

FOIL DRIVE

THE DRIVE TO GET YOU FLYING



ASSIST PLUS | USER MANUAL

CONGRATULATIONS ON THE PURCHASE OF YOUR FOIL DRIVE™ ASSIST PLUS!

Please take the time to read this manual and ask any questions before operation. We know you're keen to get out there, but there are important things you must know to maximise the fun and maintain your system.

We'd love to follow your journey, so be sure to send us some snaps
Tag us @FoilDrive or #FoilDrive

CONTENTS

PART 1	PAGES 1 - 2: User Warnings
PART 2	PAGES 3 - 4: Intended Use - Warranty, repairs & support
PART 3	PAGES 5 - 7: Components - Parts List
PART 4	PAGES 8 - 9: Charging
PART 5	PAGES 10 - 14: Installation
PART 6	PAGES 15 - 17: Operation and Start Up
PART 7	PAGES 18 - 20: Best Practice and Tips
PART 8	PAGES 21 - 22: Care and Maintenance
PART 9	PAGES 23 - 24: Troubleshooting

PLEASE READ THROUGH THE MANUAL BEFORE OPERATION
SCAN QR CODES TO OPEN OUR ONLINE HELP CENTRE

Follow the instructions and warnings in this manual prior to assembly, setup and use in order to operate the product correctly and minimise the chances of damage, serious injury or death. This system is not a toy and should be used with caution. **By using the Foil Drive™ system you agree to do so at your own risk.**

We put this first not to scare you, but because it's super important - Keep things safe, respect the gear, yourself, and others and you'll have no problems!

PART 1: USER WARNINGS

MOTOR AND PROPELLER WARNINGS

Spinning objects are dangerous. Integrated safety features such as over current protection, no signal, fail to off, and excessive torque limits have been included to limit risks, however, they are still present.

Never operate the throttle with motor/propeller obstructed

Never hold a powered motor, including for testing purposes

Only operate the system when securely mounted to a mast or jig

Never touch the motor/propeller with the battery plugged in

Never foil near other people or animals

Do not place hands or feet under the board where motor contact could occur

Turning the controller off will engage Fail Safe Mode where the throttle will no longer activate the motor. Consider using this feature when mounting the board to reduce risk of bumping the throttle.

Propellers are designed and tested for durability and are strong enough to resist natural flexing. They are sharp and may cause bodily harm upon contact.

SHIPPING AND TRANSPORT OF THE BATTERY

Standard Battery is 352.8 Wh.

The Standard 12.6ah Foil Drive Batteries have a large capacity and cannot be transported via air freight or carried on commercial airliners in most countries. Search **Airline** in our Help Centre for more information and official documentation.

Small Battery is 120.9 Wh.

The Foil Drive Assist PLUS Small Battery is airline friendly, but specific requirements may exist in certain countries. We advise you contact the local airline or shipping carrier in advance for instructions.

LITHIUM BATTERY AND CHARGING WARNINGS

Assist (25V) and Assist PLUS (28V) batteries and chargers are NOT cross compatible. If you own both, or order a spare, check you have the correct charger.

Lithium-ion batteries currently provide the highest power to weight density of all rechargeable batteries. Additionally, we have added a Battery Management System (BMS) that automatically manages each cell to ensure safety and automation charging.

Lithium batteries are most at risk of damage to the cells when being charged.

Avoid moisture contact with the battery. Pay special care when handling around water and ensure you have clean, dry hands.

Do not store or carry the battery with wet towels, wet suits or damp gear.

Allow the battery to cool down to room temperature before recharging.

Charge in a cool, dry, open place free from moisture and flammable materials, inside the provided LIPO Safe Bag.

When re-charging, do not leave the battery unattended.

Disconnect from the charger when the battery is full (Estimate 2.5-3.5 hours).

Do not charge or leave batteries in hot environments or direct sunlight. Leaving a battery in a car exposed to sunlight can lead to cell failure, venting, or even fire. The most likely outcome of overheating is that cells lose performance and capacity, affecting its longevity.

Lithium batteries should not be left fully charged. Leaving for a week or more will reduce life span and performance, a result of battery chemistry not quality. We recommend charging the battery on the same day, or the night before you intend to use it.

STORE BATTERIES BETWEEN 40-60% CHARGE.

Similar to a laptop, these chargers require a quality power source to function correctly and avoid damage. We recommend only using a pure sinewave inverter 110v-240v or, conventional mains power protected by an RCD. Third-Party 110v-240v inverters generally DO NOT meet requirements.

PART 2: INTENDED USE AND SUPPORT

INTENDED PURPOSE

Foil Drive™ systems are intended to be used as a retro-fit kit. This has been designed for added thrust to your standard foil setup, making foiling much easier.

We endeavor to make the product use and installation as simple as possible. Carefully follow all aspects of this manual to ensure safe, reliable and lasting fun.

The motor pod must be compatible with your mast type. Please ensure you have the correct motor pod for your mast profile, DO NOT use the incorrect pod for your mast. Potential injury or damage to your Foil Drive™ or equipment can result from incorrect fitting of your system and it is your own responsibility to ensure you follow directions.

