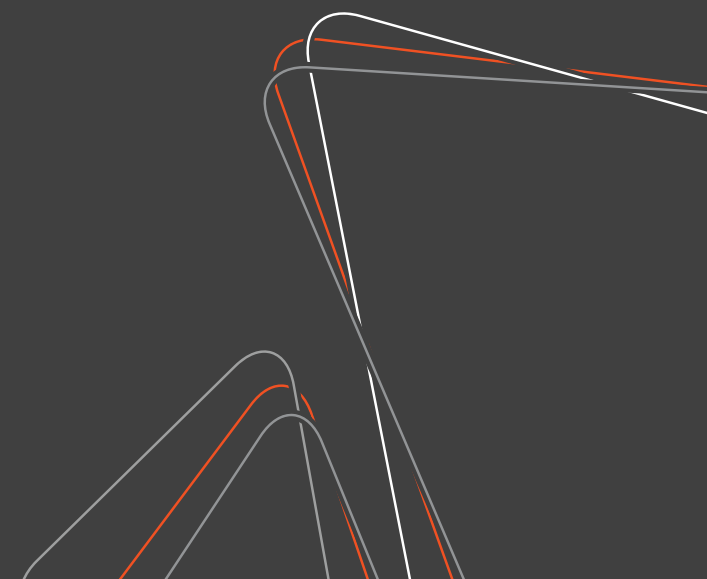
LASERPERFORMANCE

OWNER'S MANUAL

Owner's Manual for Single Handed Dinghies, Small Craft and Catamarans



Join LaserPerformance LDA

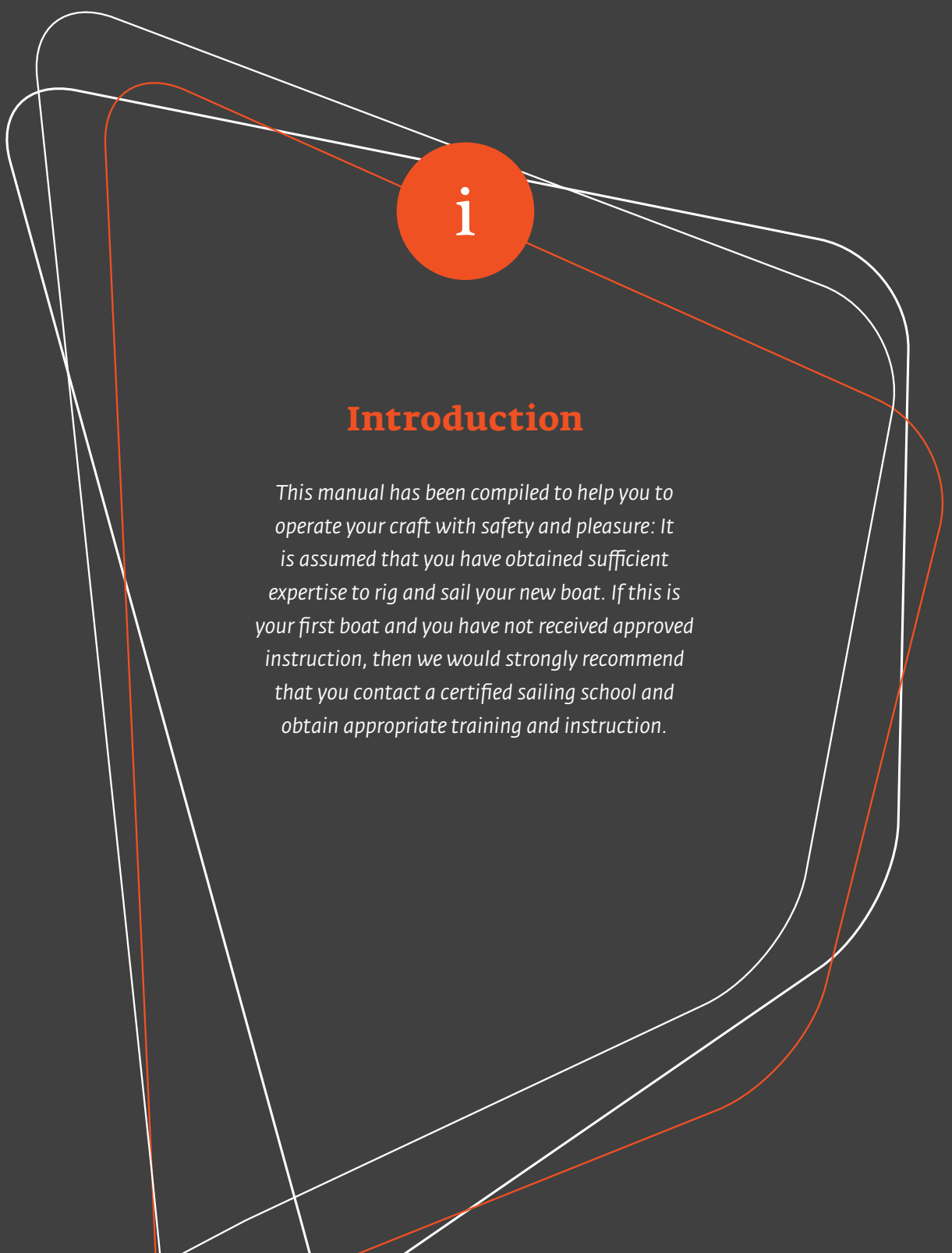
Hit the waters with millions of your closest friends

LaserPerformance Unipessoal Lda

Is all about connecting and supporting dinghy owners worldwide. By joining LPLDA, you will enter a community of diverse sailors united by a common passion.

