LIFESAVING SYSTEMS CORPORATION

LSC Test Report Number: F-730-13G-6
Revision: A

Flotation Attitude and Retention Test

(P/N: 740-MBT)



PROPRIETARY & CONFINDENTIAL

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PURPOSE:

This report documents the results of the flotation attitude and retention tests for the Osprey vest and inflatable collar per FAA TSO-C13G. The tests described herein are to be performed in accordance with the applicable requirements listed in SAE International Aerospace Standard (AS) 1354, Individual Inflatable Life Preserver, dated February 2016, as modified by Appendix 1 of the TSO. All tests are to be performed with volunteers that meet the physical height and weight limitations listed in the standard.

ACRONYMS AND ABBREVIATIONS:

LSC – Lifesaving Systems Corp.
N/A – Not Applicable
P/N – Part Number
S/N – Serial Number

REFERENCES:

Technical Standard Order TSO-C13G	*Life Preservers, dated February 3rd, 2017*
SAE International Aerospace Standard (AS) 1354	*Individual Inflatable Life Preserver, dated February 2016*

TEST FACILITY:

Testing and inspection were performed at Brandon Sports & Aquatic Center located in Brandon, Florida by LSC personnel and volunteers.

EQUIPMENT UNDER TEST:

Part Number	Description	Serial Number
745-M	Osprey Vest	607
740-B	Osprey Inflatable Collar	1908

TEST SUBJECTS:

Tests shall be conducted with a minimum of three test subjects. There shall be at least one 5th percentile female, and one 95th percentile male test subject (measured by weight and head circumference).

- A 5th percentile female is no more than 60 inches (1.5 m) tall and weighs no more than 113.2 pounds (51.4 kg) with a head circumference not greater than 20.67 inches (52.5 cm).
- A 95th percentile male is at least 73.7 inches (1.9 m) tall and weighs at least 243.9 pounds (110.7 kg) with a head circumference of at least 23.79 inches (60.4 cm).

Subject	Height	Weight	Head Circumference
Alyssa Lastra (5th percentile female)	60”	95lbs	19.5”
Anthony Knight (95th percentile male)	74”	246lbs	23.9”
David Betts (male)	_	_	_

See Appendix A: Participant signatures

SUMMARY OF TESTS PERFORMED & RESULTS:

Section	Test Description	Results
2.1	Flotation Attitude Test	The Osprey vest provides buoyancy such that the mouth and nose of a completely relaxed wearer are kept above the water line.
2.2	Retention Test	The Osprey vest did not cause injury to the wearer and no damage occurred as a result of the jump.

SECTION 1- TEST REQUIREMENTS:

1.1 FLOTATION ATTITUDE (5.5)

(3.11.1) The life preserver shall provide buoyancy such that the mouth and nose of a completely relaxed wearer are kept above the water line. If more than one flotation chamber is utilized, the life preserver shall support the wearer in the flotation attitude specified with no more than half of its flotation chambers inflated, while the other flotation chamber is fully deflated. This shall be demonstrated in accordance with the Flotation Attitude Test procedure in 5.5.1.

(5.5.1) This test shall be conducted with a minimum of three test subjects. There shall be at least one 5th percentile female, and one 95th percentile male test subject. The life preserver shall provide buoyancy such that the wearer, when face down and limp in the water, will be brought to a face-up attitude with the mouth and nose above the water line. The test subjects shall remain limp throughout the test. This test may be performed in still water.

1.2 RETENTION (5.4)

(5.4.1) The adult, adult-child, and child category life preserver shall remain inflated, secured, and not cause injury to a wearer jumping into the water from a height of at least 5 feet (1.52m) above the water. The means of adjustment shall be adjusted for a snug fit. There shall also be no damage to the life preserver as a result of the jump.

This test shall be conducted using a minimum of three test subjects. There shall be at least one 5th percentile female and one 95th percentile male test subject (measured by weight and head circumference).Test subjects shall not use their hands or arms to aid in the retention of the life preserver (i.e., the test subjects shall not hold the life preserver with their hands or fold their arms around the inflatable chambers, entering the water feet first with hands/arms down at their sides) during the test.

SECTION 2- TEST RESULTS:

2.1 FLOTATION ATTITUDE

Osprey Vest has dual flotation chambers.

Visual Examination Table:

Inspection Criteria	Subject	Pass/Fail	Witnessed By:
The test subjects shall remain limp throughout the test.	5th percentile female	PASS	
	95th percentile male	PASS	
	male	PASS	
The life preserver shall support the wearer in the flotation attitude specified with no more than half of its flotation chambers inflated, while the other flotation chamber is fully deflated.	5th percentile female	PASS	
	95th percentile male	PASS	
	male	PASS	
Test performed in still water.	5th percentile female	PASS	
	95th percentile male	PASS	
	male	PASS	
When face down and limp in the water, the subject will be brought to a face-up attitude with the mouth and nose above the water line.	5th percentile female	PASS	
	95th percentile male	PASS	
	male	PASS	

