



Land & Ocean Composite Product Co Ltd
HuaQiao Industrial park
HuaShan Town, HuaDu GuangZhou , China

Owners Manual

'Weta Marine'

WM 44

Please keep this manual in a secure place and hand it over to the new owner when you sell the craft.

If this is your first craft, or you are changing to a type of craft you are not familiar with, for your own comfort and safety, ensure that you obtain handling and operating experience before assuming command of the craft. Any boat dealer or national sailing federation or yacht club will be pleased to advise you of local sea schools competent instructors.

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1 WELCOME

Congratulations on becoming the owner of this boat.

Make sure you receive a full explanation of all systems from the person transferring ownership to you.

1.1 Boating Experience

If this is your first craft, or you are changing to a type of craft you are not familiar with, for your own comfort and safety, ensure that you obtain handling and operating experience before assuming command of the craft.

Any boat dealer or national sailing federation or yacht club will be pleased to advise you of local sea schools, or competent instructors

Regardless of the craft's seaworthiness and its certified design category, protection from freak sea and wind conditions cannot be guaranteed. Beware of offshore winds and currents. The ability, experience and fitness of the crew, therefore, should be taken into consideration before making any voyage.

1.2 Responsibility

It is the boat owner/operator's responsibility to:

- 1 Know the limitations of your boat;
- 2 Follow the rules of the road;
- 3 Keep a sharp lookout for people and objects in the water;
- 4 Ensure that the anticipated wind and sea conditions will correspond to the design category of your boat and that you and your crew are able to handle the boat in these conditions;
- 5 Never sail when the operator is under the influence of drugs or alcohol;
- 6 Be aware of the crew's safety at all times;
- 7 Ensure all crew receive suitable training, particularly with regards to operation of safety;
- 8 Reduce speed when there is limited visibility, rough water, people in the water nearby, boats, or structures;
- 9 Ensure the craft is properly maintained at all time;
- 10 Have the craft inspected by qualified personnel at regular intervals and whenever a cause for concern is raised; and
- 11 Ensure compliance with all legislation in place in the area of operation. These may include requirements for the carriage of life saving equipment, licensing of the helmsman and respect for the environment.

2 ABOUT THIS MANUAL

This manual has been compiled to help you to operate your craft with safety and pleasure. It contains details of the craft; the equipment supplied or fitted its systems and information on their operation. Please read it carefully and familiarise yourself with the craft before using it. Ensure that everyone who will operate the vessel reads this manual before setting out.

This manual complies with the EU Recreational Craft Directive (RCD) and should not be perceived as an exhaustive guide to the vessel. A manual is not a replacement for experience and common sense!



2.1 Original Equipment Manufacturer (OEM) Manuals

This manual includes important fundamentals regarding equipment supplied by other manufacturers. More detailed information regarding such equipment can be found in manuals provided by the OEM. A list of these manuals is given here

Steering gear

2.2 Safety Labels






The craft and this manual show symbols which advise the owner/operator and crew of imperative safety precautions to follow when operating and/or servicing equipment. The following symbols may be found on your craft. They should be respected at all times.

	Hazard - usually followed by text description (see following section)		Read the Owners Manual
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Capsize Warning

2.3 Explanation of Hazard Warnings

	Danger	Denotes an extreme intrinsic hazard exists which would result in high probability of death or irreparable injury if proper precautions are not taken.
	Warning	Denotes a hazard exists which can result in injury or death if proper precautions are not taken.
	Caution	Denotes a reminder of safety practices or directs attention to unsafe practices which could result in personal injury or damage to the craft or components.
	Information	Denotes useful or important facts or suggestions that can greatly enhance safety and efficiency of operations.
	Caution	Do not remove or obstruct any safety label. Replace any label which becomes illegible.

3 GENERAL ARRANGEMENT



3.1 Boat Identification & CE Marking Classification

Name of Boat	Weta Marine
Type of Boat	WM 44
Hull Identification Number	CN LWO_____
Name of Boat Manufacturer	Land & Ocean Composite Product Co Ltd
RCD ¹ Design Category	C, INSHORE
Maximum recommended number of people	3

¹ RCD = EU Recreational Craft Directive

3.1.1 RCD Design Category Explanation

This vessel carries the CE marking (shown here) to indicate that it complies with the EU Recreational Craft Directive. It has been assigned the *Design Category* explained below:



A boat given design category C is considered to be designed to operate in winds up to force 6 (Beaufort scale) and the associated wave heights (significant wave heights up to and including 2m). Such conditions may be encountered exposed inland waters, in estuaries and in moderate weather conditions.