Foil Drive™ Assist PLUS must not be modified, adapted, or re-purposed in any form, doing so will void your warranty.

SURF ETIQUETTE

Whilst Foil Drive™ might eliminate some difficulties of foiling, it certainly does not eliminate your obligation to follow surf etiquette. If anything, you will need to practice this more so than before. Remember technology advancements are not the problem, how it's used can cause people to become upset. So, please for the sake of all foilers, and the continual advancement of the sport as a whole, respect others and use this technology responsibly.



Search **Etiquette**
in the Help
Centre or scan
the QR Code

SUPPORT

We're real people and we want you out there enjoying your system as much as possible. If you require further assistance beyond this manual and other resources such as the Help Center, feel free to join the Facebook [Foil Drive™ Owners Group](#) or reach out using the information at the end of this Manual.

WARRANTY

Foil Drive™ Assist PLUS components are carefully manufactured and assembled in Australia with quality control processes to meet a high standard. If the product is faulty or contains manufacturing defects do not use the system and email support@foildrive.com

Warranty claims will be considered on a case-by-case basis and outcomes will be determined at Foil Drive's discretion, in accordance with Australian product warranty.

Foil Drive™ Assist PLUS comes with a 1 year limited warranty.

Foil Drive™ Assist PLUS Batteries come with a limited 12-month warranty. This covers manufacturing defect only as all batteries have a useful life span set by the manufacture of the raw cells that make up our batteries. Eventually, you'll notice some performance drop in the initial punch, slightly slowing down power output, this is expected. All batteries suffer degradation, just like a phone decreases battery life over time. Batteries are not covered under warranty where typical wear and tear is prevalent.

Failing to follow the care and maintenance outlined in this manual voids warranty.

REPAIRS

Here at Foil Drive™ we offer a full selection of spare parts enabling you to perform minor repairs. Replaceable parts such as propellers, motor pods and additional batteries are available directly from **www.foildrive.com** you will simply need to create an account.

For all other repair parts please login to **www.foildrive.com.au/repairs** - If the parts you require are not listed, email support@foildrive.com

We will endeavor to repair or refurbish your unit where safe and practical to do so. We reserve the right to refuse repair of items or systems we deem unsafe or irreparable.



Search **Account** in the Help Centre or scan the QR Code

FOIL DRIVE

PART 3: COMPONENTS/ PARTS LIST

WHAT'S IN THE BOX



- A Electronics Box + Foil Drive Battery
- B Motor Pod
- C 110v-240v Battery Charger
- D Wireless Throttle Controller
- E Controller Paddle Mount and Shim
- F 2.5mm Driver - Spare bolts inside
- G Board Cable Guides
- H Mast Cable Guides
- I Wireless Controller Floating Wrist Lanyard
- J Wireless Charging Pad for Controller
- K Re-Usable Rubber Tie
- L Lipo Safe Charging Bag
- M Motor Can Protective Stubby Cooler

FOIL DRIVE

WIRELESS THROTTLE CONTROLLER

1. On/Off Button
2. Throttle Trigger
3. Cruise Control Trigger
4. Wireless Charging Point (Reverse side)
5. Throttle Position Percentage
6. Controller Battery Indicator
7. Signal Strength Indicator



WATERPROOF ELECTRONICS BOX

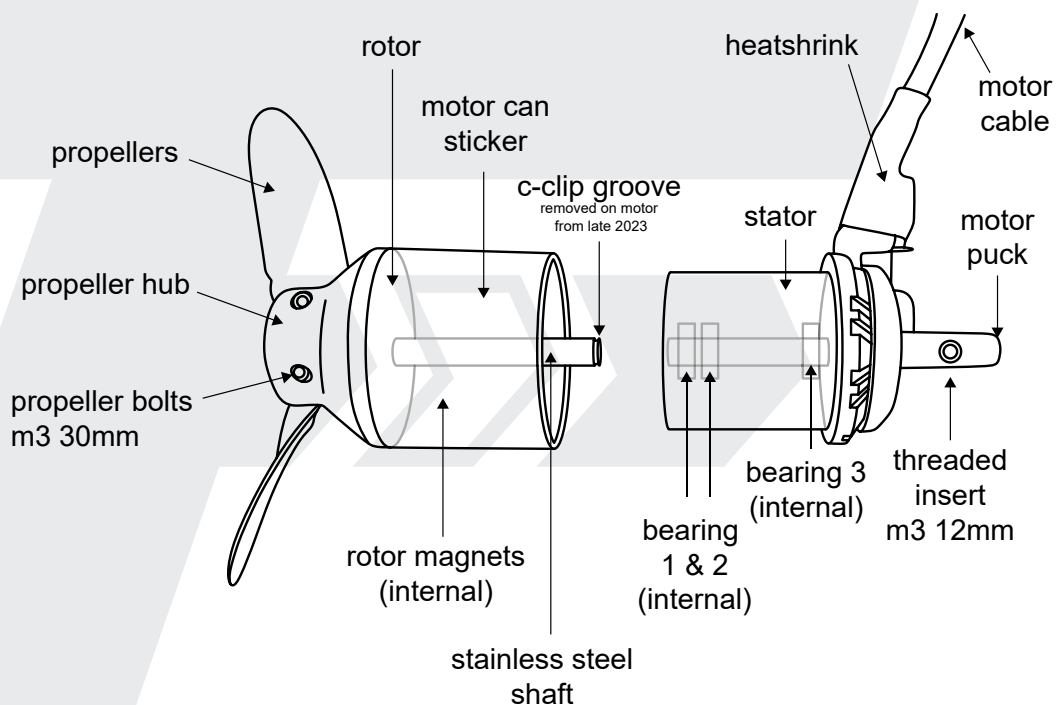
8. Foil Drive Lithium Battery
9. Battery Power Connector
10. Battery Power Indicator
11. Wireless Antenna
12. Waterproofing Lid Seal
13. Waterproof Cable Gland





