

MALTA DYNAMICS, LLC TEST REPORT

SCOPE OF WORK

Performance Testing of Fall Arrest System (FAS)
to ASTM F2337 – 20 *Standard Test Method for Tree stand Fall Arrest System*

REPORT NUMBER

105469468CRT-001

ISSUE DATE

June 26, 2023

PAGES

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TEST REPORT FOR MALTA DYNAMICS, LLC

Report No.: 105469468CRT-001

Date Issued: June 26, 2023

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TEST STANDARD

Performance Testing of *Fall Arrest System (FAS)*
to ASTM F2337 – 20 *Standard Test Method for Tree stand Fall Arrest System*

AUTHORIZATION

Job Number: 105469468CRT-001
Quote Number: Qu-01362536
Purchase Order Number: PO4008
Purchase Order Date: 6/1/2023

PRODUCT DESCRIPTION

Product type: FAS
Brand Name: Malta Dynamics
Model Numbers: Hunter's Elite Ultralight (Youth Size)
Additional Models Covered: NA

SAMPLE INFORMATION

Dates Tested: 6/23/23 – 6/26/23
Dates Samples Received: 6/5/2023 6/5/23

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Date: June 26, 2023

SECTION 1**TEST PLAN SUMMARY**

SECTION	TEST	TEST DATES	STATUS
6.1	Dynamic Performance Test Procedure (Feet First)	6/26/2023	PASS
6.2	Dynamic Performance Test Procedure (Face First)	6/26/2023	PASS
7.0	Dynamic Strength Test Procedure (Face First)	6/23/2023	PASS
8.0	Climbing Belt Test	6/23/2023	PASS
9.0	Suspension Relief Device Test Procedure	6/23/2023	PASS
6.1	Dynamic Performance Test Procedure (Feet First) 50lb Weight	6/26/2023	PASS
11.5	Labels, Instructions	6/23/2023	PASS

SECTION 2**CONCLUSION**

“Simple Acceptance” rule, also called “Shared Risk approach” of ILAC-G8:09/2019 guide.

The statements of conformity are reported as:

- Passed – When the measured values are within the specified limits
- Failed – When one or more measured values are outside the specified limits”

This test report completes the testing covered by Proposal No 105469468CRT-001.

If there are any questions regarding the results contained in this report, or any of the other services offered by Intertek, please do not hesitate to contact the undersigned.

Please note: this Test Report does not represent authorization for the use of any Intertek certification marks.

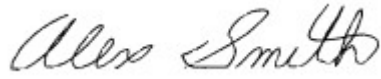
Date: June 26, 2023

**Project
Owner:**

Alex Smith

Title:

Technician

Signature:**Date**

6/26/2023

**Project
Reviewer:**

Matthew Stevens

Title:

Team Leader

Signature**Date:**

6/27/2023

SECTION 3**TEST EQUIPMENT INFORMATION****TEST EQUIPMENT:**

USED FOR TEST	DESCRIPTION	MANUFACTURER	CONTROL NO.	MODEL NO.	SERIAL NO.	CAL. DATE	CAL. DUE
X	Drop Test Structure	Intertek	NA	CAT. 3	-	N/A	N/A
X	TMA Torso(s)	NA	NA	220 lbs/ 300 lbs	-	VBU	VBU
X	Load Cell	Interface	G139	-	-	11/15/22	11/15/23
X	Tape Measure	Kolbalt	H338	16'	-	5/11/23	5/11/24

Date: June 26, 2023

SECTION 4**SYSTEM VERIFICATION INFORMATION**

SYSTEM VERIFICATION PRIOR TO TESTING			
THE SYSTEM INCLUDES:	Load Cell (G139)	NI Input Card	Labview Program
Attach weight to load cell	Weight (lbs) = 220 lbs		
Attach weight to load cell	Weight (lbs) = 300 lbs		
Record Weight	Weight Recorded (lbs) = 220.1		
Record Weight	Weight Recorded (lbs.) = 300.1		
Completed by and Date:	By: Alex Smith	Date: 6/23/2023 & 6/26/23	

