



HYDROFOILER™ XE-1

OWNERS MANUAL

ENGLISH - ORIGINAL INSTRUCTIONS:

This manual was drafted in English language and may have been translated into other language. An original English Owners Manual should accompany any translated version.
AS00004- REV2 MANTA5 XE-1 OWNERS MANUAL

WE ENCOURAGE YOU TO VISIT OUR WEB SITE WWW.MANTA5.COM FOR A DIGITAL VERSION OF THIS MANUAL AND UPDATED TECHNICAL SUPPORT INFORMATION.

WARNING

USE OF THIS PRODUCT AND PARTICIPATION IN THE SPORT INVOLVES INHERENT RISKS OF INJURY OR DEATH. TO REDUCE RISKS:

- Ride in water conditions that do not exceed the skills of the rider.
- Riders should remain within reasonable swimming distance to shore at all times.
- Attempting to ride in rough water, or in waves can increase the risk of injury or death.
- Do not use in shallow water or near swimmers or other watercraft.
- Always wear a suitable personal floatation device that is approved by your relevant local regulating body .
- Riders are highly recommended to wear suitable aquatic footwear and swimwear to protect from potential injury.
- Understand and abide by your local maritime regulations.
- When losing control of the bike, push off pedals to fall away from the bike.
- Children shall be a minimum of 16 years of age to operate the bike.
- Never ride after consuming drugs or alcohol.
- Never ride without a suitable communication device or supervision from the land.
- Read the manuals before use.

TABLE OF CONTENTS

PART 1. INTRODUCTION	6
1.1 MANUFACTURER DETAILS	6
1.2 SUPPORT	6
1.3 WARRANTY	6
1.4 GENERAL INFORMATION ABOUT YOUR HYDROFOILER XE-1	6
1.4.1 HYDROFOILER XE-1 GENERAL INFORMATION	6
PART 2. IMPORTANT SAFETY INFORMATION	7
2.1 IMPORTANT SYMBOLS AND WARNINGS:	7
2.2 IMPORTANT SAFETY NOTICES	7
2.3 LITHIUM-ION BATTERY SAFETY	8
2.3.1 BATTERY SAFETY ALERTS	8
PART 3. BATTERY AND CONTROL SYSTEM	8
3.1 CHARGING THE BATTERY	8
3.1.1 BATTERY STATE OF CHARGE INDICATIONS	9
3.1.2 CONTROL SYSTEM	10
3.2 INSTALLING THE BATTERY	10
3.3 GARMIN® EBIKE REMOTE	10
3.3.1 DEVICE OVERVIEW	10
3.3.2 PAIRING THE REMOTE WITH YOUR HYDROFOILER XE-1	10
3.3.3 STATUS LED	10
PART 4. TRANSPORTATION & HANDLING	11
4.1 TRANSPORT THE HYDROFOILER XE-1 BY CAR	11
4.1.1 IN-CAR/TRAILER TRANSPORT	11
4.2 TRANSPORT THE HYDROFOILER XE-1 MANUALLY	11
4.3 TRANSPORTING THE HYDROFOILER XE-1 BATTERY	11
4.4 POST-RIDE DISASSEMBLY & TRANSPORT	11
4.4.1 DISCONNECT & REMOVE THE BATTERY	11
4.4.2 REMOVE THE PROPELLER	12
4.4.3 REMOVE FRONT TILLER	12
4.4.4 REMOVE THE REAR FOIL	12
PART 5. HYDROFOILER XE-1 OPERATING INSTRUCTIONS	12
5.1 OPERATING CONDITIONS	12
5.2 INTENDED USE	12
5.3 MISUSE	12
5.4 OPERATING POSITIONS	12
5.5 ACCIDENT OR BREAKDOWN	13
5.6 FOULING OR BLOCKAGE	13
5.7 TECHNIQUE	13
PART 6. MAINTENANCE	13
6.1 MAINTENANCE AND SERVICING	13
6.2 FOR BIKE MECHANICS	14
6.3 MAINTENANCE SCHEDULE	14
6.3.1 SERVICING SCHEDULE FOR BIKE MECHANIC	14
6.4 GENERAL AFTER-USE MAINTENANCE	14
6.4.1 WASH DOWN	14
6.4.2 CHARGING THE BATTERY	15
6.4.3 HYDROFOILER XE-1 STORAGE	15
6.4.4 STORAGE OF FOILS	15
6.4.5 HYDROFOILER XE-1 BATTERY STORAGE	15
6.4.6 HYDROFOILER XE-1 BATTERY	15
6.5 HYDROFOILER XE-1 CONTACT POINTS	15
6.5.1 SEATPOST AND SADDLE	15
6.5.2 HANDLEBARS, STEM & GRIPS	15

6.5.3	CRANKS AND PEDALS	15
6.6	CHAIN & SPROCKETS	16
6.6.1	CHAIN ACCESS	16
6.6.2	CLEANING THE CHAIN	16
6.6.3	CHAIN LUBRICATION	16
6.6.4	CHAIN INSPECTION	16
6.6.5	CHAIN REPLACEMENT	16
6.6.6	SPROCKET INSPECTION	16
6.6.7	FRONT CHAIN RING REPLACEMENT	16
6.7	XE-1 MOTOR	17
6.8	TILLER, MINI TILLER & FRONT FOIL	17
6.9	REAR FOIL, BAYONET SHOE & BAYONET	17
6.10	GEARBOXES	17
6.11	PROPELLER	17
6.12	TROUBLESHOOTING	18
6.13	REPAIR	18
6.14	DISPOSAL	18
6.14.1	BATTERIES	18
PART 7.	MANTA5 SUPPORT	18
7.1	MASTER THE RIDE COURSE	18
7.2	HELP DESK	18
7.3	CUSTOMER SERVICE SUPPORT	18
PART 8.	MANTA5 HYDROFOILER XE-1 WARRANTY	19
8.1	MANTA5 LIMITED WARRANTY	19
8.1.1	WHAT IS COVERED?	19
8.1.2	WHAT IS NOT COVERED?	19
8.1.3	HOW TO MAKE A CLAIM/RETURNS	19
PART 9.	EU DECLARATION OF CONFORMITY	20

PART 1. INTRODUCTION

Thank you for purchasing a Hydrofoiler XE-1. This Owners Manual advises essential safety information, Hydrofoiler care and maintenance processes. It is important that you read and understand the information in this manual before assembling, riding and maintaining your hydrofoil bike. You will also be provided an online PDF version from the Manta5 support team. This manual contains useful information for the full lifecycle of your hydrofoil bike.

The Hydrofoiler XE-1 is for users over 16 years old. Parents or guardians, if this hydrofoil bike is for a dependent, please make sure they understand all safety information in this manual and are supervised at all times by a competent adult. In this manual, 'you', 'operator' or 'rider' refers to the person or persons installing, operating, adjusting, maintaining, cleaning, repairing or moving the Hydrofoiler XE-1.

The Hydrofoiler XE-1 Owners Manual consists of six main sections: IMPORTANT SAFETY INFORMATION, BATTERY AND CONTROL SYSTEM, TRANSPORTATION, OPERATING INSTRUCTIONS, MAINTENANCE, SUPPORT & WARRANTY. Some information is repeated between sections for safety reasons.

For initial assembly instructions, please refer to the Initial Assembly Guide.

For basic waterside assembly instructions, please refer to the Quick Start Guide.

1.4 GENERAL INFORMATION ABOUT YOUR HYDROFOILER XE-1

1.4.1 HYDROFOILER XE-1 GENERAL INFORMATION

The Hydrofoiler XE-1 is made up of a sturdy aircraft grade aluminium chassis mounting: the ebike motor, battery and gears, two main carbon fibre foils and the front tiller section to automatically trim the hydrofoil bike's level in the water.

The Hydrofoiler XE-1 itself currently weighs approximately 30.5 kg (67 lbs) including the battery and motor.

- Fully assembled Hydrofoiler XE-1 dimensions: 1.4 m High x 2 m Wide x 2.2 m Long (4,5 ft High, 6,5 ft Wide, 7,2 ft Long)
- Main box dimensions: 1.5m length, 0.22m width, 1.05 height (5 ft length, 0.7 ft width, 3.4 ft height)
- Foil box dimensions: 2.04m length, 0.29m width, 0.1m height (6.7 ft length, 0.95 ft width, 0.3 ft height)

1.1 MANUFACTURER DETAILS

MANTA5 LP

PO Box 16132, Ulrich, Hamilton, Waikato 3282, New Zealand.