Manufacturer's Maximum Recommended Load

	Mass (kg)	Mass (lb)	Volume (litres)	Density (kg/m ³)	
Solid Ballast		0			If known
Portable engine		0			Required

Lightship excluding engine	100	220		
Permanent stores & Equipment	6	13		
Symmetrical Ballast Tanks	0	0		1025
Asymmetric Ballast Tanks	0	0		1025
Moveable ballast		0		
No fuel	0	0		N/A
Fresh Water	0	0		1000
Holding Tank	0	0		1000
Essential Safety Kit	10	22		
Liferaft	0	0		
Carry-on load	15	33		
Crew	225	496		
Growth		0		
Max. Trailer Weight		0		

Permanent Stores & Equipm't

Description	Mass	
Anchor & chain		kg
Sails	5	kg
Toolkits		kg
Navigation equip.		kg
Ropes	1	kg
Books, charts etc.		kg
Galley stores etc		kg
Machinery spares		kg
		kg

Lightship = (kg) 100 (lb) 220

Minimum Operating Condition (m_{MOC}) = (kg) 191 (lb) 421

Lightship excluding engine	100 (kg)
Permanent stores	6 (kg)
Symmetric ballast tanks	0 (kg)
Essential safety kit	10 (kg)
Liferaft	0 (kg)
Minimum crew	75 (kg)

Loaded Displacement Condition (m_{LDC}) = (kg) 356 (lb) 785

Lightship excluding engine	100 (kg)
Permanent stores	6 (kg)
Symmetrical Ballast Tanks	0 (kg)
Asymmetric Ballast Tanks	0 (kg)
Fuel	0 (kg)
Fresh Water	0 (kg)
Holding Tank	0 (kg)
Essential Safety Kit	10 (kg)
Liferaft	0 (kg)
Carry-on load excluding engine	15 (kg)
Crew	225 (kg)
Growth	0 (kg)
Moveable ballast	0 (kg)
Portable engine	(kg)

Maximum Recommended Load (m_{MTL}) = (kg) 256 (lb) 564


Maximum Load (as on builder's plate) = (kg) 240 (lb) 529

Ratio, m_{LDC} / m_{MOC} = 1.864

4 SYSTEMS DESCRIPTIONS

4.1 Bilge Pumps

Information This boat is *not fitted* with any bilge pumps.
 It is recommended that a bailer/bucket is carried aboard for emergency bailing purposes. Ensure the bucket is protected against accidental loss.



	Warning	Never use flammable solvents (i.e. kerosene) for bilge cleaning, however oily it becomes.
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4.2 Steering System

Information The boat's steering system has the following components:

Steering Hardware: Tiller
Turning device: Rudder
Mechanism: 0



The craft is steered from the helm position which is described as: cockpit tiller

	Caution	All components of the steering system must undergo periodic inspection & maintenance to ensure safe operating conditions. Refer to the maintenance section of this manual for further details.
	Warning	Failure of the steering system will cause loss of control of your boat. Any change in steering such as looseness, tightness, binding, etc., must be checked immediately by a qualified person.

5 PRE-LAUNCH OBSERVATIONS

5.1 Risk of Loss of Stability

The stability and buoyancy of this boat has been assessed on the basis of the weights specified in section 3.2.3.

 <p>Warning</p>	<p>The boat should never carry more than the manufacturer's recommended load. The load should be suitably distributed, bearing in mind that stability is most significantly reduced by any weight added high up in the boat</p>
 <p>Caution</p>	<p>Stability can also be adversely affected by sloshing fluid. Bilge water should be kept to a minimum</p>





Information This boat has been assessed as being capable of supporting the crew even when swamped.



This sailing boat is intended to be recovered after capsize. The minimum crew mass needed is 60kg, and the following technique is recommended

To right the boat. Make sure the gennaker is furled up. When the boat has capsized and is upside down, undo one (not both) of the inspection ports in the rear of the float allowing the water to enter the float. This should take under 2 minutes. When the float is full of water (has no buoyancy) put your body weight on the centreboard and the boat will right itself. When the boat is upright get back on board on the side with buoyancy and let the water drain out of the float. After the water has flowed out of the float do up the inspection port again.

This boat may capsize and remain inverted if excessive sail is carried. It is designed not to sink if this occurs.

The working sail plan should be reduced if the average wind force exceeds force 4 on the Beaufort scale. Particular care should be taken in gusty conditions.