SECTION 5**TEST DATA**

Section (Test)	Requirement	Results	Compliance																											
6.1	Dynamic Performance Test Procedure: (Feet First) -The test weight torso used during the performance test shall weigh 220 ± 2 lb. -The drop distance required is a distance of 6 ft or twice the maximum tether length or whichever is less. -The test weight torso shall be dropped “feet first” or otherwise released as if to simulate a free-fall from a tree stand platform Measure and record the maximum arrest force (MAF), and whether or not any test weight torso detaches from the harness. -After the drop, the test weight torso is to remain suspended by the FAS for a period of 2 min.	<table><tr><th colspan="3">Feet First</th></tr><tr><th colspan="3">Requirements per Section 6.1</th></tr><tr><td>Sample ID:</td><td colspan="2">1</td></tr><tr><td>Drop Height Dorsal Attachment Element</td><td>6</td><td>ft</td></tr><tr><td>Max Arrest Force (MAF)</td><td>1225</td><td>lbs</td></tr><tr><td>MAF Greater than 1800 Lbf?</td><td colspan="2">No</td></tr><tr><td>Release from the torso</td><td colspan="2">No</td></tr><tr><td>Support the torso for a period of 2-minutes post fall</td><td colspan="2">Yes</td></tr><tr><td>At least one fall arrest indicator deployed visibly and permanently</td><td colspan="2">Yes</td></tr></table>	Feet First			Requirements per Section 6.1			Sample ID:	1		Drop Height Dorsal Attachment Element	6	ft	Max Arrest Force (MAF)	1225	lbs	MAF Greater than 1800 Lbf?	No		Release from the torso	No		Support the torso for a period of 2-minutes post fall	Yes		At least one fall arrest indicator deployed visibly and permanently	Yes		PASS
Feet First																														
Requirements per Section 6.1																														
Sample ID:	1																													
Drop Height Dorsal Attachment Element	6	ft																												
Max Arrest Force (MAF)	1225	lbs																												
MAF Greater than 1800 Lbf?	No																													
Release from the torso	No																													
Support the torso for a period of 2-minutes post fall	Yes																													
At least one fall arrest indicator deployed visibly and permanently	Yes																													

