



INSPECTION REPORT 2

ECB reference	HKS-1673
Producer	Hobie Kayak Europe
Type	3- Maran
date	4th September 2008





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Notified Body no. ---0614---

ECB INSPECTIONREPORT RCD

Inspection of recreational crafts to ECB-mark and Annex 1a of the European Recreational Craft Directive 2003/44/EC

ECB code	: HKS-1673	Inspection Date:	02-09-2008	Report nr.	2	Final Report	<input type="checkbox"/>
Manufacturer	: Hobie Kayak						
Contactperson	: de heer R. Barth						
Address, city, country	: Delta Industrieweg 40, 3251 LX Stellendam, the Netherlands						
Type designation product	: Hobie Kayak Adventure Island						
Product description	: Rotomoulded sailing trimaran, consisting of a kayak as mid hull with on each side a floater.						
RCD Certification Module	: B						
Design category (vessel)	: D						
Surveyor	: D.H. Schaap						
Lead surveyor	: J.A. Boonstra						

Inspection is based on:

- Technical construction file / Information of organization
- Construction drawings and (stability) calculations
- Owners Manual
- Prototype (for verification of Technical File)

General:

- This report and the inspection results are only applicable to the inspected objects and organization. ECB inspections, verification calculations and investigation of the product and relevant documentation are based on random checks.
- The inspection results are organized in the same manner as the RCD
- The survey by ECB Nederland is based in the RCD legislation and relevant (harmonized) ISO norms.
- All (non)-conformities will be reported as is surveyed at the time of the inspection; changes made afterwards will be surveyed during the next inspection.
- It is forbidden to reproduce any part of this report without written approval of ECB.



Signature		Signature	
Name	Ing. D.H. Schaap	Name	J.A. Boonstra
Function	Surveyor	Function	Lead Surveyor
Date rapport	04-09-2008	Date	04-09-2008

Introduction:

Hobie Kayak has got the model "Adventure Island" in the range of the "Mirage series". This model can be described as a sailing trimaran, with a kayak as mid hull. The trimaran has to be considered as a boat which has to comply with the Recreational Craft Directive (RCD).

This report describes the items of the RCD.

Annex XIII TECHNICAL CONSTRUCTION FILE

X

All the information sent in the end of August 2008, is considered as being the technical file. All the required information has been found, excluded information about the CIN-code. In the response of the producer to the first inspection report, it is mentioned the ISO standard 10087 will be used for the CIN-code. Also the relevant information included in this standard, has to be described in the technical file. Further information about this can be found under 2.1 CIN-code.

2 GENERAL REQUIREMENTS

2.1 CIN-code

X

ECB would like to receive a picture that makes clear:

- The composition of the code.
- The location of the code.
- The way the code has been made visible.
- The location of the hidden code.

Above mentioned information has to be included in the technical file also.

2.2 Builder's plate

X

The design of the builders plate was part of the information which was sent to ECB. The design shows a plate which is in compliance with the requirements. However, attention should be paid to the type of the characters of "CE". Furthermore the notified body number of ECB is 0614.



In the response of the producer to the first inspection report, it is mentioned the plate will be a moulded-in graphic on the boat, near the helm. By this, the plate is nearly irremovable, therefore acceptable.

2.3 Protection from falling overboard and means of reboarding

✓

The seat of the boat is so designed that it holds the body securely. Climbing on board is possible because of the small freeboard and the (nearly) impossibility of capsizing.

2.4 Field of vision from helm position

-

Not relevant for sailing boats.

2.5 Owner's manual

X

The owners manual as received by ECB does not include information about:

- Information about the design category.
- The maximum recommended load as being mentioned under 3.6:

1 person	75	kg
Provision and storage	84	kg
Total	159	kg

ECB would like to receive a copy of the owners manual including the extra required information.

3 INTEGRITY AND STRUCTURAL REQUIREMENTS

3.1 Structure

For proving that the structure of the boat is strong enough for situations the boat is designed for, some tests have been done.

Test method:

The boat has been loaded to the maximum load capacity recommended by the manufacturer. The distribution of this load represented the passengers seated in their normal positions (weight may be used).

Consecutively drop the loaded boat from a height of 1.0 m (from water to lowest point of boat) into the water using

five different boat attitudes:

- 1.) horizontal;
- 2.) bow down 45°;
- 3.) stern down 45°;
- 4.) portside side down 45°;
- 5.) starboard side down 45°.

ECB received a detailed "Structural drop test report". It closely examines the boat regarding structural failures in the form of fractures, cracks, tears, separation, etc. on any part of the hull. The report describes no failures, which is clarified by means of pictures of the critical locations and parts. Besides that, the drops of the boat has been recorded with a ¼ speed camera, which gives a clear view of the behavior of the boat on the moment of hitting the water surface.