MOTOR POD (ABOVE)

- 14. Front Pod Half
- 15. Rear Pod Half
- 16. Motor Puck
- 17. Foil Drive Motor
- 18. Propeller Hub
- 19. Propellers



MOUNTING HARDWARE - SPARE BOLTS INSIDE THE DRIVER

- 20. **Motor bolts** - Join the motor to the puck - 4x M4 10mm bolts
- 21. **Hub bolts** - Join the propeller hub to motor - 4x M4 20mm bolts
- 22. **Pod bolts (Internal)** - Joins two halves of the pod - 4x M3 20mm bolts
- 23. **Propeller bolts** - Joins the propeller to the propeller hub - 2x M3 30mm bolts
- 24. **Puck bolts (External)** - Joins the pod to the puck - 3x M3 12mm bolts
- 25. **Paddle Mount bolts** - Clamps the mount to your paddle - 2x M3 35mm bolts



PART 4: CHARGING

Battery and Charger Warnings are on Page 1 and 2. Please read before charging.

CHARGING THE WIRELESS CONTROLLER

Aligning the rings (Labelled 4) onto the middle of the charge pad, with the Foil Drive logo faced up. The pad will illuminate when in position.

Typical Charge Time: 1.5-2 hours
Approximate battery life: 5 hours

Note: Do not leave your controller on charge for more than 4 hours.

Position needs to be precise.



CHARGING THE BATTERY

1. Plug the charger into a 100-240v outlet and turn on the power. International users will need to purchase a basic adapter.
2. Plug the battery into the charger ensuring the plugs are keyed in the correct direction. Failure to do this will damage your battery by short circuit.

Note: A small audible pop may occur, this is the battery and the power supply equalising. If a spark/smoke occurs, check you have not plugged your charger in backwards, if so, contact support@foildrive.com.

3. A solid RED light will appear, the light will turn solid GREEN when charged. Flashing green while battery plugged in is an error.

Charge time approx:
Standard Battery 2.5 - 3 hours
Small Battery 1 - 1.5 hours

BATTERY DISCHARGE

Batteries must be stored between 40-60% when left for a week or longer. A discharge device is available online.

Failure to do so risks decline to your batteries usable lifespan.



Battery Care
& Storage

FOIL DRIVE

PART 5: INSTALLATION

Following installation instruction is pivotal in optimising your ride and to prevent damage to the pod and your mast, scan the QR code for a detailed installation video.

INSTALLING THE MOTOR POD - MUST BE EXACT FOR YOUR MAST

1. Clean and dry your mast before installing the motor pod.
2. Using the driver, remove the 3 external puck bolts to detach the pod from the puck.



3. Remove the 4 internal pod bolts, separating the two halves.

4. Ensure the pod is the right way up, Position the pod and re-install the 4 bolts*.



Continue next page.

To prevent stripping the molded inserts in the pod, avoid excessive tightening. Finger tight is sufficient to secure the pod without excessive force. A small gap between the halves is normal for proper clamping force.



Search **Install** in the Help Centre or scan the QR Code

FOIL DRIVE

5. Once you've found the optimum position for the pod, apply ¼ turns until the pod can no longer move by hand, tighten no more.

7. Line up the 3 exterior screw holes and re-install the screws.

6. Install the motor/puck onto the rear of the pod, making sure it slides in smoothly, without force and everything lines up.

DO NOT over tighten the bolts, they only need to be finger tight. A 1-5mm gap between halves is normal.



MOTOR POD POSITIONS

HIGH POD POSITIONS are great for most riders and is the most popular position (20-25cm below the board). The motor remains in the water long enough to catch the wave. The system will then exit the water as soon as you're on foil, providing zero drag or interference. Excess cable can be coiled near the box using the silicon tie.

LOW POD POSITIONS are perfect for learning and efoiling as you can maintain constant power at all times. When mounting near the fuselage, ensure the propellers spin freely without obstruction. When surfing with the motor lower, you will need to maintain power for longer.