Please note that Manta5 operates a policy of continuous improvement, all manual contents are subject to change and update without notice.

1.2 SUPPORT

Please visit: www.manta5.com for more information, FAQ's and contact information for customer support.

1.3 WARRANTY

A copy of the Manta5 Warranty document is included at the end of this manual.

For further information visit www.manta5.com or get in touch via support@manta5.com.

Manta5 Hydrofoiler XE-1
OWNERS MANUAL
© MANTA5 LP, NEW ZEALAND, March 2021
Document No: AS00004- Revision 2

PART 2. IMPORTANT SAFETY INFORMATION

2.1 IMPORTANT SYMBOLS AND WARNINGS:

Your safety is important. When reading this manual you will find symbols and warnings with information to help keep you safe.



WARNING! Warns of hazards which could result in personal injury or threat to health, including potential danger zones in which any exposed person (wholly or partially within) is subject to a risk to their health or safety.



CAUTION: Indicates a potentially hazardous situation, which, if not avoided, may result in risk to user health or safety or, is an alert against unsafe practice.



NOTICE: Alert of information of particular importance which if not adhered to could result in damage to your hydrofoiler or void your warranty.



INFORMATION: Indicates information of particular importance, or a tip noting key information to improve your experience with your Hydrofoiler.



TORQUE: Indicates that a torque wrench or similar is recommended to avoid fasteners either coming loose or being overtightened.



LUBRICATE: Symbol indicates the specified lubricant should be applied as instructed.



CAUTION: Operating Environment: The Hydrofoiler XE-1 is used in a hazardous (water) environment presenting risks to the health and safety of the rider, while the Hydrofoiler itself may also give rise to a hazardous environment for other water goers. Avoid other water goers to avoid risk of collision and associated injuries.

CAUTION: Operating Environment: Before use, please inform yourself of all applicable legal regulations and requirements in your country or state. There may be restrictions on riding your hydrofoil bike in public waterways, lakes or beaches, as well as applicable water safety requirements, age restrictions or insurance requirements. Regulations and laws are frequently updated and vary from location to location so always check first with the relevant authority to obtain the latest relevant information.

CAUTION: Operating defensively: Maintain safe speeds for the conditions and keep a safe distance away from people, objects and other watercraft. Take early action to avoid collisions - remember the Hydrofoiler XE-1 does not have brakes.

- Do not follow directly behind other watercraft.
- Do not go near others - remember the rear foil protrudes 1 m each side.
- Avoid sharp turns or manoeuvres that make it hard for others to understand where you are going.
- Avoid areas with submerged objects or shallow water.



WARNING! Know your limits: Any water sports can be dangerous - especially if you try to exceed the limits of your own ability. Know your skill level and swimming capability and don't ride beyond it. A water safety course is recommended and may be a requirement in some locations. All riders will have variability of physical dimensions, strength and stamina which should always be taken into account by the rider.

WARNING! Know your limits: This is not a toy and riders must be a minimum age of 16 years old. Adults must supervise use by minors.

WARNING! Know your limits: Be aware of your changing environment, avoid dangerous situations such as water traffic or swimmers, obstacles (visible or subsurface), surf or rapid water. The XE-1 is intended for use in flat water and moderate chop (0.5m or less in height). Using the XE-1 in any water conditions that it has not been intended for, may lead to premature wear and tear or failure of the product or serious injury to rider or death. As a general rule, don't ride where you wouldn't swim and don't ride where there are swimmers.



CAUTION: Know your limits: The Hydrofoiler XE-1 is heavy for one person and is best handled with two people. Where necessary get help to assemble, handle, lift, transport or manoeuvre the Hydrofoiler XE-1 to avoid muscle strain.

CAUTION: Handle with care: Some parts of the Hydrofoiler XE-1 could injure you if mishandled, such as the propeller which could cut skin, and even cause puncture wounds if pressed with the weight of the bike or user in a vulnerable area. eBike components are especially vulnerable, such as the electric cables, connectors, battery which could all potentially be damaged if not handled with care, or have internal parts exposed to water. Modifications to your Hydrofoiler could make it unsafe, so only replace parts with official Manta5 replacements which have been carefully designed and tested.

CAUTION: The Hydrofoiler XE-1 contains some complex items such as the battery, motor and gearboxes that can not be dismantled by the user. This user manual is not intended as a fully comprehensive: use, assembly, service, maintenance or repair guide. Where events uncover topics not covered in the manuals then please see your nearest Authorised service and repair centre.

2.2 IMPORTANT SAFETY NOTICES



INFORMATION: Read this important safety information before riding your hydrofoil bike.



WARNING! Accident or breakdown: In case of accident or breakdown, always be prepared and take a suitable communication device in a water-proof case. Always ensure to let someone know where you are intending to hydrofoil and what time you expect to be back. Remember not to venture too far in case of an emergency. Always ride in a place that you are completely confident you can swim back to shore.

WARNING! Operating Environment: Always take the necessary steps to prevent unauthorised use of the Hydrofoiler XE-1. Do not leave unattended with the battery fitted or nearby.

WARNING! Personal Protective Equipment: Your safety is paramount.

- Always wear a life jacket or other suitable floatation device.
- Use a wetsuit to keep you warm in cold conditions.
- If you feel there may be a possibility of hitting your head on anything (such as a jetty or other obstacles) then wear a helmet (such as a windsurfing helmet).
- Remember non-slip beach footwear is always a good idea to keep your feet from cuts while transporting the Hydrofoiler XE-1.

2.3 LITHIUM-ION BATTERY SAFETY



WARNING! RISK OF FIRE OR EXPLOSION: Risk of fire or overheating in failure may result in: gases, liquids, vapours or other substances produced, fire damage, injury. In case of battery fire, the battery cell(s) could explode. If a battery emits excessive heat, smoke or unfamiliar audible noises then there is risk of extreme temperatures and/or fire, with the possibility of hot material being ejected. Call emergency services if necessary. Never handle or approach the battery unless it has cooled down and is wrapped in a fire blanket or similar.



CAUTION: Do not use the battery if the battery casing is broken or if the battery emits an unusual odor, smoke, or excessive heat or leaks any substance. Avoid contact with any substance seeping from the battery.

CAUTION: Keep out of reach of children and pets. Exposure to battery voltage could result in death or serious injury.

CAUTION: The cells within the batteries contain toxic substances. Do not attempt to open the battery. Do not insert any object into the battery or use any device to pry at the battery casing. If you insert an object into any of the battery ports or openings you could suffer electric shock, injury, burns, or cause a fire. The battery is fitted with tamper-proof fasteners. Attempting to open the battery casing will damage the casing and could release toxic and harmful substances, and will render the pack unusable and void any warranty.



NOTICE: Failure to charge the battery could result in permanent damage. Left unplugged, the battery could fully discharge over time, causing permanent damage. Charging of the battery during the off-season is only needed to be done once (Storage charge).

NOTICE: Use only charging devices approved by Manta5 and never attempt to bypass or override their charging protection circuits.

NOTICE: Do not submerge the batteries in water whilst powered on without the motor properly connected. This could short-circuit the battery and cause a failure.

NOTICE: In the event of a malfunction during charging, isolate the energy sources by switching off and unplugging the charger from the wall mains socket. Stand clear and monitor the situation. Allow the battery to cool before handling it.

2.3.1 BATTERY SAFETY ALERTS

The battery will communicate safety information through:

- The battery switch's illuminated LED flashing; and
- By emitting audible 'beeps'.

Warnings are indicated as follows:

WARNING	ILLUMINATED SWITCH LED	AUDIBLE
Low battery (<10%)	Red, single LED flash, repeating	Single beep, repeating
Motor over temperature	Red, double LED flash, repeating	Double beep, repeating
Battery over temperature	Red, triple LED flash, repeating	Triple beep, repeating
Battery error	Red, quadruple flash off, repeating	Quadruple beep, repeating

Note: Each flash of the LED/beep has a duration of 150ms, a delay of 100ms between consecutive LED flash/beeps and a 5 second-delay before repeating.