LaserPerformance Unipessoal Lda *provides all dinghy sailors with access to resources and support intended to make the most of boat ownership. LPLDA members will have exclusive access to instructive features, community activities, forums, product information, product promotions and sales specials sponsored by LaserPerformance.*

Contents



Introduction

This manual has been compiled to help you to operate your craft with safety and pleasure: It is assumed that you have obtained sufficient expertise to rig and sail your new boat. If this is your first boat and you have not received approved instruction, then we would strongly recommend that you contact a certified sailing school and obtain appropriate training and instruction.

Please keep this manual in a secure place,
and hand it to the new owner when you sell the boat

Please take note of the following dangers:

The mast is metal and is an electrical conductor, contact with overhead electrical wires could be fatal, please exercise extreme caution when raising the mast, launching and sailing.

Always wear a suitable C.E. or USCGA approved personal buoyancy jacket.

Always ensure that the rudder retaining clip is operating correctly and the split ring is fitted, so that the rudder cannot fall off in the event of a capsize.

All wire rigging, ropes, spars and fittings should be regularly inspected for 'wear and tear' or damage.

Always ensure that shackles are done up tight and split rings are not distorted.

Always check that the transom bung and hatches are done up tight and all fittings are secure.

If transporting your boat on the roof of your car ensure that you do not exceed the maximum roof rack load of your car.

If transporting your boat by road trailer ensure that the load does not exceed the permitted axle weight of the trailer.

Always ensure that you sail with the minimum number of people to recover the boat after a capsize.

Always inform someone else of your intentions before going afloat.

Do not exceed the maximum number of persons OR the maximum load as detailed in this manual.

Do not puncture air tanks with additional fittings.

Always rig your craft in accordance to the rigging manual provided separately with your craft. In the sport of sailing there is a risk of finger or toe entrapment between moving components.
Ie. Rudder stock, rudder blade and tiller. Centerboard/Keel and casing, boom and mast, traveller and car, mast heel hinge point and gate or step location, blocks and running rigging. Appropriate care and caution is required.

Sailing barefoot can lead to injury. LaserPerformance recommend that suitable shoes are worn when using LaserPerformance products.

In the sport of sailing there is a risk of being hit on the head with the boom whist rigging or maneuvering the boat. Appropriate care and caution is required.

Capsize, Inversion and Entrapment

WARNING

RISK OF CAPSIZE

Capsize

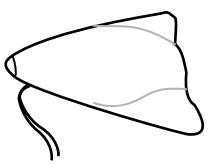
With all sailing dinghies and catamarans there is a risk of capsize. Capsizing is part of the sport of sailing and part of the risk and fun. The following guide lines will help you recover from a capsize. However, LaserPerformance strongly advise that you obtain professional training from approved sources to ensure competency.

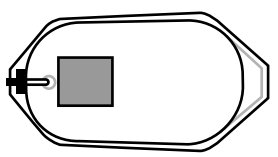
Inversion

When a boat capsizes there is a risk of inversion. The guide will show you how to recover and re-board successfully.

Mast head floatation

To reduce the speed of inversion LaserPerformance offer 3 optional forms of mast head buoyancy. Mast head buoyancy will not prevent inversion, but slow it down to give you more time to stop the boat inverting before you pull it up-right. (See table for boat specific applications)





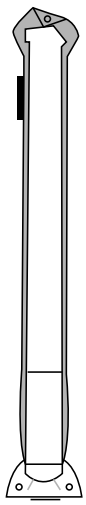
Entrapment

It is possible when a boat inverts to get trapped under the up-turned hull. This can be dangerous particularly if your limbs or clothing get entangled with ropes or the trapeze gets caught on standing or running rigging. To reduce the risk of entrapment LaserPerformance would draw your attention to the following guidelines provided by the Royal Yachting Association (RYA):

1. Keep control lines short, tidy and maintain shock cord elastic so it does its job.
2. Carry a very sharp knife, easily accessible, preferably serrated knife.
3. Always ensure good housekeeping and seamanship.
4. Always use a trapeze harness with a quick release hook.

Mast Float Usage & Fitment Recommendations

The greater the volume of the mast float used,
the higher the inversion resistance it will provide.



9 LITRE

INFLATABLE MAST FLOAT
(Heavy duty fabric construction)

Part Code # 90718

The single eyelet at the top of the float should be tied directly to the sails mast head cap webbing using a short piece of 4mm diameter rope.

A second piece of the same rope should then used to tie a small bow- line loop which passes through both the eyelets at the bottom of the float.

The resulting rope tail should then be passed down the front face of the mast before being tensioned and cleated or tied to the bridge piece of one of the clam cleats in the region of the gooseneck.