2.2 RETENTION

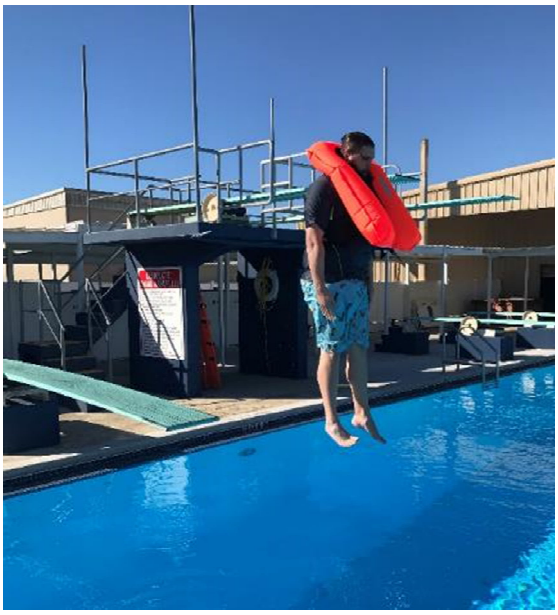
Visual Examination Table:

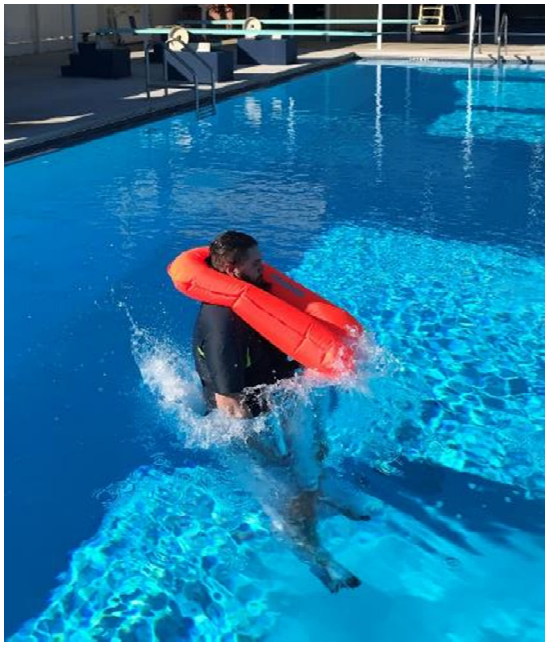
Inspection Criteria	Subject	Pass/Fail	Witnessed By:
The means of adjustment shall be adjusted for a snug fit.	5th percentile female	PASS	
	95th percentile male	PASS	
	male	PASS	
Test subjects shall not use their hands or arms to aid in the retention of the life preserver	5th percentile female	PASS	
	95th percentile male	PASS	
	male	PASS	
Life preserver shall remain inflated, secured, and not cause injury to the wearer jumping into the water from a height of at least 5 feet (1.52m) above the water.	5th percentile female	PASS	
	95th percentile male	PASS	
	male	PASS	
There shall be no damage to the life preserver as a result of the jump.	5th percentile female	PASS	
	95th percentile male	PASS	
	male	PASS	

SECTION 3- PHOTOGRAPHS:

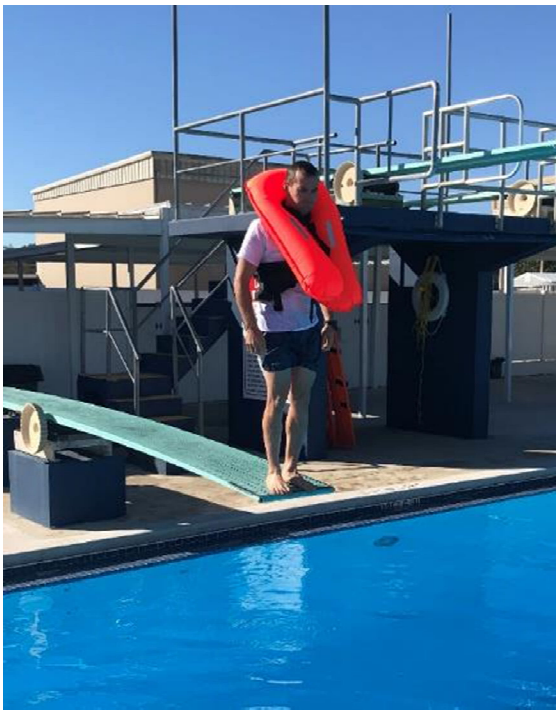
NOTE: HEIGHT OF BOARD TO WATER SURFACE IS 5ft.