PART 3. BATTERY AND CONTROL SYSTEM

3.1 CHARGING THE BATTERY



NOTICE: Charging of the battery during the off-season is only needed to be done once (Storage charge). Negligence could lead to complete discharge of the battery and would make the warranty on the battery void.

NOTICE: It is not recommended to have the battery pack connected permanently to the charger.



WARNING! - RISK OF FIRE: Lithium-ion battery packs can be dangerous if charged incorrectly. Use only the battery charger supplied by Manta5 for charging the Hydrofoiler XE-1 lithium-ion battery.

WARNING! - RISK OF FIRE: Do not use the Manta5 battery charger with any other batteries.

WARNING! - RISK OF FIRE: Never connect the charger to an unregulated generator.

WARNING! - RISK OF FIRE: Never let a battery be charged unattended. The battery and charger can get hot while charging. Do not charge near any sources of heat, humidity or flammable materials and never cover the charger or battery with clothes or other objects.

WARNING! - RISK OF FIRE: The battery will not charge if it is 0°C (32°F) or less and greater than 40°C (104°F).



CAUTION - RISK OF INJURY: Do not allow children to handle the battery or charger.



NOTICE: Charge the battery in a cool, dry, well-ventilated location on a non-flammable surface. Do not charge the battery in wet, high-temperature or high-humidity environments. This means out of direct sunlight, and away from bath/shower-rooms and similar.

NOTICE: If the battery is to be stored, then the battery should be charged to 50% before storage, and stored in a room with a working smoke detector. Use the store charge profile on your charger.



INFORMATION: When you first receive your Hydrofoiler, the battery will be partially charged. To get the best life out of your battery; ensure to charge to full capacity before using for the first time. For charging the battery pack, read and observe the operating instructions of the charger. The battery can be charged to/from any level of charge. Interrupting the charging process does not damage the battery pack.



INFORMATION: Always remove the battery from the bike when charging. Make sure the battery is dry and has cooled down after use.

CHARGING PROCEDURE

- Make sure the battery is powered OFF (There should not be illuminated ring around the switch).
- Connect the battery charger input lead to an AC mains power socket with the power switch off. Do not use an extension cable.
- Connect the battery charger to the battery by pushing the blue connector into the battery socket. Press the plug in firmly until you hear and/or feel the blue lock collar click indicating that the plug is fully engaged, it clicks into place and the red dot becomes obscured.
- Check to ensure the red dot is not visible.



- Switch ON the power at the AC mains power socket - or omit this step if you socket does not have a switch.
- Turn on the battery and charging will commence. The battery switch LED will illuminate according to the state of charge with a flashing pulse, indicating the battery is charging.
- Standard charge takes 4 hours for the battery to be fully charged. Charging is complete when the battery switch LED turns solid green.
- To abort charging, hold down the top button until "Abort Charge" is displayed on the screen, then release the button.
- Switch the battery off.
- Unplug the battery from the charger.
- Switch the charger off at the wall.



CHANGING CHARGING PROFILES

To change the charge profile from the recommended default setting given, the user must select the appropriate charge rate. Please note, fast charging in warmer ambient temperatures can cause the battery to overheat and stall the recharge process.

Select the charging profile and hold down the bottom button until the "Hold to Start" text at the bottom of the display changes to "Okay", release the button.

- Fast Charge - 3hrs
- Standard Charge (Default) - 4hrs
- Slow Charge -5.7 hrs
- Store Charge (For storing over long periods) - 2hours

CHARGE MODE	CHARGER DISPLAY
FAST CHARGE	
STANDARD CHARGE (DEFAULT)	
SLOW CHARGE	
STORE CHARGE	



NOTICE: Refer to storage PART 4 TRANSPORTATION AND HANDLING

Store the battery in a cool, dry environment as per the battery storage instructions.



3.1.1 BATTERY STATE OF CHARGE INDICATIONS

At **power on**, while the battery is initialised, the switch LED will stay purple for 1 second then the LED will flash and the battery will give an audible 'beep'.

The number of repeated flashes/beeps indicates the approximate level of charge as per the table below:

STATE OF CHARGE RANGE	NUMBER OF FLASHES/BEEPS
75 - 100 %	4
50 - 75%	3
25 - 50 %	2
0 - 25 %	1

When **switched on**, the battery illuminated switch LED will indicate the state of charge per table below:

BATTERY STATE OF CHARGE	ILLUMINATED SWITCH LED	AUDIBLE
0-10%	Red flashing	beeping
10-25%	Red solid	-
26-50%	Orange solid	-

BATTERY STATE OF CHARGE	ILLUMINATED SWITCH LED	AUDIBLE
51-75%	Yellow solid	-
76-100%	Green solid	-

3.1.2 CONTROL SYSTEM

Automatic Battery Shutdown Timeout: The battery will automatically turn itself off if the pedals have not been turned for 5 minutes, or if the battery is not connected to the motor. Turning the pedals restarts the 5 minute timer. After charging is complete, the battery will turn itself off after 5 mins.

Note- if the battery turns itself off due to timing out. The power switch must be pressed twice to turn the battery back on.

Tip-over Rider Protection: The battery detects the roll of the Hydrofoiler XE-1 using a tilt sensor. The motor will be disabled to protect the user whilst floating in the water. The switch LED will repeatedly flash on for 1 second and off for 1 second (0.5 Hz) indicating the motor is disabled.

When the angle of the bike comes within 30 degrees from vertical, the motor will be re-enabled and the switch LED will stop flashing.

If the battery is upside down or exceeds 90 degree pitch in either direction. The motor will be disabled.

3.3 GARMIN® EBIKE REMOTE

3.3.1 DEVICE OVERVIEW



1	Select to increase the assist level.
2	Select to decrease the assist level. Hold to turn off the assist function.
3	Status LED.

3.3.2 PAIRING THE REMOTE WITH YOUR HYDROFOILER XE-1

The first time you connect the GARMIN® eBike with your Hydrofoiler, you must pair it

- The battery must be out of the water in order to pair successfully.
- Bring the remote within 1 m (3 ft.) of the Hydrofoiler and HydroCell battery.

NOTE: You must stay 10 m (33 ft.) away from other ANT+™ sensors while pairing.

- Turn on the battery.
- On the GARMIN® eBike remote, hold two keys simultaneously until the LED starts alternating green and red, and release the keys.

The remote will search for your Hydrofoiler XE-1. Once the LED flashes green 6 times, pairing is complete and successful. Once paired, the GARMIN® eBike Remote connects to your XE-1 whenever it is in range and turned on. You may need to wake the remote by selecting any key.

3.3.3 STATUS LED

The green LED flashes one time when you press a key.

LED ACTIVITY	STATUS
Flashing green	The remote is searching for a paired eBike.
Alternating red and green	The remote is attempting to pair with an eBike.
6 rapid green flashes	The remote success fully paired with an eBike.
Solid red	Pairing has failed or the connection was lost.
1 red flash every 5 seconds	The remote has a low battery.
2 red flash every 5 seconds	The eBike has a low battery.
3 red flash every 5 seconds	The eBike has an error message.

3.2 INSTALLING THE BATTERY



CAUTION: Take care not to overtighten the grub screws into the battery as this can cause damage and compromise the housing. Some play in the battery is okay.



CAUTION: If you do remove the battery grub screws entirely from the battery tray. If you do remove them, you must re-screw starting from inside the battery tray and screwing them outwards. Doing it from the outside-in can cause threading of the battery tray screw holes.



INFORMATION: Requires 4 mm hex key



INFORMATION: Do not leave battery secured into the Hydrofoiler for long periods. The battery should be removed between foiling sessions as well as for long term storage. Storage instructions can be found in the Owners Manual (refer to 6.4.5 Hydrofoiler XE-1 Battery Storage).