The videos, pictures and test report prove the strength of the boat is in compliance with the RCD.

3.2 Stability and freeboard

ECB made the stability calculation given by ISO 12217-3. Only the wind stiffness is relevant for the trimaran. De outcome of the calculation proved that the trimaran has got enough stability for classifying in design category C. (However the trimaran will be classified in category D.)

3.3 Buoyancy and floatation

As written in the response of the producer to the first inspection report:

"The mid hull and floaters are tested to be watertight by applying compressed air to the drain plug and spraying soapy water from a hand held spray bottle on all hatch and hardware openings. This is done on every boat and floater."

Furthermore, the technical file describes the way to maintain water tightness in locations of hull fittings.

3.4 Openings in hull, deck and super structure

As written above, the technical file describes:

"A majority of our plastic eyes and hooks use our patent pending screw in fitting system. These parts thread into blind holes which are made during the rotomolding process and provide a secure and completely watertight attachment system."

3.5 Flooding

This essential requirement of the RCD, means that the craft is so designed to minimize the risk of sinking. Particular attention should be paid to removing water out of the interior of the ship. Because of the water tightness of the hulls, this requirement is not relevant.

3.6 Manufacturer's maximum recommended load

As stated in the "Hobie" brochure, the capacity of the trimaran is 159 kg. The producer wants to use the following composition:

1 person	75	kg
Provision and storage	84	kg
Total	159	kg

3.7 Liferaft storage

This requirement refers to boats in design category D, but longer than 6 meter, so not relevant for the trimaran.

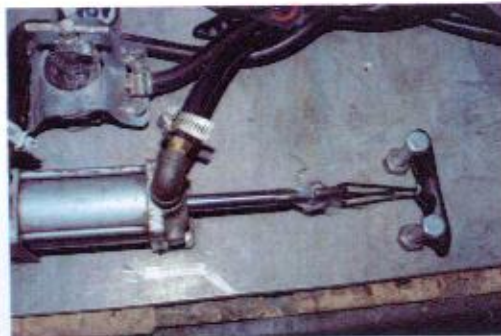
3.8 Escape

This requirement refers to boats which are habitable, so not relevant for the trimaran.

3.9 Anchoring, mooring and towing

The response of the producer to the first inspection report describes:

"Kayak handles can withstand load of 75 kg. See test picture of testing device. This is sufficient for carrying, mooring, anchoring and low speed towing (less than 10 knots)."



4 HANDLING CHARACTERISTICS

This essential requirement is relating to boats equipped with an engine, so not relevant for the trimaran.

5 INSTALLATION REQUIREMENTS

5.1 Engines and engine spaces

5.1.1 Inboard engine

Not relevant.

5.1.2 Ventilation

This means ventilation for the air consumption of the inboard engine, so not relevant for the trimaran.

5.1.3 Exposed parts

This means exposed moving or hot parts of the engine, so not relevant for the trimaran.

5.1.4 Outboard engines starting

Not relevant.



5.2 Fuel system

5.2.1 General

Not relevant.

5.2.2 Fuel tanks

Not relevant.

5.3 Electrical system

The trimaran is not equipped with electrical parts, so not relevant.

5.4 Steering system

5.4.1 General

The steering system design has been subjected to a force analysis, made in the program Solid Works. The technical file contains the outcome of it, and the design drawings. It proves the system is capable to withstand the expectable forces.

5.4.2 Emergency Arrangements

The response of the producer to the first inspection report describes:

"The included paddle may be used to steer the craft in the event the rudder is disabled."

Considering the nature of the boat, this solution could be accepted.

5.5 Gassystem

The craft is not equipped with gas applications.

5.6 Fire Protection

5.6.1 General

Since the trimaran is an open boat without any heat appliances on board, the risk of fire is that small that this requirement deemed to apply.

5.6.2 Fire-fighting

Not relevant.

5.7 Navigation lights

The boat is not equipped with navigation lights.

5.8 Discharge prevention

Not relevant.

ANNEX II CE MARKED PARTS

Not relevant.

--- OTHER ITEMS

Not relevant.

Conclusion

The mentioned non-conformities in this report, based on the Recreational Craft Directive, are marked with an x. These are essential requirements that have to be fulfilled, prior to issuing the certificate. The producer should take appropriate action to ensure that the unfulfilled items are in compliance with the RCD. This can be proved to ECB by providing an orderly explanation, containing photographs, descriptions and / or otherwise.

END OF ECB INSPECTION REPORT RCD