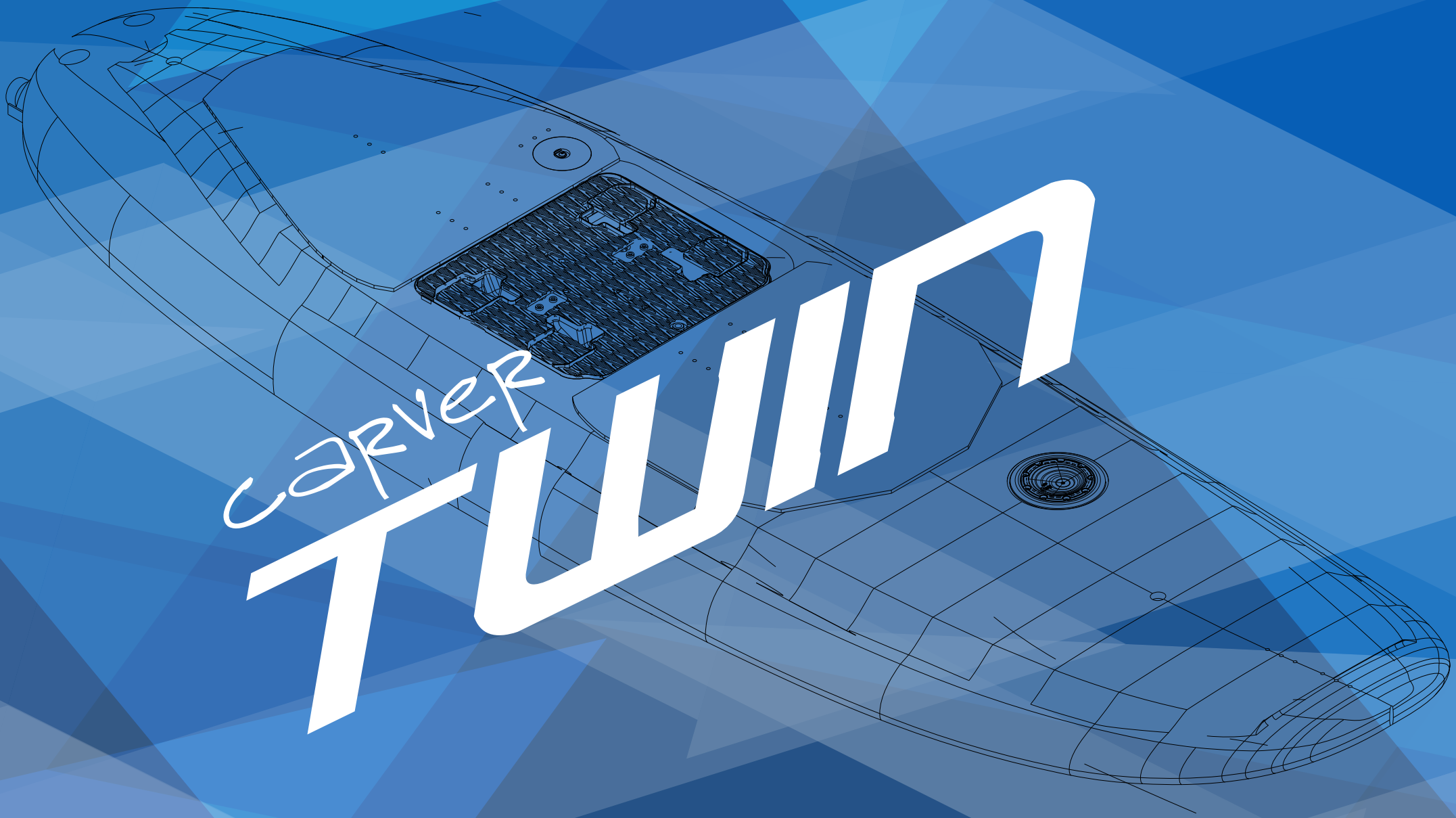


carver

TWIN

FULL USER MANUAL

Onean

carver TWIN

www.onean.com

WARNING!

The practice of jet powered watersports can be dangerous if the necessary precautions are not taken. For this reason, we have prepared this user manual. It will help you to know your new Carver Twin board and to use it correctly.

It contains information related to the assembly, care, use and maintenance of your Carver Twin board. Please read this manual carefully before using the equipment.

It is the responsibility of the user to take the necessary measures for a safe use of the products from Aquila Boards. The company will not be responsible for any damages that may arise from the improper use of the equipment as well as its deterioration due to incorrect maintenance.

index

1. MAIN SECURITY CHECKS

It is important to get familiar with the board's security systems before starting enjoying it. Please make sure you use the board following the instructions provided in this manual.

- **Always check the unit before entering the water.** Make sure the board, the safety disconnection system, the battery and the wireless controller are in good condition.
- **Do not lend your equipment to anyone who has not been instructed** in the use of the Carver Twin.
- When entering the water, you must **avoid entering through wave break areas** and in case of doing so, you must always place yourself between the board and the wave. This way the board will not harm you in case a wave strikes you.
- Never practice this sport if the conditions exceed your **skill level.**
- Always wear the **Leash attached** while using the unit.
- When getting on the board you must **always do it from one side,** even in areas of high depth. The water jet has great power and could cause injuries.
- **Never place your hands or feet near the impeller.** The suction force from the jet is very powerful and it could drag them to the interior. Even with the battery disconnected you must be aware of the impeller since the leading edges are sharp and may cut.
- You must take into account that **the board does not have a braking system**. Although you may discontinue to press the throttle, the board will continue moving forward due to its inertia. This route can be relatively long if you want to move from the glide status to the stopping one. It is recommendable to slow down as you approach the target area where you want to stop.
- **Do not touch the steel tube right after use** since it could be at elevated temperature.

2. Packing List

The following describes a list of the components included with the equipment and a description of them.

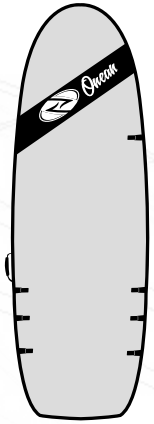
2.1. Carver Twin Board

Construction with EPS core and laminated fibreglass and epoxy full sandwich.

- Weight (without the battery): 23 kg / 50 lbs
- Length: 240 cm / 7.8”
- Width: 70 cm / 27.7”
- Thickness: 15 cm / 5.9”
- Volume: 150 L

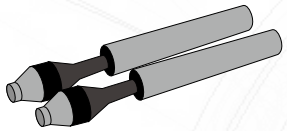
2.2. Carver Twin Bag

- Semi rigid Carver Twin Bag.
- Full bag inner padded reinforcement.
- Includes detachable wheels that ease transporting.



