



VOLT 2 EFOIL

SAFETY WARNINGS AND DISCLAIMERS

USE OF THE PRODUCT AND PARTICIPATION IN THIS SPORT MAY LEAD TO RISK OF INJURY OR DEATH. BY USING THIS PRODUCT, THE USER ACCEPTS THE INHERENT RISK OF ITS USE. PLEASE FULLY READ THIS MANUAL BEFORE PRODUCT USAGE

The information contained in this User Manual represents the most up-to-date data available at the time of printing. Mantafoils is committed to continuous product improvements and reserves the right to change the product, components, specifications or other aspects of the Mantafoils product without advance notice.

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IMPORTANT WARNINGS

Failure to comply with these warnings may result in serious injury or death to you or others.

Fully read and comply to the owner's manual before use. If you are unsure how to operate the device contact your dealer. The use of this device mean you fully understand and acknowledge the risks of injury or death inherent to its use.

Never let any part of your or others body get close to the propeller when the battery is connected to the board. Contact with the propeller may result in serious body injury or death.

Never remove the propeller guard; it would compromise product integrity and safety as well as it may result in serious injury or death.

Do not disconnect the battery or any other part of the Mantafoils Volt efoil while in water as this could lead to electrical shock, fire, explosion and lead to serious injury or death.

The Mantafoils Volt efoil elements such as mast, fins, etc... can be sharp and may cause serious injury or death. Keep clear from them at any point in time. When falling from the board always jump in the same side as the board is edging to eject yourself away from the mast unit.

As you are about to fall, always fully release the trigger to immediately stop the motor. Be aware that if the receiver unit enters the water while your trigger is pressed it will take about half second for the board to detect loss of connection and cutoff the engine. During this period, you have no control over the board and this can lead to serious injury or death.

Do not operate your Mantafoils Volt efoil if the battery or any of the components shows abnormal wear or sign of damage. Carefully check the product before each use.

Do not ride within the 100m from the beach / shore as swimmers may be present.

Do not ride towards others in the water and maintain at least 100m from others.

Never operate the Mantafoils Volt efoil in water area less than 1.5m deep and always start from the board

Only press the remote trigger when you are on the board and when your surroundings are clear and any other person are at least 10m away and not in front of you.

Do not operate the Mantafoils Volt efoil in breaking waves. This product is not designed for surfing and such practice can lead to serious injury or death.

Do not ride near obstacles such as rocks, boats, light sailing vessels, etc...

Do not ride in area with debris, seaweed, or dense wildlife.

Always wear a coast guard approved personal floatation device (PFD) as well as a full faced helmet.

Do not wear loose clothing that could get into the propeller and lead to serious injury or death.

Always ride your board within a distance to the shore that you can swim back and with sea condition that are adequate to your swimming level. Only experienced swimmers shall use this product. Always monitor the battery usage and return to the shore before it is exhausted.

Never operate this product if you are not in good physical health or while under the influence of alcohol, drugs or medications.

Always control your speed and never exceed speeds that can put you or others in danger. High speed involves higher risk of serious injury or death.

Never use this device to tow anything or anybody. This is a personal watercraft for the use of one single adult person only.

Do not allow others to operate your board before making them fully aware of the operating procedures and dangers inherent to this board.

Children below 16 years old are not allowed to use this powerful water device.

Do not leave the board unattended with battery inside.

Never use this board in offshore wind conditions, thunderstorm and lightning or severe weather conditions. Always check weather forecast before riding and Follow authorities' advisories. Inform people on the shore of your expected riding location.

Always maintain your board servicing at the recommended intervals to maintain safety of your board.

Always make sure all the components are fully clean and dry before connecting the battery.

Never allow sand and/or water to get in the connectors! It can cause significant damage.

The Battery features a magnetic switching system. Placing any magnetic device near the battery prior to battery connection may lead to risk of electrical spark that could not only damage your equipment but also lead to risk of fire, serious injury or death.

The battery system safety status can be monitored from either the phone application (refer to user manual for installation

instructions) or the remote control. Always check the battery status through those devices prior to connecting and using it. Do not run the motor (spin the propeller) for more than 5s when out of water as this could lead to product damage.

This product is subject to local laws and regulations. It may be necessary to obtain a license or a permit to use this product in certain areas or countries. Always observe local rules and regulations when using this product.