TAPERED MASTS may require packing outwith thin layers of tape. Some tapered masts have two motor pods, one for efoiling, and one for assist positions.

INSTALLING THE MOTOR CABLE

1. Use Isopropyl or cleaning alcohol to clean the underside of your board before application of guides.
2. With the box placed on top and your mast and pod mounted, test the positioning of the cable. Run the cable directly towards the back of the board and around the end to the underside and directly down the trailing edge of the mast.
3. Peel off the backing of the board cable guides and stick them on.
4. Mast cable guides are required along your mast to secure the cable.



5. Duct tape is the simplest material to secure the cable and guides to the mast. Make sure the edge of the tap faces the rear of the mast, otherwise water will peel it off.

Failure to secure the cable correctly will significantly increase drag and risks damage to the cable. Taking the time to tape the whole section right down to the motor will also increase efficiency.

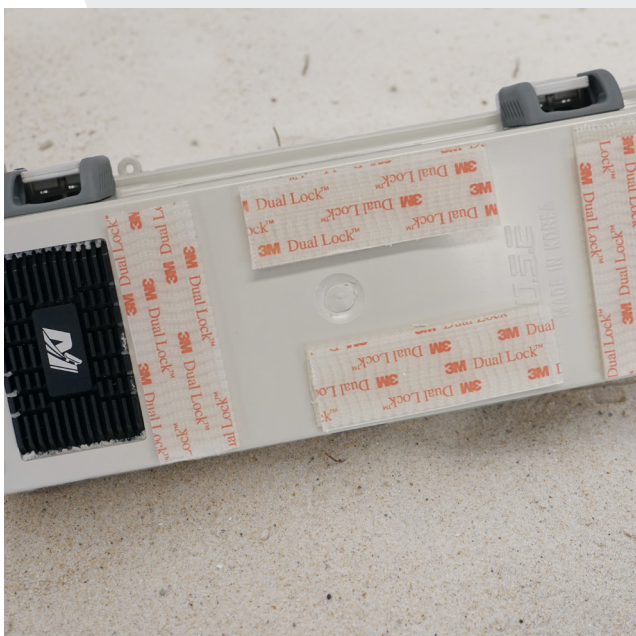


INSTALLING THE BATTERY BOX

The location of the box should be flat and where it doesn't interfere with your leg rope.

The below installation method requires no additional accessories, however Mounting Base Plates can be used with foot strap holes, and Low Profile Anchor Points are available for those mounting on the front of the board.

1. Clean and dry your board using isopropyl.
2. Remove the backing from the 3M Dual Lock on the base of the box.
3. Press firmly on the top to stick in position.
4. Apply firm pressure to the box for at least 15 seconds to ensure proper adhesion.
5. Leave the box in for at least 15 minutes before removing it or getting it wet.



When removing the box, hold the sides and roll it forwards or rearwards.

When re-attaching the box, align the 4 strips of Dual Lock and push firmly with a slight wiggle, strike the box with a closed fist to ensure it's secure.

You'll hear an audible click when all the teeth of the Dual Lock engage, all 4 strips must be fully engaged.



WATERPROOF CABLE GLAND

Check the tightness of the cable gland before/during each use.

Gently tug on the cable at the box end, if it slides out of the gland with little force, tighten it before entering the water. A loose cable gland can cause water ingress, risking damage to your battery and electronics.

1. Loosen off the outer nut of the cable gland all the way. Be careful not to damage the rubber grommet when inspecting the internals. Ensure the exposed cable is clean and undamaged with no sand or grit.
2. Gently pull the cable outwards and it should bring the small black rubber grommet with it, this is the main seal so look after it.



3. When replacing the gland, slide the grommet back inside the housing of the gland and re-tighten the outer nut. The main body of the cable gland should not rotate when tightening the outer nut. You may need to use a thin 20mm spanner or shifter to hold the main body still.

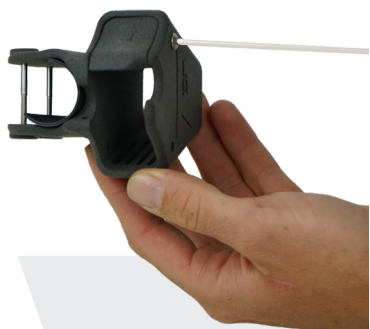
TIP: Take note of the black line marking on the cable near the gland. Regularly inspect its position during use and ensure it has not shifted.

Search **Gland** in the Help Centre or scan the QR Code



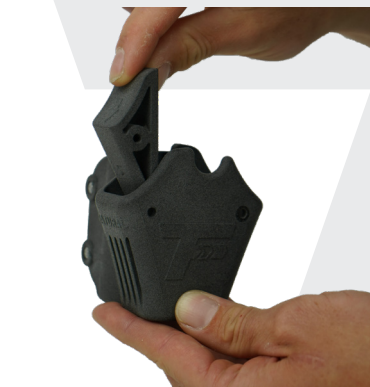
INSTALLING THE PADDLE MOUNT

The Controller Paddle Mount fits a paddle diameter of 29-30mm. A thin strip of tape can be used to pad out the space if required.