2.3. 2 Jet Units

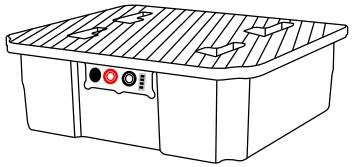
- Nominal power: 5 kW
- Nominal voltage: 44.4 VDC
- Static push: 320 N



2.4. Battery

Short circuit, overcharge and temperature protection. Waterproof.

- Type: multicell Litio-Ion
- Weight: 14 kg / 30 lbs
- Max. electric discharge: 130 A
- Nominal capacity: 40.0 Ah
- Nominal voltage: 44.4 V
- IP68 certified



2.5. Charger

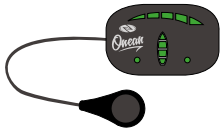
Over voltage protection. Thermal protection. Short circuit protection. Reverse polarity protection. Charging indicator.

- Input power: 220-230 VAC (*Also available 110 VAC)
- Charging current: 15 A
- Output voltage: 50.4 VDC

2.6. Remote Control

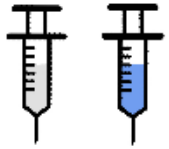
Watertight. Thrust display. Battery display. Pressure sensor Drop. Induction charging.

- Frequency: 2.4 GHz
- Battery: LiPo 300 mAh



2.7 Grease

White grease for battery connectors, blue grease for mechanical maintenance.

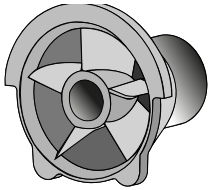


2.8. QI CHARGER FOR THE WIRELESS CONTROLLER

Qi inductive technology charger that simplifies charging into just setting your controller down on the charging pad. Input: 5 V - 2 A, Output: 5 V - 1 A.

2.9. STATOR+NOZZLE

- Custom designed and CNC machined out of high strength and corrosion resistant tempered aluminum.
- Parts are hard anodized and fixed joint



2.10. IMPELLER

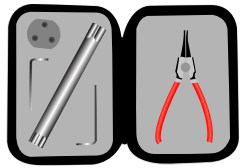
- 63.6 mm diameter. Custom designed and CNC machined out of high strength and corrosion resistant tempered aluminum.
- Hard anodized, providing extra corrosion resistance and an increased surface hardness.

2.11. HANDLE

Made of highly durable thermoplastic rubber, end webbing is doubled and stitched for extra strength and security.

2.12. TOOLING KIT

- Contains conventional manual tools.
- Screw set and custom made tools necessary for impeller extraction/insertion.
- All high strength and corrosion resistant.
- Ex. Impeller extractor tooling.



2.13. TRIGGER

Ideal to minimize the effort of pressing the drop. Just place the drop inside the trigger and press on it. Easy to install, easy to remove.

2.14. FOOTSTRAPS

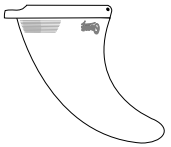
Pre-formed arch prevents collapsing. 7 mm neoprene padding. Internal adjustment system. Twist control system.

2.15. LEASH + SECURITY KEY

7-Feet Coiled leash. Padded neoprene cuff. Stainless steel swivels to stop tangles. Custom made security magnet pull system.

2.16. US BOX FINS

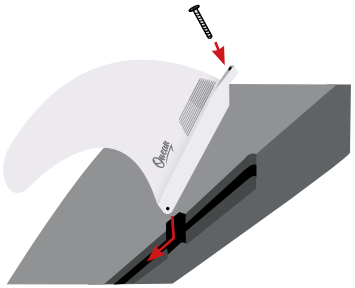
Hard plastic and fibre 6,5 inch UsBox fins.



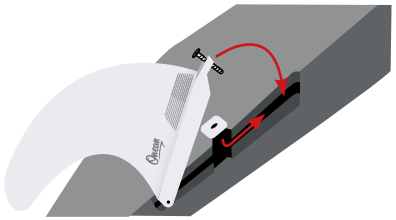
3. First assembly

3.1. Insert the fins

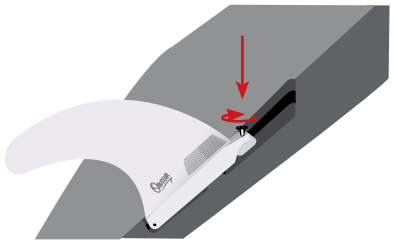
1. Insert the fin inside the finbox as shown in the picture.



2. Insert the metallic square in the finbox and move it until it alignes the screw.

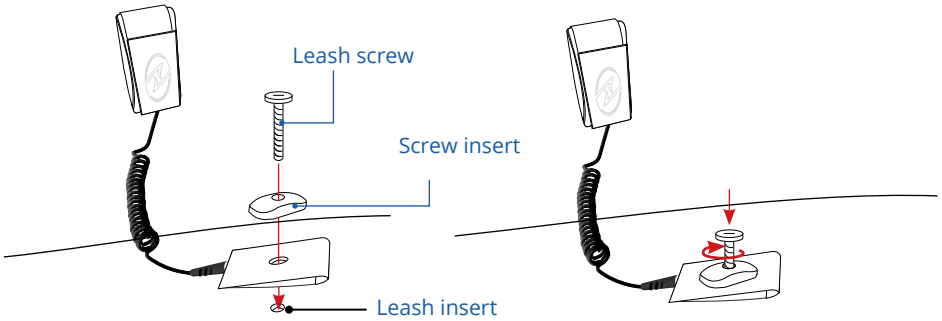


3. Fix the screw attaching the fin to the board.



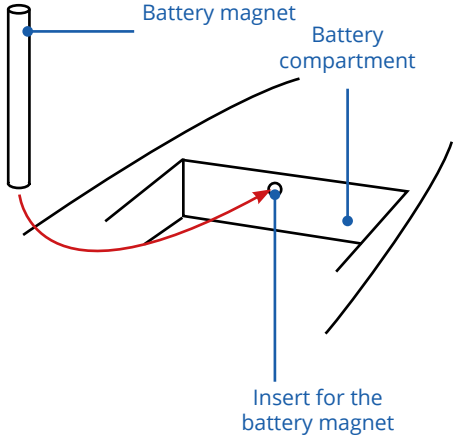
3.2. Install the leash

1. Insert the screw through the insert and hold the leash.
2. Align the holes with the leash insert located on the left hand lower side of the board on the non-slippery surface.
3. Screw the piece to secure it.