BATTERY WARNINGS

WARNING



**HIGH VOLTAGE, DO NOT OPEN, NO SERVICABLE PARTS INSIDE.
RISK OF ARC FLASH, ELECTRIC SHOCK, SERIOUS INJURY, DEATH.**



**RISK OF ELECTRICAL SHOCK.
DO NOT HANDLE WITH WET HANDS OR IN WATER.
DO NOT CONNECT THE BATTERY IN WATER**



**RISK OF FIRE, STORE IN DRY PLACE.
DO NOT EXPOSE TO DIRECT SUNLIGHT.**



**DO NOT EXPOSE HEAT SOURCE / TEMPERATURE ABOVE 45°C / 115°F.
HIGH TEMPERATURE CAN LEAD TO FIRE OR EXPLOSION.
DO NOT USE IN TEMPERATURE BELOW 0°C / 32°F.**



**RISK OF EXPLOSION.
DO NOT DISPOSE THIS BATTERY.
RECYCLING OF LI-ION BATTERY REQUIRES SPECIALIZED FACILITIES.**



**TRANSPORT THIS BATTERY PACK IN ACCORDANCE WITH ALL
APPLICABLE LAWS.
REFER TO BATTERY MSDS FOR FURTHER DETAILS**



**DO NOT LEAVE THE BATTERY UNATTENDED WHILE CHARGING.
CHARGE IN DRY AND SAFE ENVIRONMENT.
ONLY CHARGE WITH THE SUPPLIED DEDICATED CHARGER.**



**DO NOT OPEN, OR ATTEMPT TO MODIFY THIS BATTERY.
ONLY USE THIS BATTERY FOR ITS INTENDED PURPOSE.**



**DO NOT MISHANDLE, DROP, PUNCTURE, DAMAGE THIS BATTERY.
CAREFULLY INSPECT THE BATTERY PRIOR TO EACH USE.
IN CASE OF ANY DAMAGE, DO NOT USE THIS BATTERY.**



LI-ION BATTERY
MODEL MF-VOLT-14S10P
RATED CAPACITY: 50Ah / 2.6KWh
INPUT VOLTAGE: 52V NOMINAL / 15A CONTINUOUS CHARGE CURRENT
OUTPUT VOLTAGE: 52V NOMINAL / 80A CONTINUOUS DISCHARGE CURRENT / 120A PEAK (10s)
POLARITY: ORANGE + / BLACK -
IP RATING: IP67 (WITH CONNECTORS MATTED ONLY)



FOR FURTHER INSTRUCTIONS REFER TO USER MANUAL



MANUFACTURED BY NANTONG NINGYUAN AUTOMATION TECHNOLOGY CO.,LTD

WARRANTY

The product is subject to a warranty that is limited to a period of 12 months from the shipping date of the related product order.

For full details about the warranty, please visit <https://www.mantafoils.com/tofs>

VOLT 2 EFOIL – WHAT’S IN THE BOX

Volt 2 efoil is shipped in 3 separate packages:

- Efoil propulsion unit
- board
- battery and charger

PACKAGE 1 - VOLT 2 EFOIL

Volt 2 efoil is available in 2 masts lengths (85 and 65cm) and with the option of 2 front wings (F1350 and F1600).



F1600 – Freeride wing

Manoeuvrability – Accessible
Recommended for most riders



F1350 – High aspect wing

Long range – high speed
For intermediate to advanced riders

The foil package comes with several accessories as follows:



Remote Controller



Wireless Charging pad and cable



2 power cable leads



Receiver unit



ReelX
Connector's protection



Tefgel
Screw's corrosion protection



Right angled data cable



Data cable extension



Allen key tools

PACKAGE 2 - BOARDS

4 boards are available:

145L Inflatable – for yacht rentals and school as well as heavier riders

110L Inflatable – Easiest board for most riders

95L Carbon – The most versatile high performance board

65L Carbon – The most extreme carving board



145L Inflatable

110L Inflatable

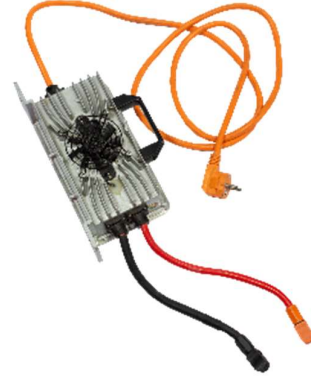
95L Carbon

65L Carbon

PACKAGE 3 – BATTERY AND CHARGER



50Ah – Long Range Smart Battery



15A – Standard charger

PRIOR TO THE RIDE

EFOIL ASSEMBLY

We have done the hard part and pre-assembled majority of the design. All that is left for you to do is to attach the wings and the fuselage to your foil. Follow the instructions detailed below and your assembly should be a smooth ride. For your convenience, the screws required to assemble the foil are pre-placed in their respective holes.