1. Use a strip of electrical tape on the paddle to provide a soft surface for the mount to bite onto, this will stop any movement.

2. Select the orientation of your paddle mount by moving the removable wedge to face Goofy or Natural.



3. Remove the 2 bolts from the Paddle Mount and position it over your paddle, being careful not to over flex the mount.

4. Choose your desired position and re-install the bolts. These do not need to be crazy tight, as long as they have engaged the thread on the other side.

5. Use the supplied re-usable rubber tie, thread through the controller and around the paddle for extra security.

It's personal preference where you position your controller, the image showing different positions. You can flip the controller upside down and use the mount with your lower hand, part way down the paddle.



PART 6: OPERATION AND START UP

WIRELESS CONTROLLER

1. Power Button
2. Throttle Trigger
3. Cruise Control - Advanced Riders Only



Recommended throttle percentages can be found in Part 7.

TELEMETRY DATA

The Assist PLUS features telemetry data that is available on the controller screen. When on, the screen will automatically show throttle percentage, use short single presses on the power button to scroll through:

1. Throttle Percentage
2. RPM of motor
3. Assist Plus Battery Voltage
4. Temperature
5. Assist Plus Battery Percentage Remaining

CONTROLLER MENU

To access the menu, have the controller on, press and hold Trigger 3 "Cruise Control" then single press the Power Button. Once in the menu, you can let go of the Trigger 3. Use short presses of the power button to scroll the menu and long press the power button to select.

1. Pair

See Page 22 for instructions on how to pair/re-bind your controller

2. Throttle Limit (Default: Max. 100%, Range 20-100%)

Limit your maximum throttle percentage. This is useful for learners or smaller riders who may not need the full power of the system, this limit overrides Cruise Control Preset (Menu Option 4)

3. Cruise ON/OFF (Default: Off) - Advanced Riders Only

For safety, the default factory setting for Cruise Control is OFF. You will need to toggle it on to enable the Cruise functions.

4. Cruise Preset (Default: 35%) - 100% setting should NEVER be used

Pre-set a cruise control percentage prior to starting your session. While the rider has the ability to set a percentage between 20 and 100%, we do not recommend percentages over 50% for safety reasons.

5. Battery Serial Number (For manufacturing purposes only - Should always read 08)

6. Motor Poles (For manufacturing purposes only - Should always read 07)

7. VESC Communication (For manufacturing purposes only - Should be set to: ON)

8. Speed Source (For manufacturing purposes only - Should be set to: VESC)

9. Calibration

See Page 23 for instructions on how to calibrate your controller. If your throttle does not read 0% when disengaged, or 100% when fully engaged, you will need to recalibrate.

CRUISE CONTROL - Please ensure you understand these functions before use!

Cruise control should only be used by advanced riders and should not exceed 50% throttle. It is useful for traversing offshore or long distance paddling from one place to another. Remain vigilant when using cruise control and be ready to disengage if you fall.

To activate Cruise Control, the menu option must be toggled on.

When ready to commence press Trigger 3, three times within 1.5 seconds, the motor will run at your pre-set throttle percentage and the screen on the controller will flash this percentage while active.

To disengage Cruise Control, do one of the following:

Pull Trigger 3 "Cruise Control" to deactivate. Although not advised, if cruise is set at 100%, you must push Trigger 3 "Cruise" in to disengage.

Pull Trigger 2 "Throttle" above your preset throttle percentage ie. Cruise Preset = 50%, pull throttle until it reads above 50%, as you would in a car.

If you have set a Throttle Limit (Menu Option 2), the controller will always select the lower maximum limit ie. Throttle Limit = 40%, Cruise Control Preset = 50%, Final Output = 40%.

FIRST RIDE

Start by testing the unit on calm water without obstacles or others nearby. Familiarize yourself with the controller operation and the system's thrust, as it can be more powerful than expected. Use a leg rope or waist leash at all times to prevent the board from getting away during a crash.

START UP

The inside of the electronics box must remain dry. Setup and turn on your unit away from the water and always dry your hands before opening or handling batteries.

1. Check there is no damage to any parts of the system, in particular motor, propellers, cable, waterproof seals and controller.
2. With the controller off, insert the battery with the Foil Drive Logo facing up, ensuring it's flat on the bottom.
3. Plug in the battery and lay the plug flat between the battery monitor and battery. The battery percentage will show on the monitor.
4. Ensure the box seal is clean, dry and free from obstructions before closing, latch shut and check the cable gland is tight. DO NOT force the lid closed.
5. Clear of obstruction, slowly pull the throttle trigger to test connection to the motor.
6. After testing, turn the controller off before handling the board.

GETTING IN AND OUT THE WATER

Turn off the controller while transitioning into or out of the water. When entering the water, it is safe to flip the board upside down and float out deep enough for the foils. When at a safe depth, flip your board, climb on, then turn the controller on.