- Remove the battery from the box and complete the first charging procedure.
- Make sure the battery is switched off by checking that there is no illuminated ring around the battery switch. Turn it on then off again if you are unsure.
- Install the battery into the Hydrofoiler XE-1. First, ensure that the grub screws are unscrewed enough so that they remain within the battery tray holes but do not impede placing the battery into the tray.
- Connect the battery to the hydrofoil bike using the battery connector cable. Ensure that the red dot is not visible, indicating that the cable is correctly 'locked' into the battery.
- Rock the battery gently to fit under the battery tray edge. Once secure, tighten the grub screws to hold the battery into place. Do not overtighten the grub screws as this can cause damage to the battery housing and compromise the Lithium-ion battery.
- Once battery is secure, turn the battery on.
- With the battery on, check the electrical assist is working by turning the pedals again. After your pedals turn 180 degrees the motor should engage, making the cranks easier to rotate, whilst the propeller spins faster.
- Turn the battery off.

PART 4. TRANSPORTATION & HANDLING



NOTICE: When transporting the Hydrofoiler XE-1, take care to avoid damaging the light-weight buoyancy modules and foils.



CAUTION - HEAVY ITEM: When fully assembled the Hydrofoiler XE-1 weighs 30.5 kg (67 lbs). It is important that users adhere to safe lifting practice. Manta5 recommend a two-person lift when needed.

4.1 TRANSPORT THE HYDROFOILER XE-1 BY CAR

CAUTION- RISK OF INJURY: Manta5 does not recommend transporting the Hydrofoiler XE-1 on roof racks.



- The weight of the cycle could put users at risk of strain.
- Mounting or dismounting the cycle from a height could create a hazard such as pinch, falling-object or crush with resulting injuries.
- The Hydrofoiler XE-1 should always be maintained in a stable position.

NOTICE - RISK OF DAMAGE: Manta5 does not recommend transporting the Hydrofoiler XE-1 on roof racks. This could risk damaging the product.



NOTICE: Manta5 only recommend in-car transport of the Hydrofoiler XE-1 using a suitable sized car or van. Only rest the Hydrofoiler XE-1 on a clean soft debris-free interior or transport surface.

4.1.1 IN-CAR/TRAILER TRANSPORT

Set the seat to its lowest position or remove the seat-post with saddle and set aside.

- Remove the rear foil, stow it or set aside on a non-scratch surface such as soft sand.
- Remove the front tiller taking care to replace all loose items such as bushings and fasteners to the steering fork. Set aside out of thoroughfare on a non-abrasive surface.
- Remove the propeller and replace the fasteners onto the propeller shaft or stow them in safe place. Set aside out of thoroughfare.
- Take care when loading the Hydrofoiler XE-1 into the vehicle/trailer or trolley. Avoid resting the Hydrofoiler XE-1 on sharp edges or objects that could put force onto the buoyancy modules. Secure the Hydrofoiler XE-1 sufficiently to prevent the load shifting during your journey.
- Load in the remaining items.
- Travel safely.

4.2 TRANSPORT THE HYDROFOILER XE-1 MANUALLY

When you first receive the Hydrofoiler XE-1, there are some parts to assemble. This is described in the Initial Assembly Guide provided to you by Manta5. Once assembled, the Hydrofoiler XE-1 is ready to be transported to the water.



CAUTION HEAVY ITEM - RISK OF INJURY: Only ever lift within your own capability. Always use a two person lift when necessary to avoid personal injury or damage to the product.

CAUTION SLIPS, TRIP & FALLS - RISK OF INJURY: Prior to manual carrying: Always check that the route is clear to avoid slips, trips or falling. Always wear suitable footwear for the conditions.

Prior to any manual handling; Manta5 recommend that you take a few minutes to evaluate the risks associated with carrying the Hydrofoil XE-1 to its destination. You are responsible for your own safety and wellbeing. Manta5 have identified some common risks (list not exhaustive) as examples of what to look out for:

- Risk of strain during manual handling:** Only ever lift with your own capability. When you do need to carry the Hydrofoiler XE-1, Manta5 recommend a two-person lift when carrying.
- Risk of a slip, trip or fall:** Prior to manual carrying: Always check that the route is clear to avoid slips, trips or falling. Always wear suitable footwear for the conditions and avoid uneven ground that could destabilise you and your Hydrofoiler XE-1.
- Risk of destabilisation by wind and/or waves:** Take care if transporting the Hydrofoiler XE-1 through surf and avoid if possible. Note how wind or waves could knock someone over so avoid carrying the Hydrofoiler XE-1 with it on the upward wind/waves side - such that if you or the bike is toppled over or falls that you will not be underneath the Hydrofoiler. Always put the bike on down-wind side and don't put the bike between you and a wave.

4.3 TRANSPORTING THE HYDROFOILER XE-1 BATTERY

- The battery packs are subject to the Dangerous Goods Legislation requirements. Private users can transport undamaged battery by road without further requirements.



CAUTION - DANGEROUS GOODS: You cannot fly with the lithium-ion battery on a passenger aircraft. When being transported by commercial users or third parties (e.g. air transport or forwarding agency), special requirements on packaging and labelling must be observed (e.g. ADR regulations). If necessary, an expert for hazardous materials can be consulted when preparing the item for shipping.

- Dispatch battery only when the housing is undamaged. Tape or mask off open contacts and pack up the battery in such a manner that it cannot move around in the packaging. Inform your parcel service that the package contains dangerous goods. Please also observe the possibility of more detailed national regulations.
- In case of questions concerning transport of the battery, please refer to an authorised Manta5 dealer who can also provide suitable transport packaging.

4.4 POST-RIDE DISASSEMBLY & TRANSPORT



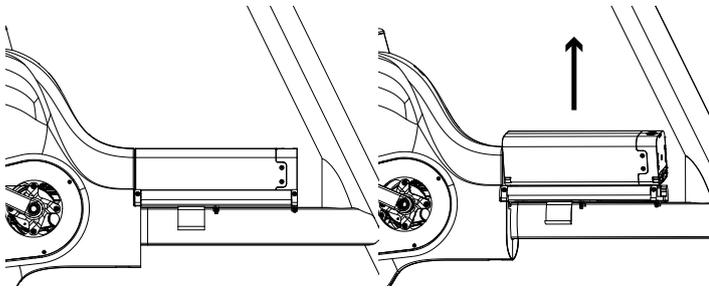
INFORMATION: Move the seat to the downwards position to ease transport of the Hydrofoiler XE-1, especially when fitting it to tight spaces.

The design of the Hydrofoiler XE-1 is modular to enable easy transportation. When transporting the Hydrofoiler XE-1 there are items that will need to be removed to enable safe and easy transportation. These items are detailed below:

4.4.1 DISCONNECT & REMOVE THE BATTERY

- Using a 4 mm hex key undo the 2 grub screws that are securing the battery in the battery tray.
- Once loosened, lift the battery out of the tray and disconnect from the Hydrofoiler connector cable.

Place battery down on a soft surface out of direct sunlight or store away. For storage instructions please REFER TO SECTION 6.4.5 HYDROFOILER XE-1 BATTERY STORAGE.



4.4.2 REMOVE THE PROPELLER



CAUTION - RISK OF INJURY: It is essential that the propeller is removed while the hydrofoil bike is in transit. This reduces the risk of injury or damage to the product. Always handle the propeller with care and stow it safely.

CAUTION - RISK OF INJURY: Propellers can contain sharp edges. Take care handling the propeller not to touch sharp features.



INFORMATION: Requires 17 mm spanner.

- Unscrew by hand (turn anti-clockwise) the nose cone piece from the front of the propeller.
- Using a 17 mm spanner remove the nut and washer. Take care to hold the propeller whilst avoiding any sharp edges or corners.
- Slide propeller with the hex block off the propeller shaft.

4.4.3 REMOVE FRONT TILLER

The front tiller assembly should always be removed for transport.



INFORMATION: Requires 5 mm hex key.

- Remove the front tiller assembly by loosening the countersunk screw from the nylock nut and removing the front tiller from the steering fork assembly.

4.4.4 REMOVE THE REAR FOIL



INFORMATION: Requires 6 mm hex key.

- Using a 6 mm hex key, loosen (turn anti-clockwise) the captive cap-screw in the metal shoe which secures the rear foil to the frame.
- The foil and shoe assembly will slide forward and can be removed as the captive screw is loosened.
- Place the foil down on a grass surface or surface free of debris that could scratch or damage your foil.