Date: June 26, 2023

Section (Test)	Requirement	Results	Compliance																											
6.2	Dynamic Performance Test Procedure: (Face First) -The test weight torso used during the performance test shall weigh 220 ± 2 lb. -The drop distance required is a distance of 6 ft or twice the maximum tether length or whichever is less. -The test weight torso shall be dropped “Head first” or otherwise released as if to simulate a free-fall from a tree stand platform. -Measure and record the maximum arrest force (MAF), and whether or not any test weight torso detaches from the harness. - After the drop, the test weight torso is to remain suspended by the FAS for a period of 2 min.	<table><tr><th colspan="3">Face First</th></tr><tr><th colspan="3">Requirements per Section 6.2</th></tr><tr><td>Sample ID:</td><td colspan="2">2</td></tr><tr><td>Drop Height Attachment Element</td><td>6</td><td>ft</td></tr><tr><td>Max Arrest Force (MAF)</td><td>891</td><td>lbs</td></tr><tr><td>MAF Greater than 1800 Lbf?</td><td colspan="2">No</td></tr><tr><td>Release from the torso</td><td colspan="2">No</td></tr><tr><td>Support the torso for a period of 2-minutes post fall</td><td colspan="2">Yes</td></tr><tr><td>At least one fall arrest indicator deployed visibly and permanently</td><td colspan="2">Yes</td></tr></table>	Face First			Requirements per Section 6.2			Sample ID:	2		Drop Height Attachment Element	6	ft	Max Arrest Force (MAF)	891	lbs	MAF Greater than 1800 Lbf?	No		Release from the torso	No		Support the torso for a period of 2-minutes post fall	Yes		At least one fall arrest indicator deployed visibly and permanently	Yes		PASS
Face First																														
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Sample ID:	2																													
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MAF Greater than 1800 Lbf?	No																													
Release from the torso	No																													
Support the torso for a period of 2-minutes post fall	Yes																													
At least one fall arrest indicator deployed visibly and permanently	Yes																													
8.0	Climbing Belt Test Procedure: -The test weight torso used during the dynamic strength test shall weigh 300 ± 3 lb or the rated capacity of the harness ± 3 lb. -The climbing belt length shall be adjusted to a length that allows a horizontal gap distance of 24 ± 1 in. (610 mm) or the maximum length of the climbing belt, whichever is less, between test torso and pole -The test weight torso shall be raised to an elevation such that there is a 3± 1-in. (76-mm) horizontal gap distance between the test torso and the closest perimeter of the test pole while maintaining no slack (taut) in the adjusted climbing belt length. -Free-fall begins at this elevation point. In such a manner, the free-fall distance will result in an equivalent of twice (2×) its adjusted length in use. -After the drop, the test weight torso is to remain suspended by the FAS for a period of 2 min. -Inspect Sample for damage	<table><tr><th colspan="2">Suspension Relief Device Test Procedure:</th></tr><tr><th colspan="2">Requirements per Section 9.0</th></tr><tr><td>Sample ID:</td><td>3</td></tr><tr><td>Did the FAS Release from the Torso</td><td>No</td></tr><tr><td>Did the FAS hold for 2 min.</td><td>Yes</td></tr></table>	Suspension Relief Device Test Procedure:		Requirements per Section 9.0		Sample ID:	3	Did the FAS Release from the Torso	No	Did the FAS hold for 2 min.	Yes	PASS																	
Suspension Relief Device Test Procedure:																														
Requirements per Section 9.0																														
Sample ID:	3																													
Did the FAS Release from the Torso	No																													
Did the FAS hold for 2 min.	Yes																													

Date: June 26, 2023

Section (Test)	Requirement	Results	Compliance																																	