DO NOT touch the motor or propellers while the battery is plugged in, propellers can cause serious injury.



PART 7: BEST PRACTICE AND TIPS

The Foil Drive Help Center on our website contains useful and informative articles about all aspects of your Foil Drive.

If you have foiled before, you may need to **move your stance forwards slightly with more front foot pressure than typical**. Rather than trying to get on foil right away, gradually build speed by increasing power, as the board starts to lift, move some weight off your front foot to allow for flight... think of it like an aeroplane on a runway!

TRAVERSING AND MOTORING UP WIND

With high torque and power, care should be taken when maneuvering. Very low power settings can be used to move around much faster than paddle speed, this is enough to throw you off the board.

When motoring with swell be aware the foil could stall. If uncontrollable movements occur, you are likely trying to motor too fast and need to reduce the throttle.



TAKEOFF
TECHNIQUE
VIDEO

FALLING OFF/GETTING BACK ON

As with all foiling gear, the most dangerous part is falling off. Never try to save a crash and ALWAYS jump away from the board as soon as you feel out of control, immediately removing your finger from the throttle. Never use the motor to drive the board back towards you.

RETURNING TO SHORE

Turn the controller off before jumping off your board to head in and never open your electronics box while in or near the water. The battery can remain plugged in while walking back to your car with no harm, allowing you to dry off before opening the box.

OPTIMAL THROTTLE USAGE

The average rider will get around 1-2 hrs of use from one Standard Battery, assuming your using 30-40% throttle to traverse, short bursts of 100% and some time sitting in a lineup. Use time varies depending on how much power you use, foil selection, rider weight and how frequently you use throttle.

If down winding or wing dinging, a proficient rider is unlikely to use the capacity of the battery as wind and swell is also being utilised.

THROTTLE PERCENTAGES

Understanding the relationship between power usage and added surface speed from the motors thrust is important to maximise run time, system performance and battery life. The below information is based on Aluminium Props and Standard Battery.

30% THROTTLE - Appx. 207 minutes (3.45hrs) - Provides a speed faster than paddling. Useful for stability and traversing.

40% THROTTLE - COMMON - Appx.103 minutes (1.7hrs) - Provides a speed faster than a usual paddle. Common for returning to the lineup.

50% THROTTLE - Twice the average paddling speed, making you feel unstoppable. Efficient for traversing but at the cost of overall a lower overall runtime.

+50% THROTTLE - 2x the normal paddle speed. Won't add noticeable additional surface speed for a rider above 70kg due to board drag and will consume more power.

70-80% THROTTLE - Useful turning around or making fast corrections to set up for a wave. Can be used to sustain efoiling as well.

+80% THROTTLE - For catching waves and getting on foil. Appx.17 minutes of run time, when used correctly.

We recommend using 100% throttle in short bursts for max boost and wave selection.

On an average setup and rider weight of 80kg, to catch a wave you only need 5 -10 seconds of power. This equals appx. 70-140 full power bursts if you used only full power your whole session.

SEE GRAPH ON NEXT PAGE

CATCHING WAVES

We recommend gradually applying throttle to full power to catch waves. Over speeding the propeller is possible if your running lower battery power, the propeller will spin slower than the water speed and cause the prop to fold in and out violently due to drag.

OFFSHORE DOWN WINDING

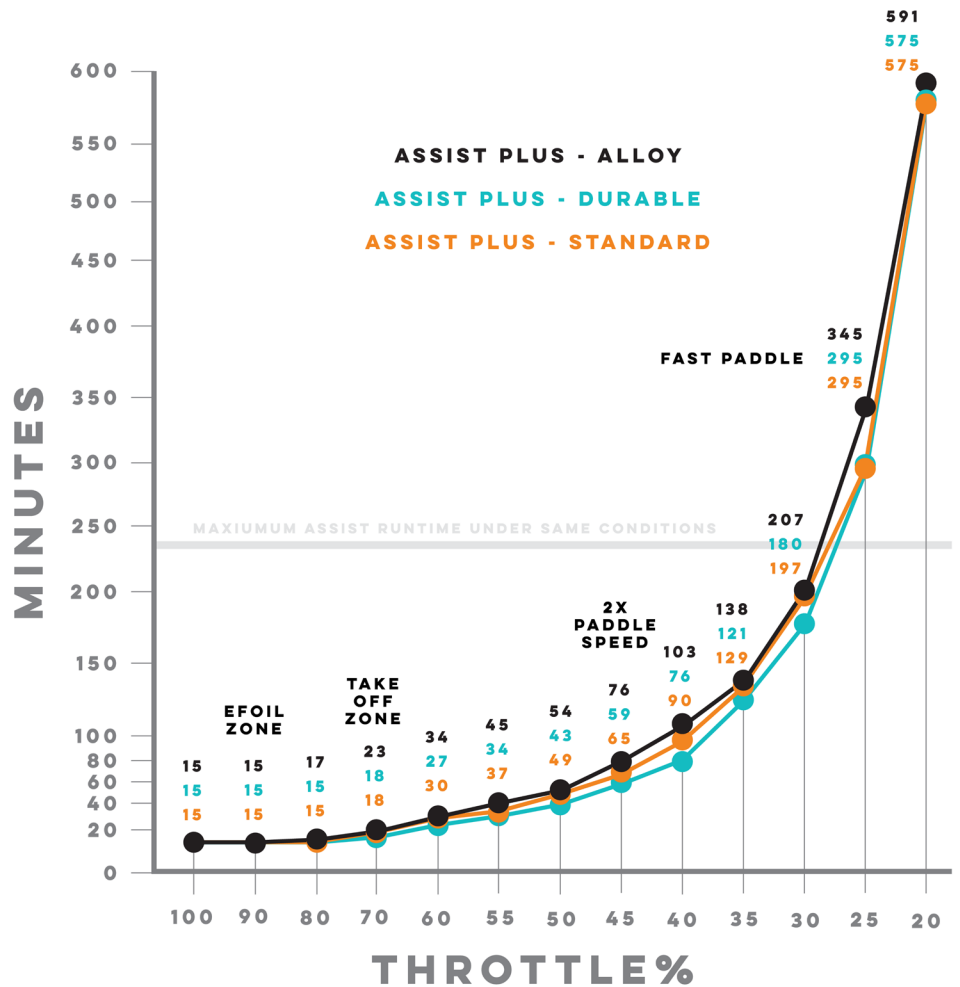
Normal weather assessment and safety precautions should be followed when down winding. Always be sure you can return to shore without your Foil Drive if the need arises.