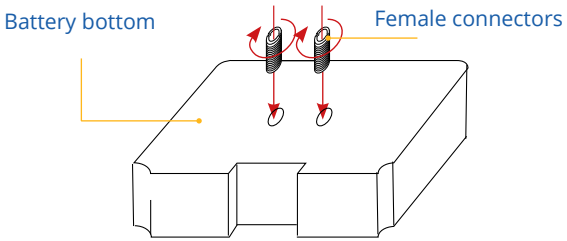
3.3. Insert the battery magnet

Before using the unit for the first time, the cylindrical magnet must be inserted in the hole inside the battery compartment.



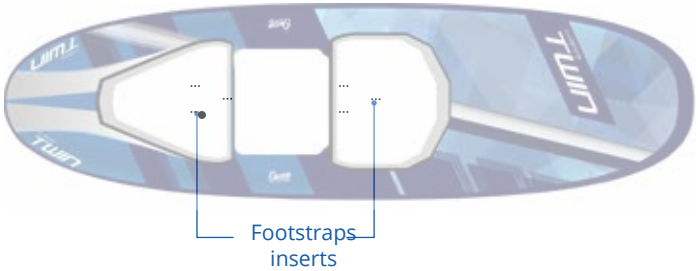
3.4 Insert female conectors

Please, screw the female connectors, found in the wireless controller case, in the holes of the bottom part of the battery using the tool provided on the tooling kit.

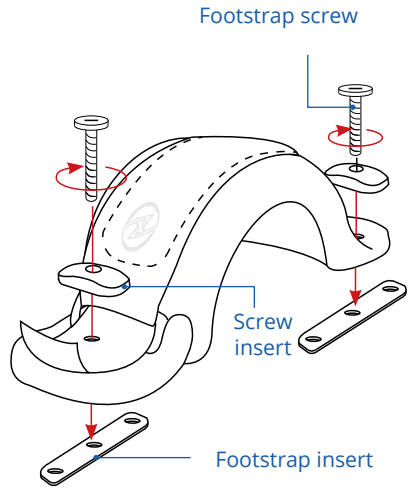


3.5. Positioning the Footstraps

The board incorporates inserts valid for both goofy and regular riders.



1. Depending on the style of riding, place the footstraps over the desired inserts. One on the front of the board and one on the back.
2. Place the screw through the screw insert and hold the footstrap.
3. Align the holes with the footstrap insert.
4. Screw the footstrap to secure it.



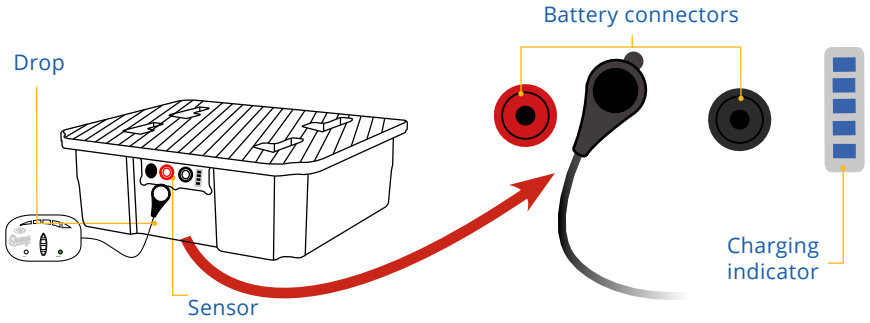
4. Use and Configuration of the Equipment

4.1. Battery

4.1.1. Battery transport and storage

- In order to travel with the board, the battery must be below 20% of charge. This means that the LED bar must be only showing one LED.

  Placing the drop near the battery display you will be able to check the battery level.



Visualization	Charge%
■□□□□	20%
■■□□□	40%
■■■□□	60%
■■■■□	80%
■■■■■	100%

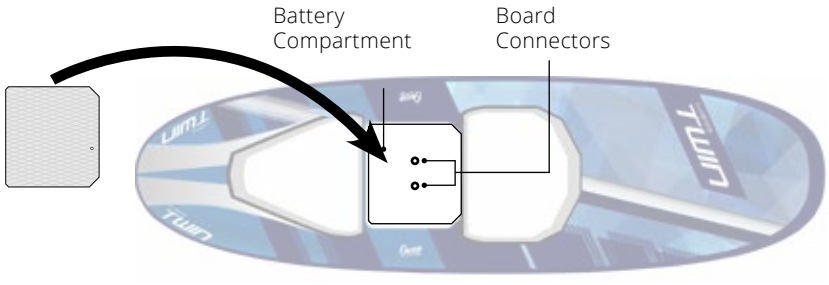
- **Do not transport the battery inside the board unless you intend to use it inmediately.**
- Between uses you should store the battery between 0 ºC and 40 ºC (32 °F and 104 °F) always less than 3 months, in a ventilated area and with a humidity between 0% - 80%.
- Do not store the battery near metallic objects.

4.1.2. Connecting/Disconnecting the battery

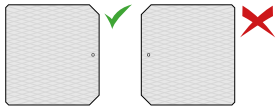
Always charge the battery and remote to the fullest before operting the equipment.

Connection and disconnection of the battery:

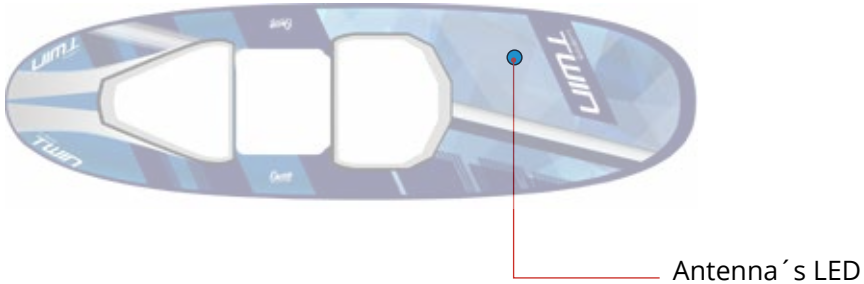
1. Check the watertight seal and the battery housing to make sure they are clean and free of sand. Make sure there aren´t any signs of damage before use. Make sure there isn´t any water inside the battery compartment.
2. Turn the vent one full round counter-clock wise. Place the battery on the pad, near the battery compartment where the battery must be placed. Once the battery is placed on the pad, grab it by the upper handle and place in the battery compartment. The blue LED on the front of the board will light up indicating the connection.