40 LITRE

INFLATABLE MAST FLOAT
(Heavy duty fabric construction)

Part Code # 90720

With the mainsail ready to hoist:

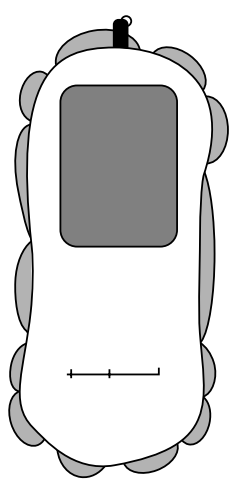
Form a short loop in the end of the halyard and pass the loop through the eye in the head of the mainsail.

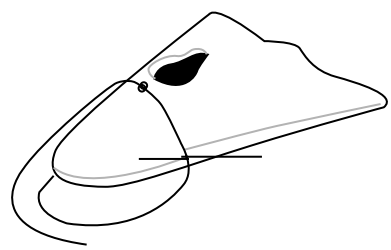
Pass the loop through the stainless"D" ring on the end of the mast float.

Pass the bobble (on the very end of the halyard) through the aforementioned emerging loop and pull the body of the halyard backwards firmly to secure.

Hoist the mainsail to the desired height before cleating. (You may be reefed).

Note: This mast float only supports attachment at one end so fitment parallel to the mast is not possible.





15 LITRE

MAST FLOAT
(Heavy Duty Rotor Moulded Construction)

Part Code # 90530

Apply the self adhesive neoprene strip to the top of the mast. This should be butted up to the top edge of the aluminium and not onto the mast head fitting.

Place the mast head float onto the mast head with the narrow end to the front of the mast. Thread the rope through the lacing eye on the front of the mast head float and the front of the mast.

Securely tie the mast head float onto the mast.

	9L	40L	LASER 15L
Funboat	✓	N/A	N/A
Sunfish	✓	N/A	N/A
Laser	N/A	N/A	N/A
Dart 16	✓	✓	N/A
Z420	✓	✓	N/A
C420	✓	✓	N/A
Cascais	✓	N/A	N/A
Club FJ	✓	✓	N/A

WARNING

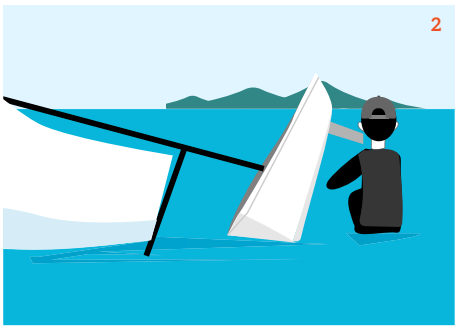
Mast floatation devices are only an aid to slow the rate of inversion in the event of a capsize. They do not guarantee to stop complete inversion of your craft. Also, be aware that prevailing conditions including tide, wind, swell, waves and/or incorrect fitment can have an adverse effect on their performance.

Capsize Recovery and Reboarding

Single Handed Dinghy

1 Stand on the lip of the hull. Holding onto the centreboard, lean backwards to pull the hull upright.

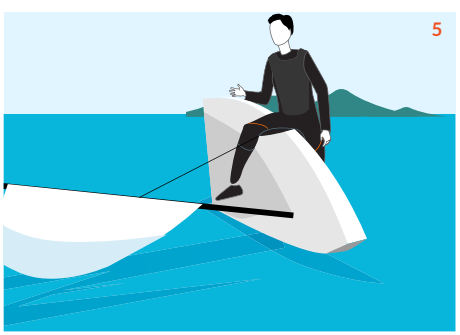
2 Continue to hold the centreboard as the mast rises out of the water.