1. Begin your foil assembly in a clean area free of any sharp objects that could potentially dent or scratch your parts. First, carefully take the fuselage from your package. Before the screws are locked in place, use a thin layer of anti-corrosion tef-gel provided in the accessories on the screw slots.

NOTE: Always apply tef-gel to any screw inserts and for extended durations loosen the screws and reapply tef-gel every few weeks. This is to prevent corrosion of the metal surface in contact with the screws.

2. When assembling the wings, apply tef-gel to both the front and back of the screw inserts. Fasten the front wing to the head of the fuselage with the screws that are already in place using the hex key provided. Secure the back wing at the tail of the fuselage using the --- screws. Ensure the screws are tightened securely. An indicator of correct mounting is if the wings remain steady in place and do not wobble. The thin edge (trailing edge) of the wings is facing the back the of foil (facing towards the propeller).

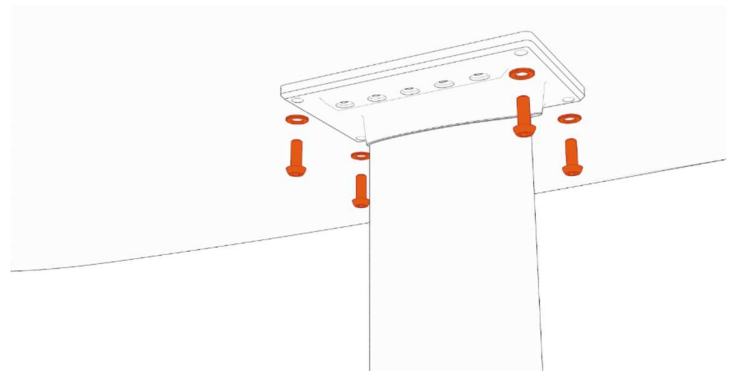
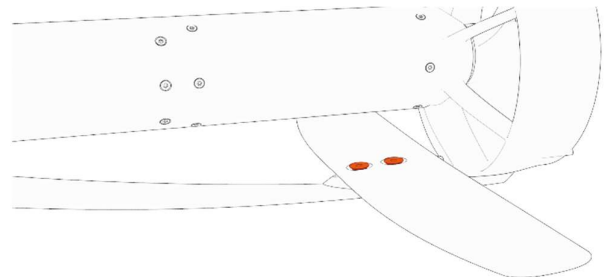
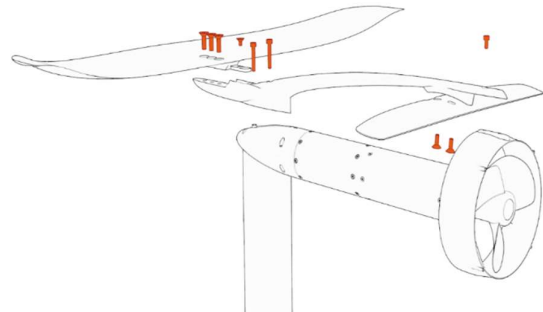
Note: After each of first 3x usage, it is good practice to tight again the screws as they can become loose.

Prior to riding always inspect the product for loose screws.

3. Next, carefully remove the e-foil from the arrival bag and place it on a clean protective surface upside down. Attach the fuselage to the foil using--- screws.

4. Once your wings and fuselage is attached to your foil secure the e-foil to the bottom of the board using ---- screws.

CAUTION: While assembling, beware of sharp edges of the wings and the propeller.