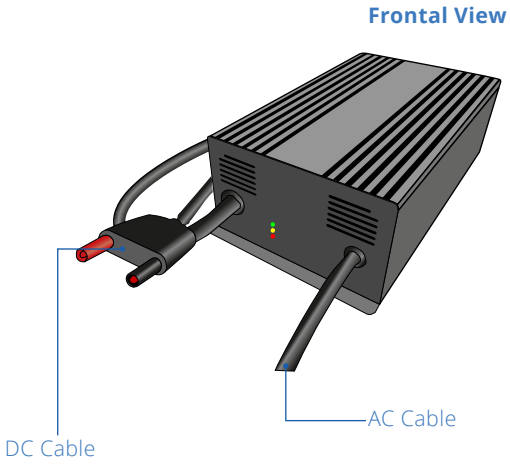
3. Make sure the four pins are not visible and be aware of the positioning while inserting it. Only one way is possible according to its geometry.



4. Once the Battery is inserted in the board, insert the four pins to lock the Battery. If the pins do not enter easily, please, press down on the battery so the watertight seal is sufficiently compressed.
5. Close the vent completely, turning it clock wise to assure watertightness.
6. In order to ease the extraction of the battery, turn the vent one full round counte-clock wise. Pull from the upper handle perpendicularelly to extract the battery.
7. Keep the vent always closed in any other moment and do not turn it more than three full turns.



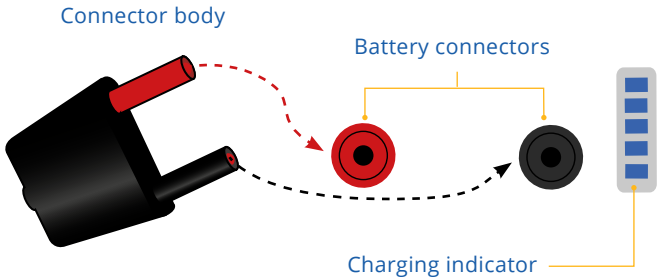
4.1.3 Battery Charge



WARNING!

Always connect the charger to the wall outlet first and then to the battery.

It is extremely important to respect the colors when connecting the cable to the battery. **Reverse polarity could have some devastating consequences for the battery.**



a) Connection

1. In order to charge the battery it must be taken out from the board.
2. Insert the connector to the battery respecting the colors as shown in the previous drawing (red with red and black with black).
3. When connecting the charger to the battery, The LEDs will light up indicating a successful connection. In case of the LEDs not lighting up, please make sure that the charger is properly plugged to the wall outlet and to the battery.

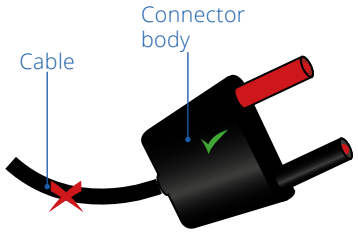
4. Once the battery is connected, the display LED indicator of the charger will light up indicating the charge (img. A) until fully charging it, turnining to green (img. B).

5. The LEDs in the battery will progressively light up as the battery is being charged.

6. When the battery is fully charged the LEDs will turn off and you must proceed to disconnect the battery.

b) Disconnection

Avoid pulling from the cable, always pull from the connector body.



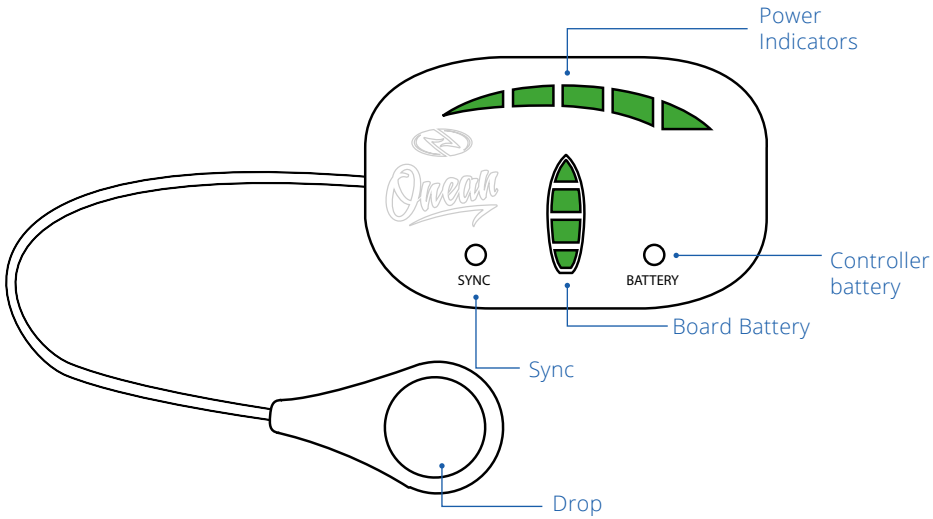
c) Important

Always supervise the charge, do not leave the battery unnatended while charging.

- The battery does not need to be fully discharged before charging. **A Lithium Ion battery doesn´t have memory effect**. This means that the maximum energy capacity won´t be affected if it´s charged after not being fully discharged.
- **Make sure that the battery does not remain to be connected to the charger after the charge has been completed.**
- **Always remember to close the battery rubber connector covers before use.**
- The temperture use for the battery must always remain between 0 ºC y 60 ºC (32 ºF y 140 ºF).
- **Extreme temperatures will affect the battery life**, specially during charge. Avoid charging the battery while being exposed to direct sunlight or extreme high or low temperatures. The charge is recommended to be carried out with temperatures (between 10 ºC y 45 ºC / between 50 ºF y 113 ºF).
- **Do not overdischarge the battery.** Do not continue riding once the power starts to decrease and the LEDs on the top bar begin to blink, this has been proven to decrease the battery's capacity over time. This is an extra energy resource which must be used only for emergencies.

4.2. Wireless Controller

To activate the board you must press on the drop. The power of the Jet will depend on the amount of pressure done on the drop.

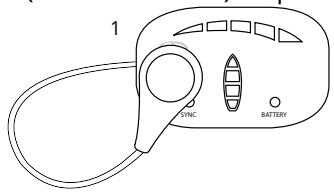


4.2.1. Controller Configuration

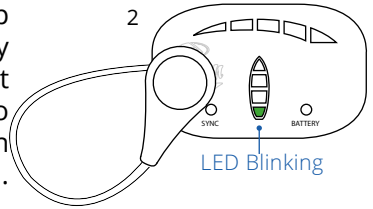
Through the wireless controller you can set the maximum power for the Jet and also adjust different profiles.