3 As the boat comes upright, reach into the cockpit and pull yourself back into the boat.

4 To reboard, if you are agile, you can climb onto the centreboard as the boat capsizes.

5 Step back into it from the centreboard as it comes upright. If you are not, climb in over the transom.



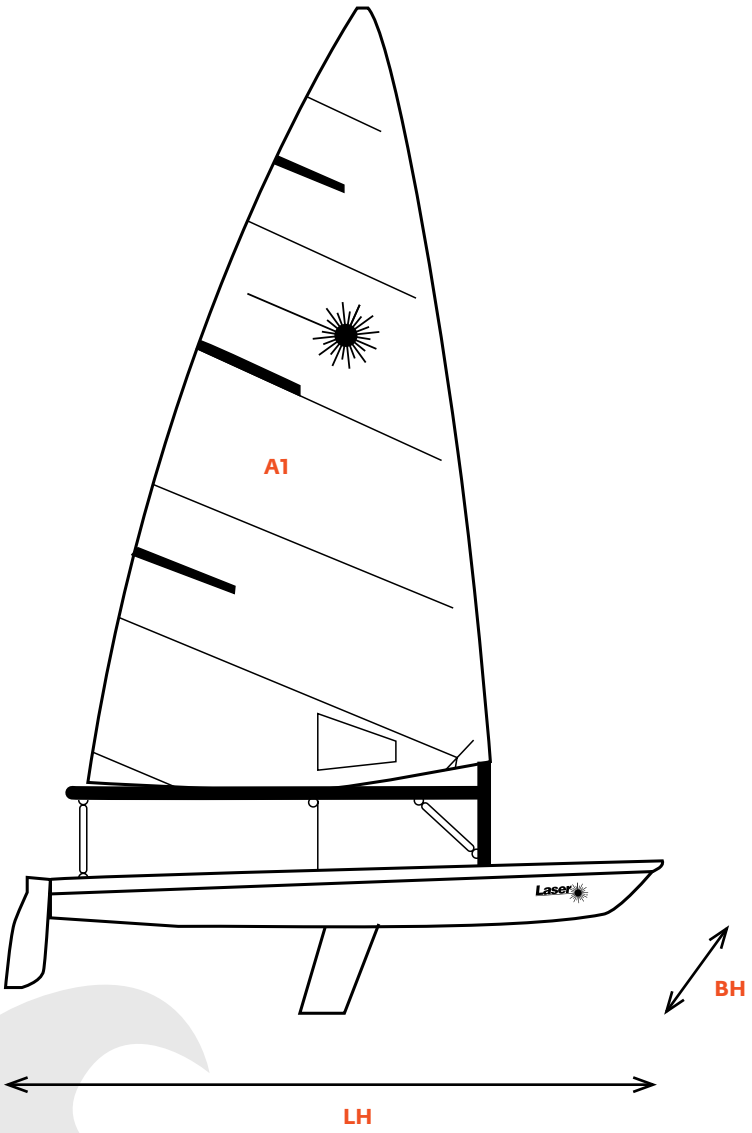
Always keep hold of the boat.

Capsize Recovery and Reboarding

Single Handed Dinghy

		LASER C		SUNFISH C		FUNBOAT C	
A1	*Main sail area*	4.7 – 7.06	m²	6.97	m²	4.8	m²
A2	*Jib area*	-	m²	-	m²	-	m²
LH	*Length of hull*	4.21	m²	4.24	m²	3.90	m²
BH	*Beam of hull*	1.37	m	1.25	m	1.25	m
D	*Unladen weight*	81	m	80	m	94	m
ML	*Maximum load*	175	Kg	160	Kg	175	Kg
CR	*Minimum crew for capsize*	78	Kg	68	Kg	72	Kg
CL	*Maximum number of persons*	2	Kg	2	Kg	2	Kg
***MRE**	*Maximum recommended engine*	N/A		N/A		N/A	
***ECN**	*EC type-examination certificate number*	HPIVS/R1179-001-I-01		HPIVS/R1179-001-I-08		HPIVS/R1179-001-I-04	
***DI**	*Date of issue*	05/31/2017		05/31/2017		05/31/2017	

Principal Dimensions for Single Handed Dinghies



Category C: Designed for voyages in coastal waters, large bays, estuaries, lakes and rivers where conditions up to and including, wind force 6 and significant wave height up to and including, 2m may be experienced.

Category D: Designed for voyages on sheltered coastal waters, small bays small lakes, rivers and canals where conditions up to and including wind force 4 and significant wave heights up to and including 0.3m may be experienced, with occasional waves of 0.5m maximum height.

ML: Maximum Load. This is the total weight in kg of all the crew and their luggage. The maximum load should never be exceeded.

CL: Maximum number of persons. This should never be exceeded. Note: The total weight of all the persons on board should never exceed the maximum load (ML) in kg.

Capsize Recovery and Reboarding

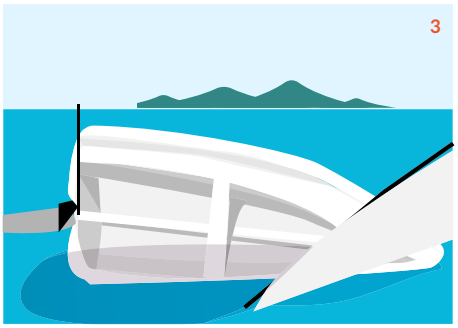
Multi-person Small Craft

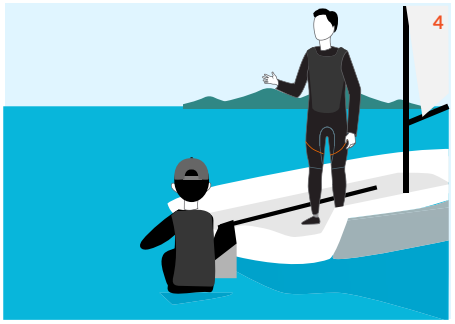
1 To recover from a full inversion. One crew member should hold onto the centreboard and pull backwards. The other crew member can take a jib or genniker sheet over the top side of the hull and pull backwards whilst standing on the lip of the hull.

2 When the boat is on its side, one crew can pull the boat upright with the help of the righting line or jib sheet.

3 At the same time the other crew positions themselves inside the cockpit. They will get "scooped up" into the boat as it comes upright.

4 To reboard – The other crew can either climb over the edge of the boat as it comes upright or climb in over the transom.





Always keep hold of the boat.