 <p>Caution</p>	<p>The stability of this boat is significantly reduced at speeds above displacement speed.</p>
 <p>Caution</p>	<p>Stability may be reduced when towing or lifting heavy weights using a davit or boom.</p>
 <p>Caution</p>	<p>Compartments marked as being air tanks should not be punctured.</p>
 <p>Caution</p>	<p>Breaking waves are a serious stability hazard</p>


	Caution	In rough weather, hatches, lockers and companionway/doorways should be closed to minimise the risk of water ingress.
	Caution	Ensure all limber holes are clear

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5.2 Risk of Falling Overboard




Information The working deck is the area of the boat that is safe for use at all times. Areas outside the specified working deck should only be used whilst leaving or arriving at a mooring or whilst the boat is not underway.

On this boat, the working deck area is defined as:
cockpit and Trampolines

	Warning	Most slips and falls occur during boarding and disembarking. Be aware that wet decks can be slippery. Wear slip resistant footwear at all times.
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6 NAVIGATION & OPERATION

6.1 Handling Characteristics

	Caution	Seaways are infinitely variable and all craft can meet conditions that will challenge the boats handling characteristics and/or the helmsman's ability. Proceed with a margin for error at all times. Avoid making sharp turns at speed, particularly in a short seaway.
	Caution	It is strongly recommended that helmsmen receive adequate training in boat handling before setting to sea for the first time.
	Caution	Be aware that factors such as altitude, temperature, load, and bottom growth may affect performance.

6.2 Visibility from the Main Steering Position




- Transition from displacement to planing mode

The international regulations for preventing collisions at sea (COLREG's) and the rules of the road require that a proper lookout be maintained at all times and observance of right of way. Make certain no other vessels are in the path before proceeding.

6.3 Anchoring, Mooring & Towing

Information It is the owners / operators responsibility to ensure that the mooring lines, towing lines, anchor chains, and anchors are adequate for the vessel's intended use. Owners should also consider what action will be necessary when securing a tow line on board.

Breaking strength of forward strong point: 3.2 kN (0.3 tonnesf)

	Caution	The breaking strength of lines / chains should not exceed 80% of the breaking strength of the strong point to which it is attached.
	Caution	Always tow or be towed at slow speed. Never exceed the hull speed of a displacement craft when towing or being towed.
	Caution	A tow line shall always be made fast in a way that it can be released when under load.



Information When at anchor, it is damaging to leave the full load of the boat resting on the windlass. It is recommended that the chain be tied onto a local strong point.

7 MAINTENANCE

Regular inspection and maintenance is an essential activity to ensure the boat's longevity and the crew's safety.

This section includes a generic table which details typical inspection and maintenance intervals. This is not specific to your craft and some sections will not apply.

The necessary frequency of service or maintenance depends upon the environment in which the boat operates. The intervals listed in this section should be viewed as maximums.

	Caution	Modifications that may affect the safety characteristics of the craft should be assessed, executed and documented by competent people.
	Caution	Any change in the disposition of the masses aboard may significantly affect the stability, trim and performance of the boat

KEY: X - Activity required Y - Activity required by qualified individual


Item	Required Maintenance/Service	INTERVAL				
		Before Every Use	After First 20 Hours	Every 25* Or 50 Hours	Every 50* Or 100 Hours	Every 6 mnth or Annual
Miscellaneous						
Bilge Area	Clean & limber holes free					X
Bilge/Airtank drain	Installed and tight	X				
Hull	Check for loose, damaged or missing parts	Whenever out of the water and always after striking an object				
Controls						
Steering	Check for proper operation					Y

8 ENVIRONMENTAL AWARENESS

The previous sections of this manual provide information on how to protect the boat and its crew from the environment. This section gives information on how the environment may be protected from the boat and its crew.


The *environment* should be understood as including one's neighbours as well as the world of plants and animals.

In many regions of the world, there are strictly enforced regulations regarding environmental protection. It is the responsibility of the owner/operator to be aware of applicable regulations and to ensure compliance with them.

	Warning	Any oil must be treated as chemical waste.
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Dispose of recovered spilt correctly.

NEVER: Dispose overboard of any paint or other chemical that is potentially harmful to the environment. Sanctions are in place in most parts of the world for those who disregard this rule!

	Warning	The discharge of effluent into navigable waters is forbidden by law in many areas. If such discharge causes a film or sheen upon or a discoloration of the surface of the water or causes a sludge or emulsion beneath the surface of the water, violators may be subject to a penalty. It is the responsibility of the boat user to ensure that they are aware of local legislation regarding discharge
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8.1 Household Waste

	Warning	When at sea for periods longer than space allows onboard storage of waste, only jettison organic waste.
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ALWAYS Retain any household waste until it can be properly disposed of ashore.

