



LaserPerformance™

Owner's Manual

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

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Join LaserPerformance United

Hit the waters with millions of your closest friends.

LaserPerformance United (LPU) is all about connecting and supporting dinghy owners worldwide. By joining LPU, you will enter into a community of diverse sailors united by a common passion.

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

Find more information at **laserperformanceunited.com**

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. 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. I.e. Rudder stock, rudder blade and tiller. Centrboard/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.

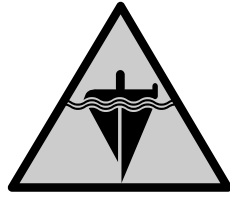


In the sport of sailing there is a risk of being hit on the head with the boom whilst rigging or manoeuvring the boat. Appropriate care and caution is required.

Capsize, Inversion and Entrapment



WARNING

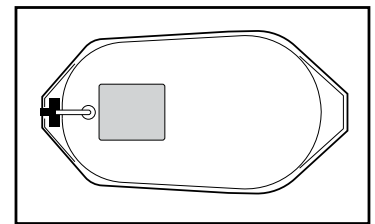
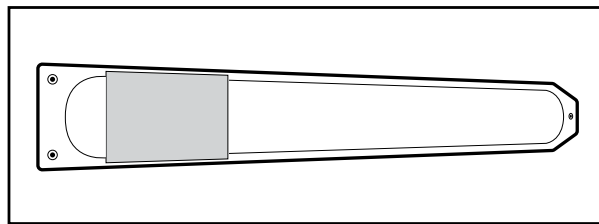
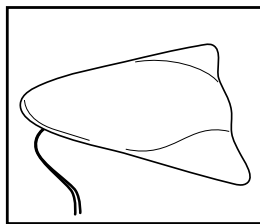


RISK OF CAPSIZE

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 bouyancy. Mast head bouyancy 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 particulaly if your limbs or clothing get entangled with ropes or the trapez 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 accessable, preferably serated 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.

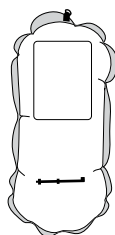


9 Litre Inflatable Mast Float
(Heavy duty fabric construction)
Part Code # 90718

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 be 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:

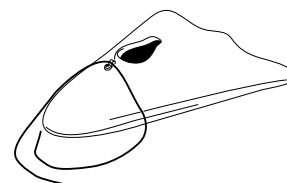
Form a short loop in the end of the halyard and pass the loop through the eye in the head of the mainsail.

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.

	9 L	40 L	LASER (15 L)
BUG	✓	N/A	N/A
FUNBOAT	✓	N/A	N/A
SUNFISH	✓	N/A	N/A
LASER			N/A
LASER VAGO	✓	✓	✓
LASER BAHIA	✓	✓	✓
DART 16	✓	✓	N/A
Z420	✓	✓	N/A
C420	✓	✓	N/A
VANGUARD 15	✓	✓	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 capsized. 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



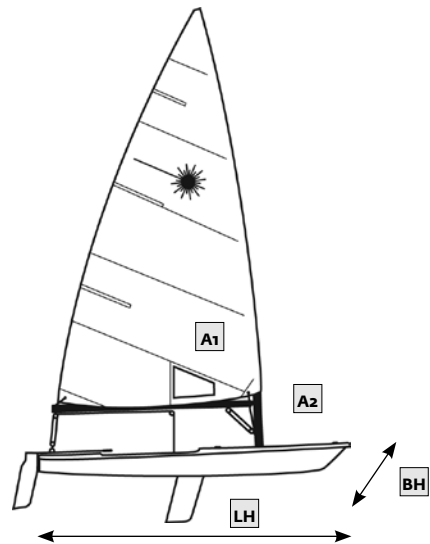
- 1** Stand on the lip of the hull. Holding onto the centreboard, lean backwards to pull the hull upright.
- 2** Continue to hold the centreboard as the mast rises out of the water.
- 3** As the boat comes upright, reach into the cockpit and pull yourself back into the boat.
- 4** To reboard, if you 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.

Principal Dimensions for Single Handed Dinghies

MODEL / TYPE CATEGORY	LASER C	PICO C	FUNBOAT C	SUNFISH C	BUG C	
A1	m ²	4.7 – 7.06	5.14 – 6.33	4.8	6.97	3.8 – 5.3
A2	m ²	—	1.09	—	—	—
LH	m	4.21	3.58	3.90	4.24	2.64
BH	m	1.37	1.38	1.25	1.25	1.3
D	kg	81	90	94	80	60
ML	kg	175	175	175	160	160
CR	kg	78	63	72	68	68
CL		2	2	2	2	2
*MRE		N/A	N/A	N/A	NA	1.5kw/13kg
*ECN		HPIVS/R1179-001-I-01	HPIVS/R1179-001-I-05	HPIVS/R1179-001-I-04	HPIVS/R1179-001-I-08	HPIVS/R1179-001-I-07
*DI		05/31/17	05/31/17	05/31/17	05/31/17	05/31/17