PART 5. HYDROFOILER XE-1 OPERATING INSTRUCTIONS

This section covers the key aspects of safely operating your Hydrofoiler XE-1. We aim to give you helpful advice and information regarding: operating conditions, the Hydrofoiler XE-1 control system, Hydrofoiler XE-1 operating positions, learning to ride the Hydrofoiler XE-1, and what to do if you have an accident or breakdown.

5.1 OPERATING CONDITIONS



NOTICE: You can ride on oceans, rivers and lakes, handling moderate chop and swell. The front tiller section of the Hydrofoiler self-levels helping to punch through chop and over swell as you ride. Always ride to your ability and practice caution in riskier conditions. Your Hydrofoiler can be ridden in a range of water conditions depending on your skill level. As a general guideline, the Hydrofoiler can be ridden in waves and chop that are less than 0.5 m high (1.6 ft) with 0.5 m being the maximum wave height Manta5 would recommend riding in - around Degree 2 on the international sea and swell scale or Beaufort number 2. Exercise extreme caution when riding in conditions that you have not experienced before.

5.2 INTENDED USE



NOTICE: The Hydrofoiler XE-1 is intended for recreational use, for hydrofoiling on oceans, rivers and lakes clear of obstacles and traffic, handling moderate chop and swell, with a minimum water depth of 1.5 m. The Hydrofoiler XE-1 is not designed to be surfed. Manta5 recommends users are confident swimmers between 60 kgs-100 kgs (130 lbs - 200 lbs) and a minimum age of 16 years old.

The Hydrofoiler is designed to be capable of being launched from:

- A platform (such as a jetty, pontoon or suitable sized duck-board of a large boat);
- A beach location - flat or with small rolling waves, a flat sandy surface (excludes beaches with rocks or other abrasive surfaces); or
- Deep water (sub-launch) with a minimum clear water depth of 2.5 m required, and optimised for riders weighing between 60-90 kgs (130 lbs - 200 lbs).

5.3 MISUSE



NOTICE: For elimination of doubt, misuse constitutes using your Hydrofoiler XE-1: riding in extreme conditions, landing the foils onto rocks or other debris likely to cause damage if it is dropped or involved in an accident, if it is used for rentals or for commercial purposes (unless pre-agreed with Manta5 under special terms & conditions). The Hydrofoiler XE-1 is for a single rider only. It shall not be towed or used for towing, and should not be used in surf exceeding the intended use or operating conditions.

5.4 OPERATING POSITIONS

There are three main operating positions when riding the Hydrofoiler XE-1.

- Transition:** This is when transitioning from being off the bike, to mounting the bike. This position is used for example - when launching from a jetty, mounting the bike for a beach launch or sinking and mounting the Hydrofoiler XE-1 for a sub-launch. This position has the highest risk as the rider generally only has a few points of contact at a time. Extra care should be taken to avoid the propeller in Transition positions.
- Standing (on the pedals):** Riders will need to use the standing position to transfer weight while mastering techniques such as sub-launching and turning. Use the standing position to shift weight to the fore (forward) and aft (rear), or to the left (port) and right (starboard). Combining these to put weight onto the handlebars while leaning forward/backwards and/or to the sides is essential to balance and control the bike.
- Sitting:** Once foiling the rider is generally intended to sit, so use the saddle when you can to take weight off your legs and allow you to enjoy a longer ride time.

5.5 ACCIDENT OR BREAKDOWN



WARNING! - Operating Environment: Always ensure to let someone know where you are intending to hydrofoil, and what time you expect to be back. Remember not to venture too far in case of an emergency. Always be prepared and take a communication device in a water-proof case.

WARNING! - Plan your ride: Check with your local authorities and create an emergency action plan should you ever become stranded in open water.

- In the case of an accident or break-down; assess any injuries (if applicable) and if required use your communication device to alert emergency services.
- Return to shore if possible and safe to do so. If returning to shore is not possible then call emergency services with your communication device.
- Switch off the battery if not foiling.
- Manta5 recommend that you follow your local maritime procedures if stranded in open water. If in doubt remain with the Hydrofoiler XE-1 using it as a floatation device until help arrives.

5.6 FOULING OR BLOCKAGE



NOTICE - BLOCKAGE: There is a possibility of the propeller or foils becoming fouled by debris during operation. Follow the operating method for the items to be safely unblocked.

Depending on the quality of the water, a blockage may occur. Typical instances are debris blocking the propeller and preventing it spinning, or debris entangled on the foils. If this happens do the following:

- Dismount the Hydrofoiler and switch off the battery.
- If near the shoreline return to shore and to a safe location. If in deep water use the Hydrofoiler XE-1 to aid flotation during the unblocking process.
- Inspect the front and rear foil for debris. Generally this is easily removed by hand safely.
- Inspect the propeller for debris. Typically weeds or even fishing lines can become wrapped around the propeller. If this is the case, take care to unravel the debris, avoiding any sharp edges associated with the propeller blades.
- Once all debris is removed, switch the battery back on and re-mount your Hydrofoiler XE-1 to continue your ride, re-launching from a safe position free from the debris.

5.7 TECHNIQUE

The Hydrofoiler XE-1 can be launched from some Jetties, Beaches, and in deep water provided conditions are suitable (such as correct jetty height, water depth, beach surface etc.)

Riding techniques are constantly being updated, and having the correct technique will drastically improve riding experience. For the latest riding and launching techniques complete the online training courses at training.manta5.com.

PART 6. MAINTENANCE

6.1 MAINTENANCE AND SERVICING

Manta5 recommends that adjustment and maintenance operations be carried out by the user at regular intervals, aiming for preventive maintenance measures to ensure product longevity and lower the risk of product failure due to normal wear and tear.

Not all Hydrofoiler XE-1 maintenance can be carried out by the user, and often will require skilled mechanics, and/or trained service technicians (approved by Manta5). Where a "certified bike mechanic" is referred to in this manual, it is assumed that this will be any person that is suitably experienced and skilled with access to the required tools and equipment to perform the required maintenance and repair.

A separate database of Work Instructions is available. The bike mechanic must refer to the Work Instruction articles as these contain detailed instructions and safety information relating to skilled maintenance and servicing tasks.

Note that batteries, motors, and gearboxes cannot be repaired by certified bike mechanics and must be replaced or sent to a Manta5 approved service centre for repair. Contact your nearest Manta5 Dealer for further instruction.

These instructions are designed to enable adjustment and maintenance to be carried out safely by the user, including the protective measures that should be taken during these operations.



CAUTION - Isolation of energy sources: Always switch off the battery when not foiling and disconnect the battery when not using the Hydrofoiler XE-1.



NOTICE - Stability: Always make sure that your hydrofoil bike is stationary and stable before commencing: adjusting, maintenance, service, or repairs.



NOTICE - Corrosion: Marine environments can lead to accelerated corrosion. It is important that you understand the factors that can accelerate the corrosion, specifically galvanic corrosion- where different materials in electrical contact drive corrosion of one of the materials. Manta5 have done our best to reduce the amount of differing metals (metals relative nobility) in contact with each other by:

- utilising aluminium fasteners to suit the frame and brackets,
- using electrically isolated motor mounts and
- reducing the relative areas of cathodic materials where possible.

However, there are some environmental factors that we cannot control and need to advise:

- Salt water acts as an electrolyte (conducts current), and even when the bike appears dry; any residual salt left can drive galvanic corrosion as salt is hygroscopic i.e. absorbs moisture, and still conducts. Wash all salt water off after each ride.

- Moist environments: This enables electrical conductivity between metals, so after riding and washing, make sure you allow your Hydrofoiler XE-1 to aerate and dry out.

- Heat: Materials in contact within an electrolyte environment can corrode significantly faster in hotter temperatures, especially when combined with salt water (electrolyte and moisture). Store your Hydrofoiler XE-1 in a cool dry environment when possible. e.g. Leaving the Hydrofoiler XE-1 zipped up in a transportation bag in the sun while wet and salty will accelerate corrosion and shorten its usable life.



INFORMATION: Your Manta5 Hydrofoiler XE-1 uses anodised aluminium fasteners in some locations to remove the risk of galvanic corrosion. When loosening, tightening or torquing aluminium fasteners always make sure the hex key is fully inserted squarely before turning. Avoid using a ball-end type hex keys which can round-out the hex recess.