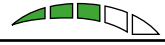
In order to access the configuration menu, you must follow the following indications:

1. With the controller totally off (no LEDs) place the drop over the logo.



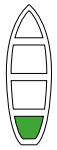
2. On this position, press on the drop until the first LED of the board display on the controller begins to blink. At this moment, the LED bar will begin to progressively light up. Each position represents a different function.



LEDs	Power [W]	Display
1 LEDs	800	
2 LEDs	1.200	
3 LEDs	2.600	
4 LEDs	3.700 Factory Settings	
5 LEDs	5.000	

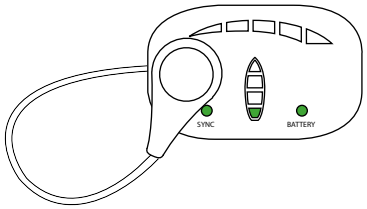
A) SHYNCHRONIZATION. 1ST LED BLINKING

Always with the battery initially disconnected, and once the first LED begins to blink, you must press on the drop again to access the submenu.

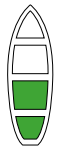


In this submenu, the controller will begin to search for a board for a few seconds and the sync LED will begin to blink.

As the sync LED is blinking the battery must be inserted to complete the synchronization (see 4.1.2.).



Once the board is synched, both LEDs will blink at a higher pace indicating that the process has been successfully completed.



B) MAXIMUM POWER. 2 LEDS BLINKING

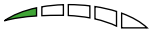
Once that the first two LEDs are flashing you must press on the drop to access this submenu.

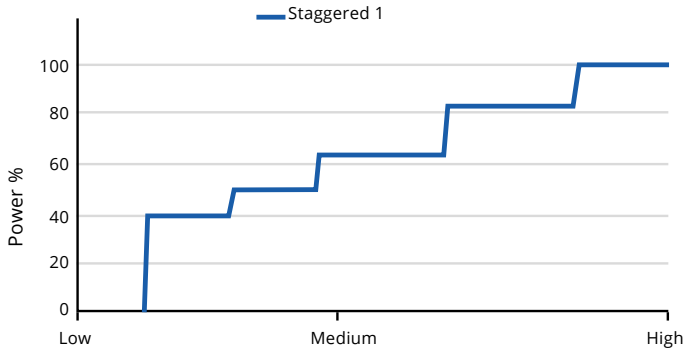
The power bar will progressively light up. Press on the drop to set the desired value according to the following description.

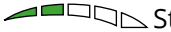
C) CONTROLLER SENSITIVITY. 3 LEDS BLINKING

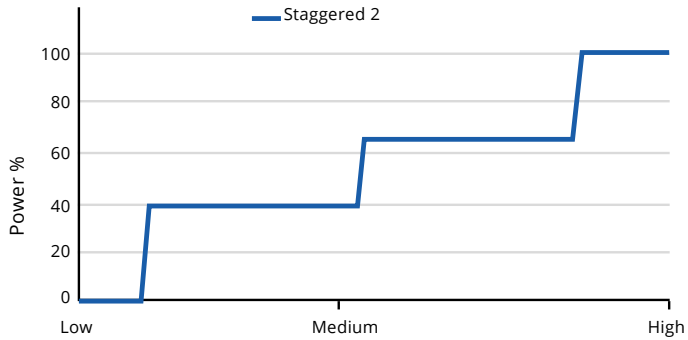
Once the first three LEDs are flashing you must press on the drop to access the submenu.

The power bar will progressively light up. Press on the drop to set the desired value according to the following description.

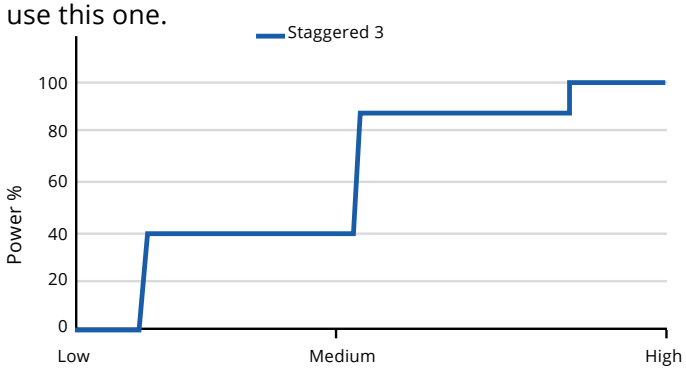
- **1 LED:**  Staggered 1.
- On this profile we have discretized the power levels of the jet in 5 different ranges of pressure on the drop. It allows us to control and hold the pressure on each range.



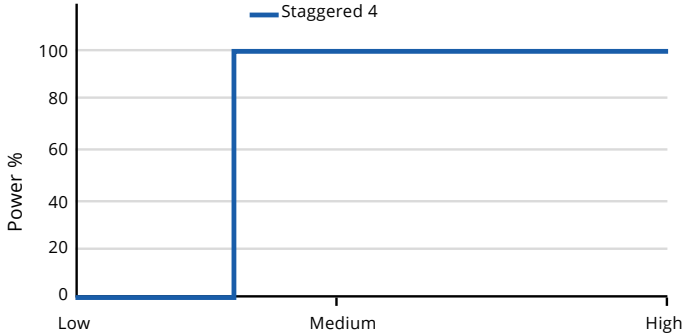
- **2 LEDs:**  Staggered 2. This profile has three power levels. The first one allows us to activate the jet at a low power in order to go at slow speeds (for example, to go from shore to a safe cruising area). The second power level will allow us to decrease the power consumption once planing is reached so we can get more battery life.



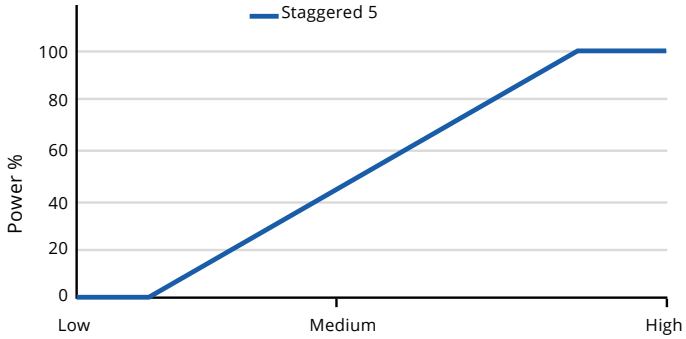
- **3 LEDs:**  Staggered 3. This is a profile similar to the previous one with the difference that the second power level is at a higher power. In case that ¨Staggared 2¨doesn´t allow us to reach planing we could use this one.