A1	m ²	Main sail area
A2	m ²	Jib area
LH	m	Length of hull
BH	m	Beam of hull
D	kg	Unladen weight
ML	kg	Maximum load
CR	kg	Minimum crew for capsizing
CL		Maximum number of persons
*MRE		Maximum recommended engine
*ECN		EC type-examination certificate number
*DI		Date of issue



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: Sheltered 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



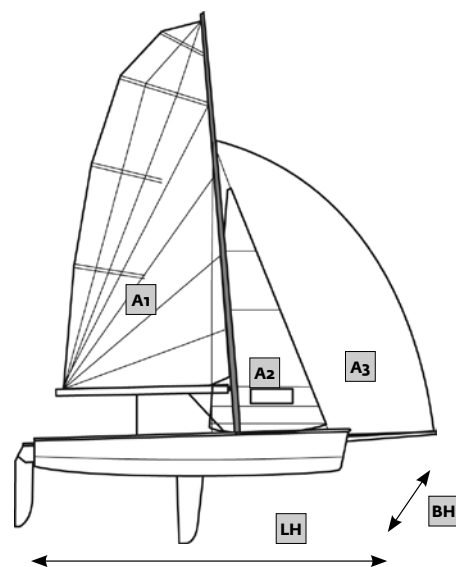
- 1** To recover from a full inversion. One crew member should hold onto the centreboard and pull backwards. The other crew member can take a jib or gennaker sheet over the top side of the hull and pull backwards whilst standing on the lip of the hull.
- 2** When the boat is on its side, one crew can 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.

Principal Dimensions for Small Craft

MODEL / TYPE CATEGORY	V15 C	CFJ C	C420 C	Z420 C	VAGO C	BAHIA C	
A1	m ²	7.2	5.9	7.40	7.40	9.32	10.5
A2	m ²	4.6	3.4	2.8	2.8	2.66	3.75
A3	m ²	N/A	7.43	8.83	8.83	13	14
LH	m	4.6	4.05	4.24	4.24	4.25	4.65
BH	m	1.71	1.25	1.68	1.68	1.56	1.8
D	kg	86.1	100.0	136.0	136.0	125	183
ML	kg	262	262	262	262	235	425
CR	kg	N/A	N/A	N/A	81.0	72	166
CL		2	2	3	3	3	5
*MRE		N/A	N/A	N/A	N/A	N/A	2.5kw /15kg
*ECN		N/A	N/A	N/A	HPiVS/R1179-001-I-02	HPiVS/R1179-001-I-06	HPiVS/R1179-001-I-02
*DI		N/A	N/A	N/A	05/31/17	05/31/17	05/31/17

A1	m ²	Main sail area
A2	m ²	Jib area
A3	m ²	Gennaker area
LH	m	Length of hull
BH	m	Beam of hull
D	kg	Unladen weight
ML	kg	Maximum load
CR	kg	Minimum crew for capsize
CL		Maximum number of persons
*MRE		Maximum recommended engine
*ECN		EC type-examination certificate number
*DI		Date of issue



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: Sheltered 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-hull



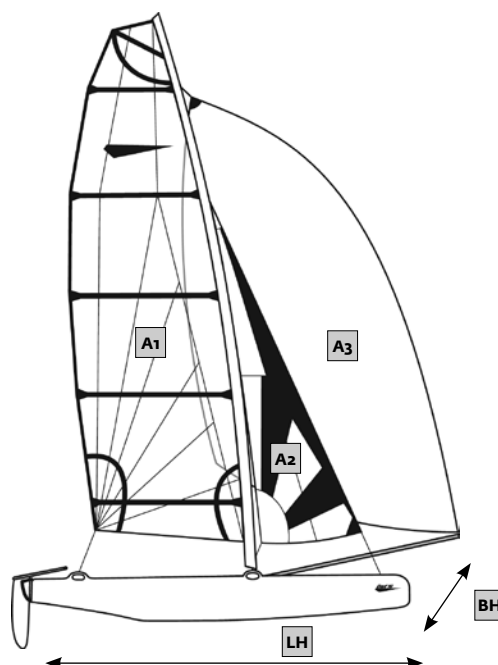
- 1 To recover from a full inversion sink the leeward hull.
- 2 As the hull comes up move forward. Take a jib sheet or righting line and lean back to pull the boat upright.
- 3 One crew should stay under the boat and hold onto the righting line or handles in the trampoline to stabilise the boat. The 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

MODEL / TYPE	DART 16	
CATEGORY	C	
A1	m ²	10.4
A2	m ²	2.7
A3	m ²	-
LH	m	4.76
BH	m	2.3
D	kg	158
ML	kg	418
CR	kg	147
CL		3
*MRE		N/A
*ECN	HP1V5/R1179-001-H-03	
*DI	05/31/017	

A1	m ²	Main sail area
A2	m ²	Jib area
A3	m ²	Gennaker area
LH	m	Length of hull
BH	m	Beam of hull
D	kg	Unladen weight
ML	kg	Maximum load
CR	kg	Minimum crew for capsize
CL		Maximum number of persons
*MRE		Maximum recommended engine
*ECN		EC type-examination certificate number
*DI		Date of issue



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: Sheltered 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.