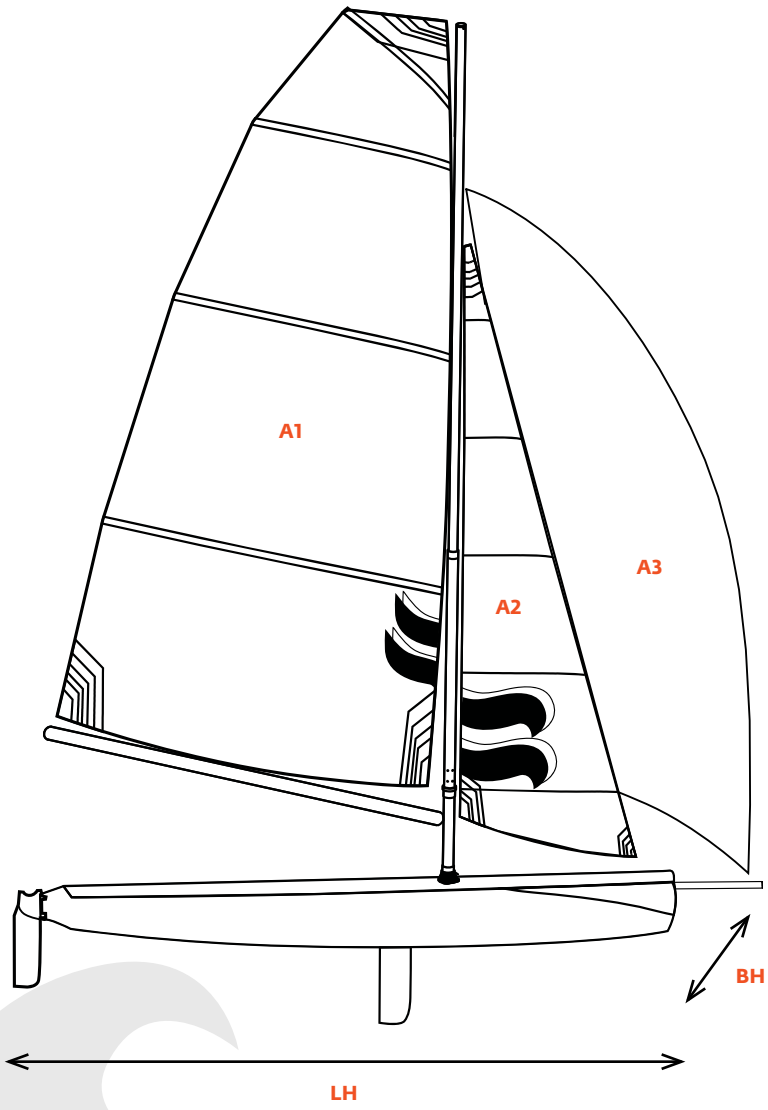
Capsize Recovery and Reboarding

Multi-person Small Craft

		CASCAIS C		CLUB FJ C	
A1	*Main sail area*	5.58 - 6.97	m²	5.9	m²
A2	*Jib area*	1.62 - 1.77	m²	3.4	m²
A3	*Gennaker area*	6.3 - 8.69	m²	7.43	m²
LH	*Length of hull*	3.7	m	4.05	m
BH	*Beam of hull*	1.56	m	1.25	m
D	*Unladen weight*	98	Kg	100.0	Kg
ML	*Maximum load*	300	Kg	262	Kg
CR	*Minimum crew for capsize*	55	Kg	N/A	Kg
CL	*Maximum number of persons*	4		2	
***MRE**	*Maximum recommended engine*	N/A		N/A	
***ECN**	*EC type-examination certificate number*	HPIVS-IR1179-006-L-01-00		N/A	
***DI**	*Date of issue*	31/08/2021		N/A	

		C420 C		Z420 C	
A1	*Main sail area*	7.40	m²	7.40	m²
A2	*Jib area*	2.8	m²	2.8	m²
A3	*Gennaker area*	8.83	m²	8.83	m²
LH	*Length of hull*	4.24	m	4.24	m
BH	*Beam of hull*	1.68	m	1.68	m
D	*Unladen weight*	136.0	Kg	136.0	Kg
ML	*Maximum load*	262	Kg	262	Kg
CR	*Minimum crew for capsize*	N/A	Kg	N/A	Kg
CL	*Maximum number of persons*	3		3	
***MRE**	*Maximum recommended engine*	N/A		N/A	
***ECN**	*EC type-examination certificate number*	N/A		HPIVS/R1179-001-I-02	
***DI**	*Date of issue*	N/A		N/A	

Principal Dimensions for Small Craft



Category C: Designed for voyages in coastal waters, large bays, estuaries, lakes and rivers where conditions up to and including, wind force 6 and significant wave height up to and including, 2m may be experienced.

Category D: Designed for voyages on sheltered coastal waters, small bays small lakes, rivers and canals where conditions up to and including wind force 4 and significant wave heights up to and including 0.3m may be experienced, with occasional waves of 0.5m maximum height.