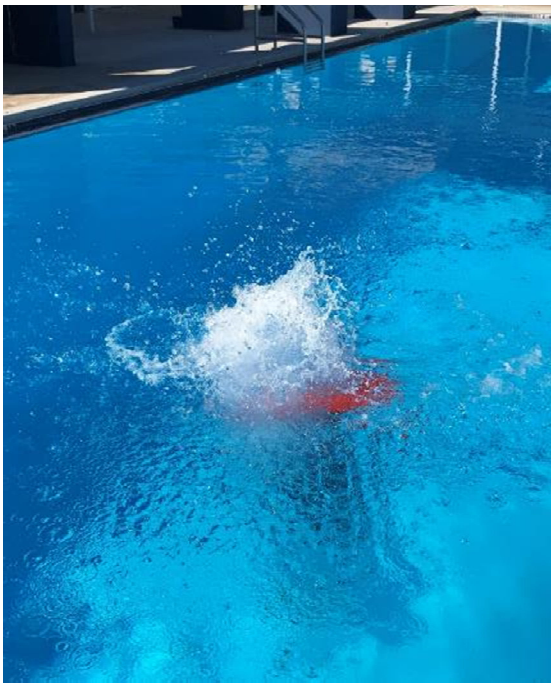




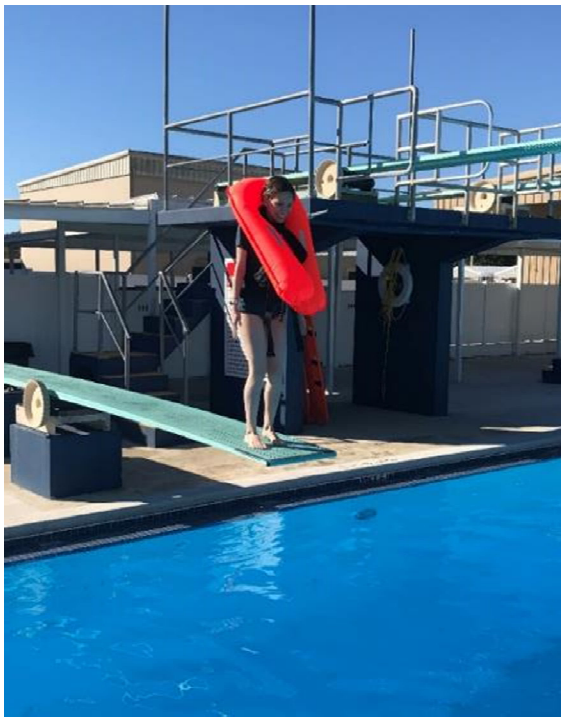


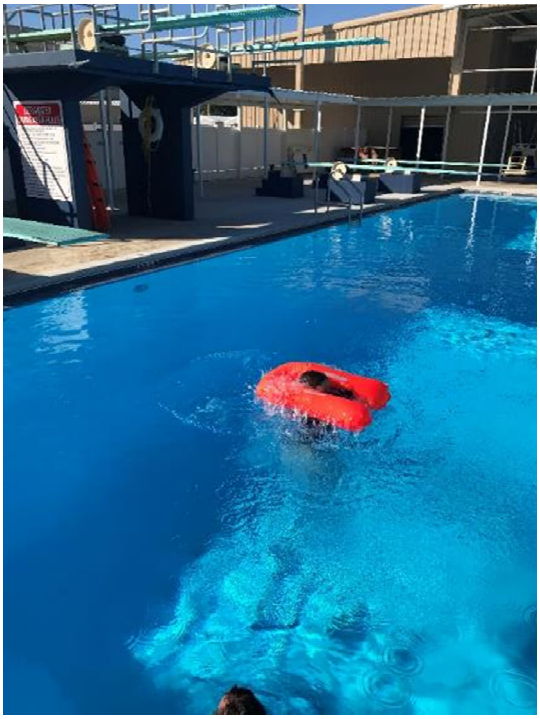


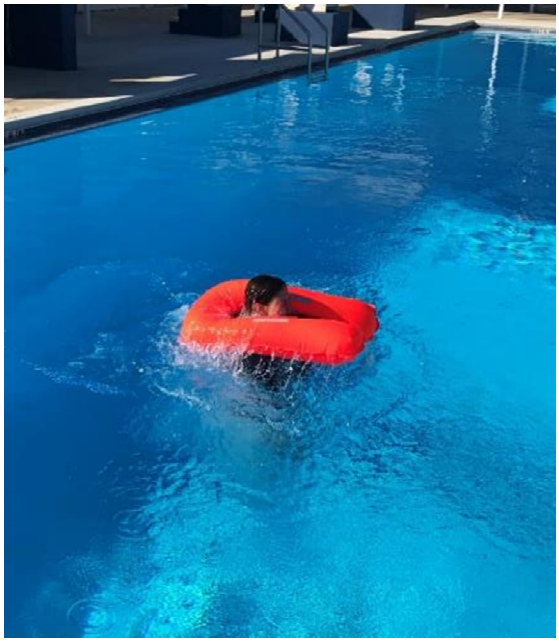


























Appendix A:

95th percentile male is at least 73.7 inches (1.9 m) tall and weighs at least 243.9 pounds (110.7 kg) with a head circumference of at least 23.79 inches (60.4 cm).

5th percentile female is no more than 60 inches (1.5 m) tall and weighs no more than 113.2 pounds (51.4 kg) with a head circumference not greater than 20.67 inches (52.5 cm).

Signature: 

Print Name: Anthony Knight

(95th Percentile Male)

Height	Weight	Head Circumference
74"	246lbs	23.9"

Signature: 

Print Name: Alyssa Lastra

(5th Percentile Female)

Height	Weight	Head Circumference
60"	95lbs	19.5"