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.



Bug

Use the 6mm bow line.



Funboat

Use one or both of the moulded handles.



Pico

The rope attachment at the front of the mast should be used and not the bow eye.



V15

Use forestay shackle.



Vago

The strong anchor point is the main front beam. To assist in directional towing place the tow line under the furling bar.



Bahia

There is a retractable tow line at the bow of the Bahia.



Dart 16

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



C420/Z420/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 (Europe) Ltd**
Station Works, Long Buckby, Northamptonshire, NN6 7PF, U.K.

Notified Body: **HPi Verification Services Ltd**
The Manor House, Howbery Park, Wallingford, OX10 8BA, U.K.

ID Number: **1521. 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)			
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Type of Sailcraft: Sailboat

Type of Hull: Mono Hull / Catamaran (See principal dimensions)

Construction material: Polyethylene, Fibre Reinforced Plastic

Type of main propulsion: Sails

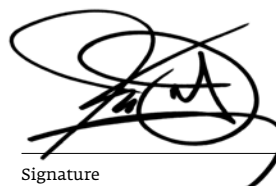
Type of engine: Outboard – see principal dimensions for max. engine

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.

Khosrow Jahanshad (Director)



31/05/2017

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

Signature

Date of issue (dd/mm/yyyy)

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 (Reference to relevant articles in Annex 1A and 1C of the Directive)	Standards	Technical File	Applicable Standards
General Requirements (2)	Yes	LP	EN ISO 8666 : 2002
Craft Identification Number – CIN (2.1)	Yes	LP	EN ISO 10087 : 2006
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&4
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	See declaration of conformity of the engine manufacturer		
Noise emission levels (1.C.1)	Not applicable		
Owners manuals (1.C.2)	Not applicable		

LaserPerformance Limited Warranty

LaserPerformance warrants to the original consumer purchaser of a new and unused sailboat hull manufactured by, or for LaserPerformance to be free from any manufacturing defects in materials and workmanship when used under normal conditions during the 12 months following the original purchase. Consumer purchasers may extend this warranty an additional 12 months by registering their purchase directly with LaserPerformance on our website, www.laserperformance.com.

Registration does not affect your statutory rights.

If any product is used for commercial purposes, including use as a charter boat, the warranty shall expire ninety (90) days from date of purchase.

LaserPerformance's obligations under this Limited Warranty are limited to supplying the part or parts and labor for the repair, or replacement of any part or parts that are found to be defective. This Limited Warranty does not cover the cost or expense of transporting the hull to and from LaserPerformance or an authorized dealer. Any shipping charges or freight charges incurred under this Limited Warranty shall be the responsibility of the boat owner. All warranty work must be performed by LaserPerformance or one of its authorized representatives.

Limited Warranty claims submitted by owners domiciled in territories without local LaserPerformance representation maybe required to deliver the hulls to the nearest authorized location at their expense. All warranty repairs are subject to prior authorization by LaserPerformance, and all decisions regarding warranty claims are the sole responsibility of LaserPerformance.

THIS LIMITED WARRANTY DOES NOT COVER, AND IS INTENDED TO EXCLUDE, ANY LIABILITY ON THE PART OF LASERPERFORMANCE WHETHER UNDER THIS LIMITED WARRANTY OR UNDER ANY WARRANTY IMPLIED BY LAW, FOR ANY INDIRECT OR CONSEQUENTIAL DAMAGES FOR BREACH HEREOF OR THEREOF.

This Limited Warranty shall not apply to any sailboat which has been subject to misuse, neglect, accident, alteration, or repair made by any unauthorized person, nor to any repair necessitated by normal wear and tear, accident, or negligence. This warranty, together with any and all warranties implied by law, shall be limited to maximum duration of 24 months from the date of purchase by the original consumer purchaser of the sailboat, and is non-transferable.

THIS LIMITED WARRANTY IS GIVEN IN ADDITION TO AND DOES NOT AFFECT YOUR STATUTORY RIGHTS.

LaserPerformance makes no warranty in respect to parts and accessories not of our manufacture. Certain manufacturers of such parts, including sails, and accessories do provide warranty coverage. Inquiries concerning defects in parts and accessories not of our manufacture should be forwarded to the original manufacturer or LaserPerformance at the email address below.

You may secure performance of warranty obligations hereunder by:

1. Completing the **Customer Warranty Claim** form and submitting. Our customer care will process the request and contact you for more information or a resolution. The form can be found at www.laserperformance.com under the Warranty tab.
2. Alternatively, contacting an authorized LaserPerformance dealer for an appointment to have the dealer examine your boat within sixty (60) days of discovery.
3. Present "Proof of Purchase" (Dealer Invoice or LaserPerformance Original Invoice) or User Group Warranty Registration, with the Hull Identification Number (HIN) and personal identification to the authorized LaserPerformance dealer to validate the Warranty Period.
4. Delivering your boat to an authorized LaserPerformance dealer for an examination.
5. The dealer is obligated to follow whatever course is appropriate at the direction of LaserPerformance.
6. Upon completion of warranty obligations the dealer will notify you of when your boat is ready to be picked up.



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