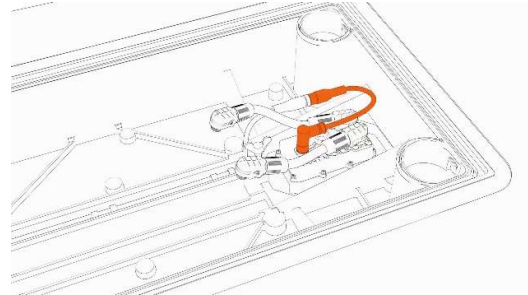
BOARD PREPARATION

Attaching the receiver to your board

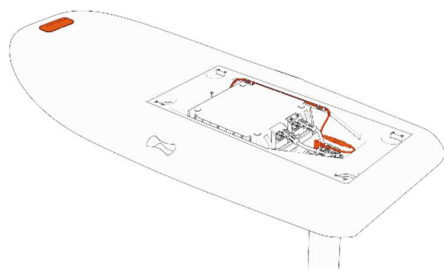
1. To attach the receiver to your board you will need the 10.5 cm extension connector and the 60cm extension connector.

Note: This connector shall not be removed further on. When disconnecting the efoil disconnect the extension end so that this cables remains connected to the efoil head. This protects your efoil from connector damages.

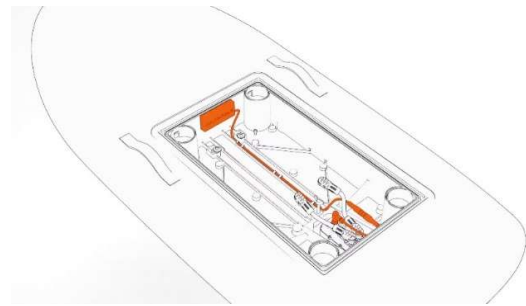
2. Open the latches to the battery compartment. Connect your receiver to the 60cm extension cable. The opposite end of the cable is connected to the 90-degree extension cable. Now connect to the port above the power cables on your foil. Use cable clips to secure the cable in position.



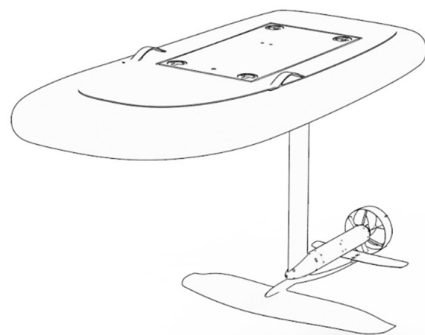
3. Remove the 3M tape from the back of the receiver case and place the receiver in the position specified in the image.