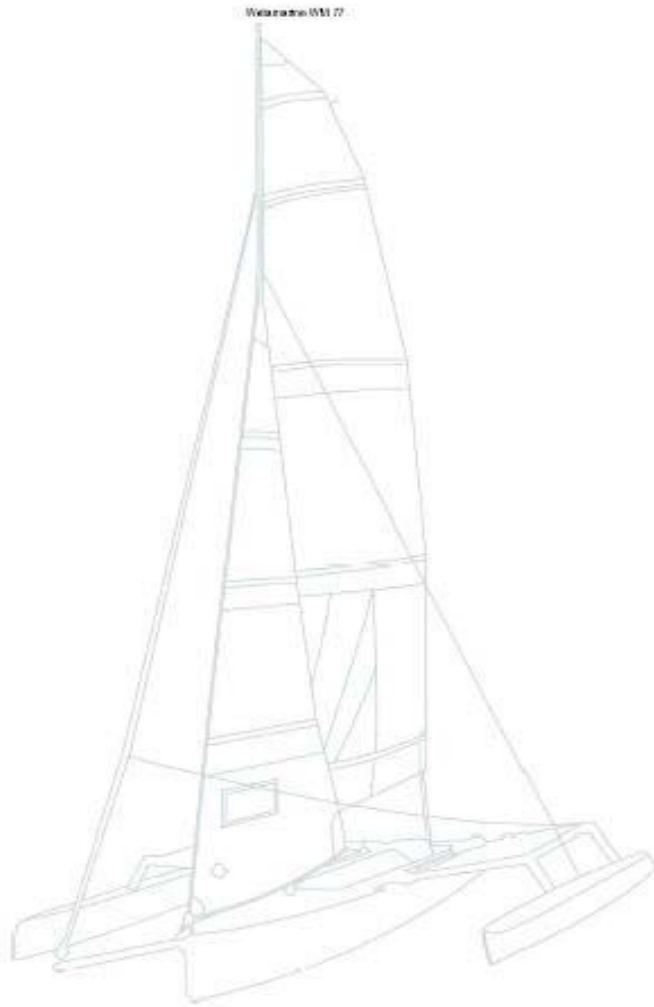
8.2 Noise

NEVER Make excessive noise. Most people take to the water for relaxation which is ruined by noise.

8.3 Wash / Waves

ALWAYS Adapt your speed to the water in which you are navigating. Consider the comfort and safety of other (particularly small) boats around you.

	Caution	Be aware that in some areas speed restrictions are in place to avoid erosion of banks/coastline.
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Abbreviations

Abbreviation	Full Meaning
AC	Alternating current
AVS	Angle of Vanishing Stability
BM	Metacentric Radius
BV	Bureau Veritas (French Notified Body)
CD	Crew Density
CD	Committee Draft
CEN	European Committee for Standardisation
CIN	Craft Identification Number (same as HIN)
CL	Crew Limit
DC	Direct current
DCB	Depth of Canoe Body
DEC	Directive Exemption Certificate
DGIII	Directorate General III (responsible for RCD administration within EU Commission)
DIS	Draft International Standard
DNV	Det Norske Veritas (Norwegian Notified Body)
DoC	Declaration Of Conformity
DWL	Design waterline
EBA	European Boating Association
EEA	European Economic Area
EMC	Electro Magnetic Compatibility
EN	European Norm = Standard
ESR	Essential Safety Requirements
EU	European Union
FBD	Beam-Displacement Factor (from STIX stability calculation)
FDf	Downflooding Factor (from STIX stability calculation)
FDIS	Final Draft International Standard
FDL	Displacement-Length Factor (from STIX stability calculation)
FDS	Dynamic Stability Factor (from STIX stability calculation)
FIR	Inversion Recovery Factor (from STIX stability calculation)
FKR	Knockdown Recovery Factor (from STIX stability calculation)
FRE	Energy Righting Factor (from STIX stability calculation)
FWM	Wind Moment Factor (from STIX stability calculation)
GL	Germanische Lloyds (German Notified Body)
GM	Transverse Metacentric Height - and indication of the boat's stiffness
GPS	Global Positioning System
GT	Gross Tonnage
GZ	Righting Lever
HIN	Hull Identification Number (same as CIN)
ICOMIA	International Council of Marine Industry Associations
IEC	International Electrotechnical Commission
IMCI	International Marine Certification Institute (Belgian Notified Body)
IMO	International Maritime Organisation
ISA	Irish Sailing Association (Notified Body)
ISO	International Organisation for Standardisation
LCB	Longitudinal Centre of Buoyancy
LCG	Longitudinal Centre of Gravity
LPG	Liquid Petroleum Gas
LR	Lloyds Register (British company with RCD Notified Body in Germany)
MAMAW	Maximum Advised Mean Apparent Windspeed
MARPOL	Marine Pollution (Prevention of, IMO Convention)
MCT	Moment to Change Trim
MIC	Manufacturers Identification Code (part of the HIN/CIN)
M _{LDC}	Mass in Loaded Displacement Condition (ie max load)