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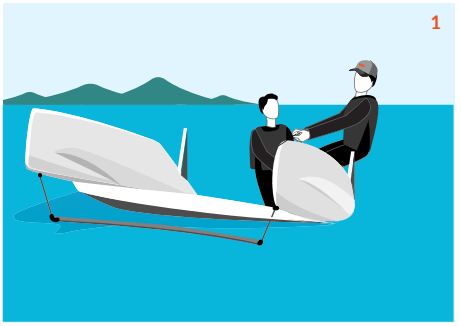
CL: Maximum number of persons. This should never be exceeded. Note: The total weight of all the persons on board should never exceed the maximum load (ML) in kg.

Capsize Recovery and Reboarding

Multi-hull

1 To recover from a full inversion sink the leeward hull.

2 As the hull comes up move forward. Take a jib sheet or righting line and lean back to pull the boat upright.



3 One crew should stay under the boat and hold onto the righting line or handles in the trampoline to stabilize the boat. The other crew can climb onto the platform over the front beam as the boat comes upright.

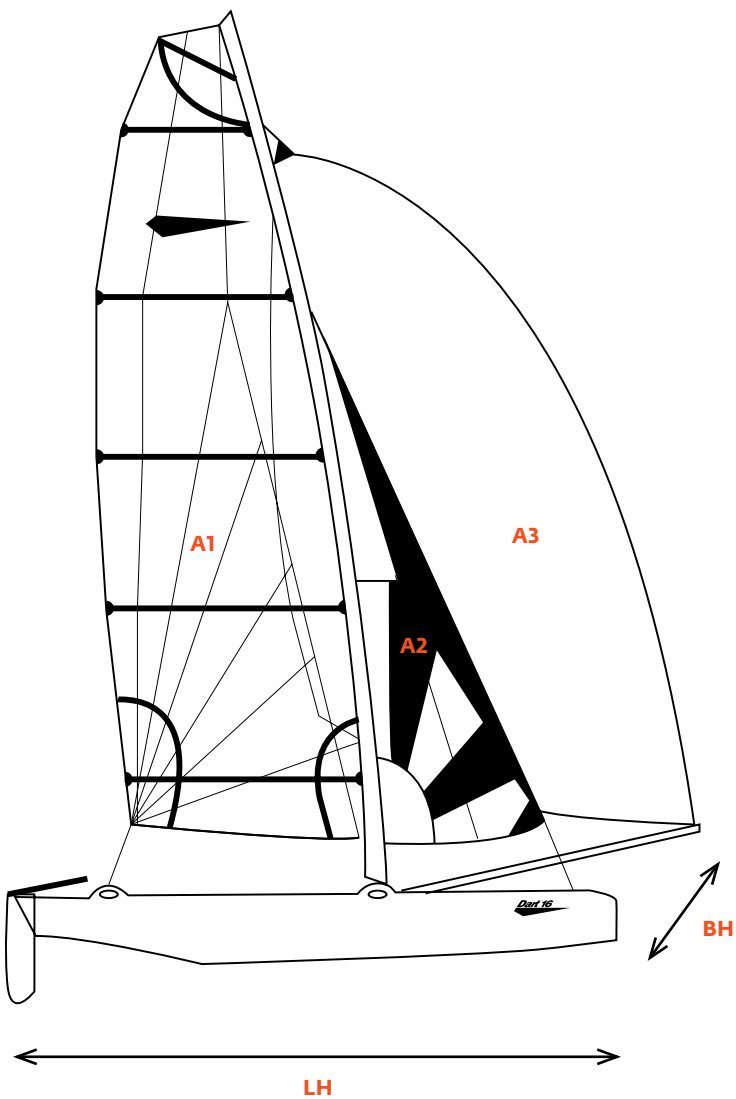
4 To reboard – the other crew should climb aboard over the rear beam.

Always keep hold of the boat.

Principal Dimensions for Catamarans

DART 16

A1	*Main sail area*	10.4	m²
A2	*Jib area*	2.7	m²
A3	*Gennaker area*	4.7	m²
LH	*Length of hull*	6	m
BH	*Beam of hull*	2.3	m
D	*Unladen weight*	158	Kg
ML	*Maximum load*	418 Kg	
CR	*Minimum crew for capsize*	147 Kg	
CL	*Maximum number of persons*	3	
***MRE**	*Maximum recommended engine*	N/A	
***ECN**	*EC type-examination certificate number*	HPIVS/R1179-001-I-03	
***DI**	*Date of issue*	05/31/017	