- **4 LEDs:**  100%/0%. The jet will from 0 to 100% power by pressing on the drop. This will be the most comfortable setting for those wanting maximum power throughout the ride but the battery life will be compromised.



- **5 LEDs:**  lineal. On this profile, the jet reacts lineally to the pressure on the drop. It requires a bit more of skills in order to use the entire range appropriately.



d) Reset. 4 leds Blinking

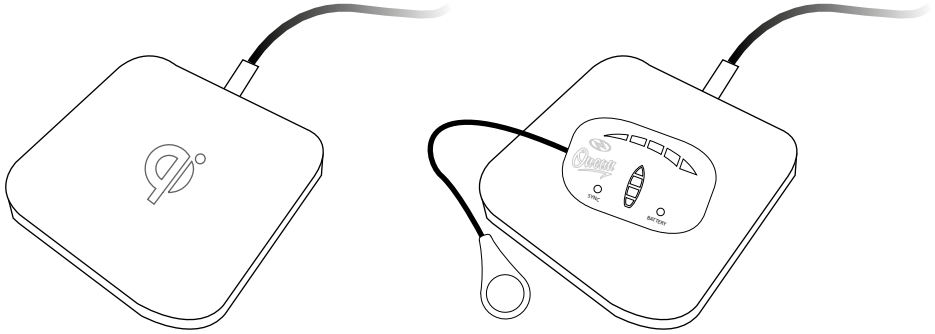
3. Once the controller has reached all 4 LEDs, all the information will be stored and all LEDs turn off.

   If you do not want to change any of these parameters you don't need to do this process again, it will remain in the internal memory of the controller.

4. To check the current status you can repeat the step 1 but press on the drop only one time instead of holding it pressed. The controller will show the preferences for each category.
5. **Always use the controller inside the controller wristband**.
6. Always secure the wristband before use.
7. In order to activate the jet, press on the drop with the index finger and thumb.
8. The power will vary depending on the pressure placed on the drop.

4.2.2 . Charging the controller

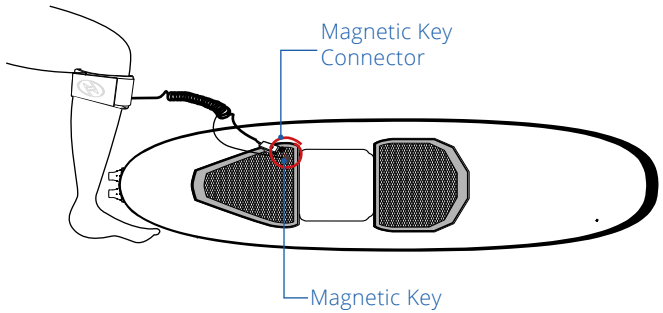
1. Connect the Qi charger through a USB.
2. Place the controller on the center of the Qi as shown in the drawing below.
3. When charging, the green LED of the Wireless Controller will begin to blink.
4. Once the controller is fully charged, the LED will turn off.
5. To check the status of the battery of the controller please pick it up and press on the drop to see the battery LED-.



4.3. LEASH

1. Attach the leash right below the knee of the front leg, as shown on the drawing below.

2. Once the rider is ready to use the board, place the security magnet key on the board.



   The magnetic key is a security mechanism, the jet will not activate if this key is not properly placed.

3. In case of fall, the magnetic key will detach, stopping the jet. Once the rider is back on the board ready to continue its use, the magnetic key should be properly placed again.

4.4. SECURITY MECHANISMS

The board has various security mechanisms that stop it automatically in case of:

- Engine overheat.
- Battery overheat.
- Loss of communication between the controller and board.
- Tightening of the jet when starting or blockage of the turbine due to an external object.
- Magnetic key disconnection. In case of fall, it will automatically disconnect.
- In case of fall, or if the controller is submerged, the jet will stop as a security measure.

If any of the previous cases happens during use, the jet will automatically stop. This security block will remain until the above causes are solved.

In order to reactivate the board, the security magnet must be disconnected and reconnected.

Safety Guidelines

5.1 Terms of Use

- The Carver Twin board is suitable for fresh and salt water use. Ideal conditions are with no wind and flat water.
- **Be aware of local regulations before using** and the areas where this kind of equipment is eligible for use.
- Taking into account that the jet sucks water through the intake it is important to **look for water is free of floating elements** at which to practice this sport. Mentioned floating elements could cause damage to the rotating elements inside the waterjet.
- The Carver Twin Board has not been designed to be used at wave breaking areas. Please look for an area of calm waters at which to entry the water.
- Taking into account the high speeds and maneuverability of the board, it important to use the Carver Twin at large open spaces free of obstacles.
- Be aware of the tides. With the sea level changes, new obstacles may arise depending on the tide.
- Avoid using this product in the vicinity of other people, vessels or objects that may compromise the user's or board's security.
- Avoid crowded beaches and always respect the navigation channels.
- In case of entering the water throught the beach, make use of the marked areas that allow the entry and exit of watercrafts.
- It is advisable not to overturn/flip the board in the water.
- Do not grab or lift the board by the discharge connectors.
- Do not remove the goretex vent in the back of the board.

5.2. Before getting into the water

- Make sure the leash and the magnetic security key (kill switch) are in good condition.
- Make sure the remote works properly before heading to the water.
- Make sure to assemble your equipment over grass or sand in order not to damage it. Any damage caused by manipulating your equipment over a hard and abrasive surface will not be covered by the warranty.

5.3. First use

5.3.1. Start up

During first uses **it is recommendable to use it on your knees**.

1. Get on top of the board with the leash attached and the magnetic key connected. You should place your knees on each side of the front footstrap.
2. After being positioned, press on the drop to activate the jet.The power will vary depending on the pressure being put on the drop.
3. Once you gain speed you can progressively stand on it.

Make sure not to accidentally press on the drop while getting on or off the board.

5.3.2. Turn

Before turning, make sure there is enough space to do so and not interfere with the trajectory of any other vehicle.

Shift the weight towards the side where you intend to turn to ease the movement. The more speed, the easier it is to turn. The board turns like a conventional board.

