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V-Ring Static Load Test Report

Part Number: 487-13F



PROPRIETARY & CONFINDENTIAL

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INTRODUCTION

The purpose of this report is to show the strength of the 487-13F load bearing V-Ring. Successful completion shall confirm the 487-13F demonstrates the suitability and safety for use on products designed to aid during helicopter hoist operations, including the deployment and recovery of both equipment and persons.

DESCRIPTION

The #487-13F V-Ring is made of forged corrosion resistant stainless steel. The V-Ring is sewn into the webbing loop of the design and serves as the load bearing lifting attachment point on equipment such as rescue harnesses and quick strops.



Quick Strop



Harness

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ACRONYMS AND ABBREVIATIONS

LSC: Lifesaving Systems Corp.
P/N: Part Number
kN: Kilonewtons
lbf: Pound-Force

SECTION 1 - SPECIFICATIONS

Material: Forged Corrosion Resistant Steel Alloy 17-4PH IAW SAE-AMS 5643

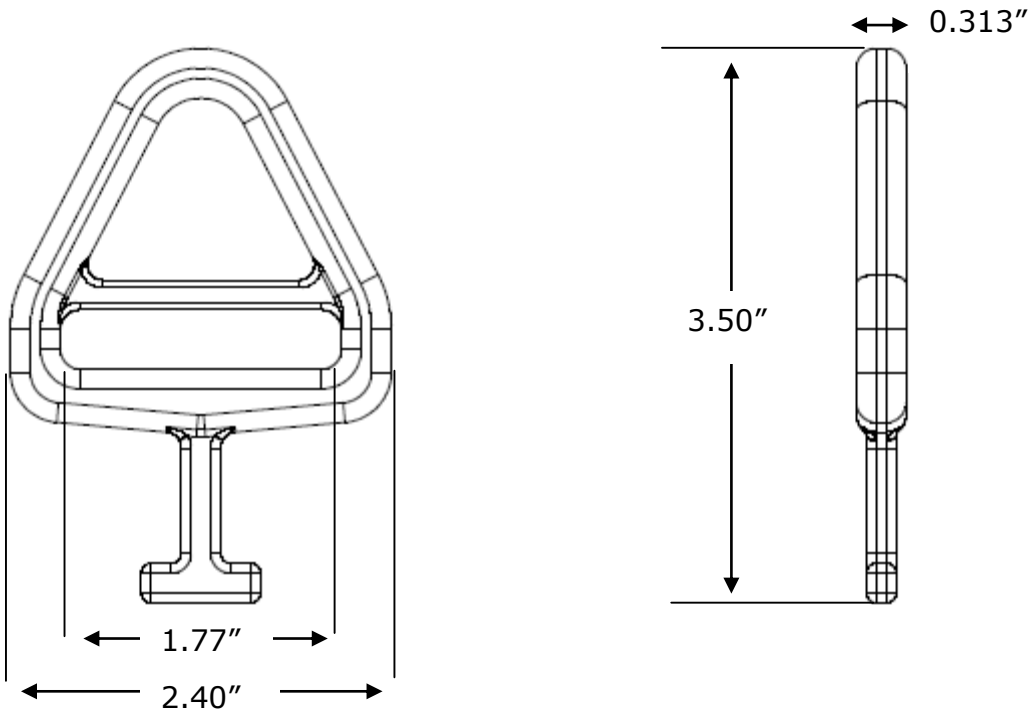
Heat Treatment: Solution Heat Treatment and Descaled IAW SAE-AMS 5643

Non-Destructive Inspection: Proof Load @ 4,000lbs (1,814kg)

Finish: Aluminum Oxide Blast

Passivate: Remove Surface Contamination & Maximize Corrosion Resistance

SECTION 2 – DEMINSIONS



SECTION 3 – STATIC LOAD TEST

3.1 Equipment

No.	Test Equipment	Description
1	Hydraulic Pull Tester	Force Application
2	10k S-Beam Load Cell	Force Measurement
3	Digital Caliper	Dimensional Measurement

3.2 Calibration

Test Equipment	Description	Calibration Due Date
10k S-Beam Load Cell	Force Measurement	5-18-2018
	• Force Measurement: 10,000lb S-Beam load cell (transducer) with one (I) each 0-10,000lbs.	
Test Equipment	**Description**	**Calibration Due Date**
Digital Caliper	Dimension Measurement	1-23-2018
	• Measurement: VINCA DCLA-0605 Electronic Digital Caliper.	

3.3 Procedure

1. The V-Ring shall be attached to the shackles inside the load tester.

2. Apply a force to the V-Ring in increments of 250lbf every 3 seconds until the target load is reached.

3. After the target load is reached, the force shall be dropped to zero and the V-Ring shall be visually inspected for cracks, deformation, and any defects.

4. The results shall be recorded.

5. The next target load shall be applied or until ultimate failure is reached. Results shall be recorded.

3.4 Test Data

Target Load	Pass/Fail	Notes
5,000lbf (22.2kN)	PASS	No Deformation or defects
6,000lbf (26.6kN)	PASS	No Deformation or defects
7,000lbf (31.1kN)	PASS	No Deformation or defects
8,000lbf (35.5kN)	PASS	No Deformation or defects
8,923lbf (39.6kN)	PASS	Very Slight Deformation 0.060” Dimensional Elongation

SECTION 4 - Test



V-Ring in Load Tester. (Pre-Test)



V-Ring Post-Test at Maximum Pull Limit.



8,923lbf MAX PULL

(Reached Load Tester Limit)

SECTION 5 – SUMMARY

The V-Ring can withstand a load force of 8,923lbs without failure.