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STATIC LOAD TEST REPORT

SUPER TALON SAFETY HOOK

511



PROPRIETARY & CONFINDENTIAL

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CONTENTS

CONTENTS 2
1.0 PURPOSE 3
2.0 PART DESCRIPTION 3
3.0 DESIGN AND MATERIAL 4
3.1 PART LIST 4
4.0 TEST REQUIRMENTS 5
4.1 MAJOR AXIS TESTING 5
5.0 TEST EQUIPMENT AND CALIBRATION 6
5.1 EQUIPMENT 6
6.0 RESULTS 7
7.0 SUMMARY 8
8.0 APPENDIX 9
8.1 TEST SAMPLE 1 9

1.0 PURPOSE

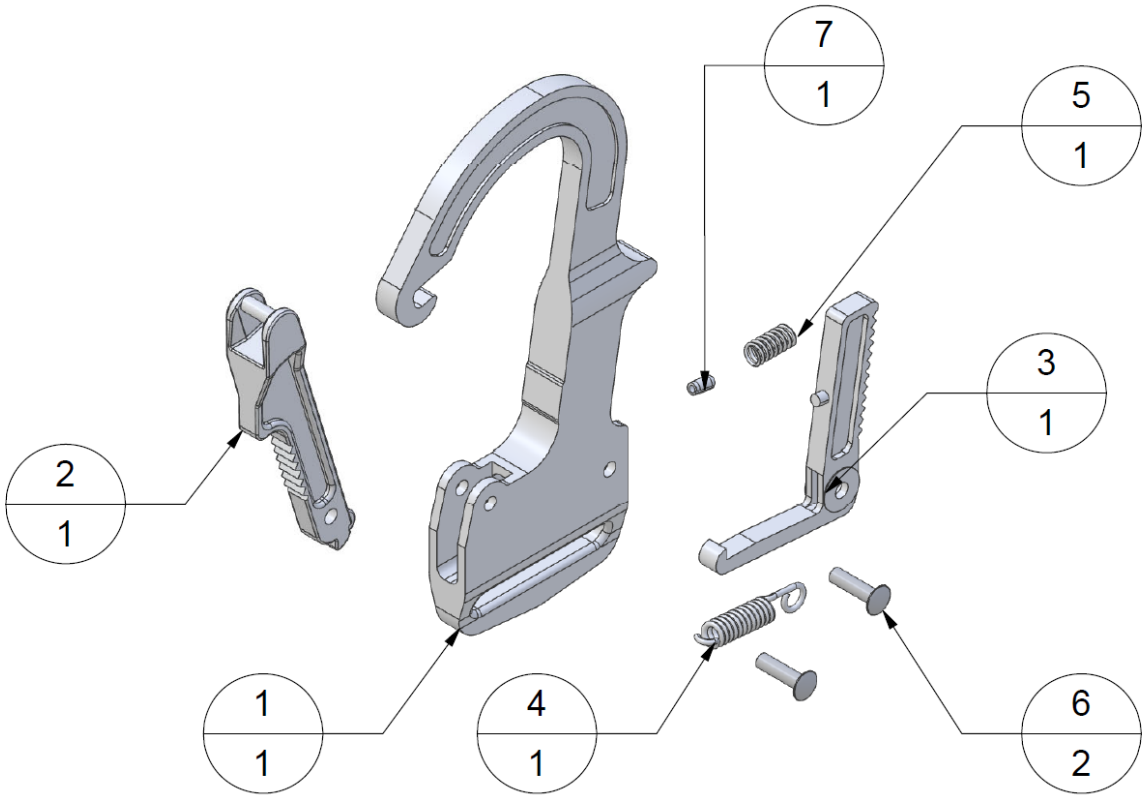
The purpose of this report is to prove that the 511 Super Talon Safety Hook meets the static load strength requirements stated in the ANSI Z359 4.3.1.1.1 Tensile testing of Snap hook and Carabiner Bodies. There will be one (1) sample part tested during this experiment.

2.0 PART DESCRIPTION

The part features a locking gate to reduce ring roll-out or inadvertent release. To open, simply press the latch on the spine and open the gate. After release, the spring loaded gate and latch return to the locked positions. Ergonomic design allows for easy grip and functioning with a single hand.

3.0 DESIGN AND MATERIAL

3.1 PART LIST



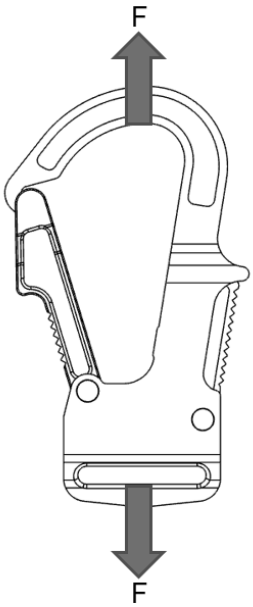
Item No	Part No	Part Description	Material	Qty.
1	511-01MH	MACHINED HOOK BODY, SUPER SALON	17-4 PH SS	1
2	511-02	GATE, SUPER TALON	304 SS	1
3	511-03	LATCH, SUPER TALON	17-4 PH	1
4	511-04	GATE SPRING	17-7 PH	1
5	511-05	LATCH SPRING	302 SS	1
6	511-06	RIVET, SEMI-TUBULAR	430 SS	2
7	H209	1/8” ROLL PIN	302 SS	1

4.0 TEST REQUIRMENTS

4.1 MAJOR AXIS TESTING

Major Axis Testing: Mount the connector in the tensile testing machine and apply the load which are arranged to be perpendicular to the major axis. The time to reach 3000lbs shall be greater than 1 minute to avoid dynamic effects. The rate of force application will be performed incrementally in steps of 500lbs every 6-10 seconds until the maximum force of 3000lbs is achieved. The part will then be measured and checked for permanent deformation and/or gate failure.

The procedure above will then be completed with a maximum force of 5000lbs and 8000lbs respectively.



F = Force

5.0 TEST EQUIPMENT AND CALIBRATION

5.1 EQUIPMENT

The primary testing equipment consists of the following items:

1. Force Measurement: 10,000lb S-Beam load cell with a digital gauge. Calibration sticker valid until 06/24/2022.





2. Load Tester: Hydraulic Cylinder

6.0 RESULTS

3000lbs				
Sample#	**Load (lbs)**	**Pass/Fail**	**Permanent Deformation**	**Gate Function**
1	3102	PASS	N	Y

5000lbs				
Sample#	**Load (lbs)**	**Pass/Fail**	**Permanent Deformation**	**Gate Function**
1	5097	PASS	N	Y

8000lbs				
Sample#	**Load (lbs)**	**Pass/Fail**	**Permanent Deformation**	**Gate Function**
1	7522	FAIL	Y	N

7.0 SUMMARY

From the results shown above, the test sample passed the static load test at both 3000lbs and 5000lbs with no measurable signs of permanent deformation. Also, the spring loaded gate and latch were functional at both 3000lbs and 5000lbs. However, there was permanent deformation in both the hook body and gate at 7522lbs which prevented the gate from disengagement. Moreover, the webbing broke at 7522 which prevented the load test of achieving 8000lbs.

8.0 APPENDIX

8.1 TEST SAMPLE 1



Figure 1. SETUP OF SAMPLE BEFORE LOAD TEST



Figure 2. SETUP OF SAMPLE AFTER 3000LBS



Figure 3. SETUP OF SAMPLE AFTER 5000LBS



Figure 4. SETUP OF SAMPLE AFTER 7500LBS



Figure 5. SAMPLE AND WEBBING AFTER FINAL TEST