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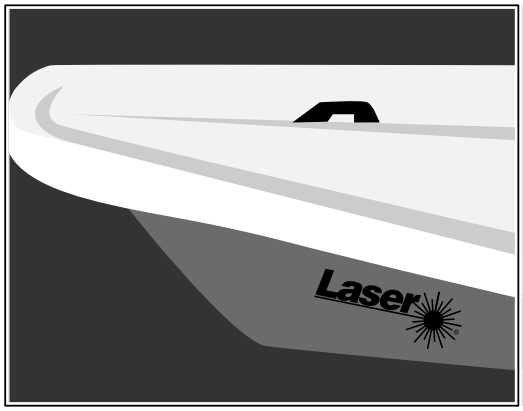
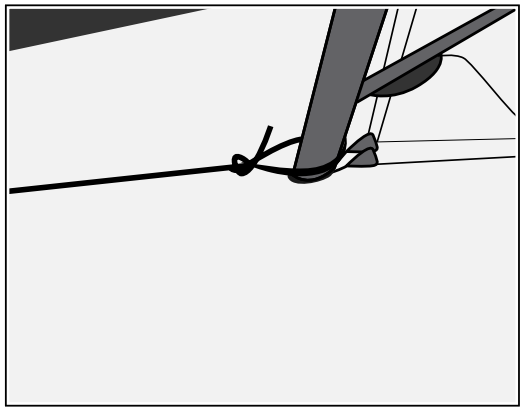
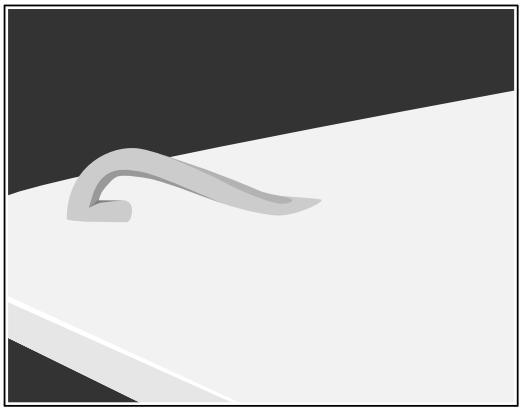
Towing Points





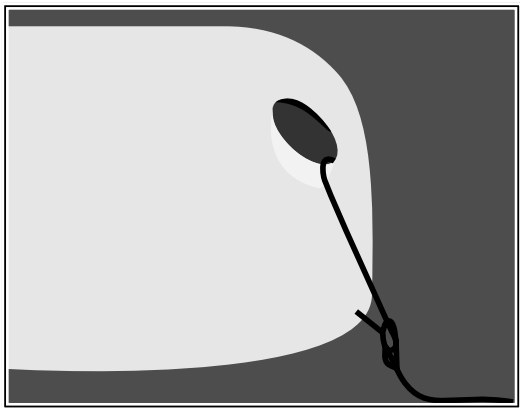
Laser

The bow eye should only be used for light towing in flat water. Towing in rough water the towline should be anchored at the mast.



Sunfish

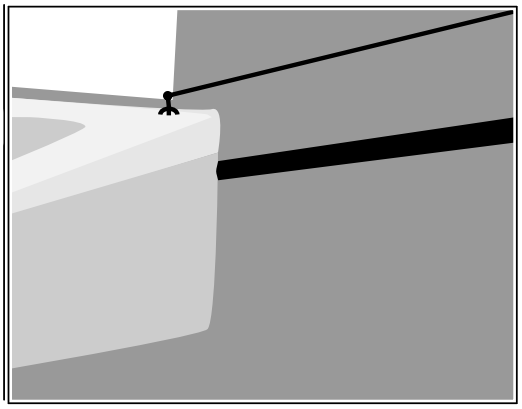
The towing loop is situated at the bow.



Funboat

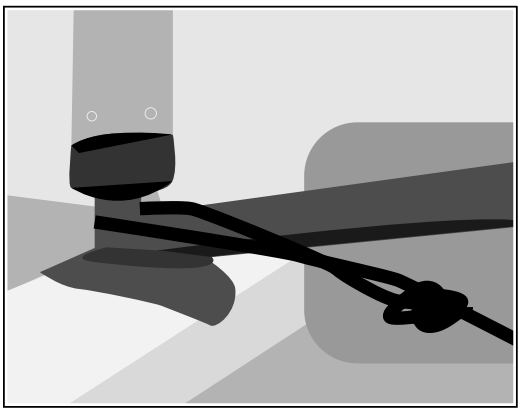
Use one or both of the molded handles.

Towing Points



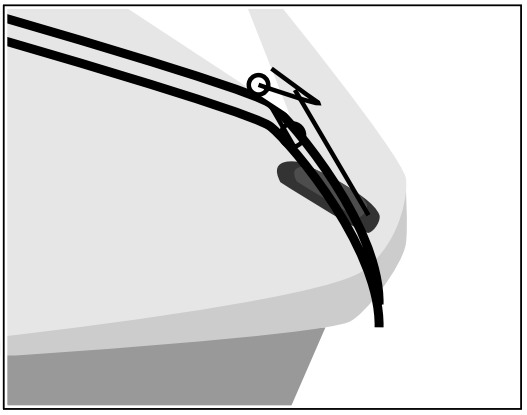
CASCAIS

Use forestay shackle.