6.2 FOR BIKE MECHANICS

When taking your Hydrofoiler to a suitably qualified bike mechanic, please ensure you provide them with this Owners Manual, and that they can access the Technical Work Instructions at <https://helpdesk.manta5.com/>

If there are issues sourcing the online work instructions, or additional advice is needed by the bike mechanic, they must contact your Manta5 Dealer.

6.3 MAINTENANCE SCHEDULE

The following schedule can be used as a guide for maintenance servicing. If you use your Hydrofoiler XE-1 frequently or in extreme conditions, then you may need to service it at more regular intervals. Further details on each step follow in subsequent sections. If at any time parts are found to be damaged or worn, seek service, repair or replacements.

Activity Details	Instruction reference section	After each ride	20 h ride time or 1 month	120 h ride time or 6 months	2 years
Wash down with fresh soapy water	2.7.2	✓	✓	✓	✓
Inspect the battery	2.2.2.1	✓	✓	✓	✓
Check and maintain seat-post & saddle	6.3.7.1	-	✓	✓	✓
Check and maintain handlebars, stem & grips	6.3.7.2	-	✓	✓	✓
Check and clean chain Lubricate chain	6.3.8.3	✓	✓	✓	✓
Check sprocket wear & replace if needed	6.3.8	-	✓	✓	✓
Tiller, mini-tiller & front foil	6.3.9	-	✓	✓	✓
Rear foil, Bayonet shoe, Bayonet upright	6.3.10	-	✓	✓	✓
Propeller & nose cone	6.3.13	✓	✓	✓	✓

6.3.1 SERVICING SCHEDULE FOR BIKE MECHANIC

Some servicing activities require the skills of a certified Bike Mechanic and should not be attempted by you. It is your responsibility to ensure that the servicing activities listed below are carried out at the recommended frequencies, by a certified bike mechanic. For any assistance, contact your Manta5 Dealer.

Activity Details	20 h ride time or 1 month	120 h ride time or 6 months	2 years
Check cranks torque and pedals fastened	✓	✓	✓
Check buoyancy and cowlings	✓	✓	✓
Sprocket inspection	✓	✓	✓
eBike motor inspection	✓	✓	✓
Motor cooling system check	✓	✓	✓
Steering assembly	✓	✓	✓
Inspect gearboxes	✓	✓	✓
Change gearbox oil	-	✓	✓
Gearbox replacement	-	-	✓

6.4 GENERAL AFTER-USE MAINTENANCE

6.4.1 WASH DOWN



CAUTION: Always remove the battery before washing down the Hydrofoiler.



NOTICE: Do not use a high-pressure water jet to clean the Hydrofoiler XE-1, as this may cause ingress of water into electrical parts and could cause product failure.

NOTICE: Do not use abrasive or solvent-based cleaning agents. These could damage the materials used on your hydrofoiler.



INFORMATION: Ideally, use warm soapy water and a soft cloth to clean the Hydrofoiler XE-1 after use.

INFORMATION: While cleaning the Hydrofoiler XE-1, inspect for any signs of damage or corrosion of metal parts.

- Ensure that the battery is powered off and removed from the hydrofoil bike before cleaning.
- The battery can be cleaned by wiping with a damp cloth, and then drying with a dry cloth afterwards. Make sure you do not touch the power socket.
- If there is sand/dirt in the battery connector use a plastic/nylon brush and a vacuum to remove the material. Do not put metallic objects into the connector openings.
- Do not attempt to reconnect the battery to the charger or the bike if the connector is dirty. Doing so may result in permanent damage to the battery. If you are unable to fully clean the connector, please contact our customer service (support@manta5.com).
- After use in salt water the Hydrofoiler should always be washed down

with fresh water as soon as possible.

- f. Where the Hydrofoiler is frequently used in salt water, Manta5 recommend that the right side buoyancy modules be removed and the bike internals are washed down with fresh water.



LUBRICATE: Apply a chain lubricant to the chain after wash down. This will help prevent corrosion and extend the life of the components used on your Hydrofoiler.

6.4.2 CHARGING THE BATTERY

For instructions and safety information relating to charging your battery, please refer to: OWNERS MANUAL PART 3 BATTERY AND CONTROL SYSTEM.

6.4.3 HYDROFOILER XE-1 STORAGE

- a. Remove the battery and store as per OWNERS MANUAL PART 6.3.5 HYDROFOILER XE-1 BATTERY STORAGE.
- b. Remove the propeller and stow it safely to ensure no risk of damage or injury.
- c. The Hydrofoiler XE-1 should be stored safely and without damage. This means a clean dry environment, and mounted or rested and secured in a stable place upright, not on its side.

6.4.4 STORAGE OF FOILS

Before storing the foils you should:

- a. Wash down the foils with fresh water, and dry them.
- b. Store the foils in soft wrapping to prevent them from damage.
- c. Stow the foils in a secure place to prevent damage.

6.4.5 HYDROFOILER XE-1 BATTERY STORAGE

The battery life can be prolonged when being properly maintained and especially when being operated and stored at the right temperatures. With increasing age, however, the battery capacity will diminish, even when properly maintained. A significantly reduced operating period after charging indicates that the battery is worn out and must be replaced.



NOTICE: Never store a completely discharged battery as it might result in permanent damage. During the winter or long storage periods, it is recommended that you perform a storage charge.

- a. The battery should be charged to 50% before storage.
- b. It is not recommended to have the battery pack connected permanently to the charger.
- c. Store the battery in the following locations:
 - In a room with a smoke alarm.
 - Away from combustible or easily flammable objects.
 - Away from heat sources.
- d. Store the batteries at temperatures between 10°C and 20°C (50°F and 68°F). Never store them at temperatures below -10°C (14°F) or above +60°C (140°F). To ensure that the battery lifetime is as long as possible, storage at approx. 20°C (room temperature) is recommended.
- e. Take care that the maximum storage temperature is not exceeded. As an example, do not leave the battery in a vehicle in summer and store it out of direct sunlight. It is recommended to not store the battery on the bike.

6.4.6 HYDROFOILER XE-1 BATTERY

1. Remove the battery from the Hydrofoiler XE-1 (refer to 4.4.1 DISCONNECT & REMOVE THE BATTERY), ensuring the battery is powered off.
2. With a soft damp cloth wipe the entire battery down taking care not to scratch or damage the painted surfaces.
3. Check the area around the connector and its pocket to ensure that any sand or trapped material is removed. If necessary, use a thin plastic, non-conductive item to clear away any debris from around the rubber sealing ring and taking care not to push the debris into any of the small holes.
4. Dry the entire area with a clean dry cloth. If uncertain, contact or take battery to the nearest Manta5 approved service centre.



NOTICE: For information regarding the maintenance and servicing of your battery, refer to the following sections:

- 2.3 LITHIUM-ION BATTERY SAFETY
- 3.1 CHARGING THE BATTERY
- 3.2 INSTALLING THE BATTERY
- 6.4.5 HYDROFOILER XE-1 BATTERY STORAGE
- 4.4.1 DISCONNECT AND REMOVE THE BATTERY
- 4.3 TRANSPORTING THE HYDROFOILER XE-1 BATTERY

6.5 HYDROFOILER XE-1 CONTACT POINTS



TORQUE: Ensure any loosened fasteners are re-torqued to the correct setting.

6.5.1 SEATPOST AND SADDLE

1. The Hydrofoiler XE-1 seat post and saddle can easily be removed by loosening the seat-post clamp before withdrawing the seat-post from the frame seat post tube.
2. Make sure the seat rails are securely tightened to the seat post.
3. Check that the saddle post clamp is working properly and securing the post (failure to do so will mean that the saddle will continue to slide down and not hold the correct rider height position), reinsert it into the frame seat tube with the seat oriented correctly.
4. Adjust the seat height as required with the seat pointing straight forwards, tighten the seat post clamp. Once clamped, the seatpost should be tightened to 4-5Nm.

6.5.2 HANDLEBARS, STEM & GRIPS

1. Inspect the grips for obvious wear and tear and replace if necessary.
2. Check that all fasteners are tight (handlebars, stem and steering fork clamp). All 4mm cap screws should be tightened to 4-5Nm.