EFOILING

With more power and larger battery capacity, the Assist PLUS can be used when learning to foil and on flatwater. Appropriate size front wing is required to do this efficiently and rider weight must be considered.

Your Assist PLUS features an external Heat Sink that enables internal cooling. When using for extended periods or at constant high throttle, it is important to allow water to flow over your electronics box for cooling.

Remember the intended purpose of the Foil Drive is an assistance motor, not a high performance efoil. To be able to produce a system at this size, weight and cost, does limit the system's maximum speed.



PART 8: CARE AND MAINTENANCE

SALTWATER AND SAND

Saltwater poses significant challenges for the electronics and requires correct management. The Foil Drive motor has an epoxy coating that seals its vulnerable areas. Additionally, the magnets are coated to resist water infiltration, and 100% ceramic ball bearings are used to prevent rust and ensure longevity when properly maintained.

Keep all components out of the sand and never flip your board upside down with the electronics box open. Sand in spinning motors and bearings cause excessive wear and damage to waterproof coatings. If you do get things dirty, carefully wash or wipe them with warm, fresh water will help dissolve any built up salt.

AFTER USE INSTRUCTIONS

After every use:

- Remove the rotor and rinse the system with fresh water. Ensure the box lid remains closed and DO NOT wet the battery. We recommend carrying a water bottle so this can be done before packing up your gear.
- Use a dry towel to wipe internals of the box if moisture occurs due to humidity.

Once you're home:

- **Submerge the motor in warm, fresh water to thoroughly flush it out.**
- Remove the motor from the pod and the pod from your mast to clear any salt build up.
- Submerge the controller in fresh water, pull triggers then shake out water.
- Inspect power cable, latches, cable gland and box seal for damage.
- Ensure battery, internal cavity of box and power connector is clean and dry.
- Store with the lid open in a dry environment.

Once a week, at least:

- Remove components including box, motor, pod, puck, propeller hub, mast cable guides to thoroughly rinse everything with warm, fresh water.
- Inspect the system and ensure your bearings are running smoothly and check for any chips or cracks in the hub or propellers.

Much like any equipment exposed to salt, maintenance and due care is required.

Search **Cleaning** in the Help Centre or scan the QR Code



Search **Motor Cleaning** in the Help Centre or scan the QR Code



COMMON AREAS TO KEEP AN EYE ON:

Vibration: Stop usage as soon as any vibration is felt through the motor. Even low throttle with vibration can cause damage.

This could be due to damaged propellers, broken bearings or a dirty motor.



Search **Cleaning** in the Help Centre or scan the QR Code

Sand and Debris: Sand and debris can interfere with the lid seal of the box or motor. It is imperative that these items remain in perfect working order.

Use a clean, **lightly** damp cloth (fresh water) to wipe the box lid seal. Ensure the grommet in the cable gland is properly seated, not damaged and is tight. The cable gland will need tightening periodically.

Salty Battery Terminals: Saltwater is extremely corrosive and the battery terminal plugs are susceptible to corrosion. These plugs must be kept clean and dry at all times.

DO NOT attempt to clean the battery terminals - See Page 24!

Short circuit will destroy your battery and can be dangerous! Contact Foil Drive if you feel there is corrosion beginning to form on your battery terminals and avoid use until further notice.

Latch Protectors: These are impertative to protecting your electronics and battery. Latch Protectors must be in place to avoid opening of the box by the leg rope of excessive water force.