Abbreviation	Full Meaning
M _{MOC}	Mass in Minimum Operating Condition (ie lightest sailing weight)
MTL	Maximum Total Load
N/A	Not applicable
NB	Notified Body (body formally appointed to certify products for EU Directives)
NC	Non-conformity
NP	New Project
OM	Owners Manual
PCA	Post Construction Assessment
QD	Quick-Draining (recess/cockpit)
RCD	Recreational Craft Directive
RCD	Residual Current Device
RDF	Radio Direction Finder
RFU	Recommendations For Use
RINA	Royal Institution of Naval Architects
RINa	Registro Italiano Navale - (Italian Notified Body)
RSG	Recreational craft Sectoral Group (forum for RCD Notified Bodies)
RYA	Royal Yachting Association
SOLAS	Safety of Life At Sea
SF	Semi-fixed (glazing)
SS	Simply supported (glazing)
STIX	Stability Index
TCF	Technical Construction File (same as TD)
TD	Technical Documentation (same as TCF)
TPS	TÜV Product Service (ex German Notified Body)
UTS	Ultimate Tensile Strength of material
VCG	Vertical Centre of Gravity
WD	Working Draft
WG	Working Group (standards committee)
WL	Waterline

Protection from falling overboard & means of reboarding (2.3)	X			EN ISO 15085:2003 "Man overboard prevention and recovery"
Visibility from the main steering position (2.4)	N/A			N/A – Sailing vessels (RCD Annex 1 ESR 2.4 page 7 of 21)
Owner's manual (2.5)	X			EN ISO 10240:1996 "Owner's manual"
Integrity and structural requirements (3)				
Structure (3.1)		X		EN ISO 12215-3
Stability and freeboard (3.2)	X			EN ISO 12217-3:2002 Part 3: Boats of hull length less than 6m
Buoyancy and floatation (3.3)	X			
Openings in hull, deck and superstructure (3.4)	X			No windows hatches or doors fitted No metallic skin fittings No non-metallic skin fittings
Flooding (3.5)	X			EN ISO 15083:2003 "Bilge pumping systems" EN ISO 11812:2002 "Watertight cockpits and quick-draining cockpits"
Manufacturer's maximum recommended load (3.6)	X			EN ISO 14946:2001 "Maximum load capacity"
Liferaft stowage (3.7)			X	No applicable standard
Escape (3.8)	N/A			No accommodation
Anchoring, mooring and towing (3.9)	X			EN ISO 15084:2003 Small Craft – Anchoring, mooring and towing – Strong points
Handling characteristics (4)	X			EN ISO 11592:2001 "Small craft less than 8m length of hull - Determination of maximum propulsion power"
Engines and engine spaces (5.1)				
Inboard engine (5.1.1)			N/A	N/A - no engines
Ventilation (5.1.2)	N/A		N/A	N/A - no fuel system
Exposed parts (5.1.3)			N/A	No applicable standard
Outboard engine starting (5.1.4)	N/A			N/A - no engines
Fuel system (5.2)				
General - fuel system (5.2.1)	N/A			N/A - no fuel system
Fuel tanks (5.2.2)	N/A			
Electrical systems (5.3)				
	N/A			No DC electrics No AC electrics
Steering systems (5.4)				
General - steering system (5.4.1)	N/A		X	EN ISO 15652:2005 Remote steering systems for inboard mini jet boats
Emergency arrangements (5.4.2)			X	No applicable standard
Gas systems (5.5)				
	N/A			N/A - no LPG system fitted
Fire protection (5.6)				
General - fire protection (5.6.1)	N/A			EN ISO 9094-1:2003 Fire protection – Part 1: "Craft with a hull length up to and including 15m"
Fire fighting equipment (5.6.2)	N/A			
Navigation lights (5.7)				
		N/A		N/A - no navigation lights fitted
Discharge prevention (5.8)				
	N/A			N/A - no heads onboard
Annex I.B - Exhaust Emissions				
				N/A - no engines
Annex I.C Noise Emissions				
Noise emission levels (I.C.1)	X			N/A - no engine
Owner's manual (I.C.2)			X	N/A - no engine