs. However, the failure occurs at a greater force. The #362 elongates (at a lower force) which causes the webbing to slip and break on the knurled friction bar.

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%. The temperature and humidity shall be recorded at time of test.

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	6/4/2019	6/4/2020
57	RH/Temp Monitor	Temp and Humidity Monitor	6/3/2019	6/4/2020
85	Calipers	Dimensional Measurement:	1/2/2020	1/2/2021

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 2.5 of this report.

SECTION 2- LOAD TEST:

2.1 SCOPE

The load test is performed to determine the strength of the slide bar adjuster.

2.2 APPRATUS

- Hydraulic pull tester
- Load Cell
- Type-13 Mil-Spec Nylon Webbing

2.3 PROCEDURE

Step 1. Measure the overall height of the slide bar adjuster. This measurement shall be used to determine if distortion occurs. If the webbing slips or breaks at any time during the test it shall be marked as a failed test.

Step 2. Mount the slide bar adjuster with webbing straps inside the hydraulic pull tester by first looping one strap through the top grip.

Step 3. Mount the other end of the webbing strap attached to the bottom grip. The assembly shall be in a vertical orientation before load testing.

Step 4. Increase the force at a rate of 112lbf (500N) every 3 seconds until 1,000lbf (4.44kN) is reached or ultimate failure occurs.

Step 5. Release the force. Measure the height of the slide bar adjuster. Record results.

Step 6. Mount the assembly back into the pull tester. Pull the assembly to each target load and record results.

2.4 ANALYSIS OF RESULTS

362: Stainless Steel-304 wire

Target Load (lbf)	Adjuster Measurement Pre-Test (in)	Load Cell Reading (lbf)	Adjuster Measurement Post-Test (in)	Comment
1000	1.15”	1015	1.22”	.072” Distortion
1500	1.22”	1554	1.36”	0.21” Distortion
2000	1.36”	2027	1.42”	0.27” Distortion
2500	1.42”	2230	Failure	Wire distortion caused webbing to slip. Webbing began to break from friction on knurled bar.

362-H: High Tensile (AISI-304L Stainless Steel) wire

Target Load (lbf)	Adjuster Measurement Pre-Test (in)	Load Cell Reading (lbf)	Adjuster Measurement Post-Test (in)	Comment
1000	1.13”	1008	1.16”	.03” Distortion
1500	1.16”	1513	1.22”	.09” Distortion
2000	1.22”	2038	1.27”	.14” Distortion
3000	1.27”	2832	Failure	Wire failure

Temperature and Relative Humidity Reading: 76.5°F, 56%

2.5 PHOTOGRAPHS



P/N: 362: Setup in Pull Tester



P/N: 362-H: Setup in Pull Tester



P/N: 362: Webbing Failure
(2,230lbf)



P/N: 362-H: Ultimate Failure
(2,832lbf)



Load Cell: Calibration Sticker