PART 9: TROUBLESHOOTING

The Foil Drive Help Center on our website is a great resource with heaps of helpful articles for troubleshooting or learning more about your system.

NO CONNECTION BETWEEN BOX AND CONTROLLER - RE-BIND/PAIR

1. Turn on the controller and ensure your Assist PLUS battery is unplugged
2. Hold down Trigger 3 "Cruise Control" and single press the power button to enter the menu, let go then press Power Button for 1-2 seconds to select Option "1. Pair"
3. The screen should now display "Pairing..."
4. Plug in the battery, the controller screen will revert back to the menu after 1.5 seconds
5. If not, press Trigger 3 to exit & repeat steps.
6. Test the motor is responding.



Search **PAIR** in the Help Centre or scan the QR Code

THROTTLE % NOT READING 0-100 - CALIBRATE TRIGGERS

When pairing/re-binding, we recommended calibrating at the same time.

1. Turn on the controller
2. Hold down Trigger 3 "Cruise Control" and single press the power button to enter the menu. Let go and single press the power button to navigate to Menu Option 9.
4. Long press the power button to select "9. Calibration"
5. Slowly pull the Throttle Trigger from 0% to 100% then repeat for the Cruise Control trigger. The screen will read "Calibrating" then "Cal. OK".
6. When both options read "Cal. OK", long press Power Button for 4 seconds to return to the menu, saving your calibration.
7. Press cruise control button to exit back to the normal screen.



Search **CALIBRATE** in the Help Centre or scan the QR Code

VIBRATION WHILE MOTOR RUNNING

Ensure both propeller blades aren't damaged, even a small chip from the blade can cause a loss of balance and vibration. Both blades should flick out into the correct position.

- Debris stuck in the folding blade can cause one to not extend fully.
- The bolts securing the prop to the hub may be too tight stopping them from folding out.
- Ensure no metallic objects are stuck to the outer can of the motor.
- Ensure motor can is spinning straight, a wobbly motor can mean bearing failure.

BATTERY MONITOR SCREEN VARIABILITIES

The battery monitor in the box is only a guide and is correct to the nearest 5%. Tapping the power symbol on the screen will switch the display between % and voltage.

MOTOR REMAINS ON WHEN FINGER REMOVED FROM TRIGGER

In most cases, Cruise Control may be activated. Please ensure you have thoroughly familiarised yourself with how Cruise Control works (Page 16) BEFORE operation.

BATTERY IS EXPOSED TO HUMIDITY

Once you latch your electronics box and begin to use your device, the battery warms the air trapped inside creating moisture. Inspect your battery connections regularly and if you see the gold pins have turned green contact support@foildrive.com. To avoid moisture build up, place a fresh piece of tissue or paper towel inside the box before placing your battery down.

BATTERY BECOMES WET OR SUBMERGED

In the event that you drop your battery, or it is exposed to water, STOP USING YOUR BATTERY, contact support@foildrive.com AND follow these steps.

Warning: DO NOT use or charge the battery until you hear back from us

1. Inspect your electronics box and when safe to do so, unplug the battery, remove it from the box, and move it to an open area away from flammables.

If Submerged or MORE than a teaspoon: If salt water, rinse immediately with fresh water to reduce the likelihood of adverse reactions.

If Less than a teaspoon: If your battery has only been exposed to less than a teaspoon amount of salt water, immediately remove the heat shrink (blue outer plastic) from the battery and air it out in an open area.

Warning: Transporting a saltwater damaged battery can be extremely dangerous. If you have to transport your battery, place it inside its Lipo Guard Bag within arm's reach. It is extremely important that you are vigilant in monitoring any change to your battery (i.e. smoke).

2. When safe to do so, cut off the heat shrink wrapper and let it air out for 5 minutes.

3. Move your battery to a safe position away from direct sunlight and heat.

4. Take clear images of both the plug on your electronics box and your battery plug. In particular we need to inspect the gold pins inside the plugs.

5. Place battery inside the provided Lipo Guard Bag and put it on solid ground away from direct sunlight and weather, and clear of objects, especially those that are flammable.

6. Send images to support@foildrive.com and await further instructions.

CONGRATULATIONS, YOU MADE IT!

Thank you for putting in the time to understand your Foil Drive Assist PLUS system, we cannot wait to hear any feedback and see what you get up to!

PAUL, BEN, AND THE TEAM AT FOIL DRIVE!

HELPFUL RESOURCES

If you haven't already, head over to our [Help Center](#) and [Youtube Channel](#) for installation tips, instructional videos, tips, tricks and product in action

Keep up to date by following us on [Facebook](#) and [Instagram](#) and be sure to tag us in your adventures!

If you're a member on Facebook, jump over to our [Foil Drive Owners Group](#) where you can meet the crew and chat all things Foil Drive!

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**BEFORE REACHING
OUT, TRY TO FIND THE
INFORMATION YOU'RE
AFTER AT OUR ONLINE
HELP CENTER**