Carbon board: receiver at the nose

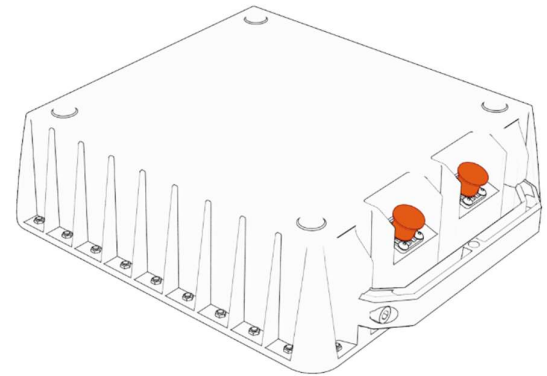


Inflatable board: receiver inside battery compartment

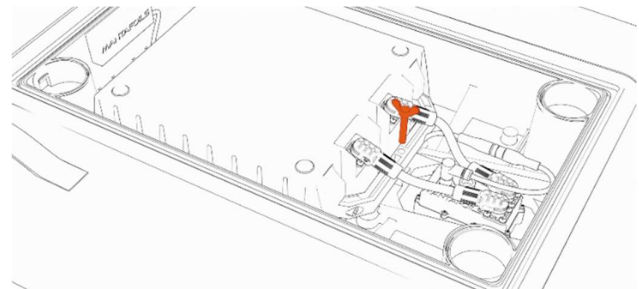


Installing the battery

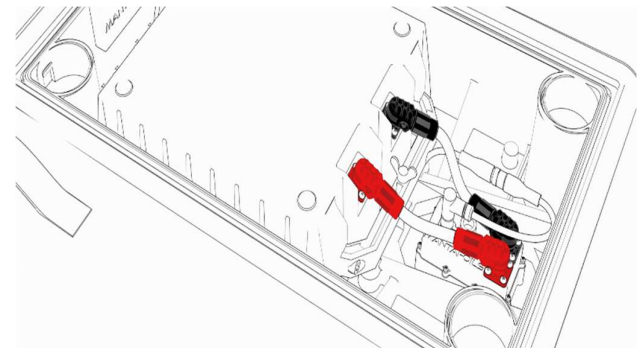
1. After you have completed connecting the receiver, the next step is installing the Volt smart battery. Hold the volt smart battery by the handle and carefully lower it into the board cavity. While placing the battery in the slot, ensure the connectors on the battery are facing upward. To ensure the battery is secure in position, the bottom of the battery must be placed upon the two washer clips within the slot.



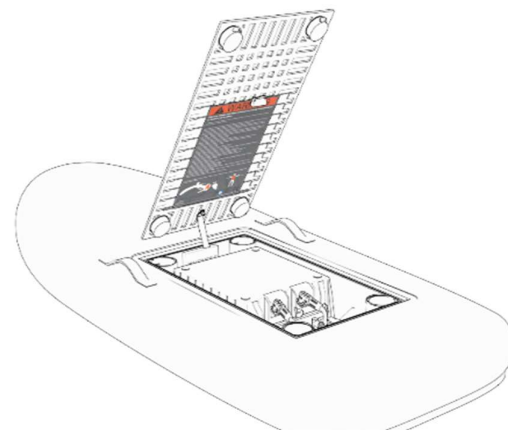
2. Once the battery is in place, lock into position using the butterfly screw. Ensure the screw is tightened securely.



3. Next, use the power cables to connect the battery to the foil. The orange connector on the battery is connected to the orange connector on the board and that the black connector on the battery is connected to the black connector on the foil. You should hear a click when the cable is successfully connected.



4. Closing the battery compartment powers on the foil. Ensure that nothing is caught between the seal of the battery compartment and is closed properly.



CAUTION: Be careful not to damage the seals of the battery connectors.

NOTE: The board has been designed to have the battery compartment filling up with water to provide additional cooling to the battery. The water will drain out through the designed one way ball valves from the foil plate head while you ride.

REMOTE CONTROL CONNECTION

1. The remote controller is turned on by placing a magnet above the screen and is powered off by holding the center button for 5 seconds. You can use either provided separate magnet or the board cover magnet or even the motor body for this purpose.

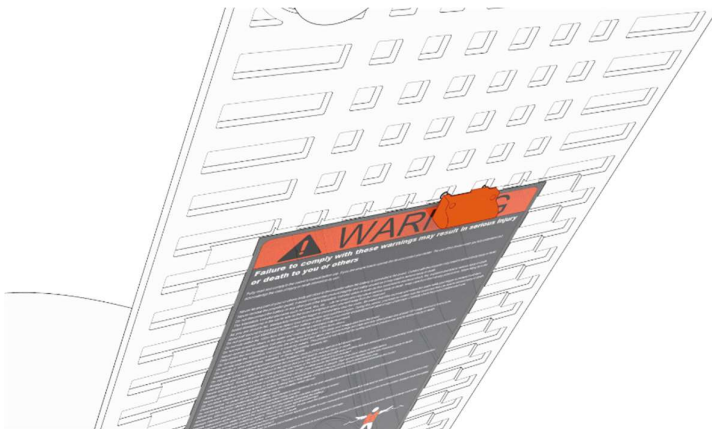
Pairing the remote controller via Bluetooth.

The remote must be paired to your receiver (your board) before you can use it.

Prior to the below procedure you need to have your battery in the board and plugged to the efoil but with the board's lid opened so that the efoil is not powered.

1. Turn on the remote controller.
2. Hold down the negative (-) button to go to the menu page.
3. Navigate to the RX link menu by clicking on the positive button '+'.
4. Press the center menu button to enter pairing mode
5. Power on the efoil by closing the lid.
6. Once the receiver is paired, the controller will reboot.

Note: Once the foil is switched on, there is only a 10 second window to pair the remote to the receiver.



READY TO RIDE

RESTING AND CARRYING YOUR BOARD

When you place your board on the shore ensure that the nose of the surfboard is in contact with the sand and the propeller is facing upward. Alternatively, you may keep the board on its side. Pay attention to the wing tip as they can be easily damaged.