7.0	Dynamic Strength Test Procedure: -The test weight torso used during the dynamic strength test shall weigh 300 ± 2 lb. Or the rated capacity of the harness ± 3 lb. -The drop distance required is a distance of 6 ft or twice the maximum tether length or whichever is less. -The test weight torso shall be dropped “Head first” or otherwise released as if to simulate a free-fall from a tree stand platform. -After the drop, the test weight torso is to remain suspended by the FAS for a period of 2 min. - A FAS is considered failed during the dynamic strength test if the total fall distance is greater than 24.0 in - Connecting hardware is considered failed if it cracks breaks or has permanent deformation visible to the unaided eye. Some FAS use shock absorbers that are designed to tear or separate during their engagement. This type of apparent “damage” shall be considered normal for these systems and does not constitute failure.	<table><tr><th colspan="3">Feet First</th></tr><tr><th colspan="3">Requirements per Section 7.0</th></tr><tr><td>Sample ID:</td><td colspan="2">4</td></tr><tr><td>Drop Height Attachment Element</td><td>6</td><td>ft</td></tr><tr><td>Pretest Initial Height (A)</td><td>65”</td><td>inches</td></tr><tr><td>Post Test Final Height (B)</td><td>43”</td><td>inches</td></tr><tr><td>Harness (A-B ≥ 24 inches.)</td><td>22”</td><td>inches</td></tr><tr><td>Harness effect shall not exceed 24 Inches</td><td colspan="2">Yes</td></tr><tr><td>Release from the torso</td><td colspan="2">No</td></tr><tr><td>Support the torso for a period of 2-minutes post fall</td><td colspan="2">Yes</td></tr><tr><td>At least one fall arrest indicator deployed visibly and permanently</td><td colspan="2">Yes</td></tr></table>	Feet First			Requirements per Section 7.0			Sample ID:	4		Drop Height Attachment Element	6	ft	Pretest Initial Height (A)	65”	inches	Post Test Final Height (B)	43”	inches	Harness (A-B ≥ 24 inches.)	22”	inches	Harness effect shall not exceed 24 Inches	Yes		Release from the torso	No		Support the torso for a period of 2-minutes post fall	Yes		At least one fall arrest indicator deployed visibly and permanently	Yes		PASS
Feet First																																				
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Support the torso for a period of 2-minutes post fall	Yes																																			
At least one fall arrest indicator deployed visibly and permanently	Yes																																			
9.0	Suspension Relief Device Test Procedure: For the SRD type that attaches to the FAS, the FAS should be suspended from a rigid structure with the SRD properly attached to it according to the instructions. A static load equal to twice (2x) the rated capacity of the FAS shall be suspended from the intended center load point of the SRD and remain suspended for a period of 2 min. For the SRD type that attaches to the tree, the SRD should be attached to the vertical, rigid round wood pole (used for FAS testing) according to the instructions. A static load equal to twice (2x) the rated capacity of the FAS shall be suspended from the intended center load point of the SRD and remain suspended for a period of 2 min.	<table><tr><th colspan="2">Suspension Relief Device Test Procedure:</th></tr><tr><th colspan="2">Requirements per Section 9.0</th></tr><tr><td>Sample ID:</td><td>5</td></tr><tr><td>Did the FAS Release from the Torso</td><td>No</td></tr><tr><td>Did the FAS hold for 2 min.</td><td>Yes</td></tr></table>	Suspension Relief Device Test Procedure:		Requirements per Section 9.0		Sample ID:	5	Did the FAS Release from the Torso	No	Did the FAS hold for 2 min.	Yes	PASS																							
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Sample ID:	5																																			
Did the FAS Release from the Torso	No																																			
Did the FAS hold for 2 min.	Yes																																			