6.5.3 CRANKS AND PEDALS

1. Check that the cranks can freely back-pedal.
2. Spin each pedal around on its shaft, they should rotate freely without any obstruction or intermittent stopping. If any obstruction is observed, then pedal bearings may need replacing or new pedals fitted.
3. If required, Pedals can be removed using either a 15 mm pedal spanner or a 6 mm hex key.



NOTICE: It is important to remember that pedal threads are different from left side and right side. The right-side pedal has a right-hand thread (removes anti-clockwise, installs clockwise). The left side pedal has a left-hand thread (removes clockwise, installs counter clockwise).

- Periodically check that the crank arm securing bolts are tight. If these are loose then this can cause long term wear to arms and or Motor Crank shafts.

6.6 CHAIN & SPROCKETS



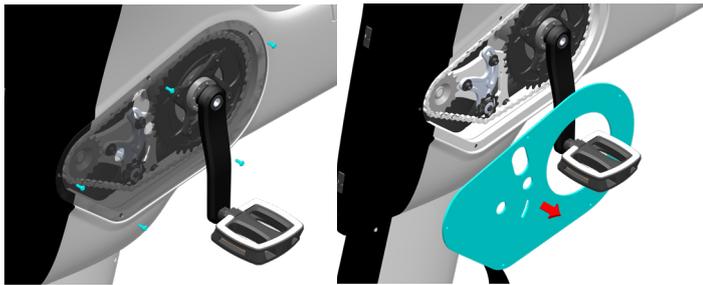
WARNING! Your chain is a critical part of your drive train and needs to be inspected and monitored for wear. If your chain fails while out riding, you could be left stranded.



CAUTION RISK, USER SAFETY: The motor assist function could start turning the drive sprocket automatically with rotation of the crank. Always turn the Hydrofoiler XE-1 off, disconnect and remove the battery prior to chain maintenance.

6.6.1 CHAIN ACCESS

For simple maintenance such as lubricating the chain, access should be adequate without removing the chain guard. Should the chain guard need to be removed, then this can be done by simply removing the guard fasteners. If greater access is required, then remove the right rear buoyancy module.



CAUTION RISK, USER SAFETY PINCH POINTS: Removal of safety guard. With the guard removed, your risk of injury is increased. Never place your hand or fingers or any other item between the chain and sprocket. Keep well clear when turning the cranks.

6.6.2 CLEANING THE CHAIN

The chain may be given a basic clean at any time by removing the chain cover and using a dry rag and wipe off any excess grease and grime, before reinstalling the chain guard.

For a thorough clean:

- Remove the chain by making sure to remove all sand and trapped abrasive material.
- With a clean cloth coat the entire chain with a Lanolin based spray lubricant such as PROLAN Enduro Medium grade Lubricant spray (or similar).
- Fit chain back onto bike. Allow the PROLAN spray 2 hours after application before using the bike.

6.6.3 CHAIN LUBRICATION



INFORMATION: At Manta5 we recommend environmentally friendly ProLan Lanolin Lubricants. Simply spray on your chain while slowly rotating the cranks (watch for over-spray) and let it set. Wipe away excess with a clean rag to leave a thin waxy film.

- Lubricate the chain using suitable environmentally friendly marine-grade chain lubricant (ROCOL or ProLan chain lube).
- Use a clean rag to wipe away any excess lubricant.

6.6.4 CHAIN INSPECTION

- Check for corrosion** - If your chain looks rusty, then make sure that once cleaned it is thoroughly re-greased with a marine grade chain lubricant to prevent corrosion.

Check your chain wear (frequently) - Chains wear as they are used. Chain wear can be measured using a chain gauge (various types exist). Chains should be replaced if 0.5% stretch is measured, or if chains show signs of corrosion. You may choose to have a bike mechanic measure your chain wear and replace the chain if necessary.



INFORMATION: If a worn chain is used, then it can stretch and prematurely wear the teeth on drive sprockets.

6.6.5 CHAIN REPLACEMENT

- With the chain guard removed (and while wearing gloves), move the spring tensioner away from the chain to allow the chain to become slack, then lift the chain off the sprockets.
- Replace the chain. The new chain should be the following specification: Manta5 Part Number: HA00011, Taya NOVE-91 (UL) Silver 9 Speed Chain.
- Check the chain length: With a standard 42T Chainring and 16T Sprocket, the chain should be 64 links along its length (If a user has changed the chain-ring to a smaller size, then a suitable chain length should also be purchased with the smaller chain-ring).

6.6.6 SPROCKET INSPECTION

If a new chain is to be fitted, then it could be worth replacing the drive sprocket. Over time, the teeth becoming hooked, with ends that resemble the tops of waves.

- Check your rings for hooking caused by chain stretch. Also check for bent or missing teeth.
- A new ring can be compared to an old to check tooth wear or damage.



GOOD CONDITION

WORN OUT - REPLACE

- On extensively worn drivetrains, the teeth of the cogs will begin to look hooked from the chain wearing on them.
- If either of the cogs show signs of wear they should be replaced immediately: Manta5 Part Number: HP00065 RING, CHAIN, 42T. A new chain should also be installed at the same time.

6.6.7 FRONT CHAIN RING REPLACEMENT

Once all chain and sprocket items are maintained or serviced replace the chain guard and secure it with the rivets provided.

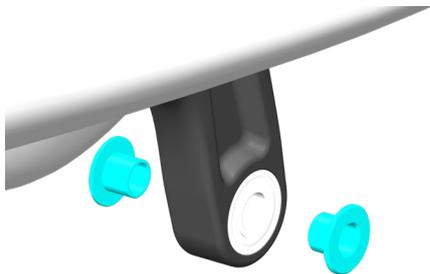
6.7 XE-1 MOTOR



1. The connector at the end of motor cable (that plugs into the battery) can become contaminated with debris. Clear any debris from inside and around the contact pins by using light air pressure (blowing or using a light brush). Never place any conductive items into the pin area, taking care not to apply too much force that might damage or bend the pins.
2. Dry the entire area with a clean dry cloth.
3. Check the length of the cable for damage or wear. If any wear is detected the bike should be taken to a local service technician for a check up.
4. Check all the bolts, screws and fasteners are securing the motor to its mount brackets are tight.

6.8 TILLER, MINI TILLER & FRONT FOIL

1. When the front tiller is mounted to the XE-1, it should rotate forward and back freely. There should not be significant sideways movement in the rotating joint. If there is: remove the front tiller and check that both of the bushings are in place

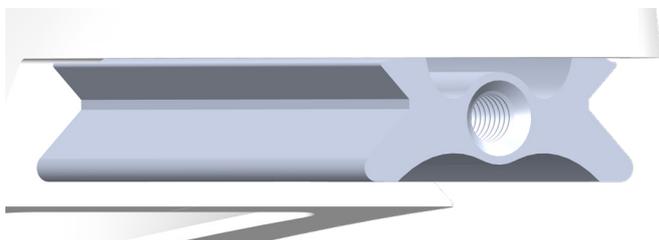


2. Clean the front tiller using warm soapy water and a soft brush.
3. Check that all parts of the front tiller are firmly connected to each other. If there is movement between any of the rigid parts, have the Front Tiller assembly serviced by a certified bike mechanic.

6.9 REAR FOIL, BAYONET SHOE & BAYONET

The rear foil is constructed from carbon fibre and is mounted to the Manta5 Hydrofoiler XE-1 via the bayonet shoe mating to the Hydrofoiler XE-1 bayonet upright.

1. Inspect the rear foil for signs of significant damage. **Cosmetic scratches are typically not structural.**



LUBRICATE: Lubricate the internal thread on the bayonet upright. Use environmentally friendly marine-grade assembly grease (such as Rocol White Chain and Drive Spray or equivalent).

6.10 GEARBOXES



NOTICE: Your XE-1 contains two gearboxes with environmentally friendly bio oil. The oil lubricates the gears and seals to extend the life of the gearbox. It is important for the longevity of your product that gearbox oil is changed every 6 months or 100 hours of use. This should be completed by a certified bike mechanic.

If the gearboxes are noisy when operating, it could also be a sign of excessive internal wear indicating need of replacement.

Contact your Manta5 Dealer for replacement gearboxes.

6.11 PROPELLER

Carefully inspect the propeller blades checking that there are no cracks or damage. Source a replacement if necessary.