After ensuring your board has been assembled and installed correctly with charged batteries, you are now ready to try out the board. Carry the board to the water shallow enough to create a fair distance between the propeller and ground.

The board has side handles designed to carry it. Hold the board with one hand holding the handle and the second hand holding the mast. You may need to adjust your hand position on the mast to find the right balance.

CAUTION: When lifting the board off the shore, pay particular attention to lift the wings completely to prevent their tip pressing on the ground and avoid wing breakage.

Do not aim to drag the board into the water as it could risk damaging the components and lead to personal injury while in use.



GETTING ONTO YOUR BOARD

When you begin to use your e-foil ensure that you are aware of your surroundings and others when in use of the product. Refrain from using the board in a crowded environment.

Ensure that the controller is ON and paired with the foil. If not paired, pair it by following the instructions in this manual.

CAUTION: Ensure that the wings and propeller never get into contact with the underwater ground as it could get trapped in the sand beneath or hit rocks and possibly damage the part.

Hold the remote in your dominant hand and tighten the remote band onto your wrist.

CAUTION: Do not unlock your remote when you or others are standing too close the propeller.

Swim around the board with your body flat on the water in order to maintain your body parts away from the wings and propeller. Contact with the wings or propeller could lead to serious injury or death.

CAUTION: Do not step on the wing when climbing onto the board.



When ready to go, climb onto the board staying to your chest and having a position such that your hand can reach the board's nose. Keep the elbows tucked to the side supporting your chest on the board and your feet on either ends at the bottom of the board.

Adjust your bodyweight toward the front of the board so that the board stays parallel to the water. In case the nose of the board lifts above the water, move yourself toward the front of the board. This will ensure better control and stability on the board.

You are now ready to ride.

Note the position of the receiver in the inflatable board is at the top front of the battery compartment. Since the board is designed to let water in, excessive weight on the board may lead to receiver immersion and loss of signal to the remote. Should this happen, you may either tilt the board a bit sideways to release water out. You may alternatively point nose a bit upwards.

Carbon boards have their receivers in the board's nose and will not have such situation.



RIDING YOUR BOARD

1. Now you are ready to start riding the board, click on the Minus button to engage the motor.
2. Gently and gradually press the trigger to increase the throttle of the motor.
3. Press the trigger until you get sufficient power to get to planning speed. If you do not have enough speed, you may accelerate further by holding down the plus button. This will increase your max throttle output gradually.
4. Once you reach desired power release the plus button. You may press the minus button to decrease power if you have too much. You may also release slightly the trigger to obtain the same power reduction.

CAUTION: Do not press trigger fully when you start out riding the e-foil especially while the throttle start mode is above 25% as it could to a board wipeout and lead to injury or death.

When riding the first times do not try to go fast, just maintain slow speed to get used to the board dynamics and balance.

5. To navigate your board to the left or right, lean slightly towards your desired direction and the board will follow your movement. The more you are positioned back of the board the sharper the turn will be.
6. Once you are comfortable riding the board lying down, maintain constant speed to gradually move onto your knees whilst keeping the bodyweight on the front half of the board. Placing your hands on the board, push your body up and move your knees under you. Should you feel the foil lifting, move your body forward so that the board stays in contact with the water.
7. Upon managing to control your throttle speed and body balance, you may slowly transition to your feet. Start putting your front feet forward while holding the board nose with your hand. Hold the trigger steady to avoid speed change while performing this body position transition.
8. Always remember that weight pressure to the front of the board maintain it on the water. Only release front pressure when you are ready to fly. It is good practice to rider without flying at first and then gradually attempts short flights while bouncing the board to the water.
9. Once familiar with this process you may. Release further the board nose pressure until it lift off.
10. Moving body back pitch up the board, Moving forward pitch it down. Similarly throttling up pitch up the board while throttling down pitch down.

Note: It is important to be smooth and precise with the trigger pressing and releasing. While learning you may hold the trigger fully and use the buttons to fine tune your speed.

11. Practice makes perfect. Take your time out to get comfortable using the board and navigating it and maintain your throttle speed.



12. When starting out, wipeouts are normal and contribute to your learning process.

NOTE: when you fall off the board, always immediately fully release the throttle trigger. This will automatically lock your remote.