5.4. Getting out of the water

- **Do not activate the jet outside of the water.** The propulsion system is not meant to be used outside of the water, this could significantly damage the jet.
- After a long use going full thrust, **it´s recommendable to wait at least one minute for the jet not to overheat.**
- **It is not recommendable to step on the battery surface**. Although it's designed to hold weight, when stepping on it, the watertight seal compresses facilitating water to get in.

5.5. General Security Measures

- This board could reach high speeds. **It is recommendable to use a life vest and a helmet** while operating this product.
- **Do not go further off shore than you can return swimming** and always have someone watching from shore. **Do not operate this product alone**.
- **Be aware of climate changes** or any other sudden change in the located area (tides, shallow waters,..). **Do not use this product while electric storms.**
- **Do not use this product near swimmers or scuba divers**.
- **Make sure that the water is deep** enough to operate this board, be aware of coral reefs.
- **Do not operate in areas of high current or waves.** The Twin is not meant to be used to surf waves. In case of being tilted by a wave, the rider could suffer severe damages.
- **Do not use behind another board.** In case of doing it, make sure you have enough space to turn in case the rider ahead falls.

6. MAINTENANCE OF THE EQUIPMENT

6.1. BOARD MAINTENANCE

- **It is recommended to rinse the jet with fresh water after every use**. When using in extreme saline environments, it´s recommendable to flash the entire intake area with fresh water. This way the user will get rid of all the excessive salt in the shaft and impeller.
- **Do not leave the battery connected.** To disconnect is, it´s necessary to take it out of the board. The battery powers the board from the moment it´s inserted. Although the power consumption is very low, it is not recommendable to leave it inside for long periods.
- **Clean the staliness steel tube frequently.** With every use, a small layer of salt could build up over the surface. Given that the tube´s surface is in charge of heat dissipation, it´s extremely important to have it clean for a proper dissipation.
- **It is not recommendable to place it upside down** and never exposed to direct sunlight over long periods of time.
- **Periodically apply blue grease on the impeller and stator/nozzle.**
- Between uses, always keep the discharge connectors clean.
- **Do not impact the turbine** or rest the board over it.

6.2. BATTERY MAINTENANCE

- **It is crucial to handle the battery correctly while having it outside of the board.** In case of dropping it and due to its large weight, the watertight seal could break. Do not use the battery if it has been dropped and contact the support team inmediately.
- For long lasting storage, it's recommended to frequently recharge it (every 1 or 2 months) always keeping the capacity below 20%.
- **In case of break, dint or any other form of apparent damage, do not use the battery.**
- It is recommendable to store the battery in a dry place and not exposed to direct sunlight.
- **Do not submerge the battery.**
- **Do not throw the batteries away.** The batteries must be properly destroyed at recycling facilities.
- **Keep the male and female connectors in good condition always**. Maintenance procedure: unscrew the female connectors from the battery and the male connectors from the board. After that, clean them with isopropyl alcohol and apply white grease inside and outside (for electronic contacts). Screw the female connectors to the battery and male connectors to the board. The lack of maintenance or lack of tightness on the connectors could do irreversible damage to the board.
- Unless in charging, protect always the battery´s connectors with the plastic cover. The plastic covers avoid entering water inside the connector. In case you forget protecting the the battery´s conector water could damage the battery irreversibly.

6.3. Wireless Controller Maintenance

- Do not leave the wireless controller exposed to direct sunlight. It has a lithium battery inside and it is advisable not to overheat.
- After use, rinse the wireless controller with fresh water and let it dry. It is important to take the controller out of the cover in order to avoid deterioration during storage caused by humidity.
- Use only a cloth and fresh water to clean it.
- Do not drop, open, crush or burn.
- Do not pull from the drop cable.

6.4 Charger Maintenance

Keep always the female and male charge connectors lubricated. Apply white grease inside the battery´s female charge conector. Then, insert the charger´s male conector into the battery´s female conector to distribute the grease through the charger´s pins.

As you can see on the image below, not following this rules can lead to the corrosion on the pins, and the irreversible damage of the battery.

7. REPAIR AND REPLACEMENT OF COMPONENTS

Clean the board with fresh water after every use. Introduce grease into the stator bearing through the greasing screw periodically. Keep the battery power connectors dry and clean.

7.1. IMPELLER

Always manipulate the impeller with extreme caution as its sharp edges could cause injuries.

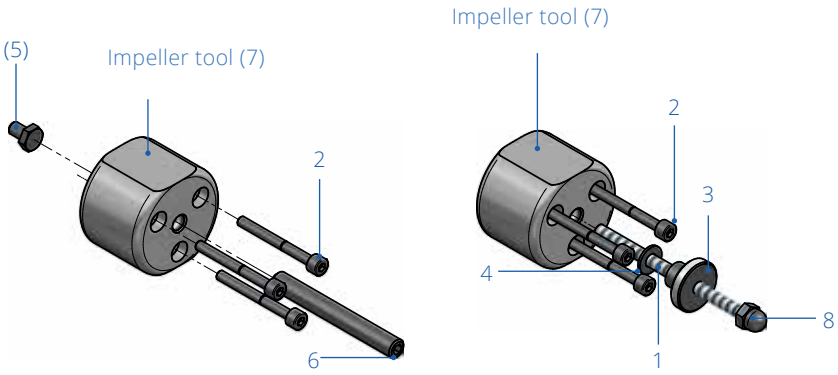
Do never activate the board while replacing the impeller as it could cause damage to the JetPack.

7.1.1. UNMOUNTING THE IMPELLER

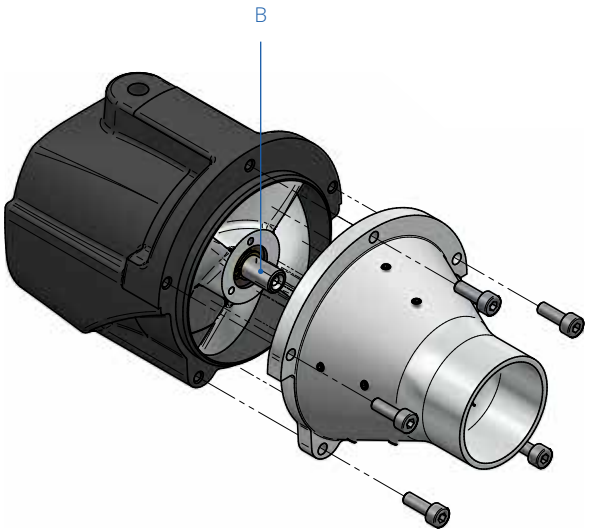
Next you may find a detailed explanation on how to unmount and mount the impeller. On our website you may find additional tutorial videos serving the same purpose.