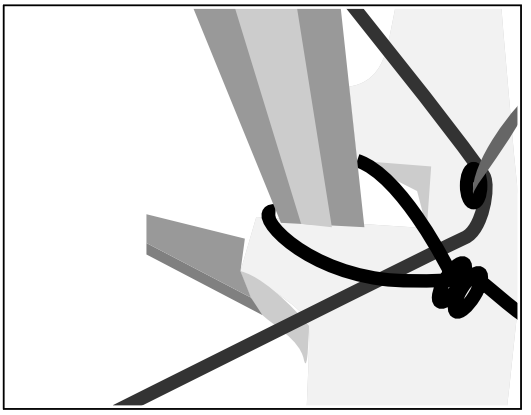
Dart 16

The ball step should be used as the anchor point and not the bow eyes, bridle wires or striker bar.



c420 / z420 / Club Fj

Pass tow rope through the forestay shackle and tie to mast with a bowline.



Declaration of Conformity of Recreational Craft

With the Design and Construction of Directive 2013/53/EU, Module A1 - Annex II of Decision 786/2008/EC

MANUFACTURER: **LASERPERFORMANCE LDA**
ZONA INDUSTRIAL SAPEC BAY, AV. DO RIO TEJO, 2910-040, LISBOA, SETÚBAL

NOTIFIED BODY: **HPI VERIFICATION SERVICES (IRELAND) LTD.**
CLONROSS, DUNSHAUGHLIN, CO.MEATH,A85 XN59, IRELAND

ID NUMBER: 2810. EC type examination number (see principal dimensions)

MODULE USED FOR CONSTRUCTION ASSESSMENT: A1

DESCRIPTION OF CRAFT: _____

(To be completed at point of sale)

CRAFT IDENTIFICATION NUMBER:

(CIN to be completed at point of sale)

TYPE OF SAILCRAFT:	Sailboat
TYPE OF HULL:	Mono Hull / Catamaran (See principal dimensions)
CONSTRUCTION MATERIAL:	Polyethylene, Fibre Reinforced Plastic
TYPE OF MAIN PROPULSION:	Sails
TYPE OF ENGINE:	Outboard – see principal dimensions for max. engine
DECK:	Open

SEE PRINCIPAL DIMENSIONS FOR CATEGORY, WEIGHTS AND DIMENSIONS.

This declaration of conformity is issued under the sole responsibility of the manufacturer. I declare on behalf of the craft manufacturer that the craft mentioned above and specified in the table of principal dimensions complies with all applicable essential requirements in the way specified and is in conformity with the type for which above mentioned EC type examination certificate has been issued.

LUÍS SILVA (Director)

Name and Function, (identification of the person empowered to sign on behalf of the manufacturer or authorized representative)

Signature

Date of issue - 23/11/2022

A copy of the Examination report is located in the Rigging Manual or download a digital copy from the LaserPerformance website, **WWW.LASERPERFORMANCE.COM**

Essential Requirements	Standards	Technical File	Applicable Standards
General Requirements (2)	Yes	LP	EN ISO 8666
Craft Identification Number – CIN (2.1)	Yes	LP	EN ISO 10087
Builders Plate (2.2)	Yes	LP	EN ISO 14945
Protection from falling overboard and means of reboarding (2)	Yes	LP	EN ISO 15085
Visibility from the main steering position (2.4)	Not Applicable		
Owner's manual (2.5)	Yes	LP	EN ISO 10240
Integrity and Structural requirements (3)	Yes	LP	See technical file
Structure (3.1)	Yes	LP	EN ISO 12217 part 2&3
Stability and freeboard (3.2)	Yes	LP	EN ISO 12217 part 2&3
Bouyancy and floatation (3.3)	Yes	LP	EN ISO 12217 part 2&3
Openings in hull, deck and superstructure (3.4)	Yes	LP	EN ISO 12216
Flooding (3.5)	Yes	LP	EN ISO 15083
Manufacturers maximum recommended load (3.6)	Yes	LP	EN ISO 14946
Life stowage (3.7)	Not Applicable		
Escape (3.8)	Not Applicable		
Anchoring, mooring and towing (3.9)	Yes		EN ISO 15084
Handling Characteristics (4)	Not Applicable		
Engine and Engine spaces	Not Applicable		
Inboard engine (5.1.1)	Not Applicable		
Ventilation (5.1.2)	Not Applicable		
Exposed parts (5.1.3)	Not Applicable		
Outboard engine starting (5.1.4)	Not Applicable		
Fuel system (5.2)	Not Applicable		
General – fuel system (5.2.1)	Not Applicable		
Fuel tanks (5.2.2)	Not Applicable		
Electrical systems (5.3)	Not Applicable		
Steering systems (5.4)	Not Applicable		
General steering system (5.4.1)	Not Applicable		
Emergency arrangements (5.4.2)	Not Applicable		
Gas systems (5.5)	Not Applicable		
Fire protection (5.6)	Not Applicable		
General – fire protection (5.6.1)	Not Applicable		
Fire-fighting equipment (5.6.2)	Not Applicable		
Navigation lights (5.7)	Not Applicable		
Discharge prevention (5.8)	Not Applicable		
Annex 1B – Exhaust emissions	Not Applicable		
Annex 1C – Noise emissions	Not Applicable		
Noise emission levels (1.C.1)	Not Applicable		
Owners manuals (1.C.2)	Not Applicable		

(Reference to relevant articles in Annex 1A and 1C of the Directive)

Zona Industrial Sapec Bay
Av. do Rio Tejo
2910-040

laserperformance.com