13. Your weight plays a critical role to maintain balance on the board. Learn to adjust your weight on the board. Try to always maintain the board parallel to the water. If the nose of the board projects upwards you will topple off the board.

CAUTION: Always try to fall on the opposite side of the foil. Then falling, eject yourself away from the foil. Learning how to fall is an important part of the process and is key to reduce risk of injury or death.



POST RIDE

GETTING BACK TO THE SHORE AND POWERING OFF

1. When you have finished riding your board, ensure to power the remote controller off by holding down the middle menu button for 5 seconds to prevent unnecessary activation of the device.
2. Safely carry the board back to shore. You may carry the board from the handle and mast similarly to the technique used to carry the board to the water.
3. Once on the shore, open the battery compartment. This will disengage the magnet and power off the foil.
4. Detach the battery from the board by using the butterfly key to unscrew the lock. Disconnect the connectors from the battery and replace the red caps back on the battery connectors and separate the battery from the board.
5. Should you need to disconnect the foil from board, disconnect the 10.5cm cable from its extension. Do not disconnect it from the foil head. This connector shall be connected to the head at all time.

POST RIDE CLEANING

Ensure the following steps are repeated after each use and as needed to enjoy your future rides.

1. When you are done using the e-foil board, spray down the board with pressurized fresh water to clean the board of any sand residue and salt water.
2. Check to see if any debris has invaded the battery compartment or connectors. Rinse it out and dry with a towel.

NOTE: Ensure the connectors and battery compartment is dried completely before being stored away.

3. Rotate the propeller carefully by hand and rinse off excess sand residue.
4. Wipe down the board and its accompanied parts clean with a dry towel.

MAINTENANCE AND STORAGE

1. The e-foil and Battery **MUST** be stored in a cool and dry place. An exceeded duration of exposure to UV rays may lead to damages on the board and parts in addition to risk of fire. Additionally you may store the battery into purpose made fire retardant aluminum cases for enhanced safety.
2. For increased longevity of your board, every few weeks reapply tef-gel to the fuselage and wings screw slots.
3. Apply ReelX liquid to the connectors on regular basis (once every 15 rides)

CHARGING YOUR REMOTE AND BATTERY

REMOTE CONTROLLER CHARGING

The e-foil remote should last ideally for several sessions.

To charge your remote controller, connect your charging pad to the USB cable both of which are provided in your toolkit. Power on your remote controller with supplied magnet. Do not press the middle button as it would enter operation mode. While in charging ready mode, the remote displays it's battery percentage every 60 seconds.

Then, place the body of the remote controller on the charging pad with the round logo facing up. The blue light on the charging pad indicates the remote is charging.



Once the remote is charged, it will restart automatically and if left unattended for an extended duration the remote will power off after 5 minutes.

NOTE: When the battery is low, the remote power is cut off and can only be used after charging. Return the remote to the charging pad to recharge. It is good practice to always maintain a remote control percentage above 30%.

VOLT SMART BATTERY CHARGING

The Volt smart battery should ideally provide you with a ride time of 90-120 minutes depending on your weight and riding style.

1. Position the charger in front of the battery near the connectors.
2. Connect the charger connectors to the battery. The orange connector to the orange plug and black connector to black plug.
3. Plug in the charger cable to the socket. The typical charge time is 4 hours on standard charger and 2 hours on the fast charger.

The battery status is accessible via the Mantafoils smartphone application (available Q4 2021).

CAUTION

Do NOT keep charger unattended while charging. If the battery heats up while in charging, disconnect charger.

Charging MUST be carried out in a dry and safe location.

After charging or when not in use, it is recommended to keep the Volt Smart Battery stored in an optional fireproof case.

REMOTE CONTROL OPERATION



REMOTE DISPLAY PAGES





MENUS AND FUNCTIONS

Several future functions of the remote will be unlocked across 2021. Such functions are briefly described below:

- Battery Bluetooth data access through the remote control.
- Power saving Screen auto off while inactive or facing down.
- Enhanced trip estimation and home return point estimation.
- Data logging to access post ride traces on maps and read key metrics.
- Auto lock remote while falling.

MOBILE APP (ANDROID)

The mantafoils app allows to access battery status as well as performing remote control and receiver firmware updates.

The app will be officially available Q4 2021.

TROUBLESHOOTING