Impeller tool

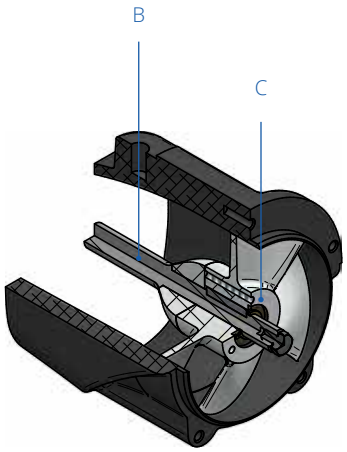
Impeller tooling kit



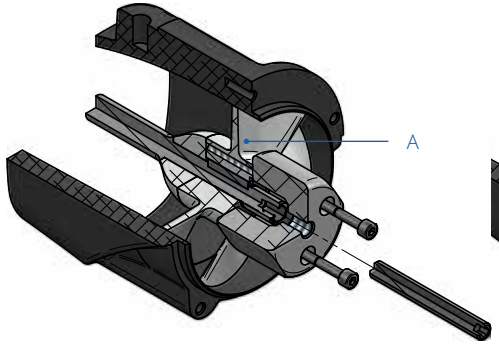
1. Unscrew the 5 screws on the Jet Unit's outer surface using the hex key SW3 and extract the Stator/Nozzle assembly.



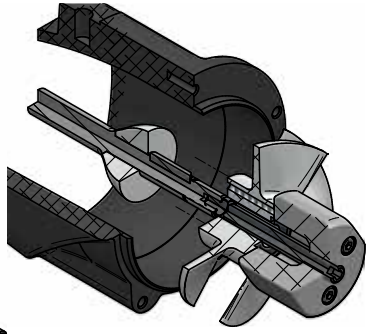
2. Unmount the Circlip (Seeger Ring) (C) and screw the hex screw (5) to the Jet Unit's shaft (B).



3. Hold the impeller tool (7) next to the impeller (A) and screw the 3 socket cap screws (2) until the end using the hex key SW2,5. Manually screw the set screw (6) to the tool (7).

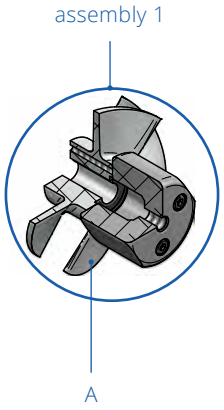


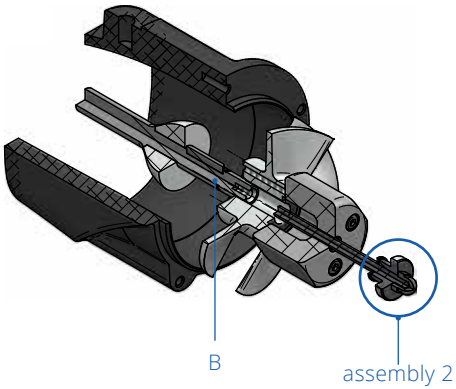
4. While holding the tool, screw the set screw (6) using the hex key SW3. You will see the impeller (A) moving out of the Jet unit while screwing the set screw (6).

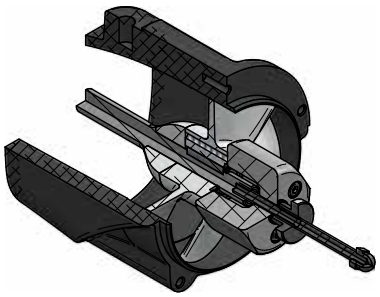


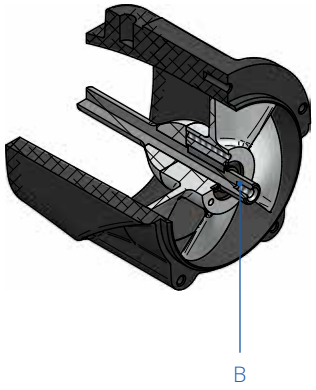
7.1.2. Mounting the impeller

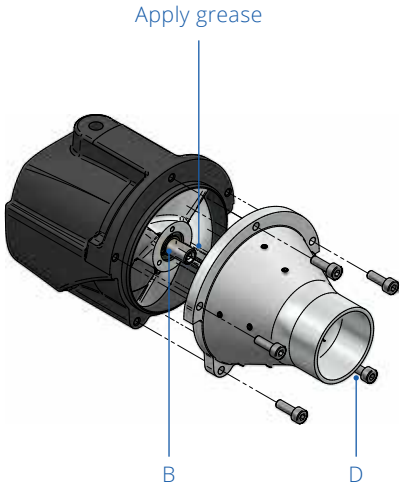
1. Hold the tool (7) next to the impeller (A) and screw the 3 socket head screws (2) using the hex key SW2,5 . The tool and impeller will be fixed to one another as you may see in the picture below. “assembly 1”.
2. Manually introduce the assembly 1 to the Jet Unit through the shaft (B) as far as possible without applying excessive force
3. Screw knurled nut (3) to the threaded rod (1) with the hexagon domed cap (8) and introduce the flat washer (4) creating the “assembly 2”.
4. Pass the assembly 2 through the tool’s (7) hole and screw the threaded rod (1) to the JetUnit’s shaft (B) holding it from the hex cap (8).
5. Hold the tool (7) while turning the knurled nut (3) clockwise. The assembly 1 & 2 while slightly mount onthe the Jetpack’s Shaft (B).
6. Once the Impeller reaches the end of its trayectory, unscrew the assembly 2 from the shaft (B) holding it from the hexagonal cap (8).
7. Unscrew the tool from the impeller.
8. Mount a new Circlip (Seeger Ring).
9. In order to mount the Stator/Nozzle assembly back to the Jet Unit, it is recommended to apply grease on the Jet Unit’s shaft. Push the assembly Stator/Nozzle onto the shaft and screw the 5 socket head screws using the hex key SW3.







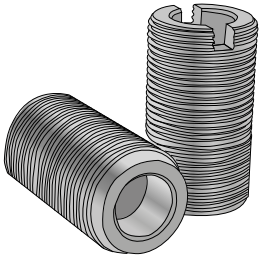




7.2. CONNECTORS

We strongly recommend to apply periodically white grease on the inside and outside of the connectors.

In case that the battery power connectors seem excessively corroded, these will have to be replaced. Therefore, make use of the tube hex key on the image next to this text in order to unscrew the old connectors and screw the new ones.



Corroded connectors

We´re here to help

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