Date: June 26, 2023

Section (Test)	Requirement	Results	Compliance																																												
6.1	Dynamic Performance Test Procedure: (Feet First) -The test weight torso used during the performance test shall weigh 50lbs ± 2 lb. -The drop distance required is 6 ft or twice the maximum tether length or whichever is less. -The test weight torso shall be dropped “feet first” or otherwise released as if to simulate a free-fall from a tree stand platform Measure and record the maximum arrest force (MAF), and whether or not any test weight torso detaches from the harness. -After the drop, the test weight torso is to remain suspended by the FAS for a period of 2 min.	*Client Modified <table><tr><th colspan="3">Feet First</th></tr><tr><th colspan="3">Requirements per Section 6.1</th></tr><tr><td>Sample ID:</td><td colspan="2">1</td></tr><tr><td>Drop Height Dorsal Attachment Element</td><td>6</td><td>ft</td></tr><tr><td>Max Arrest Force (MAF)</td><td>779</td><td>lbs</td></tr><tr><td>MAF Greater than 1800 Lbf?</td><td colspan="2">No</td></tr><tr><td>Release from the torso</td><td colspan="2">No</td></tr><tr><td>Support the torso for a period of 2-minutes post fall</td><td colspan="2">Yes</td></tr><tr><td>At least one fall arrest indicator deployed visibly and permanently</td><td colspan="2">Yes</td></tr></table> *50lb used for this test per client request on the Energy Absorbing Lanyard Only	Feet First			Requirements per Section 6.1			Sample ID:	1		Drop Height Dorsal Attachment Element	6	ft	Max Arrest Force (MAF)	779	lbs	MAF Greater than 1800 Lbf?	No		Release from the torso	No		Support the torso for a period of 2-minutes post fall	Yes		At least one fall arrest indicator deployed visibly and permanently	Yes		PASS																	
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Support the torso for a period of 2-minutes post fall	Yes																																														
At least one fall arrest indicator deployed visibly and permanently	Yes																																														
Design																																															
11.5	Design <table><tr><th>Instructions</th><th>Comments</th><th>YES</th><th>NO</th><th>NA</th></tr><tr><td>The Label material shall be constructed of a material to allow the legibility and attachment of required markings to endure the life of the FAS being marked.</td><td></td><td>X</td><td></td><td></td></tr><tr><td>The methods of labeling so described herein shall be followed.</td><td></td><td>X</td><td></td><td></td></tr><tr><td>Labels or lettering, or both, shall be highly visible by use of the signal word “WARNING” with black letters on orange background.</td><td></td><td>X</td><td></td><td></td></tr><tr><td>Labels shall be placed such that they are visible to the intended viewer or user when wearing or donning, or both, the harness. The following placement locations are recommended: (1) on the tether or (2) on the front of a leg or shoulder strap.</td><td></td><td>X</td><td></td><td></td></tr><tr><td>The label shall contain: Year of manufacture. "Warning—Failure to discard and remove this FAS device from service after 5 years or less (see Note 2) from manufacture date or after arresting a fall could cause serious injury or death. NOTE 2—Five years is the maximum and less than 5 years is acceptable. Capacity rating. Part number and model designation. Manufacturer’s name or logo. Warning—Failure to read and follow manufacturer’s instructions could cause serious injury. Size of the harness (if applicable).</td><td></td><td>X</td><td></td><td></td></tr><tr><td>In addition to meeting the test criteria stated in 11.1 – 11.5, the FAS must be accompanied by an affidavit from the manufacturer stating that all material used in the manufacture of the FAS are certified to meet the material specifications of the manufacturer.</td><td></td><td>X</td><td></td><td></td></tr><tr><td>The affidavit must state that the manufacturer possesses material certifications to insure that materials from suppliers of strapping/webbing, hardware, thread, and any other load bearing component meet the manufacturers’ specifications.</td><td></td><td>X</td><td></td><td></td></tr><tr><td>11.6.2 Further, if subcontractors contribute to the manufacture of the FAS a certification of conformance to the manufacturing specifications by the manufacturer must accompany the affidavit.</td><td></td><td>X</td><td></td><td></td></tr></table>	Instructions	Comments	YES	NO	NA	The Label material shall be constructed of a material to allow the legibility and attachment of required markings to endure the life of the FAS being marked.		X			The methods of labeling so described herein shall be followed.		X			Labels or lettering, or both, shall be highly visible by use of the signal word “WARNING” with black letters on orange background.		X			Labels shall be placed such that they are visible to the intended viewer or user when wearing or donning, or both, the harness. The following placement locations are recommended: (1) on the tether or (2) on the front of a leg or shoulder strap.		X			The label shall contain: Year of manufacture. "Warning—Failure to discard and remove this FAS device from service after 5 years or less (see Note 2) from manufacture date or after arresting a fall could cause serious injury or death. NOTE 2—Five years is the maximum and less than 5 years is acceptable. Capacity rating. Part number and model designation. Manufacturer’s name or logo. Warning—Failure to read and follow manufacturer’s instructions could cause serious injury. Size of the harness (if applicable).		X			In addition to meeting the test criteria stated in 11.1 – 11.5, the FAS must be accompanied by an affidavit from the manufacturer stating that all material used in the manufacture of the FAS are certified to meet the material specifications of the manufacturer.		X			The affidavit must state that the manufacturer possesses material certifications to insure that materials from suppliers of strapping/webbing, hardware, thread, and any other load bearing component meet the manufacturers’ specifications.		X			11.6.2 Further, if subcontractors contribute to the manufacture of the FAS a certification of conformance to the manufacturing specifications by the manufacturer must accompany the affidavit.		X			PASS
Instructions	Comments	YES	NO	NA																																											
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SECTION 6
REVISION HISTORY

REPORT NUMBER	DATE OF REVISION	DESCRIPTION OF CHANGE:	PROJECT OWNER	REVIEWED BY
105469468CRT-001	6/26/2023	Original Report	Alex Smith	Matthew Stevens

SECTION 7
PHOTO(s)