6.12 TROUBLESHOOTING

PROBLEM	POSSIBLE REASON(S)	SOLUTION(S)
(While riding) Hydrofoiler nose-dives	Front tiller pivot has lateral play or is not freely rotating	Ensure that the tiller assembly joint is tight and pivots freely
	Mini tiller pivot is not freely rotating or is damaged.	Check the front tiller (and mini-tiller) for damage, lubricate the pivot joint.
Motor does not start	Battery connector damage	Do not use the battery. Contact Manta5 for a replacement.
	Low battery	Return to the shore immediately, refer to (ref battery charging)
	Motor over temperature	Contact your Manta5 Dealer
	Battery over temperature	Contact your Manta5 Dealer
	Water in motor	Contact your Manta5 Dealer
Cranks and pedals hard to turn or cranks not able to backpedal	The crank may be binding with the motor	Contact your Manta5 Dealer
Propeller not spinning	Chain broken	Refer to section 6.6.5 CHAIN REPLACEMENT
	Chain loose or fallen off	Replace Chain (refer to section 6.6.5 CHAIN REPLACEMENT) and if problem persists, contact your Manta5 Dealer for further assistance
	Sprocket worn out	Replace any worn sprockets
	Debris tangled around prop	Refer to section 5.6 FOULING OR BLOCKAGE
Noise and/or Vibrations	Gearbox noise	Contact your Manta5 Dealer for further assistance
	Motor noise	
	Propeller shaft noise	
	Propeller noise	

6.13 REPAIR

For service and repair of items not covered in the manual, Manta5 recommends that the Hydrofoiler XE-1 be serviced by specialised personnel mandated by Manta5 or an authorised representative.

6.14 DISPOSAL

6.14.1 BATTERIES

Batteries must not be disposed of in household waste and instead must be disposed of in an environmentally friendly manner (all batteries must be disposed of in accordance with battery disposal regulations in your country or state). Ask your Manta5 Dealer for information regarding battery disposal.

PART 7. MANTA5 SUPPORT

Manta5 support Find FAQ's work instruction articles, ride technique breakdowns and more using the resources below:

7.1 MASTER THE RIDE COURSE

Designed to get you up and foiling as fast as possible, get familiar with the launching and riding techniques on the Hydrofoiler XE-1 by working through our Course at training.manta5.com.

Broken down into simple, easy to digest parts, riders can quickly identify top tips and tricks, mastering the art of foiling.

7.2 HELP DESK

For troubleshooting and work instruction articles, please access this all online through www.manta5.com under the Support tab.

Access our help desk at helpdesk.manta5.com/knowledge.

7.3 CUSTOMER SERVICE SUPPORT

Email: support@manta5.com or visit manta5.com to find a local service agent.

PART 8. MANTA5 HYDROFOILER XE-1 WARRANTY

8.1 MANTA5 LIMITED WARRANTY

This Manta5 Limited Warranty ("Warranty") is a voluntary manufacturer's warranty by Manta5 LP, a New Zealand limited partnership (limited partnership number 2592602), acting via its general partner Bright Spark Innovations GP Limited, a New Zealand company (company number 4749042) ("Manta5"). This Warranty applies to the products listed below. Your legal rights as a purchaser may vary by country or jurisdiction. This Warranty does not affect these rights.

Before using the product, please read all of Manta5's "Product Materials" including, without limitation, user manuals, safety guidelines, specifications, training videos, social media posts, and service communications from Manta5 or its authorised representatives. Manta5 recommends that you register your product upon purchase at www.manta5.com as it will allow Manta5 to provide a better service in future.

Manta5 warrants for the relevant coverage periods that the Hydrofoiler will be free from defects in material and workmanship under normal use in accordance with Manta5's Product Materials.

8.1.1 WHAT IS COVERED?

Warranty periods are from date of delivery and differ between products as detailed below. The following products are covered under warranty:

- 2-Year warranty on Manta5 Hydrofoiler frames, and hydrofoils
- 1-Year warranty on Manta5 Hydrofoiler buoyancy modules, and drivetrain components, including motors, gearboxes, driveshafts, propellers, buoyancy modules.
- Manta5 Hydrofoiler batteries (including Hydropack): 1-year warranty or up to 250 charge cycles, whichever occurs first.

Proof of original retail purchase must be presented when making a claim under this warranty. Note that where the product is no longer owned by the original owner, the remaining warranty period (if any) is transferable to a second owner provided proof of original retail purchase is presented when making a claim.

8.1.2 WHAT IS NOT COVERED?

This warranty is void under the following circumstances:

- Improper use of the Hydrofoiler, including excessive, or other abnormal use.
- Crash, physical impact, collisions or fire resulting from non-manufacturing processes, or use in unsafe locations or unsafe conditions.
- By damage or defects caused by transport, loading, unloading, dropping, out of water handling, or inappropriate storage including, without limitation, damage or defects caused by exposure to temperatures outside the operating temperature ranges stated in the Product Materials.
- Modification of the product without Manta5 approval.
- Improper maintenance or servicing (including any failure to comply with the Product Materials when maintain or servicing the product), improper alteration, improper assembly and/or use of parts, accessories or software that are not compatible with the product.
- Wear and tear. Even when maintained correctly, some parts will eventually wear out and require replacement (such as chain-rings, chains, oil, bearings etc.). Similarly, the paint and bike graphics may be scratched as a result of normal use. Parts that are damaged due to wear and tear are not covered under this warranty.
- Commercial use of any kind.
- If the serial number has been removed or defaced.
- Colour matching of replacement parts is not included in this warranty.
- This warranty does not cover any software programs, whether provided with the Hydrofoiler or installed subsequently, or any loss of the Customer's data.

8.1.3 HOW TO MAKE A CLAIM/RETURNS

Contact your nearest authorized Manta5 dealer to make a claim. If you have purchased your product directly from the Manta5 website (www.manta5.com), contact Manta5 customer support (support@manta5.com).

In the event that a valid warranty claim is made, Manta5 may either repair the product, or replace it with a similar product then available.

This warranty is governed by the laws of New Zealand. In the event of any translation, the English version of the warranty will prevail. In the event of any dispute, the parties irrevocably submit to the exclusive jurisdiction of the courts of New Zealand.

CAB-442297-2-153-V2:JGA-e

PART 9. EU DECLARATION OF CONFORMITY

We,
Business Name: Manta5
Address: 18 Kaimiro Street Pukete, Hamilton 3200 New Zealand
Country: New Zealand
Declare under our sole responsibility for the equipment:
Equipment name: Hydrofoil Bike
Model: XE-1



That the equipment is in conformity with the following relevant Union harmonisation legislation:

- **Directive 2014/30/EU** - Electromagnetic compatibility (EMC)

EN 301 489-1 ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 1: Common technical requirements; Harmonised Standard covering the essential requirements of article 3.1(b) of Directive 2014/53/EU and the essential requirements of article 6 of Directive 2014/30/EU

EN 55014-1: 2017 Electromagnetic compatibility. Requirements for household appliances, electric tools and similar apparatus - Part 1: Emission (CISPR 14-1:2016 + COR1:2016)

EN 55014-2 Electromagnetic compatibility - Requirements for household appliances, electric tools and similar apparatus - Part 2: Immunity - Product family standard

EN 61000-3-2 Electromagnetic compatibility (EMC). Limits. Limits for harmonic current emissions (equipment input current ≤ 16 A per phase)

EN 61000-3-3 Electromagnetic compatibility (EMC) - Part 3-3: Limits - Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current ≤ 16 A per phase and not subject to conditional connection

- **Directive 2001/95/EC** - General Product Safety
- **Machinery Directive 2006/42/EC** - New Machinery Directive

And that the equipment is in conformity with the following harmonised standards and/or other normative documents or technical specifications.

- **IEC/EN 60335-2-29** : Household and Similar Electrical Appliances - Safety - Part 2-29: Particular Requirements for Battery Chargers
- **UN38.3** : UN Manual of Tests and Criteria, 4th Revised Edition, Lithium Battery Testing Requirements

Place and date of issue (of this DoC)

3rd July 2020

Manta5 LP
18 Kaimiro St, Pukete, Hamilton 3200, New Zealand

Signed by or for the manufacturer

Name: Mark Robotham
Function: CEO





WWW.MANTA5.COM